OPTIMISE
THE PERFORMANCE OF OUR BUILDINGS IN A CHANGING CLIMATE

WELLBEING
WATER
CLIMATE CHANGE RESILIENCE

TARGETS AND KPIs

HEALTH AND WELLBEING

2030 TARGET

WELL BUILDING STANDARD

We are reviewing our current pipeline against the Well building standard "and other assessments" work towards establishing a target around wellbeing certification for 2030.

KPIs

- Overheating (% Time 25-28°C)
- Daylighting (Average Daylight Factor)
- CO2e Levels (ppm)
- VOCs (mg/m^3)
- Formaldehyde (mg/m^3)
- Construction Site H&S incidents (no.)

WATER

2030 TARGET

<75 L/P/DAY

Reduce potable water consumption through water efficiency and grey water and rainwater harvesting.

KPIs

- Grey water harvesting %
- Rain water harvesting %

CLIMATE CHANGE RESILIENCE

2030 TARGET

ASSET LEVEL CLIMATE CHANGE RISK ASSESSMENTS (CCRAS)

Our aim is to carry out CCRAs for all new construction projects from 2024, developing mitigation strategies for all medium and high risks identified. These would feed into our wider climate-related risk management and adaptation strategy.

KPIs

- Climate related events (no.)
- Supply chain risk assessments completed for key development suppliers and subcontractors

HEALTH AND WELLBEING

Overview of Approach

Health and Wellbeing is a critical issue throughout the life cycle of our developments in terms of design, construction and operations. Design decisions we make will effect the whole value chain. The materials we select will impact heath and wellbeing at the points of manufacturing, installation, exposure in use and disposal. Additionally the internal and external environments we create can have a positive impact on our students and local communities' physical and mental health.

Whilst health and Wellbeing is an expansive topic, there have been recent developments in certification systems aimed at implementing and measuring the impact in the built environment. Unite Students utilise the principles of such certifications including the WELL Building Standard and Fitwel. We intend to initially benchmark our performance against these standards, with a view to potential certify schemes in the future.

Next Steps

We will undertake a series of WELL Building Standard Pre-Assessments to benchmark the performance of our existing pipeline against the system. Based on the outcome of our initial pre-assessments a target for Wellbeing will be established.

A playbook for health and wellbeing will be developed to provide in-depth design and implementation guidance for our projects.

HEALTH AND WELLBEING (CONTINUED)

DESIGN AND CONSTRUCTION APPROACH TO HEALTH AND WELLBEING

	Indoor Environmental Quality	Water	Materials	Sound	Mental Wellbeing	Light	Physical Exercise	Community
Objectives	Providing our students with high indoor air quality and thermal comfort irrespective of external conditions.	Accessible, and clean water provision free from contaminates and legionella for all students and building users.	Ensuring the materials in our properties are safe and where possible provide wider benefits such as biophilia.	Providing acoustic comfort for all students within the accommodation, across the diverse space types.	Environments that enhance a sense of wellbeing and providing facilities for mental health support.	Utilising natural and artificial lighting to support students' circadian rhythms promoting healthy sleep patterns and concentration.	Environments that support students and building users to engage in physical activities both within the building and travel to and from the site.	Creating safe and engaging working environments, community spaces and living accommodation.
Design Considerations	• Window design and control • Thermal zoning • HAVC strategy • Humidity control • Filtration	• Location of accessible water points • Water treatment where required • DHW system design	• Avoiding red list materials • Selection of bio-based materials • Low VOC finishes	• Acoustic modelling including sound mapping • Materials selection	• Restorative spaces • Access to nature • Interior design features	• Light exposure / glazing levels • Glare control • Artificial lighting controls / quality • Daylight simulation	• Cycle and sustainable travel facilities • Gym and exercise spaces • Active furniture • Active circulation	• Civic engagement though planning • Provision of amenity space • Provision of public and community space
Construction Considerations	• Construction air quality plan • Commissioning of HVAC • Use of electric / hybrid plant on site	• Commissioning of DHW systems • Discharge permits and water treatment on site	• Minimising solvents and adhesives • Responsible sourcing • Material transparency and certification e.g. EPDs	• Non percussive construction approaches • Use of sound monitoring • Acoustic barriers	• Contractor mental health and wellbeing programmes • Toolbox talks	• Commissioning of lighting systems and controls	N/A	• CCS Considerate constructors' scheme • CDM Construction design management
Operational Considerations	• Operational schedules • Maintenance and cleaning regimes • Student / building user feedback	• Water quality testing • Cleaning and maintenance regimes	• Cleaning product selection • Sustainable procurement strategy	• Student / building user feedback	• Provision of mental health services	• Operational schedules • Maintenance and cleaning regimes	• Activity programming	• Social activity programming

WATER

Overview of Approach

In the face of a changing climate, water consumption and management is becoming an increasingly important issue for our developments not only as a responsible developer and operator of PBSA but also in terms of operational resilience.

The impact of water consumption is cross cutting with other sustainability themes. The largest component of energy use within our new build pipeline is Domestic Hot Water – driven by consumption associated with showers. Our approach to green infrastructure can have a significant impact on both potable water consumption and water quality.

The BREEAM Wat 01 tool is used to determine water consumption at design stage, however actual performance against the target will be reviewed through metered data.

Next Steps

Water is one of the most challenging areas for improvement as, unlike energy, returns on investment are often difficult achieve and the infrastructure required to optimise opportunities for grey water and rain water harvesting can be unfeasible. We will continue to identify and trial new innovations in water efficiency where possible.

Advancing out smart water metering and leak detection strategies are likely to provide the greatest opportunities in this area for the short to medium term.

WATER (CONTINUED)

HOW WE ARE APPROACHING WATER

Active Systems – Water Efficiency
Selecting water efficient fittings by limiting flow and flush rates is the most cost effective and feasible means of limiting potable water consumption in our PBSA. As a minimum these flow rates are recommended:

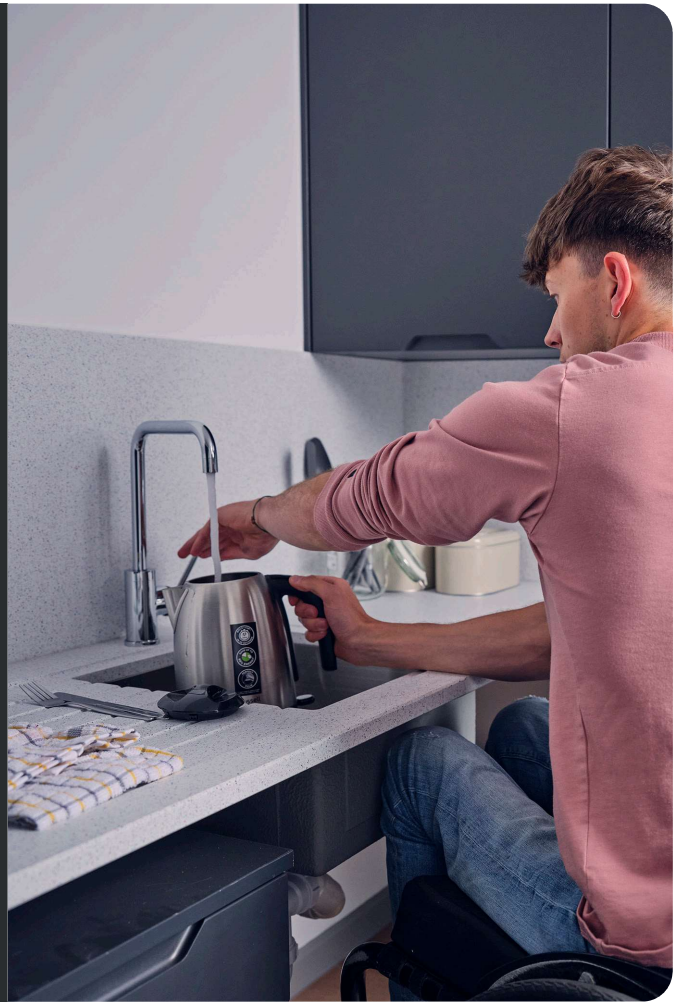
Hand basin taps: <4 litres/min
Showers: <5 litres/min
Toilets: <3.5 litres/flush

A significant amount of water can be lost through leaks, including damaged pipes and connections and toilets through flowing. We will target installing leak detection and smart water metering to be able to enable early identification of leaks.

Regenerative Design – Water Reuse
The opportunity for installing grey water recycling and rain water harvesting should be explored on all projects at concept design stage. Whilst there are challenges with locating plant and infrastructure associated with these initiatives, they present the greatest opportunity for reducing potable water consumption beyond current levels.

Regenerative Design – Sustainable Urban Drainage
Sustainable drainage systems (SuDS) present an opportunity for Unite to add ecological and social value to our schemes whilst at the same time meeting local planning requirements around increasing sustainability and managing flood risk. SUDs can provide a range of onsite and offsite benefits including, biodiversity, reduced maintenance & costs, ground water recharge, improved local air quality and additional amenity space.

Regenerative Design – Xeriscaping
Our approach to greening can enhance biodiversity, but it can increase the burden of on potable water consumption, particularly where rainwater harvesting isn't possible. Design teams should consider the principles of xeriscaping, which reduces or eradicates the need for additional irrigation through selecting native drought tolerant plant species.



CLIMATE CHANGE RESILIENCE

Overview of Approach

Unite Students reports under the Task Force for Climate related Financial Disclosures (TFCD) "and UK Climate Relatated Financial Disclousre (CRFD) scheme". While TCFD and CRFD provides a common basis for climate related risks management, we plan to go further and take a more detailed view of our individual developments against climate vulnerability.

Within the built environment industry guidance and tools for climate risk reporting are increasing, as are proprietary analysis tools that can provide organizations with scenario-driven assessments of climate change risks. As these become more widely understood and used within our sector we will investigate their potential application to our projects.

As an interim measure and to ensure that climate change impacts are considered on our projects at the earliest design we will carry out climate change risk assessments to ensure that the most prominent risks to our assets and occupants are identified, recorded and mitigation measures are implemented:

Increased rainfall
- Pluvial flooding (overland)
- Fluvial flooding (river)
- Localized water damage associated with drainage and roofing

Increased Temperature
- Over heating
- Infestations
- Damage to infrastructure
- Drought

Increased Extreme Weather Events
- Damage to façade / envelope
- Damage to infrastructure
- Disruptions to supply chain

Next Steps

In 2024 Unite Students will implement climate change risk assessments for new development projects. The risk assessments will be carried out to support BREEAM certification, but will exceed the requirements. They will be updated through design stages and be including in the building user guides.

CLIMATE CHANGE RESILIENCE (CONTINUED)

UKGBC – A FRAMEWORK FOR MEASURING AND REPORTING OF CLIMATE-RELATED PHYSICAL RISKS TO BUILT ASSETS