香港科技大學
THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

SUSTAINABILITY REPORT 2024-2025

HKUST Sustainability

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OVERVIEW

In its 2031 strategic plan, HKUST prioritizes becoming an exemplar of best-in-class sustainable and quality practices. With a net-zero commitment being emphasized, the University has published the Net-Zero Action Plan as a strategic guide for HKUST to achieve net-zero by 2045, along with an update of the progress in 2024-25.

In addition, HKUST has been continuing its efforts to meet the 2028 Sustainability Challenge, with a particular focus on waste, community well-being, and biodiversity.

This report highlights HKUST's efforts in the 2024/25 academic year and showcases the University's net-zero commitment.

NET-ZERO COMMITMENT

HKUST announced its Net-Zero Action Plan, which is the first among higher education institutions in Hong Kong to have a comprehensive framework with multi-pronged strategies aimed at achieving net-zero emissions by 2045. By raising the ambition to decarbonize the campus, the University not only showcase efforts to implement low-carbon innovations, but also create a catalyst for further discussions among partners, local industries, and government to collaboratively tackle this significant challenge.

Net-Zero Definition and Target Date

"Net-zero" refers to a state in which the total amount of GHG emitted into the atmosphere is balanced by an equal amount of GHG that has been removed from the atmosphere. The goal for HKUST is to reduce the overall emissions to the greatest extent possible, then invest in carbon removal and sequestration projects to offset the remainder. HKUST has determined that the University shall reach a state of net-zero emissions by the year 2045.

Oversight and Progress Checks

This is a transformative action plan for net-zero new buildings, decarbonization innovation, climate resilience, net-zero research and skill-building, and sustainable finance. It is supported by a commitment of HK$30 million over the next eight years to pilot new climate tech solutions under a "Living Lab" approach, using the campus as a testbed for advancing smart, sustainable innovations. The investment is financed by Feed-in-Tariff payments from the university's 2.5 megawatt solar photovoltaic system, the largest institutional system of its kind in Hong Kong.

Following extensive consultations, HKUST sets ambitious targets for greenhouse gas (GHG) reductions, aiming for a 50% decrease by 2035 and full net-zero by 2045. This Action Plan builds upon the university's previous success, having already reduced GHG emissions by 32% since the launch of its first sustainability master plan in 2014.

In 2025, HKUST has released the 2024 / 25 Progress Update. In the past year, a key achievement was the development of our net-zero building standards for new buildings and renewal projects, in view of our fast growing campus building footprint. The new Research Building 3 will adopt this for its design and construction. A showcase of our efforts is evident in the new Martin Ka Shing Lee Innovation Building which is expected to be one of Hong Kong's lowest embodied carbon buildings. It will also be the first new building at HKUST to pilot granular energy data collection to achieve room-level energy monitoring. In the area of net-zero research, HKUST has also been at the forefront with academic partnerships with China Meteorological Adminstration to enhance early warning systems for disaster preparedness, and Technology and Engineering Center for Space Utilization of the Chinese Academy of Sciences for climate change monitoring.

AT A GLANCE – 2028 SUSTAINABILITY CHALLENGE

WASTE TO LANDFILL

46% ↓

in amount of waste sent to landfill compared to 2014 baseline and 2% increase from 2023/24

9x ↑

in recyclables compared to 2014 baseline and 4% increase from 2023/24

LANDSCAPE & BIODIVERSITY

5,100 kg

of upcycled woodchips were utilized on campus landscape

875 kg

of fallen leaves collected on campus were utilized for mulching on campus landscape

ENERGY & GHG

32% ↓

in scope 1 and 2 GHG emissions compared to 2014 baseline and 2% increase from 2023/24

12% ↑

in energy consumption compared to 2014 baseline and 8% increase from 2023/24

17% ↑

in renewable energy generation compared to 2023/24

WATER

6% ↓

in water consumption compared to 2014 baseline and 4% above 2023/24

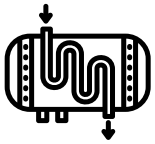
KEY ACHIEVEMENTS

ENERGY & GHG

Installed an additional 10 kW of solar panels on the rooftop of staff quarter Tower D.

Installed liquid immersion cooling technology for the University's High Performance Computational 4 facility to maximize cooling efficiency, avoiding about 900 metric tons of carbon emissions compared to traditional rack-level air cooling.

Renovated the Life Science Laboratory in 6H zone to feature occupancy-based controls per zone, centralized freezers, air infiltration controls, pressure cascade ventilation system and energy sub-metering.



Replaced five sets of heat exchanges for the seawater pump house with better heat transfer performance which brings 500,000 kWh estimated energy saving annually.

Improved library humidity levels by utilizing chiller waste heat as a free heat source and existing equipment.

Installed new chargers for electric vehicles, with the total number of EV chargers occupying 10% of total car parking spaces, providing 105 medium-speed and four high-speed. Electrification of campus car fleet comprising four electric 7-seater cars and five electric delivery vans.

WASTE TO LANDFILL

Partnered with the Environmental Protection Department to deploy two sets of smart waste bins on campus. From April to June of 2025, the bins collected 1,912 kg of recyclables.

Diverted 2,565 kg of food waste from landfills by transforming it into fertilizer through the black soldier fly bin living lab project, thus reducing 3,962 $kgCO_{2-e}$ in emissions.

Created a campus-based platform to facilitate the exchange of second-hand office furniture, serving 140 HKUST staff members and reducing office waste.

Diverted 1,280 kg of waste from landfills through the Drop and Adopt program, which allowed students to take or leave good quality household and student hall items.

Rejuvinated pre-loved items through the University Garage Sale, thus hosting 150 tables occupied by non-profit organisations, green product vendors, and HKUST members.

Implemented a food waste separation system for both pre- and post-consumer food in the LG1 and LG7 canteens to facilitate off-site recycling.

2024-25 KEY ACHIEVEMENTS

WATER

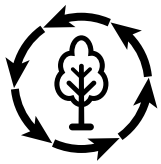
Kickstarted a water detection living lab project that utilized wave technology to detect water leakage in campus water pipes.

Adapted acoustic technology and leakage noise identifiers to spot pipe leaks. The probable location and historical data is displayed on a campus map and dashboard for tracking of leak status.

LANDSCAPE & BIODIVERSITY

Enriched the University landscape by adding colorful and vibrant plants in 12 indoor and outdoor campus locations for HKUST community members and visitors to enjoy.

Engaged HKUST students and staff to explore and capture the natural beauty of the campus through a biodiversity photography challenge. This initiative received 239 submissions across three categories.



HKUST's practice of campus trees reuse to reduce embodied carbon in new construction was awarded International Sustainable Campus Network's 2024 Best Practices Report Award.

COMMUNITY WELL-BEING

Celebrated Valentine's day through the Love All Ways event to engage the University community in all types of love activities such as live music and love language quizzes.

Provided spaces for students and staff to relax through the Touch Grass Movement, which included music busking and sitting areas along campus lawns.

Promoted destressing and holistic well-being through the introduction of 10 rocking chairs and two swings across the campus.

Joined hands with The Women's Foundation as a 2025/26 advocate partner to nominate staff members to participate in equity- and leadership-focused programs.

Engaged 170 students and staff members to participate in ambassadorship programs to connect with the community.

Promoted community outreach and engagement through multiple community-oriented initiatives and trips. Served 3,148 recipients and contributed 2,360 service hours.

2024-25 KEY ACHIEVEMENTS

GOVERNANCE

Implemented the Sustainable Landscaping Policy to responsibly manage the campus landscape and any landscape waste that may be generated.

Implemented the Flexible Work Location Policy to promote employee work-life balance.

EDUCATION

Hosted Life Cycle Assessment and Thinking courses and workshops to facilitate students' learning and real-world case analyses.

Recruited 62 students to participate in training workshops and project design for the Sustainability Leadership Programme. Empowered students and staff to make conscious choices on clothing consumption.

Established a new Extended Major in Sustainability for students to integrate sustainability principles into their chosen major.

The Sustainable Smart Campus as a Living Lab (Living Lab) initiative approved eight projects with a total of HKS3.4 million in support and received 666 visitors, along with 73 Living Lab collaborators.

The Living Lab initiative was actively involved in 400+ Undergraduate Research Opportunities Program projects and three Environmental Management and Technology Capstone Projects with other additional involvement.

Engaged students under the Living Lab Student Competition 2024 and received 40 student proposals including Ideation Challenges or Living Lab project proposals.

Held the Sustainable Design Thinking Certification Programme 2025 to promote sustainability principles and concepts to 28 students from both Clear Water Bay and Guangzhou HKUST campuses.

2028 SUSTAINABILITY CHALLENGE - 2024-25 STATUS

Category	Goal	Status
Energy & GHG	Using the baseline year of 2014: • exceed the Hong Kong Government energy target by reaching a 15% reduction by 2028. • reduce GHG emissions by 40% (scope 1 and 2) by 2028.	Needs attention
Water	Make substantial progress towards UN Sustainable Development Goal #6 — Clean Water and Sanitation by limiting potable water consumption to less than 500,000 m^3 by 2028.	On track
Waste to the Landfill	Using the baseline year of 2014, reduce waste to the landfill by 75% by 2028.	In progress
Landscape & Biodiversity	Utilize the campus landscape as an active resource for research, sustainability experimentation, and community engagement.	On track
Community Well-Being	Establish a framework for measuring progress for the well-being of the campus community in relation to food, lifestyles, and workplace environments.	In progress

Legend

On track - efforts keeping progress on trajectory

In progress - achieveable with additional effort

Needs attention - intervention required or risk of not meeting target

2028 SUSTAINABILITY CHALLENGE - 2024-25 TACTICS

Category	2024 - 25 Tactics
Energy & GHG	1. Improve lighting, equipment, and air conditioning systems incrementally while revising policies to facilitate the equipment. 2. Utilize metering and sensor data for accurate analytics and rapid, predictive changes. 3. Implement high-performance renovation strategies, focusing on windows and building envelope. 4. Adopt LCC and LCA evaluation metrics as standard. 5. Complete Solar project and develop a phase II renewable project that includes non-traditional locations and building integrated technologies. Fast-track Sustainable Smart Campus (SSC) projects as pilots for larger implementation opportunities. 6. Establish a Green Lab Task Force to overcome obstacles to significant changes. 7. Develop a comprehensive 10-year plan to enhance lab efficiency and sustainability.
Water	1. Replace all showerheads in on-campus residency with low-flow models and implement behavior change strategies to induce water-saving actions. 2. Identify ways to optimize use of rainwater and recycled water. 3. Incorporate water saving and water recycling measures in campus canteens, with focus on cleaning and washing. 4. Capture condensation from the air conditioning systems in the main buildings and recycle for use in the buildings.
Waste to the Landfill	1. Reduce the need for and eliminate single-use plastics and non-recyclable disposables. 2. Develop more "sharing economy" opportunities. 3. Emphasize repairing and reuse, and support activities revitalizing equipment. 4. Generate more opportunities to use smart technologies to help reduce food waste.
Landscape & Biodiversity	1. Allocate spaces on campus for utilizing "green" landscape wastes and storage of site-developed compost. 2. Prioritize the use of compost in flower beds as a way to provide natural nutrients to a groundcover that can retain moisture. 3. Experiment with "compost tea" as a way to add natural nutrients to the turf and grassy areas. 4. Collect flora and fauna information from SSC projects to build a public and visible inventory of the natural capital of the campus. 5. Add specific landscape areas and features in the campus tours for incoming students and visitors. 6. Make more spaces available for research on moods, behaviors, and ability to reduce stress levels.
Community Well-Being	1. Adopt flexible working arrangements by devising policies to cater to the different needs of our staff. 2. Redesign of spaces and areas to encourage more healthy lifestyles 3. Establish renovation standards to provide more natural lighting for staff work areas and increase comfort levels relating to temperature and humidity 4. Develop a set of indicators to benchmark happiness and well-being for faculty and staff.

ENVIRONMENT

As HKUST approaches the conclusion of the 2028 Sustainability Challenges, the University continues to prioritize reducing energy consumption, lowering greenhouse gas (GHG) emissions, and advancing waste management practices.

For waste management, the University has focused on reducing food waste and engaging the student halls. In terms of energy and GHG emissions, multiple projects are underway to improve efficiency and minimize resource use.

Furthermore, HKUST has begun efforts to raise awareness of biodiversity by collecting baseline data.

ENERGY & GHG — PERFORMANCE

32.3% decrease in scope 1 & 2 GHG emissions compared to the 2014 baseline and 2.4% above 2023/24

53.7% decrease in scope 1 & 2 GHG emissions per capita compared to the 2014 baseline and 4.9% below 2023/24

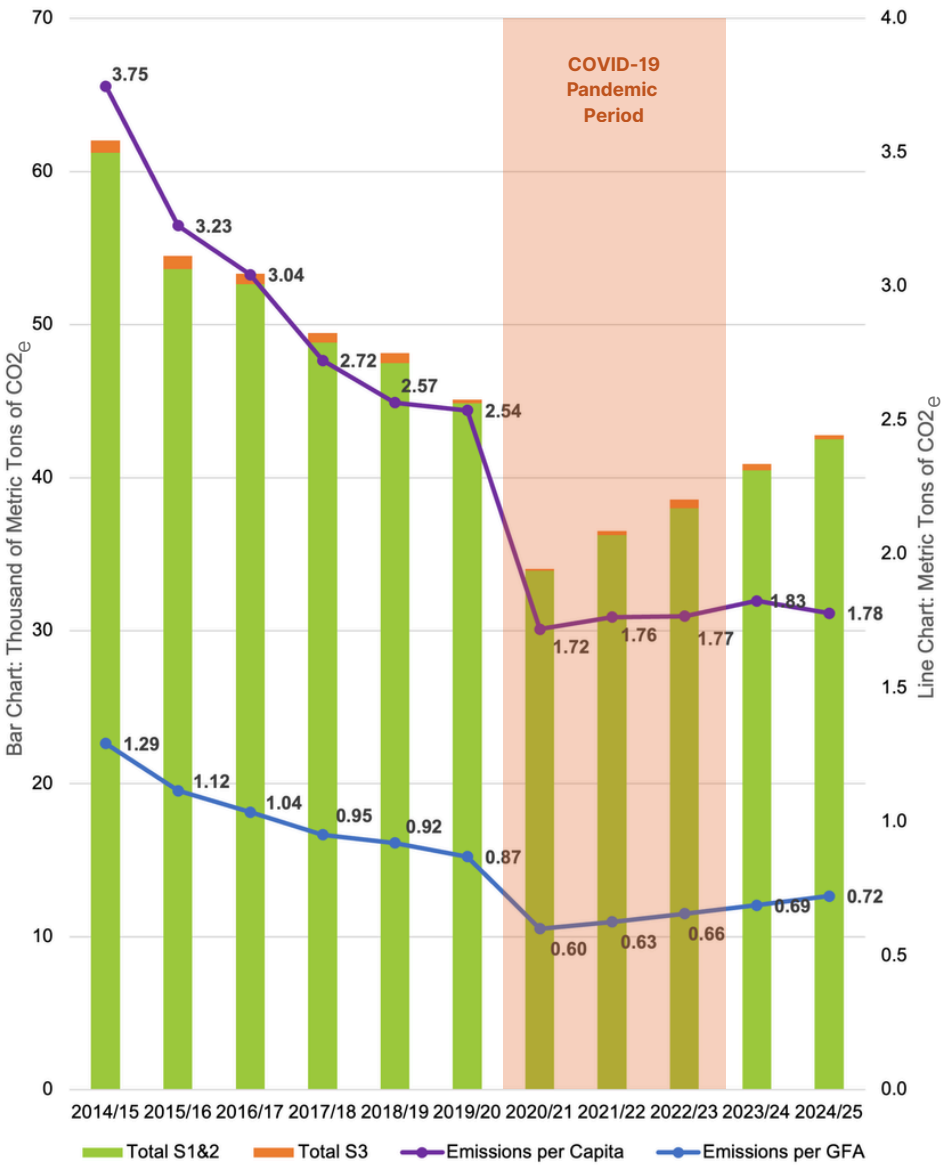
GHG Emissions Overview

As part of the HKUST 2028 Sustainability Challenge, the University has set the target to achieve a 40% reduction in GHG emissions (Scope 1 and 2) by 2028, using 2014 as the baseline year. Still maintaining less consumption compared to the pre-COVID-2019/20 year, HKUST continued to promote energy-saving measures, as GHG emissions per capita decreased despite the overall GHG increase for 2024/25.

Due to the extreme heat this year, which increased the chiller plant workload, there was a 2.4% increase in 2024/25 Scope 1 and 2 GHG emissions compared to 2023/24. However, this remains 32.3% lower than the baseline. This year's Scope 1 and 2 emissions sum up to 41,443.1 metric tons of CO_2-e, which reflects the University's expansion.

Scope 3 emissions of this year have decreased significantly, marking a 33.2% decrease compared to 2023/24, and a 64.3% decrease compared to the baseline year. This large drop is due to the updated emission factor used for freshwater processing, issued by the Water Services Department. The University calculates Scope 3 emissions using standards set by the Environmental Protection Department and using emission factors by the relevant government departments.

Scopes 1, 2, and 3 GHG Emissions Trends at HKUST Over the Years



ENERGY & GHG — PERFORMANCE

Energy consumption is 12.0% above the 2014 baseline and 8.1% above 2023/24

Energy consumption per capita is 23.4% below the 2014 baseline, and 0.4% above 2023/24

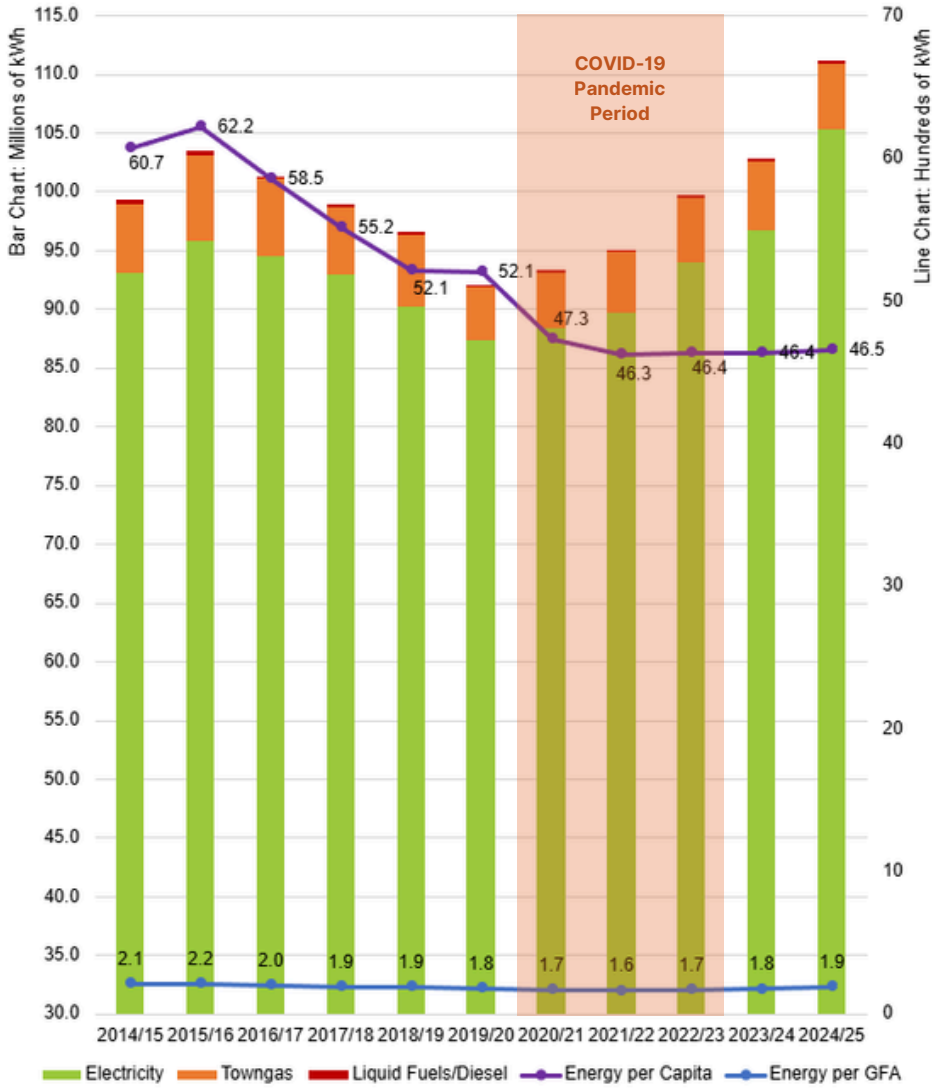
Energy Consumption Overview

With a growing campus population and activities, HKUST observed a 12.0% increase in energy consumption above the 2014/15 baseline and 8.1% above the previous year. This rise is attributed to the growth, operation of the new data center HPC4, and global warming. At 94.7%, electricity is the main source of energy at HKUST, and compared to the baseline, the 2024/25 electricity consumption is 13.1% higher. Furthermore, the electricity usage is 8.8% larger than the previous year. Despite this growth, the energy efficiency has increased with a decrease on 23.4% in energy per capita and 9.7% drop in energy per gross floor area compared to the baseline.

Towngas is a form of energy that is used for the main academic building, cooking in the canteens, and for the domestic hot water in residence halls and staff quarters. As such, it corresponds to 5.1% of total energy consumption for this year. The 2024/25 Towngas value is 4.1% lower than the baseline, and 3.3% lower than the previous year. This could be attributed to the growing electrification of cooking and hot water facilities.

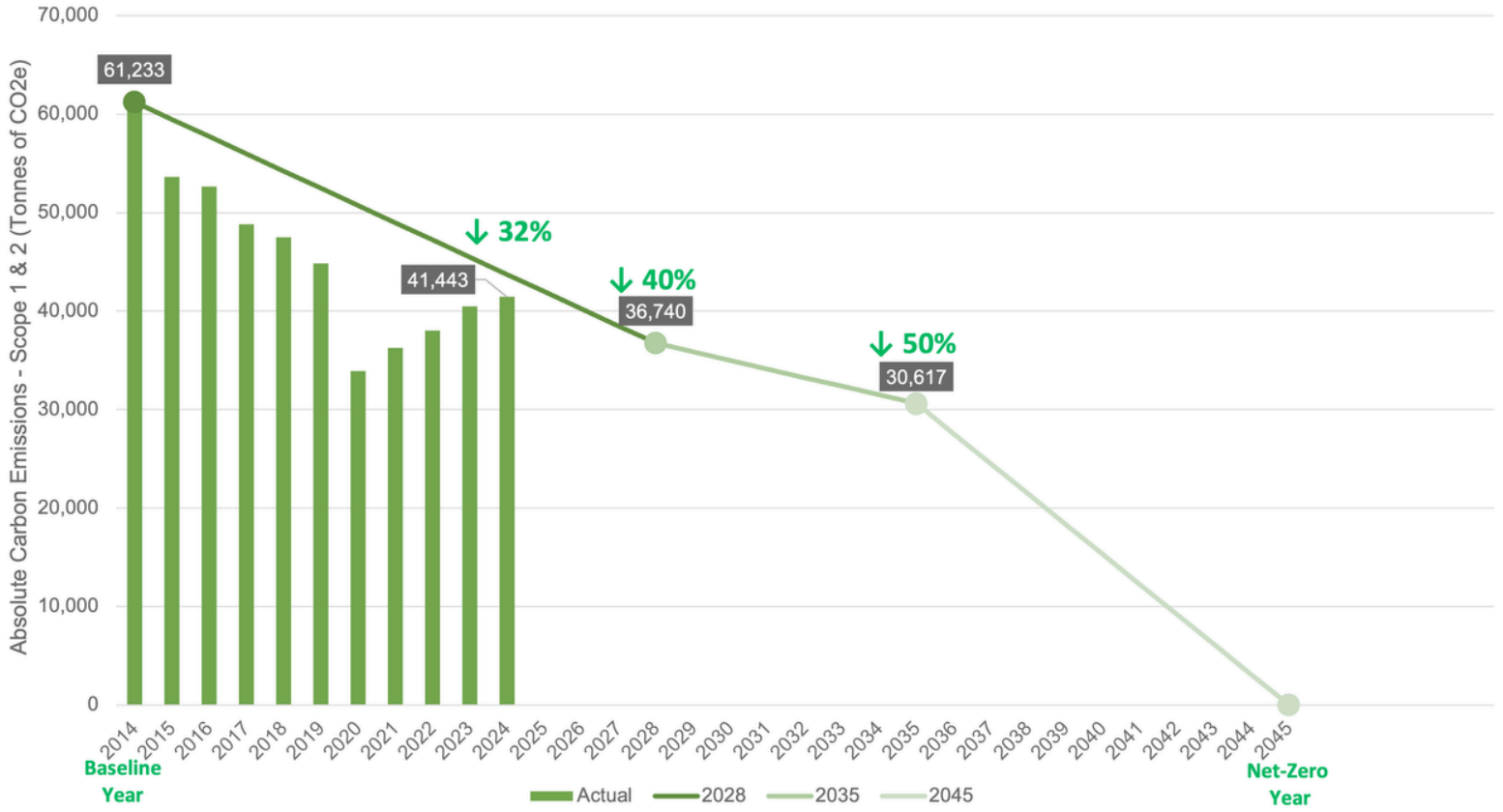
The remaining 0.2% of energy consumption is comprised of liquid fuels or diesel, which are used for standby generators and university transportation vehicles. This year's value is 21.7% below the baseline and 9.9% below the previous year. Similarly, this reflects the shift to electrification of the university vehicle fleet.

Total Energy Consumption at HKUST Over the Years



ENERGY & GHG — PERFORMANCE

Projection of Net-Zero Targets for Scope 1 and 2



Net-Zero Target Overview

HKUST is in pursuit of net-zero by 2045 and is currently working to reduce carbon emissions in the University's Scope 1 and Scope 2 emissions. HKUST has set near-term targets of 40% emissions reduction in 2028 and 50% emissions reduction in 2035 both in comparison to the 2014 baseline. The University recorded a 32% reduction in GHG emissions in the year 2024 compared to the 2014 baseline.

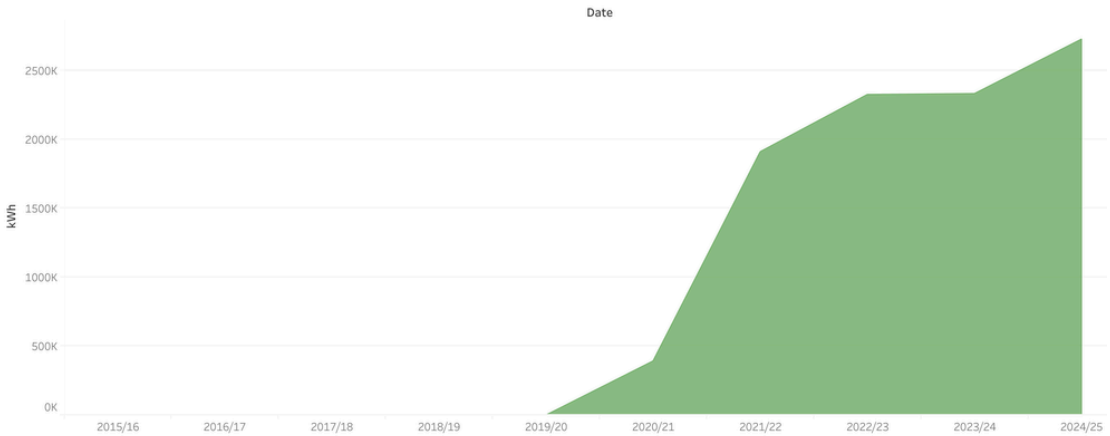
ENERGY & GHG — PERFORMANCE

Renewable Generation

The University continued to expand its renewable energy generation, achieving a record-high value of 2.7 million kWh of generated renewable energy in 2024/25. This value is a 16.9% increase from 2023/24, and it corresponds to around 3% of total electricity consumption in HKUST. This year, Tower D installed 10kW worth of solar panels, further expanding the University's solar panel generation capacity. The increase in energy generation may be attributed to the newly installed panels in Tower D, and more solar irradiation caused by more hot days in 2024/25.

2.7 MILLION **kWh of renewable energy was generated in 2024/25**

Renewable Generation at HKUST Over the Years



ENERGY & GHG — PERFORMANCE

2028 Sustainability Challenge - Energy & GHG Goals

Using the baseline year of 2014,

- exceed the Hong Kong Government energy target by reaching a 15% reduction by 2028.
- reduce GHG emissions by 40% (Scope 1 and Scope 2) by 2028.

Category	2024-25 Tactic	2024-25 Progress & Key Activities
Energy Consumption Reduction	Improve lighting, equipment, and air conditioning systems incrementally while revising policies to facilitate the equipment.	• Replaced 5500 light fittings with LED lamps in offices, teaching facilities and common areas, and installed motion sensors in bathrooms, staircases and corridors, resulting in 267,200 kWh energy savings annually. • Upgraded four primary and air handling units with direct current fans 120,000 kWh estimated energy saving annually. • Replaced five sets of heat exchanges for the seawater pump house with better heat transfer performance which brings 500,000 kWh estimated energy saving annually. • Modernized seven lifts with an energy regenerative drive system, resulting in approximately 30% energy savings for lifts or 13,200 kWh annually.
	Incorporate metering and sensor data for more accurate analytics and ability to make changes rapidly and predictively.	• Piloted wireless sub-metering hardware and platform in lab zone 6K. • Introduced sub-metering in the renovations of the life science laboratory in 6H zone. • The new Martin Ka Shing Lee Innovation Building will be the first laboratory building with room-level submetering information.
Policies & Standards	Develop high performance renovation strategies to increase performance for every new space retrofit, with an emphasis on windows and building envelope.	• Published the HKUST Building Renewal Standards setting benchmarks for the minimum performance for renovations more than 500m^2 and less than 5000m^2.

ENERGY & GHG — PERFORMANCE

2028 Sustainability Challenge - Energy & GHG Goals

Using the baseline year of 2014,

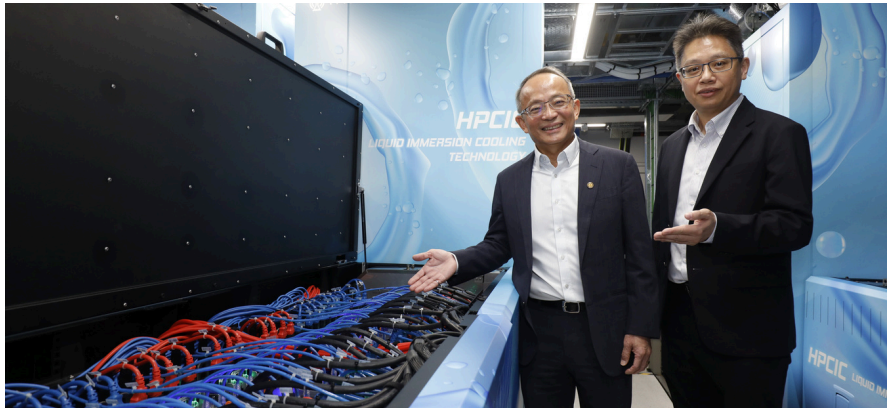
- exceed the Hong Kong Government energy target by reaching a 15% reduction by 2028.
- reduce GHG emissions by 40% (Scope 1 and Scope 2) by 2028.

Category	2024-25 Tactics	2024-25 Progress & Key Activities
Policies & Standards	Promote LCC and LCA evaluation metrics as standard.	• Calculators adopted to evaluate energy efficiency technologies and renewables at the High Performance Facility 5 building. • Students from the Life Cycle Assessment for Sustainable Development course conducted LCAs for the HKJC Sustainable Campus Program's reusable container lending machines and the environmental impacts of using disposable paper towels versus electric hand-dryers in campus restrooms.
Renewable Expansion	Complete solar project and develop a phase II renewable project that includes non-traditional locations and building integrated technologies.	• Installed an additional 10 kW of solar panels on staff quarters Tower D.
Pilot Research Implementation	Fast-track research projects as pilots for larger implementation opportunities.	• Installed a fully automatic photobioreactor system for algae-based carbon capture solution. • Kicked off living lab projects for smart HVAC optimization and optimal chiller sequencing.
Green Labs	Form a Green Lab Task Force to evaluate policies, procedures, space allocation, and current lab practices with the goal of identifying and removing roadblocks to aggressive changes within laboratories.	• Renovated the Life Science Laboratory with 30% partitioned spaces and 70% open workstations, along with centralized cooling environment, humidity and temperature control, occupancy-based lighting and ventilation control, and energy submetering. • Assessed Green Lab certification schemes and identified pilot lab.
	Develop a comprehensive plan for refurbishing labs over the next ten years with an emphasis on resource efficiency	• Completed the Campus Renewal Plan consultancy featuring lab refurbishment plan being kicked off.

ENERGY & GHG — OPERATION PROJECTS

Immersion Cooling Technology for HPC Cluster

To meet the surging demand for high-power AI research sustainably, the University has launched the city's largest Liquid Immersion Cooling system in its new research computing facility. This new technology reduces energy consumption for cooling by over 80% and creates an optimal operating environment that can enhance computing performance at a lower temperature. With the adoption of the new cooling technology, the University anticipates that 900 metric tons of carbon emissions can be avoided each year, resulting in a 45% reduction of carbon emissions compared to traditional rack-level air cooling. There will be an annual savings of approximately HK$3 million in electricity costs, while achieving over 10% improvement in performance per watt. Additionally, the non-corrosive, biodegradable water coolant has a lifespan exceeding 10 years, further reducing the ecological impact of the infrastructure.



900 metric tons of carbon emissions will be avoided by using Liquid Immersion Cooling Technology rather than traditional rack-level air cooling

Carbon-capturing Technology Using Algae

A living lab project to develop a fully automatic photobioreactor system that utilizes algae to capture carbon dioxide from the atmosphere was implemented on campus. Bringing together faculty and a local start-up, this system utilizes the automatic innovative nanobubble algae photobioreactor with a Low-Energy Separation System. Additionally, the photobioreactor serves as an educational tool for students, offering students practical insights into sustainable technologies, biology, and environmental science and fostering a culture of innovation and environmental awareness. This project showcased HKUST's commitment to climate change mitigation and net-zero carbon target on campus, as a 'living lab' for sustainable and smart technological advancements.

ENERGY & GHG — OPERATION PROJECTS

HKUST Green Lab Standard – Life Science Lab

HKUST's renovated Life Science Laboratory in 6H zone is the embodiment of sustainable laboratory design. The state-of-the-art facility, tailored to meet user needs, embraces an open-concept layout with 30% partitioned spaces and 70% open workstations. This innovative design fosters collaboration by allowing researchers to share critical facilities, including cold rooms, biobanks, tissue culture rooms, ice makers, and fume cupboards. Some of the energy-efficient laboratory features include:

- Ultra-low temperature freezers are housed in a centralized, cooled environment, optimizing space and energy use.
- Vestibules doubling up as pantries, and a positive-pressure buffer zone with an interlock-equipped doors minimize humid air infiltration.
- Occupancy sensors manage lighting, temperature settings and ventilation in each zone. Fume-hood automatic sashes and LED task lighting provide further controls.
- A pressure cascade ventilation system uses pre-cooled fresh air intake, complemented by local spot cooling units.
- A power metering system tracks usage across air conditioning, lighting, and lab equipment, providing data to optimize energy consumption.
- Redundant cooling systems for cold rooms ensure uninterrupted operation during maintenance, effectively combining two cold rooms for reliability.

70% **open workstations for collaboration**

30% **partitioned spaces for focused testing**

Energy Efficiency Equipment Upgrades

As part of the long-term energy improvement program and decarbonization roadmap, the following works were carried out in 2024/25:

- Replaced 5500 light fittings with LED lamps in offices, teaching facilities and common areas, and installed motion sensors in bathrooms, staircases and corridors, resulting in 267,200 kWh energy savings annually.
- Upgraded four primary and air handling units with direct current fans 120,000 kWh estimated energy saving annually.
- Replaced five sets of heat exchanges for the seawater pump house with better heat transfer performance which brings 500,000 kWh estimated energy saving annually.
- Modernized seven lifts with an energy regenerative drive system, resulting in approximately 30% energy savings for lifts or 13,200 kWh annually.

900,000 **kWh of energy saved per year**

ENERGY & GHG — OPERATION PROJECTS

Recycled Waste Heat for Library Humidity Control

Through the use of waste heat and existing equipment, HKUST has improved the management of the library's humidity controls.

- Air infiltration is managed through the installation of a 24/7 operating primary air handling unit to slightly pressurize the environment and prevent untreated air from entering the library.
- The hot water circuit is served by the reuse of an existing heat exchanger and a new heat pump which serves under critical conditions. Instead of dumping the waste heat from the chillers to the sea, it is recycled into the hot water system as a free heat source. This low-grade waste heat is sufficient to maintain the library's humidity at a satisfactory level with no additional required heat.

These improvements limits additional electrical energy consumption and equipment embodied energy, while improving the cooling environment for the book storage, as well as thermal comfort for the library users.

Expansion of On-Campus EV Chargers and Replacing Campus Vehicles with EVs

HKUST continues to expand campus electronic vehicle (EV) charging stations, totaling to 105 medium-speed chargers and four high-speed chargers, serving 10% of total parking space.

Campus car fleet serve passenger transport, mail delivery and transportation of goods. Over the past few years, electrification efforts have resulted in a fleet of four electric 7-seater cars and five electric delivery vans, with future plans to replace non-electric vehicles by 2029/30.

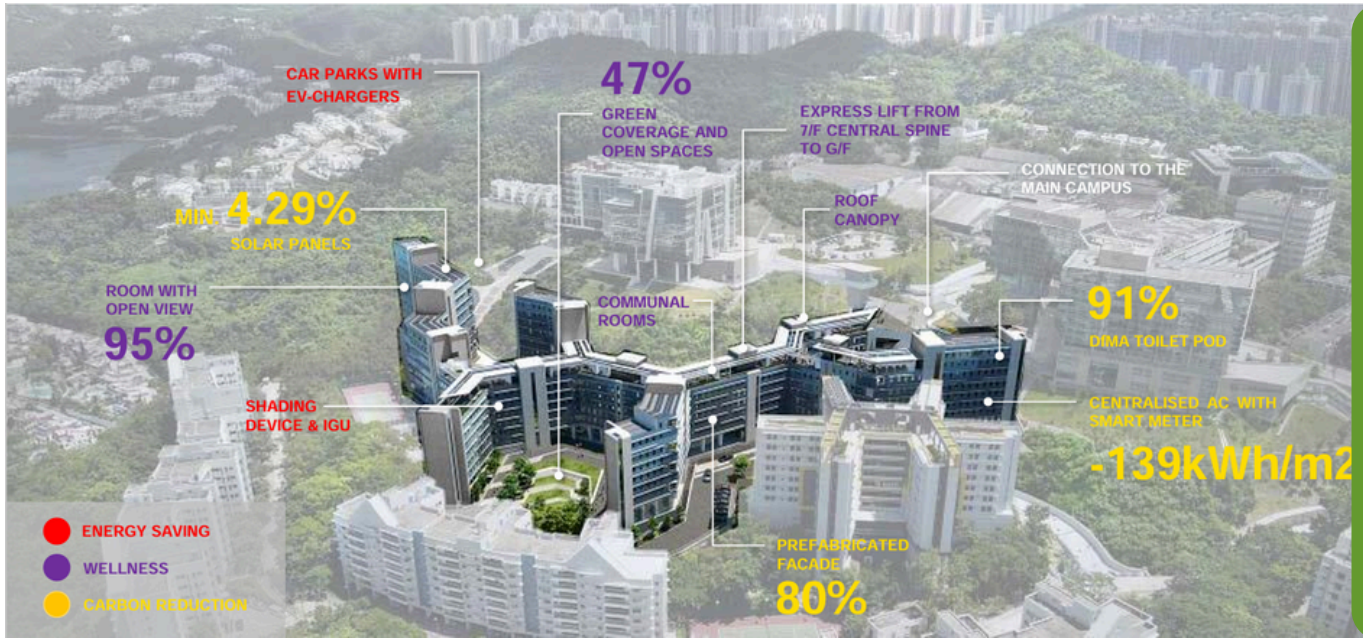
105 medium-speed chargers

4 high-speed chargers

10% of total parking space on campus is occupied by EV charging stations

ENERGY & GHG — OPERATION PROJECTS

Jockey Club i-Village



1017 Annual CO_2 reduction

80% Prefabricated facade

91% Toilet POD DfMA

50% Sustainable products

4.3% Renewable energy generation

Jockey Club i-Village is situated on the southeast side of the campus, nestled between several academic and residential buildings. As a new student residence development, it provides a significant extension and enhancement to the overall HKUST campus. Comprising 4 residence halls with a total of 1,551 bed spaces, Jockey Club i-Village is designed to foster social cohesions among students, creating a vibrant community that encourages interaction and collaboration.

Standout green features:

- 47% site coverage in greenery including jogging trails and outdoor seating
- Traditional solar panels and hybrid solar panels are used to generate electricity and to pre-heating water
- High-efficiency passive building designs such as shading fins and additional insulated furring wall were incorporated to reduce solar heat gain / CO_2 emissions
- DfMA (Design for Manufacture and Assembly) and prefabricated elements (facades panels and staircases) were implemented to reduce material waste and construction carbon

WATER — PERFORMANCE

6.2% decrease in total water consumption compared to 2014 baseline and 4.4% above 2023/24

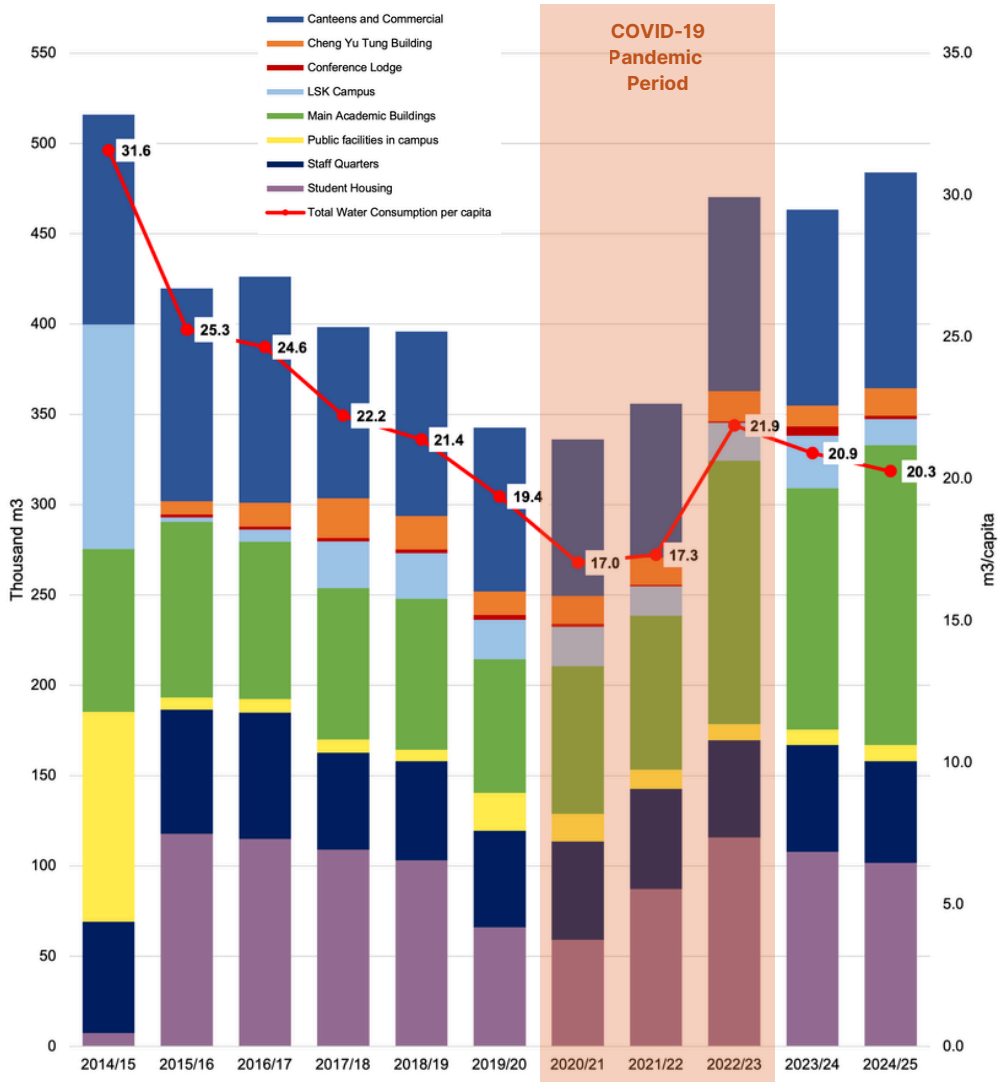
35.8% decrease in water consumption per capita compared to 2014 baseline and 3.1% below 2023/24

Water Consumption Overview

With an ambitious goal to ensure that HKUST's water consumption per year stays below 500,000 cubic meters despite expected constant growth in the campus's population and gross floor area, the University has taken necessary water-saving measures and practices by educating the community and replacing showerheads and faucet taps.

In 2024/25, HKUST's water consumption increased by 4.4% compared to 2023/24 and decreased by 6.2% compared to the baseline year. The main academic building displayed a 24.4% increase compared to the previous year, and this could be attributed to the increase in student intake in 2024/25 compared to 2023/24, and the increased temperature, which drove a higher workload for the cooling towers. Despite the increase, the overall figure stays at 483,992 cubic meters, below 500,000. In addition, the per capita value is approximately 20.3 m^3 of water, representing a 3.1% decrease from the 2023/24 figure and an overall improvement in water efficiency.

Water Consumption Breakdown at HKUST Over the Years



WATER — PERFORMANCE

2028 Sustainability Challenge - Water Goals

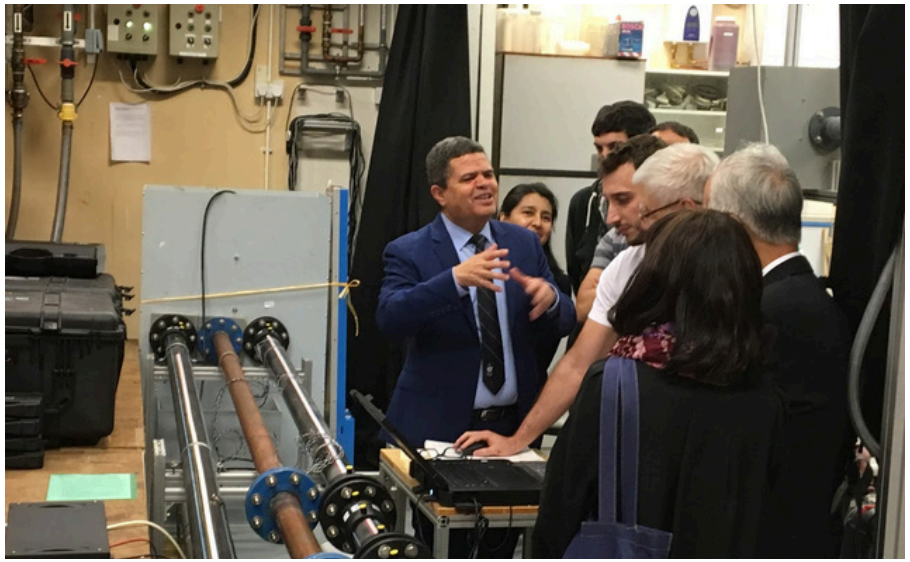
Make substantial progress towards UN Sustainable Development Goal #6 — Clean Water and Sanitation by limiting potable water consumption to less than 500,000 cubic meters by 2028.

Category	2024-25 Tactics	2024-25 Progress & Key Activities
Water Consumption Reduction	Retrofit all showerheads in staff quarters and student halls with low-flow models. Implement behavior change strategies that nudge residents towards more water savings actions.	• Reviewed and engaged users on lab water saving opportunities. • Initiate water leakage detection to minimize losses from ageing pipes. • Conducted water audit for sports facilities' showerhead for replacement. • Installation and completion of Grade 1 showerhead replacement program at student halls and tap aerators for canteen hand washing sinks.
	Incorporate water saving and water recycling measures in campus canteens, with focus on cleaning and washing.	
Use of Non-Potable Water Sources	Identify ways to optimize use of rainwater and recycled water.	• At the new Jockey Club i-Village building, rainwater system collects rainwater and condensation water from FCU and recycles for irrigation system. The rainwater storage accounts for 54% in irrigation water in daily use.
	Capture condensation from the air conditioning systems in the main buildings and recycle for use in the buildings.	

WATER — OPERATION PROJECTS

Water Network Digital Twin

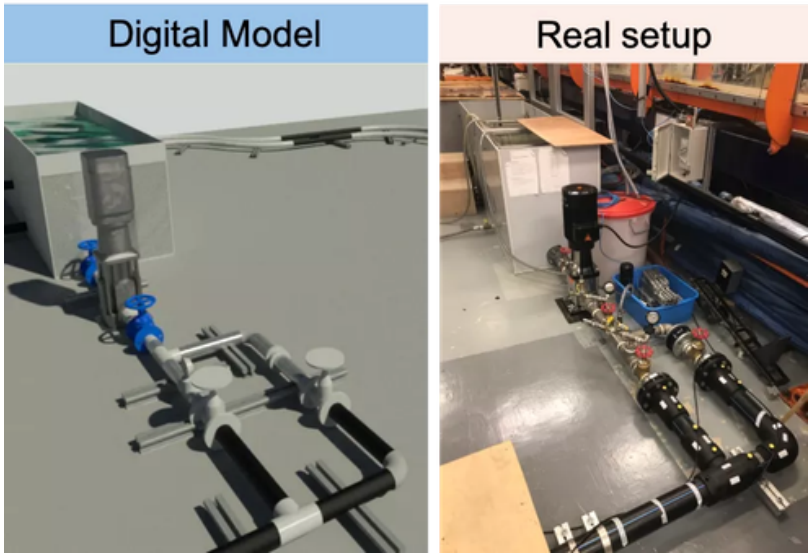
HKUST faces challenges with water management, rising consumption, aging infrastructure, water losses, limited data, and unpredictable demand. To address these issues, a digital twin enables the university to visualize, monitor, and optimize its underground water network for efficient management. The project aims to create a hydraulic digital twin of the campus water supply network. By utilizing IoT-based sensors, real-time data analytics, and predictive modeling, it enables continuous monitoring, early leak detection, and reduces water loss through integration with campus operations.



Water Leakage Detection

In line with HKUST's 2028 Sustainability Challenge, the University continues to maintain an annual water consumption level of less than 500,000 cubic meters. As part of this goal, HKUST launched the Water Leakage Detection Project aimed at further preventing an unprecedented increase in water consumption.

The detection system utilizes acoustic technology and leakage noise identifiers to pinpoint where a leak could be taking place. The data is saved on a campus map, which can overlay on Google Maps, thus making leakage detection quick and easy to address. Using this system, the University can easily track historical leakage data, address leakage issues immediately, and potentially address leaks before they take place.



LANDSCAPE & BIODIVERISTY — OVERVIEW

Landscape and Biodiversity are essential components of the world's ecology. The HKUST campus proudly to be a home to 127 different tree species, 75 different bird species, and over 100 butterfly species. The University commits to maintaining the Landscape and Biodiversity of the campus through education campaigns and community engagement.

HKUST Biodiversity Survey 2025

In the spring semester of 2025, the University conducted the HKUST Biodiversity Survey 2025 to better understand the attitudes and knowledge of students and staff regarding biodiversity.

The survey received 1,411 responses – 70% from students and 30% from staff. Results show a generally positive awareness and willingness to engage with biodiversity issues, while also highlighting areas for improvement.

There are several indices to quantify the respondents' answers: the "Knowledge Index," "Importance Index," "Closeness Index," and "Willingness Index."

When compared to the Agriculture, Fisheries and Conservation Department's 2021 Baseline Survey, HKUST's Knowledge Index is approximately 12% higher than the general public. Additionally, the Closeness and Willingness Indices are also elevated, indicating a strong connection to biodiversity. However, HKUST's Importance Index is lower than the public's score of 3.88, indicating a need to emphasize the significance of biodiversity conservation further.

The survey results provide HKUST with valuable insights into biodiversity awareness within the community and can be used to measure the effectiveness of and design future biodiversity awareness initiatives.

2357 trees
127 different tree species
75 different bird species
100 different butterfly species

1,411 student and staff responses
12% higher Knowledge Index compared to general public

LANDSCAPE & BIODIVERISTY — PERFORMANCE

2028 Sustainability Challenge - Landscape and Biodiversity Goals

Utilize the campus landscape as an active resource for research, sustainability experimentation, and community engagement.

Category	2024-25 Tactics	2024-25 Progress & Key Activities
Healthy Soils	Allocate spaces on campus for utilizing "green" landscape wastes and storage of site-developed compost.	• Utilized 875kg of shredded leaves from campus and 5,100kg of upcycled wood chips from off-campus for mulching and soil conditioning. • Diverted 2,565 kg of food waste from landfills by transforming it into fertilizer through the black soldier fly bin living lab project, thus reducing 3,962 kg$CO_{2\text{-}e}$ in emissions. • Engagement with landscaping contractor to ensure meeting all performance goals to reach incentive benchmark.
	Prioritize the use of compost in flower beds as a way to provide natural nutrients to a groundcover that can retain moisture	
	Experiment with "compost tea" as a way to add natural nutrients to the turf and grassy areas.	
Engagement and Research	Collect flora and fauna information from SSC projects to build a public and visible inventory of the natural capital of the campus.	• Supported the development of the UST Leaf website, which showcases the landscape attractions on the campus.
	Add specific landscape areas and features in the campus tours for incoming students and visitors.	• Improved the visual of the campus by adding colourful plants to the indoor and outdoor environment. • Development of Butterfly Garden • Raise awareness and interest among the community through competitions, events and tours.
	Make more spaces available for research on moods, behaviors, and ability to reduce stress levels.	

LANDSCAPE & BIODIVERISTY — OPERATION PROJECTS

Colorization of the Campus Landscape

In order to enhance the appeal of the campus for both visitors and the HKUST community, the University has initiated an engaging project focused on enriching the campus landscape with vibrant, colorful plants.

A notable transformation has taken place at the north entrance, where the planters have been completely revamped with a diverse selection of eye-catching plants and innovative landscaping designs. In addition to the north entrance, colorful plants have been thoughtfully incorporated into various key locations, including the LSK Business Building, staff quarters, student halls, Chinese Garden, the south entrance, and the piazza. In total, 12 major locations both indoor and outdoor were included in this colorization project.

These initiatives not only beautify our campus but also foster a sense of community and connection with nature, making HKUST a more engaging and inspiring environment for learning and collaboration.

12 landscape spaces rejuvenized with colorful plants and flowers

Plant Adoption Party – Leaf your Grade Behind

Towards the end of the semester, HKUST hosted a refreshing event to help students and staff reconnect with nature and relax. The “Leaf Your Grade Behind – Plant Adoption Party” took place at the HKUST Atrium, inviting the campus community to pause, relax, and adopt a plant back to their office or dorm to bring nature into indoor space. Participants engaged in activities to gain the opportunity to adopt plants grown by local permaculture farms.

The event successfully engaged more than 70 campus community members and fostered a sense of community and well-being on campus, offering a much-needed break from academic stress.

70 campus community members engaged through stress-relieving games that promote reconnection with nature

LANDSCAPE & BIODIVERISTY — OPERATION PROJECTS

Biodiversity Photo Competition – Your Backyard, Your Lens

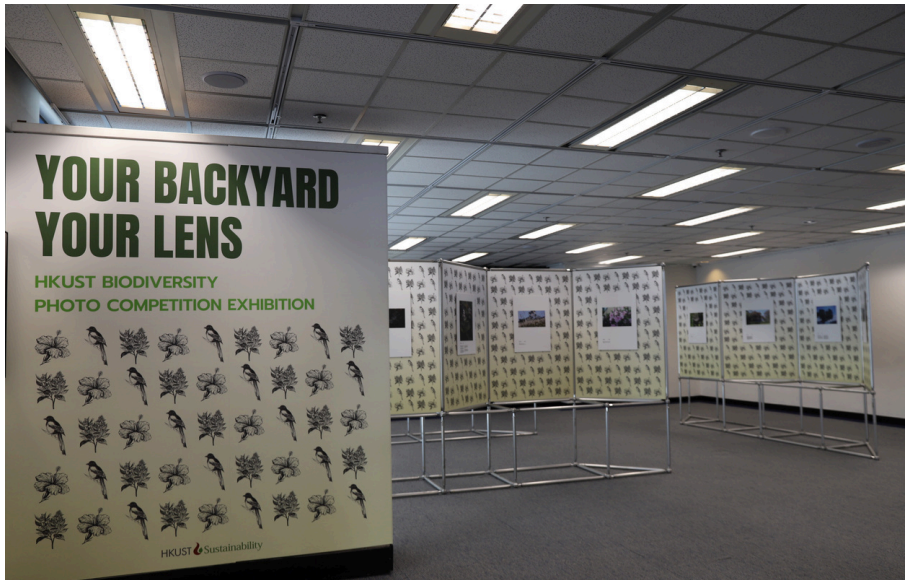
The "Your Backyard Your Lens – HKUST Biodiversity Photo Competition," inviting the campus community to explore and capture the natural beauty that surrounds HKUST.

The competition received 239 submissions across three categories, showcasing the community's connection with campus biodiversity. 30 finalists were selected by the judging panel, representing photography, ocean science, communications, landscaping, and sustainability. A physical exhibition of these submissions was organized and attracted more than 500 visitors. Additionally, the highlight video of the shortlisted entries engaged 9,701 social media users and was featured on the University's e-boards. Ultimately, nine winners were chosen through an exciting public voting process that garnered over 500 votes.

The competition revealed not only the stunning visuals of the campus environment but also the deep emotional connections our community members share with these natural spaces.

239 competition submissions received across three categories

9,701 social media users engaged



WASTE — PERFORMANCE

46% decrease in landfill waste compared to 2014 baseline and 2.4% above 2023/24

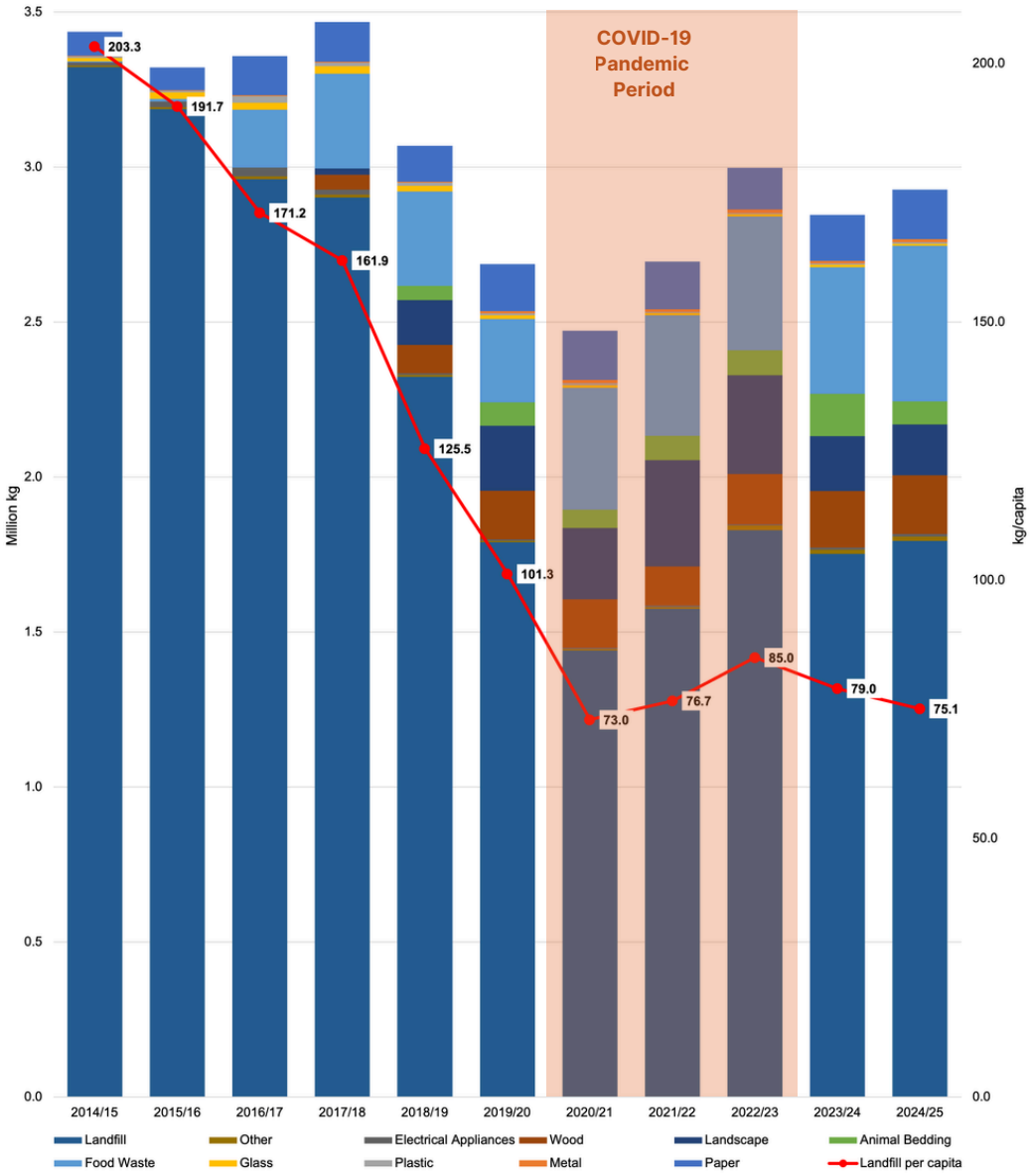
Recyclables increased by 8.9 times compared to 2014 baseline and increased by 3.6% from 2023/24

Waste Generation Overview

In the 2024/25 year, the total amount of waste diverted from the landfill showed a 3.6% increase compared to 2023/24, and a 892.9% increase compared to the baseline. Waste to the landfill increased by 2.4% compared to 2023/24, but a 46% reduction from the baseline. The increase in waste generation is attributed to the increase of the University's population, thus resulting in higher consumption and disposal. Despite the growth in total waste generated, there was a 4.9% reduction in waste generated per capita. In addition, the University's food waste recycling displayed the largest increase among recyclables, corresponding to a 22.9% increase from the previous year.

The university has been recycling 15 types of recyclables, including paper, metal, plastic, glass, food, animal bedding, landscape, wood, and electrical appliances. Moreover, the University is ambitiously working towards meeting the HKUST 2028 Sustainability Target of diverting 75% of waste from the landfill.

Waste and Recycling Generation at HKUST Over the Years



WASTE — PERFORMANCE

1.2% decrease in recycled paper consumption compared to 2014 baseline and 39.2% above 2023/24

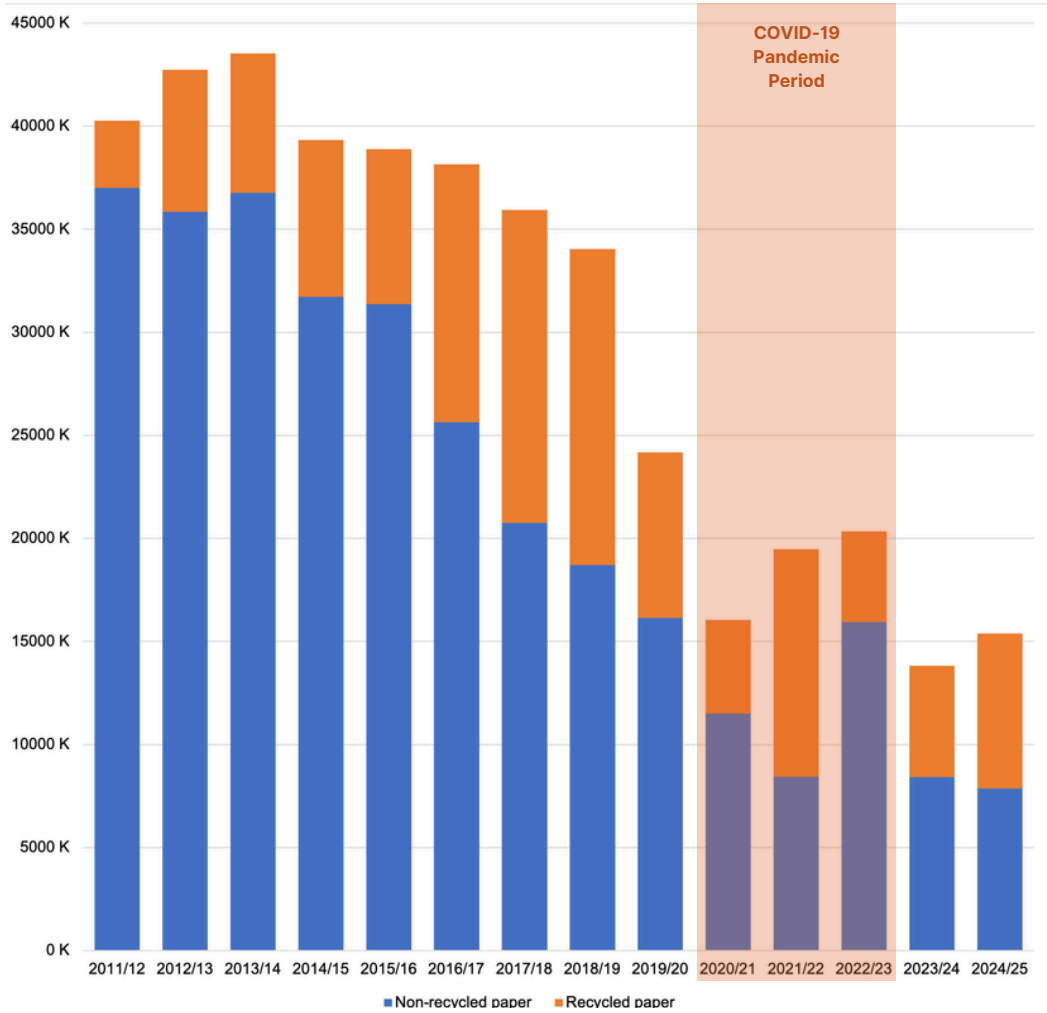
6.6% decrease in non-recycled paper consumption compared to 2014 baseline and 75.2% below 2023/24

Paper Consumption

There was an 11.3% overall increase in total paper consumption in 2024/25 compared to the previous year, and a 60.0% decrease compared to the baseline year of 2014. Looking more closely, the total increase is attributed to the surge in recycled paper consumption by 39.2% compared to 2023/24. On the other hand, non-recycled paper consumption decreased by 6.6% compared to the previous year, and this is the University's all-time low non-recycled paper consumption value.

The decrease in non-recycled paper consumption is attributed to more people are shifting to recycled paper use. This also causes a subsequent increase in the recycled paper consumption value. The overall increase in paper consumption is a result of the rise in student population for the year 2024/25.

Paper Consumption Trend at HKUST Over the Years



WASTE — PERFORMANCE

2028 Sustainability Challenge - Waste Goals

Using the baseline year of 2014, reduce waste to the landfill by 75% by 2028.

Category	2024-25 Tactics	2024-25 Progress & Key Activities
Disposables	Eliminate one-time-use plastics and non-biodegradable disposables that cannot be recycled. Reducing the need for these materials is the priority. Developing reusable container programs, lunchbox borrowing schemes, and financial disincentives are options.	• Organized a Sustainability Giveaway to give out reusable lunchboxes, water bottles, cutlery sets, coffee mugs, and tote bags. • Organized the "I Choose Reuse" campaign which invite students to share how they Bring Your Own Lunchbox to mainstream reusable meal containers over single-use disposables for takeaway food. • Engagement with cleaning contractor to ensure meeting all performance goals to reach incentive benchmark. • Adopt waste audits and user group engagement to enhance understanding of general waste reduction.
Extending Life of Materials	Develop more "sharing economy" opportunities. Emphasize repairing and reuse, and support activities like "Repair Parties" where equipment can be brought back to life.	• Diverted 1,280 kg of waste from landfills through the Drop and Adopt program, which allowed students to take or leave good quality household and student hall items. • Created a campus-based platform to facilitate the exchange of second-hand office furniture, now serving 140 HKUST staff members and reducing office waste. • Rejuvinated pre-loved items through the University Garage Sale, thus hosting 150 tables occupied by non-profit organisations, green product vendors, and HKUST members.
New Approaches	Generate more opportunities to use smart technologies to help reduce food waste.	• Enhance recycling incentives and smart bin infrastructure to boost collection. • Adopt waste audits and user group engagement to enhance understanding of general waste reduction.

WASTE — OPERATION PROJECTS

Food Waste Separation in Canteens

Over one metric ton of food waste is disposed in landfills every day in HKUST. The University commits to reducing waste sent to the landfill while also increasing recycling rates, including food waste recycling.

Through the food waste separtation practices, on-campus canteens including LG1 and LG7 each adopted a system to process food waste so that it can be recycled. The LG1 system has a pre- and post-consumer station to separate food to be served to customers and food to be recycled. LG7 has a screening system with a conveyor to move the food waste to a dehydrator and metal detector. Both LG1 and LG7 food waste then undergo after station screening and later place the food waste in the waste room bin. The amount of food waste recycled on campus has increased from 250 metric tons in 2016/17 to 501 metric tons in 2024/25.

WASTE — OPERATION PROJECTS

Smart Recycling Bins with Reward Scheme

To enhance community participation in recycling efforts, HKUST has partnered with the Environmental Protection Department to deploy two sets of smart waste bins in LG1 and in the University's staff quarters. These advanced smart waste bins automatically record the weight of recyclables collected, eliminating the need for manual input and ensuring accurate waste data for assessments. Additionally, the bins are integrated with the Green$ system, which incentivizes recycling by offering rewards, further motivating community engagement in sustainability initiatives.

In the first three months, these machines successfully collected 1,912 kg of recyclables, showcasing their effectiveness in promoting responsible waste management.

1,912 kg of recyclables were successfully collected by the smart bins in 3 months

In-Situ Food Waste Upcycling using Black Soldier Flies

The Black Soldier Fly Bin (BBOX) living lab project exemplifies innovative, carbon-negative food waste management by converting campus food waste into nutrient-rich organic fertilizers. This initiative promotes a circular food system, significantly reducing HKUST's reliance on landfills and lowering carbon emissions. Each BBOX has the capacity to process up to 50 kilograms of food waste daily, showcasing its efficiency and effectiveness.

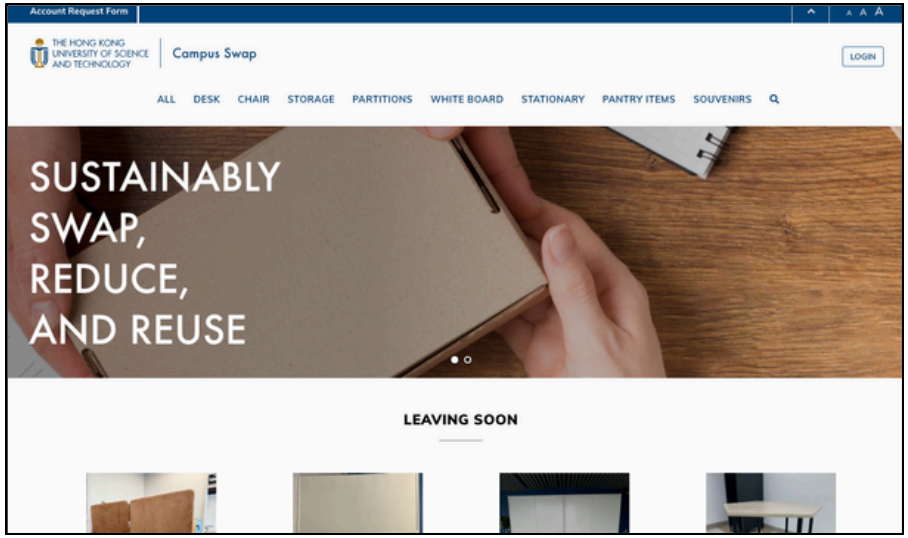
From February to May, the BBOX successfully diverted 2,565 kilograms of food waste from landfills, transforming it into valuable fertilizer. A portion of this fertilizer has been utilized in our butterfly garden, enhancing the ecosystem HKUST is cultivating. The project has contributed to a remarkable reduction of 3,962 $kgCO_{2\text{-}e}$ in carbon emissions.

2,565 kg of food waste upcycled to fertilizer

WASTE — OPERATION PROJECTS

Campus Swap Platform

Campus Swap is a campus-based platform developed in-house to facilitate the exchange of second-hand office furniture among HKUST staff members, with an aim for resource optimization and waste reduction. With 20% of HKUST's total waste stemming from construction and renovation activities, including furniture. Campus Swap offers furniture that is on the brink of disposal by various offices and departments a second chance at utility and sustainability. The platform now serves over 140 staff members within the HKUST campus.



140 staff members have access to the Campus Swap platform to exchange office furniture internally

Student Hall Move-Out Drop and Adopt Program

Drop and Adopt, spearheaded by the community group Green Team, is a campaign designed as a thoughtful response to the recurring issue of waste surge during student halls move-out in winter 2024 and summer 2025. Among these wastes are often treasures like household items and student hall essentials in excellent condition, often used for just one semester. The campaign not only aims to reduce the waste to landfills but also sought to seamlessly repurpose useful items within the vibrant community. Since the pilot run launched in 2024, the campaign has successfully diverted over 1,280 kg of waste from landfills.

1,280 kg of waste was successfully diverted from landfills

WASTE — OPERATION PROJECTS

Community Garage Sale

HKUST has demonstrated how the largest circular market can be held within its community through its active participation in the University's 2024 Garage Sale. The event brought together 150 tables of non-profit organizations, green product vendors, students, staff, residents, neighbouring schools and local communities for this annual community celebration. The Atrium offered an inviting space for students and staff to rejuvenate their pre-loved items and enjoyment of food and students busking performances.

150 tables by non-profit organizations, green product vendors, students, staff, residents, and local community

WASTE — OPERATION PROJECTS

HKUST Environmental Campaigns

Jockey Club Sustainable Campus Consumer Program (JCSCCP) Campaigns

Through the JCSCCP, multiple sustainability campaigns were implemented in the eight UGC-funded universities.

JCSCCP Zero-Waste Fair

In March and April 2025, HKUST was one of eight universities to participate in the Zero-Waste Fair featuring interactive and educational booths, upcycling workshops and activities, and repairing workshops to facilitate sustainable living in the community. Informative posters also educated participants about zero-waste living, mindful consumption, and waste reduction.

JCSCCP Every Action Counts

The Every Action Counts challenge called on everyone to be part of the solution for a greener planet. For four weeks from November to December 2024, students received weekly content on the different themes to learn and get inspired about sustainability practices, and how their daily actions including energy and water consumption can affect the environment. By answering online quizzes and making simple pledges, students got the chance to win various exciting prizes.

WASTE — OPERATION PROJECTS

HKUST Environmental Campaigns

JCSCCP #BringYourOwn: I Choose Reuse

Over the 2024 summer break, HKUST invited students to share how they Bring Your Own Lunchbox in an Instagram Reel for a chance to win exciting prizes. The goal was to mainstream reusable meal containers over single-use disposables for takeaway food, calling students to join the movement to help reduce waste to landfill. The University engaged a renowned video production company to film two short video clips on the theme of Orientation Camp, with the first clip published on Instagram aiming to encourage students to join the competition.

Waste Paper Towel Campaign

To combat excessive paper towel usage for hand washing, HKUST launched the Waste Paper Towel Campaign with the “Shake, Fold, Dry” method. The campaign was promoted in restrooms across the campus through printing the event details and paper-saving instructions on an actual paper towel. A promotional video also called the community to action to save paper through this campaign.

SOCIAL

Creating and nourishing an inclusive and open environment is a vital component to HKUST's commitment to diversity. By promoting diversity and equal opportunities, expanding community engagement initiatives to create impact to the society, as well as offering inclusive facilities and services.

The University has focused on improving the staff's well-being by promoting flexible work location practices and volunteering opportunities. In addition, HKUST has been actively encouraging the community to embrace wellness through space design and culture transformation.

SOCIAL — PERFORMANCE

2028 Sustainability Challenge - Community Well-Being Goals

Establish a framework for measuring progress for the well-being of the campus community in relation to food, lifestyles, and workplace environments.

Category	2024-25 Tactics	2024-25 Progress & Key Activities
Healthy Work / Live Balance	Adopt flexible modes of working by devising policies to cater to the different needs of our staff.	• Implemented the Flexible Work Location Policy which allows non-academic staff to work from home one day each week.
	Redesign of spaces and areas to encourage more healthy lifestyles	• Revitalized common spaces for relaxation through campaigns, location mapping, and furniture, as well as nano air filters of air handling units.
Healthy and Productive Workplaces	Establish renovation standards to provide more natural lighting for staff work areas and increase comfort levels relating to temperature and humidity	• Published the HKUST Building Renewal Standards setting benchmarks for the minimum performance for renovations more than 500m^2 and less than 5000m^2.
	Develop a set of indicators that can be used to benchmark happiness and well-being for faculty and staff.	• Kicked off employee engagement and enablement survey. • Provide opportunities for staff to connect and contribute to the community through Impact Makers volunteering program.

WELLBEING

Counseling and Wellness Events

The HKUST Counseling and Wellness Center provides psychologic and psychiatric services to students in support of their mental health. Aside from counseling, workshops aimed at promoting self-improvement, relaxation, and wellness are offered.

Some related events from 2024/25 include Cultivating Self-compassion Experiential Workshop, Mindful Yoga for Inner Peace, and Setting Boundaries for Healthy and Fulfilling U-life. All these activities promote the importance of taking care of one's mental health through de-stressing and self-reflection.

Love All Ways: A Celebration of Diverse Love

Love All Ways emerged as a vibrant celebration of love in all its forms—whether it be self-love, friendship, familial love, or a deep connection with animals, nature, and humanity. This event aimed to spread warmth and affection on the Valentine's Day, ensuring that everyone felt cherished and valued.

The event began in the Love Zones, where participants engaged in various love actions, each designed to foster deeper connections with the entities they hold dear. The event closed with a celebration featuring hot chocolates, a love language quiz, and live music performances by talented HKUST buskers in the LG7 lawn, comprising undergraduate and postgraduate students, staff members, and alumni.

By celebrating diverse forms of love and promoting holistic well-being, we continue to cultivate a culture of care and mindfulness that enriches the lives of all who call our campus home.

WELLBEING

Touch Grass Movement: Embracing Wellness and the Outdoors

To make the University more vibrant, the Touch Grass Movement took form. Through this event, students and staff could freely relax with the colorful deck chairs outside Shaw Auditorium and the LG7 lawn, unwind with music during Marigold Hour – a lunchtime busking event on the grass – and destress with a seafront art jam.

These initiatives and events are all part of the effort to put taking care of one's wellbeing at the forefront of people's mind aside from work and study, a mindset shift created by an environment that replenishes rather than exhausts. Relaxation and destressing from work and school were forefront goals of this movement to encourage the University community to take time for self-care.

Embracing Wellness Through Space Design and Mapping Chill Spaces to Transform Campus Culture

HKUST utilized furniture and space design to help students relax by installing rocking chairs and swings around campus common areas. To introduce the furniture on a community scale, the Rock, Relax, Reconnect campaign called students to take a holistic approach to well-being. These chairs represent a shift towards a more balanced and sustainable campus lifestyle, encouraging individuals to pause and immerse themselves in moments of relaxation and introspection. The goal of this campaign is to create a mindset shift on campus, where productivity isn't just about working or studying hard, it's also about caring for yourself, recognizing your needs and managing your energy effectively. The Rock Your Chair campaign engaged members of the University to creatively express their experiences with the rocking chairs by creating Instagram Reel videos. Through this campaign, HKUST fosters a culture of relaxation and socializing on campus by encouraging students to take a break and unwind in the chairs.

In addition, to make relaxing spaces more accessible, a location map was created to identify group hangout spaces, relaxing facilities, all-purpose spaces, and quiet spaces. Some corridors were also fitted out with power provision to enhance their usability.

DRIVING EQUITABLE CONNECTIONS

Diversity, Equity, and Inclusion – The Women's Foundation Partnership

HKUST deeply values Diversity, Equity, and Inclusion in the pursuit of a greater sharing of knowledge and development of skillset. Therefore, the University joined hands with The Women's Foundation (TWF) as a 2025/26 Advocate Partner, making HKUST the first university in Hong Kong to officially collaborate with TWF.

As a 2025/26 Advocate Partner, HKUST will nominate a number of staff members to participate in the following programs, generally running from September 2025 to July 2026:

- Mentoring Program for Women Leaders
- Male Allies Program
- Boardroom and C-suite Leadership Program
- Advocate Network

The University held an information session about the partnership with TWF and provided an overview about the programs that faculty and staff may be interested in. Subsequently, the University began promoting the recruitment of interested members for the Mentoring Program for Women Leaders, Male Allies Program, and Boardroom and C-suite Leadership Program.

1ST university to officially collaborate with The Women's Foundation

COMMUNITY OUTREACH

Ambassadorship Programs

Impact Maker Award Ceremony and Events

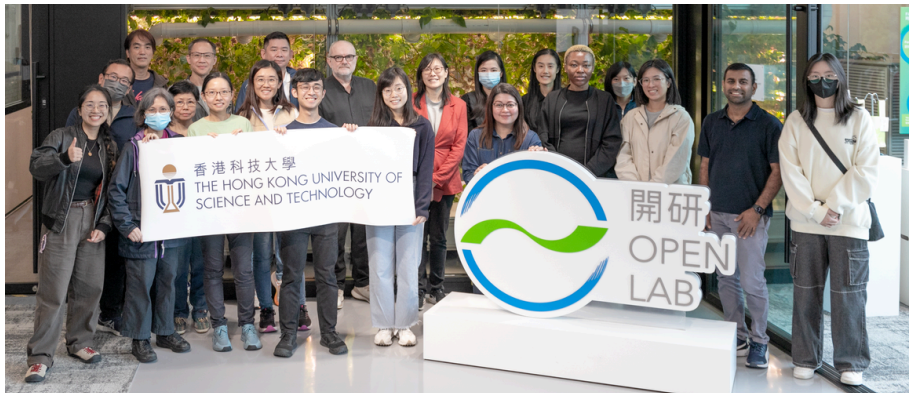
Since the launch of the special leave policy of encouraging colleagues to contribute to community volunteering, HKUST has been working to engage staff through the Impact Makers Program.

HKUST staff volunteers, alumni, and other corporate partners united for a meaningful beach clean-up along the scenic seafront last December as part of the Time Auction Inter-Company Volunteer Week 2024. The volunteers not only cleaned up the beach but also explored marine science facilities, highlighting HKUST's commitment to marine research in Hong Kong and Southern China.

The Impact Makers program has also provided a wide range of volunteering opportunities to colleagues to support different groups in need in society, such as non-governmental organizations, companies, and educational institutions. Some previous volunteering activities included processing 735 kg of clothing waste, refurbishing and sorting donated items at Crossroad Foundation for developing countries, fabric cutting to support garment recycling at the HKRITA Open Lab, and Pak Nai Reef Restoration.

The University celebrated the first Impact Makers Program Appreciation Ceremony which recognized the efforts of 70 colleagues who have dedicated their time and effort as impactful volunteers in the previous year, embodying the spirit of creating lasting change and positive impacts.

70 staff members were recognized in the first Impact Makers Program Appreciation Ceremony



One Earth NextGen Leaders Programme

As one of the partners, the One Earth NextGen Leaders Programme that was collaboratively orchestrated by the Institute of Sustainability and Technology and the Temasek Foundation, united over 100 young changemakers from Southeast Asia, Hong Kong, and Mainland China. NextGen Leaders learned how to use the campus as a living lab to test their ideas and utilize university resources to pursue their entrepreneurial dreams.

100 young changemakers from Southeast Asia, Hong Kong, and Mainland China were united through the program

COMMUNITY OUTREACH

Partnerships and Community Engagement

Engaging Other Education Institutions

With experience in sustainability education, the University is eager to cross the campus boundary and engage the wider community. In the past year, HKUST continued collaboration with neighboring Clearwater Bay School by inviting 120 students to visit the University's renewable energy system. HKUST also inspired the younger generation about sustainable practices by welcoming 30 student ambassadors and teachers from ESF King George V School and ESF West Island School to meet with the winning teams from the Living Lab Student Competition about their journey of sustainable innovation and visit a sustainable project demostration.

120 primary students and student ambassadors and teachers engaged in campus as a living lab learning

30

Gotta GO! Sustainable Explorer Challenge 2025

With the success of previous year, HKUST partnered with HK Express to launch the "Gotta GO! Sustainable Explorer Challenge 2025" which was extended to four local universities this year. Over 140 HKUST students took the opportunity to design their 4-day Sustainable Travel Itinerary. It was an initiative aiming to empower university students to embrace and promote sustainable travel practices. Selected from 180 proposals and 20 pitches, the HKUST team - Duominds won the championship for their journey to Shizuoka, Japan, which beautifully balanced sustainability, cultural immersion, and enjoyment.

140 HKUST students designed their 4-day Sustainable Travel Itineraries

COMMUNITY OUTREACH

HKUST Connect Community Engagement Programs

HKUST Connect is a community engagement initiative by HKUST aimed at fostering civic awareness and developing sustainable partnerships with the Hong Kong community to deepen student learning and social awareness. In the 2024/25 year, HKUST served 3,148 recipients and contributed 2,360 service hours in 114 community service sessions with 868 student-time. Another 1,688 student-time engaged in 71 other community engagement program sessions.

Vietnam Service Learning Trip

In June 2025, in partnership with ECO Vietnam Group (EVG), a team of 12 HKUST students and staff embarked on a meaningful service learning trip to Tra Vinh province of Vietnam. This journey provided a unique opportunity to support education and development in rural areas, where children often face limited access to new knowledge and experiences.

Over the course of five days, volunteers led classes at Hoa An A Primary School, covering diverse topics including English, STEM, health, and environmental conservation. Through hands-on experiments and interactive games, they not only broadened children's knowledge but also encouraged curiosity, critical thinking and a love of learning, which were the key skills for lifelong growth.

The journey inspired them to share their insights, helping to foster a culture of care, empathy and social responsibility at HKUST.

2360 service hours contributed by volunteers

3148 recipients served through community outreach initiatives

68 dedicated community partners collaborated with the University

868 student-time engaged in community service progams

1688 student-time engaged in other community engagement programs

COMMUNITY OUTREACH

HKUST Connect Community Engagement Programs

Spreading Love to Street Cleaners

Street cleaners play an important yet often overlooked role in maintaining Hong Kong's cleanliness, with over 13,300 workers who maintain the city streets every day. To express gratitude for their hard work, a group of HKUST volunteers visited Sham Shui Po to connect with the street cleaners in the area.

During the visit, students reached out to street cleaners by delivering a care package to express their love and care. By interacting with them, the students listened to their life stories, learning about their long hours, physical demands, and the challenges they face. This interaction left a lasting impact on the students, deepening their empathy and respect for street cleaners. It also inspired the students to advocate for greater respect and support for frontline workers in the communities.

Food Recycling Action @ Wet Market

In Hong Kong, a significant amount of food waste is generated and sent to landfills daily. This not only harms the environment but also contributes to unnecessary waste. To tackle this issue, a group of HKUST students visited wet markets in Tsuen Wan to collect surplus edible food and redistribute it to those in need.

During their service, the volunteers sorted and gathered edible food that would otherwise go to waste. They then distributed this food to individuals struggling to access nutritious meals. Through their efforts, the volunteers not only helped reduce food waste but also supported the community by assisting those facing challenges.

COMMUNITY OUTREACH

HKUST Connect Community Engagement Programs

Wood Rescue

Eight volunteers from HKUST engaged in a wood rescue service initiative organized by Kadoorie Farm and Botanic Garden. Within the serene environment of the botanic garden lie abundant wood logs, serving as sustainable resources for various applications. Through this program, volunteers gained insights into the diverse processes to repurpose different types of wood, thereby minimizing waste. They learned to discern which logs are suitable for fertilizer production, charcoal extraction, or crafting accessories and diffuser sticks.

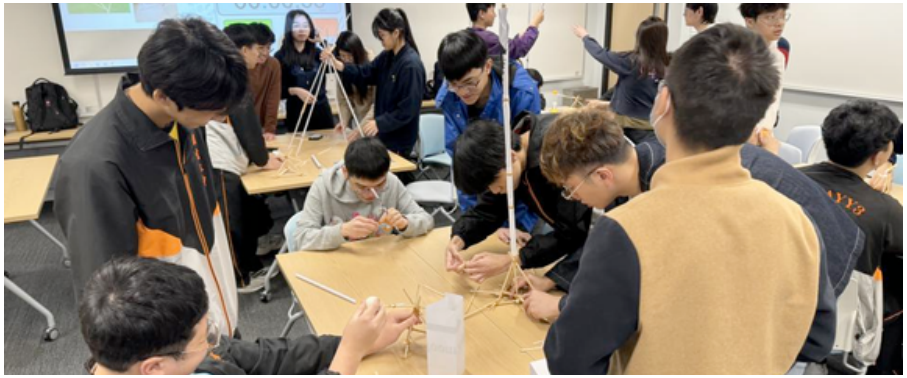
As part of their involvement, students participate in chopping the logs into smaller pieces, preparing them for subsequent utilization and storage. This hands-on activity not only fosters a sense of contribution but also underscores the importance of meticulous planning and methodological approaches in addressing challenges.

8 **HKUST volunteers participated in the wood rescue service initiative by Kadoorie Farm and Botanical Garden**

STEM with Them 與你同學STEM

HKUST collaborated with Project WeCan to engage 10 student volunteers to host a STEM workshop for 40 secondary school students from HKTA The Yuen Yuen Institute No. 3 Secondary School.

During the workshop, volunteers motivated students to construct a paper tower and a Roman Catapult using limited building materials. The students devised their own designs without the aid of building manuals. In the second part of the workshop, they started to build a Bluetooth-controlled car and enhanced it with various accessories to improve stability and competitiveness during the Bluetooth car race. Despite their lack of prior building knowledge, students, encouraged by the volunteers, successfully built their own style of cars.



10 **HKUST students volunteered to host a STEM workshop to teach**

40 **secondary schoool students about construction and electronics**

GOVERNANCE

HKUST aspires to be an exemplar of best-in-class sustainable practices as one of the five strategic objectives in the 2031 strategic plan.

This year, the University continue to establish policies to minimize its impact on the environment, and promote staff well-being.

OVERVIEW

It is HKUST policy to ensure full transparency of data and progress for all areas of the 2028 Sustainability Challenge, including all key performance indicators and other measurable items. The operational focus area of the HKUST 2028 Sustainability Challenge includes specific goals and targets in five priority areas:

- Energy / Greenhouse Gas Emissions
- Waste to the Landfill
- Water Consumption
- Landscape and Biodiversity
- Community Wellbeing

These five priority areas are bound by HKUST's policy on transparency of sustainability data and include indicators that can measured so that the broader community can have access to the real data that indicates the University's progress and performance over time. The data for each of the indicators is posted on the Progress and Performance page of the Sustainability / Net-Zero Office website and updated every academic year. The Sustainable Operations Executive Committee chaired by the Vice President for Administration and Business oversees the implementation of the progress and performance of this sustainability master plan and reviews and reports progress to the campus community.

POLICY

Sustainable Landscaping Policy

At HKUST, the University is committed to sustainable landscaping practices that promote environmental stewardship and conservation of natural resources. The Sustainable Landscaping Policy outlines guidelines for the use of eco-friendly soil amendments, water conservation techniques, and weed and invasive species management strategies to build and maintain a healthy and biodiverse campus landscape.

The Sustainable Landscaping Policy highlights the commitment of HKUST to responsible landscape management. By integrating sustainable practices and preserving natural resources, HKUST aims to create a greener and more environmentally friendly campus.

Flexible Work Location Policy

HKUST is committed to upholding work-life balance among employees through flexible and family-friendly policies that foster an inclusive and supportive workplace. In the 2024/25 year, the University introduced a weekly work-from-home day, wherein employees may choose to work-from-home for one day each week, subject to the nature of their duties.

In addition, to enhance community engagement, HKUST has introduced four days of special leave each year for employees to participate in volunteer services, wellness initiatives, and programs promoting diversity and equal opportunities.

HKUST pioneers official flexible work location policy

EDUCATION

HKUST aspires to take a leadership role in driving positive changes in education and research, empowering the next generation to address global challenges. Expanding our academic horizons and capabilities will push the boundary of excellence. The University understand that education does not sit by itself, it is integrated into the campus, experiential learning, and operations.

This year, the University has been advancing its efforts to transform the campus into a Living Lab by expanding the scope of projects to accept external partners and those that can advance our net-zero progress.

TEACHING AND LEARNING

HKUST's commitment to community education is evident through its various impactful initiatives throughout the academic year.

Sustainability Literacy Survey

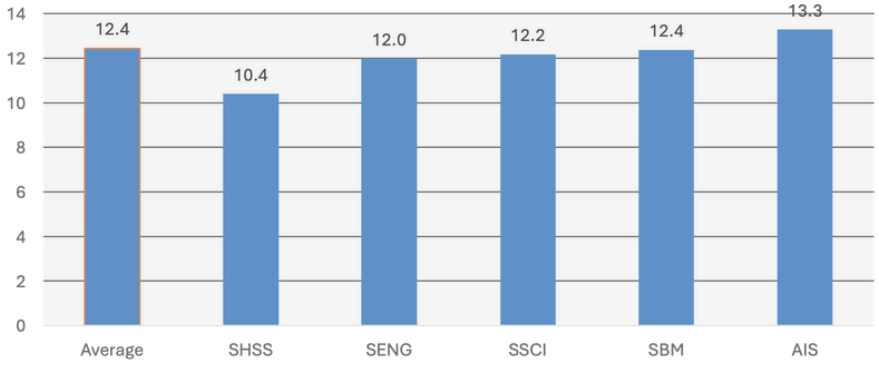
The Sustainability Literacy Quiz was developed to assess the understanding of sustainability among HKUST students and staff. This knowledge is crucial for preparing individuals to tackle sustainability challenges and support Hong Kong's goal of achieving carbon neutrality by 2050. By tracking progress, the survey aims to enhance sustainability education and operations, serving as both a measure of literacy and an educational tool.

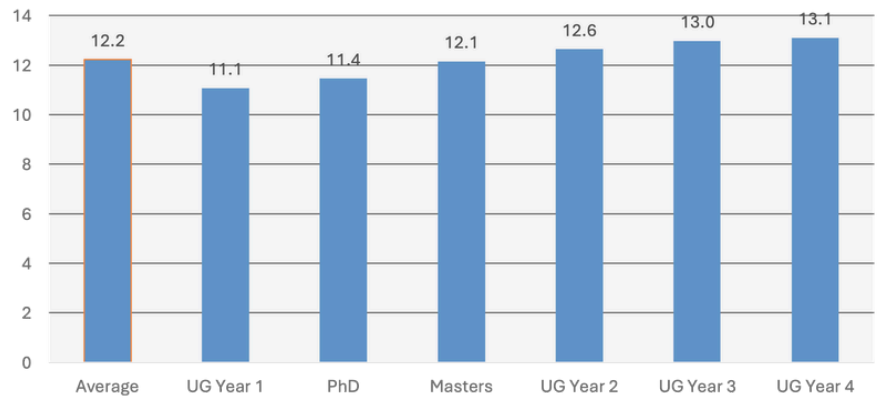
This year, HKUST expanded the 2021 survey, which initially targeted only undergraduate students, to include all staff (faculty and non-faculty), as well as postgraduate and PhD students. The University received 1067 responses, with 63% from students and 37% from staff. Among students, those from the Academy of Interdisciplinary Studies performed the best in the quiz. The School of Science has shown significant improvement over the years, while the School of Social Science and Humanities requires further enhancement. Students scored highest on environmental concepts but need improvement on questions related to local government and international sustainability goals. Staff showed similar results, indicating a need for increased knowledge in these areas.

1,067 responses received for the Sustainability Literacy Quiz

Based on these findings, HKUST can make informed decisions to build a community with stronger sustainability literacy, enabling individuals to understand and actively participate in sustainability initiatives, thereby contributing to the overall sustainability education of Hong Kong.

Scores by Category





TEACHING AND LEARNING

Campus Initiatives Volunteer Group - Green Team

The HKUST Green Team is a group of dedicated volunteers comprised of students, staff, faculty, and residents, who recognize sustainability challenges and would like to induce actual change on our campus. The group aims to create a more sustainable campus environment from various aspects including waste, wellbeing, and campus environment. The goal for the Green Team is to create a structure by which interested members can participate productively in the transition of the campus into one that operates in a more efficient, environmentally friendly, and healthy way. Highly recognized projects of the Green Team in the year 2024-25 include Drop and Adopt, Sea-rious Art Jam, Love All Ways, and Beach Cleanup.

Life Cycle Assessment and Thinking Courses and Workshops

The Life Cycle Assessment (LCA) is a framework that outlines every step of a product or service's life cycle, from raw materials extraction, production, and disposal.

HKUST held LCA courses and workshops to facilitate students' learning and real-world case analyses. Particularly, students examined the Hong Kong JCSCCP's lunchbox lending machines and the use of disposable paper towels in restrooms. Students collected primary data on consumption patterns and engaged directly with stakeholders.

Using LCA tools, they analyzed environmental impacts and proposed strategies for improving the sustainability of these systems. As per student recommendations, the operating hours for the reusable container lending machines were adjusted while the University launched a campaign to discourage the excessive use of paper towels for handwashing.

Similarly, Life Cycle Thinking (LCT) is a mindset that engineers can adopt across disciplines to view any product's environmental and economic impacts holistically along its entire lifespan. The University held LCT seminars to help students identify "hotspots" – processes with the highest resource use or emissions.

TEACHING AND LEARNING

Sustainability Leadership Programme

In February 2025, 62 students were recruited to form teams to represent each of the 8 UGC-funded universities. The training workshops took them on eye-opening visits to CHAT (Centre for Heritage, Art and Textile) at The Mills and HKRITA's Open Lab, where the students learned about the sustainability issues of overproduction and overconsumption in the clothing industry. From understanding our heritage in clothing, the challenges of clothing recycling and discovering the cutting-edge technologies in development, the students delved deep into the topic of sustainable fashion.

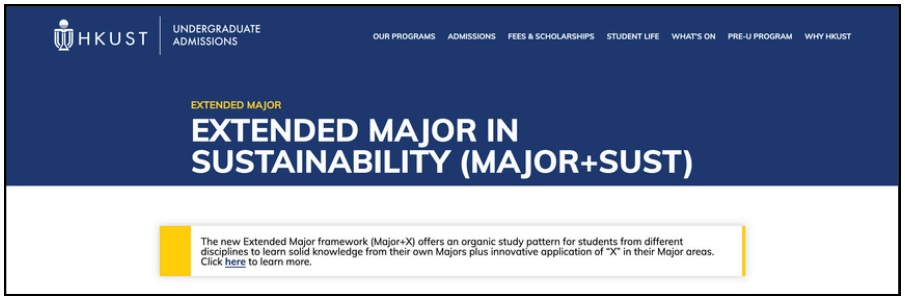
With their new insights, the students teamed up in university-based teams to design projects to inspire their campus community to rethink clothing consumption. By empowering students and staff to make conscious choices and changing their perception of clothes, they aim to encourage more sustainable clothing consumption habits.

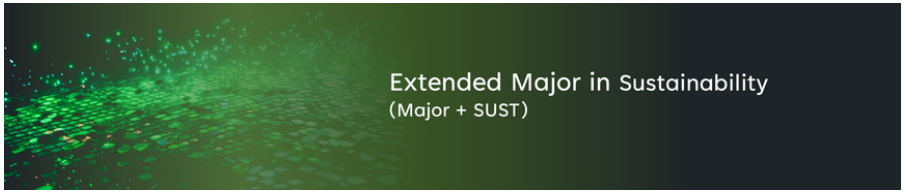
62 students were recruited to form teams to represent each UGC-funded university

New Extended Major in Sustainability

HKUST continues to emphasize the importance of sustainability through the newly inducted Extended Major in Sustainability (Major + SUST). By using the Extended Major framework, (Major + X), students may now opt in for an extended major after being admitted to their Schools.

Major + SUST aims to introduce a concept of sustainability to all HKUST students and develop solutions to pressing issues affecting society, organizations, the environment and the world. It allows students to integrate sustainability principles into their chosen major, addressing critical global issues related to science, engineering, business, humanities and social sciences, and other interdisciplinary areas. Graduates are well prepared to contribute positively to their organizations and society as a whole.





TEACHING AND LEARNING

Sustainable Design Thinking Certificate Program 2025

The Sustainable Design Thinking Certificate Program 2025 was held in June 2025 at HKUST's Guangzhou campus. The program brought together 28 passionate undergraduates and postgraduates from both Clear Water Bay and Guangzhou campuses, with four different nationalities. Fostering cross-disciplinary and cultural friendships, students were equipped with teamwork and sustainability skills crucial for their future careers.

During the program, participants engaged in dynamic activities, including design thinking workshops, industry visits, campus tours, campus academia and operation staff talks, stakeholder interviews, and mentorship sessions. They worked together to identify sustainability challenges of both campuses and developed innovative prototypes to address these challenges.

The winners of the final presentations are 1. Mosquito Avengers (Sensor-Driven Mosquito Repellent Station), 2. Yi Shot Down the Suns (Cross-border Emotion Tree Hole), 3. reSORC Warriors (Smart AI-Sorting Recycling Bin with Rinsing & Drying Station) and Best Prototype Award: UGYear1s (Beach-Cleaning Robot).

The program was a hub of creativity, encouraging students to envision a sustainable future for HKUST. The design thinking approach was central to the event, ensuring solutions were tailored to the university's needs.

28 undergraduate and postgraduate students from the Clear Water Bay and Guangzhou campuses with

4 nationalities formed teams to design sustainable solutions

RESEARCH AND DEMONSTRATION

Sustainable Smart Campus as a Living Lab Initiative

Launched in 2019 with a HK$50 million University grant, the Sustainable Smart Campus as a Living Lab (SSC) become a platform for co-creating and testing sustainable development innovations while also strengthening sustainability education and accelerating research. The program has sparked 49 homegrown projects, and a number of projects were recognized with international prizes, such as International Exhibition of Inventions Geneva, supported 20+ seed projects, involved over 1,100 students, 280 faculty members and 1,216 outside visitors over the last six years.

Joint Declaration on Embracing a Living Lab Approach to Promote Carbon Neutrality

Following HKUST's lead to sign the joint declaration with 17 other universities from all over the world to promote carbon neutrality with the living lab approach last year, the University hosted the first in-person "Lab Zero Campus Network" workshop during the Global Sustainable Development Congress 2025 in June with global universities to exchange valuable insights and experience on how to advance Living Labs. With no better way to gain valuable insights than by learning from others, representatives were invited to share on recently launched Living Labs Program and Living Lab framework that honed in on decarbonization innovations.

Awarded Projects

After the eighth round of the SSC Living Lab Pitch Day, eight projects were selected from 35 teams, receiving a $3.3M funding. Highlights of these projects include:

- **Limit water loss from leakage:** Installing real-time pressure monitoring across the campus water system using smart devices.
- **Robot-led facilities inspection:** Deploying a fleet of robots that monitor buildings for security and defects, combined with AI analysis for maintenance recommendations.
- **Save on air-conditioning:** Using AI to dynamically select the most efficient combination of chillers based on real-time performance.
- **Oyster habitat:** Introducing a 3D-printed reef optimized for oyster growth in the sea to bring about natural water filtration.

8 Living-Lab-approved projects the 2024/25 year

HK$3.3M total funding for new projects in the 2024/25 year

RESEARCH AND DEMONSTRATION

Sustainable Smart Campus as a Living Lab Initiative

Engagement

The Living Lab was actively involved in 400+ Undergraduate Research Opportunities Program projects and three Environmental Management and Technology Capstone projects. Furthermore, 73 Living Lab projects served as collaborators while students proposed 475 Living Lab projects for campus student competitions. Through SSC Hub engagement, 19 visits were conducted with a total number of 666 visitors across industry, government, academic, and non-governmental organization backgrounds. On campus Living Lab engagement ushered 24 collaborations with 40 collaborative units covering visits, seminars, conferences, Living Lab Week, Christmas Show, message wall, campaigns, information day, and call to action.

Externally, HKUST partnered with Hong Kong Science and Technology Park's "Future Ecopreneur Bootcamp" to provide greentech startup skills development and mentoring, and provided research and development pilot site support to their startups from carbon capture, electricity-free cooling, and food waste management. Additionally, HKUST was a corporate partner to Carbonless's Hong Kong Green Tech Challenge to identify and assess over 20 technologies suitable for early adoption on campus.

400+ UROP projects with SSC involvement

19+ SSC-initiated visits with

666 visitors across industry, government, academic, and non-governmental organization backgrounds

Student Competition 2024

The Living Lab received more than 40 student proposals containing Ideation Challenges or Living Lab project proposals. These two types of proposals ultimately included innovative approaches or the implementation of new technologies in the HKUST campus to further promote sustainable and smarter practices. In the end, five Ideation Challenge proposals and five Living Lab proposals were selected as winners.

The winners of the Ideation Challenge were: 1. Harnessing Atmospheric Humidity as a Renewable Water Source, 2. Kinetic Energy Harvesting for Sustainability, 3. ReUST ReLoved: A Sustainable Marketplace for UST Students, 4. UST Corner, and 5. Wash n' Use. The winners for the Living Lab projects were: 1. BeeGreen, 2. Receipt Fly, 3. Restcycle: Promoting campus wellbeing with sustainable hammocks, 4. Smart EcoClean Matrix – Algal Blooms Control Solutions and 5. UST Diner.

40 student proposals containing Ideation Challenges or Living Lab project proposals

RESEARCH AND DEMONSTRATION

Research & Partnerships Highlights

- **World Sustainable Development Institute:** HKUST, the China Biodiversity Conservation and Green Development Foundation and the World Academy of Sustainable Development Limited signed a Collaboration Agreement in September 2024 to initiate the establishment of this institute. It aims to tackle the multi-faceted challenges of sustainable development through cutting-edge research and technological innovation, engaging academia, industry practitioners and policymakers in Hong Kong and beyond.
- **Advanced Materials and Zero-Carbon Technologies:** HKUST established a partnership with Contemporary Amperex Technology in October 2024 to advance innovation and talent grooming in sustainable development and new energy technology.
- **Resilience Research:** Established through a collaborative framework agreement signed in December 2024, HKUST will collaborate with China Meteorological Administration to enhance early warning systems, strengthen disaster preparedness, and build climate- resilient communities.
- **Climate Change Monitoring:** Since January 2025, HKUST has been commissioned by the Technology and Engineering Center for Space Utilization of the Chinese Academy of Sciences to lead the development of the world's first lightweight, high-resolution high-precision carbon dioxide and methane synergistic observatory payload.
- **Environmental Monitoring & Biodiversity Conservation Field Research:** HKUST has partnered with Esquel Enterprises Limited in June 2025 to launch a five-year study program that allows HKUST students to conduct biannual field research at the textile manufacturer's 500,000-square-meter Sustainable Development Garden Integral, recognized as one of China's top 20 sustainable development projects by the United Nations.

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