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

ENVIRONMENT SOCIAL AND GOVERNANCE REPORT 2022-2023

HKUST Sustainability

CONTENTS

OVERVIEW

As the campus gradually returns to its pre-pandemic state following the lifting of COVID-19 restrictions and as the University embarks on numerous new developments, HKUST's determination to achieving its 2028 sustainability challenges has taken on unprecedented importance.

This report highlights HKUST's effort in the 2022/23 academic year, and showcases the University's net-zero commitment and its concrete actions.

NET-ZERO STATEMENT

Commitment of HKUST to Net-Zero Carbon by 2045

It is an international scientific consensus that in order to prevent the worst climate damage, global human-caused emissions of carbon dioxide need to decline to net-zero by 2050. Global leaders have recognized this target and HKUST is committed to meeting this ambitious challenge and aims to become a net-zero carbon university by 2045, with a 2035 target in between to reduce greenhouse gas (GHG) emissions by 50% against the baseline, by taking the lead on developing solutions that demonstrate the University's dedication to creating a true net-zero campus.

Transforming Our Campuses

The University will identify long-term strategies that will form a roadmap to net-zero 2045. Immediate priorities include zero-carbon buildings and carbon-sensitive renovations and refurbishment. This includes scope one and two emissions and embodied carbon of the new development. Further efforts will include policy adoption on resource centralization, use of spaces, and economic incentives/disincentives (e.g., cost of carbon). These strategies will be grounded in the need for step-change solutions and guided by the belief that disruptive technologies and societal shifts will reshape the future of living, work, and the University's buildings.

Develop Net-Zero Campus Solutions

HKUST will enhance the connectivity of research institutes and prioritize cross-disciplinary collaboration for the development of net-zero campus solutions. The near-term action is to accelerate cross-disciplinary efforts by defining specific net-zero roles and contributions that the University's globally respected research institutes can make towards tangible net-zero results. The campuses will serve as a platform to validate and demonstrate home-grown solutions and proofs of concept for various net-zero approaches. The long-term aim is to translate these results into collaborations with government and private sector partners to transfer useful technologies into applications that can be implemented across the region.

NET-ZERO STATEMENT

Integrate Financial Mechanisms to Support Net-Zero Solutions

The University also recognizes the necessary transformations and new opportunities in the global economy and green finance sector to meet net-zero objectives. To engage in this transition, HKUST will draw upon the world-class resources in the School of Business and Management to examine important practical questions of how actions in financial systems can support the adoption of net-zero solutions and drive desired behaviors required on our campus and in our society. The near-term actions are to accelerate the evaluation and adoption of net-zero incentive or disincentive mechanisms, the inclusion of internal and social costs of carbon on decision-making, and identify steps the University can take towards standardizing best-in-class approaches. The long-term aim for HKUST is to contribute to the body of practical and transformative actions through our experimentation and leadership by example.

Strengthen Curriculum

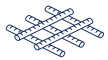
HKUST will also identify and develop new approaches in teaching, learning, and intellectual exploration to equip its broader community to be active contributors to solving climate change problems. Immediate priorities include the development of essential skill-building modules, curriculum support, targeted research, and community building. This will support and strengthen policymakers, government officials, business leaders, and members of the community in understanding the critical mindset changes for transitioning into a circular economy model capable of operating within a net-zero world. The long-term aim includes further strengthening curriculum development, experiential learning, and skill-building (e.g., Life Cycle Thinking).

A shift of this magnitude will be disruptive throughout all pillars of the economy, society, and governance. Since this level of transformation has never been attempted before, HKUST must make a conscious effort to refrain from strategies that are isolated, incremental-only, and rooted in the thinking of today.

2022-23 KEY ACHIEVEMENTS

ENERGY & GHG

Lab fume hood sash modification and occupancy sensor installation projects were implemented in chemistry research labs in the 6/F of the Cheng Yu Tung Building.



Demonstrated significant embodied carbon reduction through piloted use of green concrete and recycled reinforcement bars for Martin Ka Shing Lee Innovation Building to achieve embodied carbon intensity of less than 500 kg CO_2-e/m^2 for superstructure.

WATER

Piloted installation of 87 smart showerheads in student halls which are accessible to 1,034 students, driving behavior change and reducing water consumption by 45% compared to the previous model.

Completed the reuse design of the bleed-off water of the Library cooling tower. 2,140m^3 of bleed-off water is now expected to be reused for flushing every year.

Recommissioned an underground tank near One University Road. Potable water consumption for plant irrigation in the area is reduced by 100%.

WASTE TO THE LANDFILL

Piloted Rocket Composter operation upcycling used paper towels and coffee grounds to compost for campus landscape.

Launch of the phase II pilot program of plant fibre-made takeaway containers across five restaurants on campus for two months. 832 lunchboxes and 657 cups were recycled, reducing around 60kg of waste to landfill.

A full launch of the Lunchbox Lending Program and Clothing Swap campaign by JCSCCP supported by The Hong Kong Jockey Club. 224 lunchboxes were borrowed and 311 items of clothes were redistributed back to the campus community.

LANDSCAPE & BIODIVERSITY

Launch of the HKUST Biodiversity Map showcasing the biodiversity of the campus, over 187 individuals including butterflies, birds, coastal marine species, and trees were marked within the campus boundaries.

Applied 6,000kg of wood chips and six bags of on-campus mulched leaves to exposed soil to retain moisture and natural nutrients.

Piloted plantation of 10 shoots of orchids in the North Entrance and Upper BBQ site to enrich landscape features.

2022-23 KEY ACHIEVEMENTS

COMMUNITY WELL-BEING

Established HKUST Staff Mobile Computing Guidelines to enhance the well-being of the staff by offering flexibility in working arrangements.

Launch of the four working days Special Leave provision to staff for participation in volunteering, wellness, or diversity and equal opportunities initiatives organized by the University.

Initiated a Redbird Staff Mentoring Program with Council members, 32 staff were provided with an opportunity to connect closely with four Council members for their own development and inspiration.

Engaged 1,500+ HKUST community members in programs relating to diversity, equity, inclusion, and belonging.

Awarded nine staff members in the Inaugural HKUST SENtastic Staff Award, which was aimed to appreciate and recognize staff members for their care and commitment to the well-being and special education needs of students.

Global Service Day focusing on community volunteering activities resumed post-pandemic, with over 395 students, staff, and alumni participating.

GOVERNANCE

Creation of the Biodiversity Steering Committee, led by the Campus Management Office and Sustainability/Net-Zero Office (SUST), implementing sustainable landscaping practices.

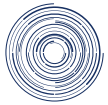
Adopted Second-hand Goods Purchasing and Reimbursement Guidelines to promote a circular economy.

The Climate Adaption & Resilience Conference (CARE) was organized with the support from four Bureaux and nine Government Departments. It was attended by 1,000+ online and in-person participants.

EDUCATION

Extension of Sustainable Design Thinking Program to foster friendships between the Hong Kong & Guangzhou campuses, benefitting 31 students from 5+ nationalities. The ceremony was attended by the Tung Foundation which supported the program.

Sustainability Education Community of Practice was relaunched to support faculty who teach sustainability. A Sustainability Amazing Race and a wellness workshop were organized.



Sustainable Smart Campus initiative funded five projects with a total of three million HKD and received 25 campus project solutions from students.

2028 SUSTAINABILITY CHALLENGE - 2022-23 PROGRESS

WATER

2% ↓

in water consumption compared to 2014 baseline and 35% increase from 2021/22

WASTE TO LANDFILL

45% ↓

in amount of waste sent to landfill compared to 2014 baseline and 16% increase from 2021/22

9x ↑

in recyclables compared to 2014 baseline and 2% increase from 2021/22

COMMUNITY WELL-BEING

25% ↑

improvement in Net Promoter Score for academic staff compared to 2021/22

22% ↑

improvement in Net Promoter Score for non-academic staff compared to 2021/22

ENERGY & GHG

38% ↓

in scope 1 and 2 GHG emissions compared to 2014 baseline and 5% increase from 2021/22

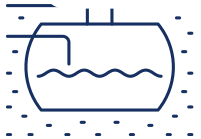
0.5% ↑

in energy consumption compared to 2014 baseline and 5% increase from 2021/22

21% ↑

in renewable energy generation compared to 2021/22

LANDSCAPE & BIODIVERSITY



10 m^3

water conserved per month as the underground well in One University Road was revitalized

37 m^3

rainwater stored in the Jockey Club Global Graduate Tower for irrigation as a pilot project

2028 SUSTAINABILITY CHALLENGE - 2022-23 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 - 2022-23 TACTICS

Category	2022-23 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. Recommission existing underground water tanks. 3. Identify ways to optimize use of rainwater and recycled water.
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.
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. Engagement with a contractor to ensure meeting all performance goals to reach incentive benchmark.
Community Well-Being	1. Develop a set of indicators to benchmark happiness and well-being for faculty and staff. 2. Adopt flexible working arrangements by devising policies to cater to the different needs of our staff. 3. Provide career development training and mentoring.

MATERIALITY

An important indicator of HKUST's sustainability performance is the impact the University has on its stakeholders. HKUST communicates with stakeholders and solicits their feedback to understand how the University affects them, the topics that matter most to them, and how HKUST can best cooperate. The University has engaged its stakeholders periodically to understand their concerns. Engagement channels include surveys, websites, events, meetings, focus groups, interviews, publications, and social media.

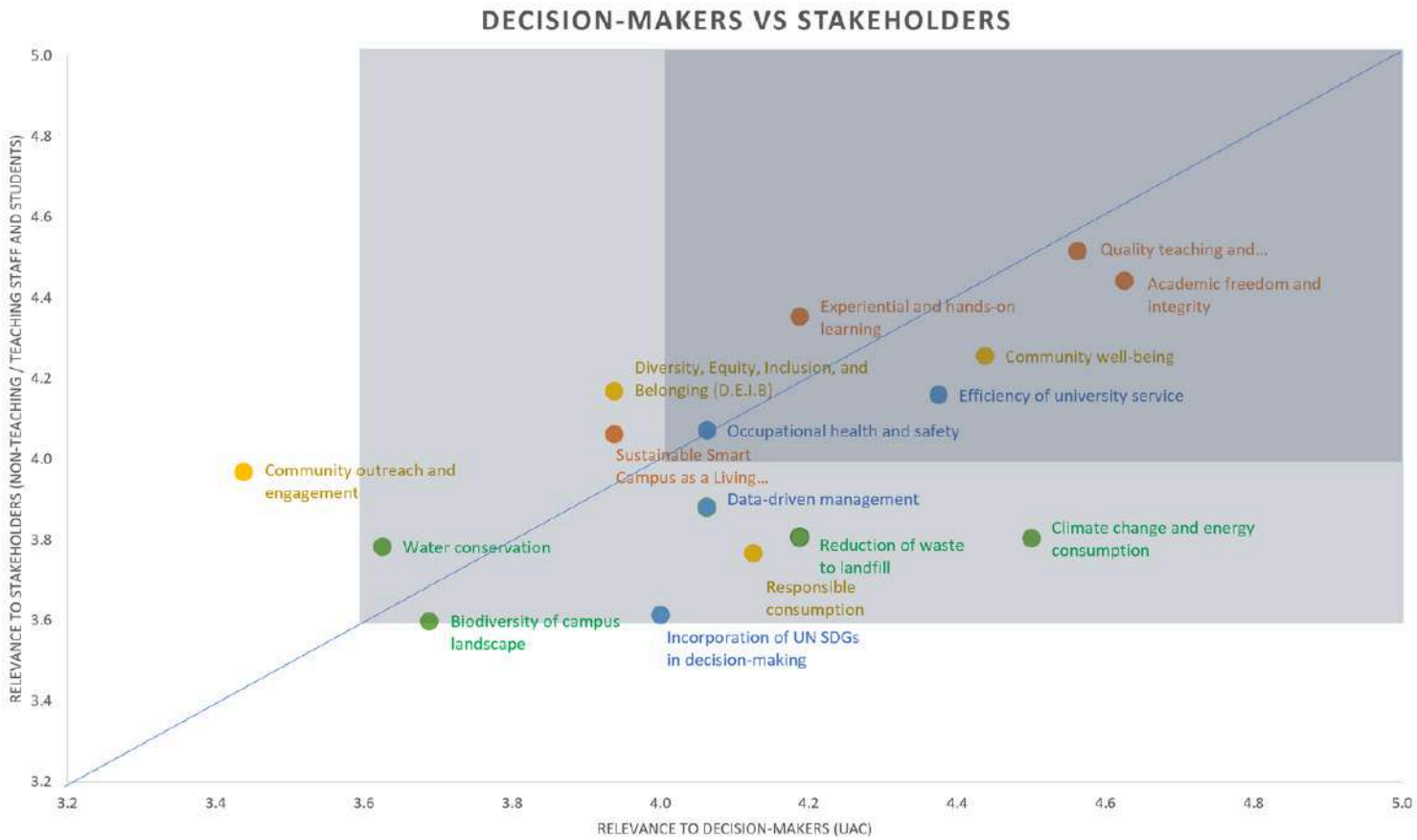
STAKEHOLDER ENGAGEMENT

In the 2022-23 academic year, a materiality survey was conducted and engaged over 1,000 members of the HKUST community. This diverse group included University Administrative Committee (UAC) Members, non-academic staff, academic staff, and students. The results of the survey were analyzed, evaluating the significance of the issues to the UAC Members, who play a key role in decision-making, as compared to the significance of the issues to the staff and students.

In the survey, respondents were presented with 16 issues categorised into four areas, and required to rate the issues based on their perception of the issues' relevance to HKUST's development. Their rating will be translated into scores from one to four, with "Essential" giving four scores, three for "important", two for "relevant", one for "not relevant", and zero for "not sure". The responses are consolidated into the materiality matrix based on their identity of whether they are decision-makers or stakeholders of the campus. The darker grey box represents topics that are "high materiality", while the lighter grey one represents "medium materiality", and the white area represents "lower materiality".

The survey revealed that while HKUST stakeholders remain concerned about educational material issues, compared to the result last year, there is a growing emphasis on the efficiency of university services and occupational health and safety. These two areas have emerged as increasingly important priorities for staff and students alike. By conducting this materiality survey, the University has gained valuable insights into the concerns and priorities of its diverse community. This information will help guide HKUST's decision-making processes and enable the University to address the identified areas of significance effectively. HKUST remains committed to promoting educational excellence, enhancing operational efficiency, and ensuring the well-being and safety of all members of the University community.

MATERIALITY MATRIX



Scale

Not sure - 1 Not relevant - 2 Relevant - 3 Important - 4 Essential - 5

Legend

Environmental Social Governance Education

Material Issues	Description	Relevance to SDGs	ESG Focus Area
Climate Change and Energy Consumption	Practices that help to reduce greenhouse gases through energy efficiency and renewables.	7 AFFORDABLE AND CLEAN ENERGY; 13 CLIMATE ACTION	Environment
Water Conservation	Practices that aim to use water efficiently and reduce unnecessary water wastage.	6 CLEAN WATER AND SANITATION	Environment
Reduction of Waste to Landfill	Practices that help to reduce the amount of waste that goes to the landfill.	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Environment
Biodiversity of Campus Landscape	Practices that help protect the variety of animal and plant species on the HKUST campus.	15 LIFE ON LAND	Environment
Community Well-Being	An effort to ensure healthy lives and promote well-being for all HKUST members.	3 GOOD HEALTH AND WELL-BEING	Social/ People
Community Outreach and Engagement	An effort to support program development, communications, and creative work for and with the HKUST community.	17 PARTNERSHIPS FOR THE GOALS	Social/ People
Diversity, Equity, Inclusion, and Belonging (D.E.I.B.)	An effort to integrate Diversity, Equity, Inclusion, and Belonging (D.E.I.B.) into the University.	10 REDUCED INEQUALITIES	Social/ People; Governance/ Driver
Responsible Consumption	Practices that take into account socio-economic and socio-environmental criteria during the purchasing process.	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Governance/ Driver

Legend

- Environment
- Social/ People
- Governance/ Driver
- Education

Material Issues	Description	Relevance to SDGs	ESG Focus Area
Data-Driven Management	Practices that value management decisions that are supported by relevant and verifiable data and ensure data privacy. (E.g., disclosing performance and financial data, checking on the regular performance of University's suppliers)	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	
Incorporation of UN SDGs in Decision Making	Practices that take into account the United Nations' 17 Sustainable Development Goals when considering how to meet the University's needs.	17 PARTNERSHIPS FOR THE GOALS	
Occupational Health and Safety	An effort to adhere to "best in class" occupational safety and health principles in operations, research, and campus activities. (E.g., occupational health and medical surveillance program by HSEO, safety trainings for students and staff)	3 GOOD HEALTH AND WELL-BEING	
Efficiency of University Service	Improving and innovating University community services that bring positive impacts to stakeholders. (E.g., medical clinic reservations, digital transformation, IT support, counselling)	8 DECENT WORK AND ECONOMIC GROWTH	
Quality Teaching & Education	An emphasis on facilitating a teaching and learning environment that develops meaningful pedagogical experiences for students, which includes providing diversified courses, inspiring innovation and creativity, and embracing inclusiveness, diversity, and respect.	4 QUALITY EDUCATION	
Experiential and Hands-On Learning	An emphasis on a hands-on approach to learning that maximizes interactive teaching methodologies to build skills and create memorable experiences, including extracurricular activities, experiments, student societies, and competitions.	4 QUALITY EDUCATION	
Academic Freedom & Integrity	An emphasis on protecting the freedom to teach, study, and conduct research without unreasonable interference from public pressure.	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	
Sustainable Smart Campus as a Living Lab	Practices that aim to transform the HKUST campus into a platform for learning, experimenting, and showcasing smart new ideas and approaches that produce sustainable outcomes.	17 PARTNERSHIPS FOR THE GOALS	

ENVIRONMENT

Global warming is urging the community to take action to have an environmentally conscious approach to addressing climate change.

HKUST reflects this approach by acting as a pioneer in shaping a university into an environmentally friendly campus, building a considerate future for the upcoming generations. The University values the importance of the environment, so proactive measurements of risks and opportunities are necessary, which can help HKUST transition to a low-carbon economy.

ENERGY & GHG — PERFORMANCE

Energy consumption is 0.5% above the 2014 baseline and 5% above 2021-22

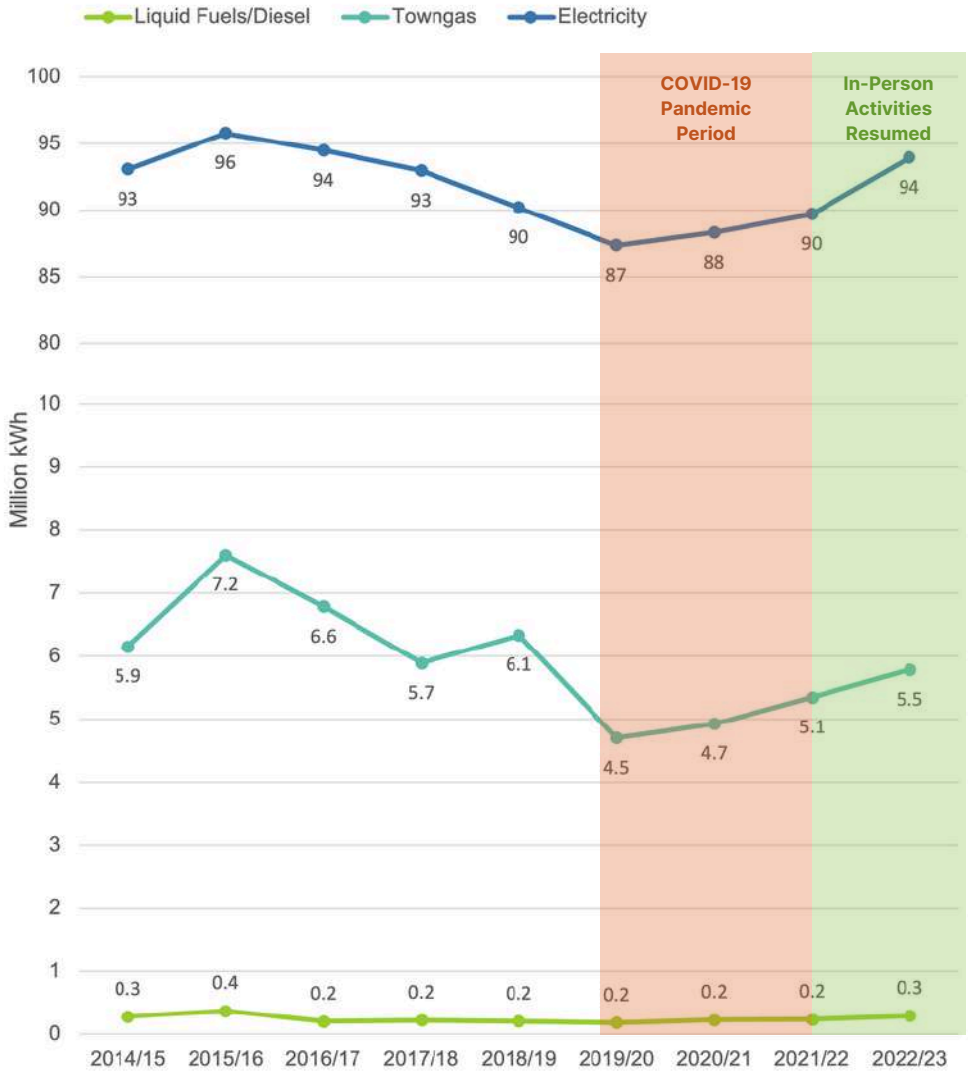
Energy consumption per capita is 24% below the 2014 baseline and 0.3% above 2021-22

Energy Consumption Overview

As seen in the graph, as HKUST pushes to further resume face-to-face activities post-pandemic, there are additional students and staff on campus; together with additional buildings, both factors increased the energy consumption to 0.5% above the 2014 baseline and 5% above the 2021-22 figure. On a per capita basis, the energy consumption per capita is 24% below the 2014 baseline and 0.3% above the 2021-22 figure.

Electricity for the University's buildings is the main source of energy consumption in HKUST, comprising nearly 94% of total energy consumption. Compared to the baseline, the 2022-23 electricity consumption is 0.9% higher; compared to 2021-22, there is a 5% increase in electricity usage. Town gas is a form of energy that is used for the University's Main Academic Building, cooking in the canteens, and for the domestic hot water in residence halls and staff quarters. It makes up nearly 6% of total energy consumption. The 2022-23 town gas consumption figure is 7% lower than the 2014 baseline, and 7% greater than the 2021-22 figure. The remaining 0.3% of campus energy is comprised of liquid fuels or diesel, which are used for standby generators and the University's vehicles. This year's liquid fuels or diesel consumption is 5% above the 2014 baseline and 25% higher than the 2021-22 figure.

Total Energy Consumption at HKUST Over the Years



ENERGY & GHG — PERFORMANCE

38% decrease in scope 1 & 2 GHG emissions compared to the 2014 baseline and 5% above 2021-22

53% decrease in scope 1 & 2 GHG emissions per capita compared to the 2014 baseline and 0.2% above 2021-22

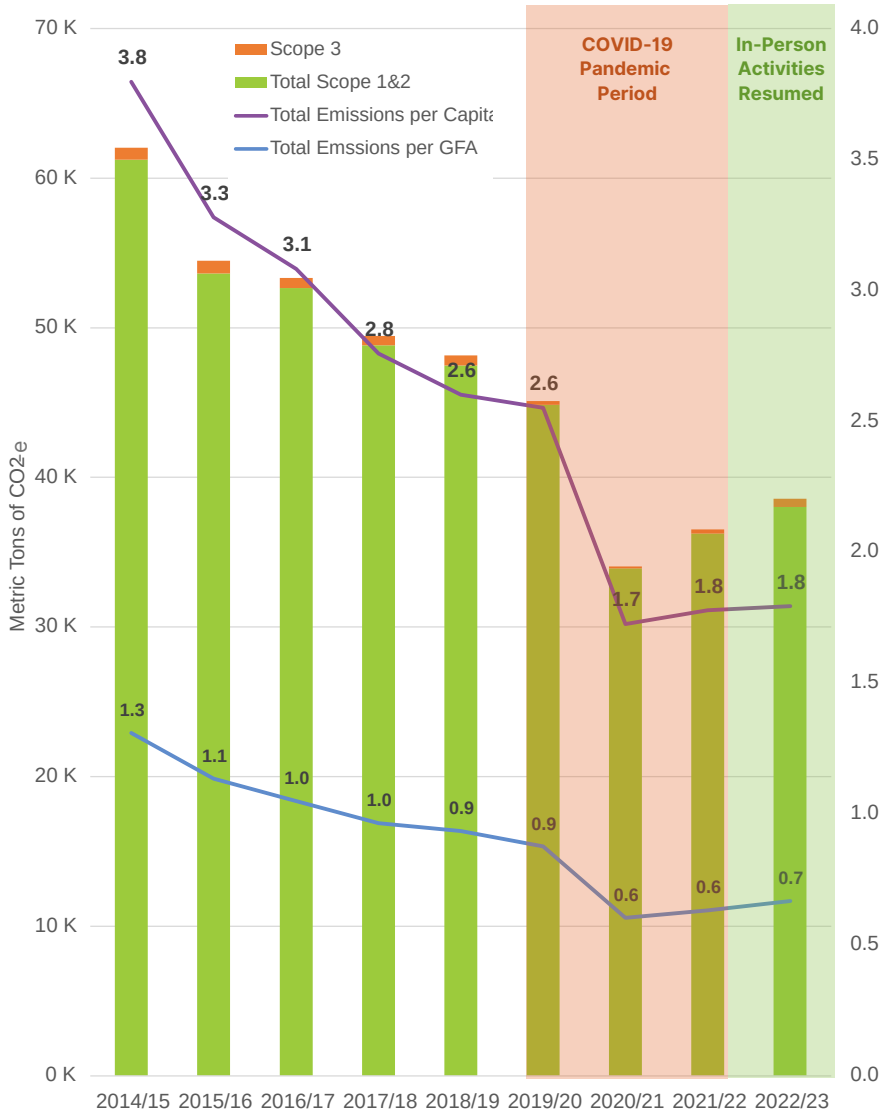
GHG Emissions Overview

As part of the HKUST 2028 Sustainability Challenge, the University has set goals to reduce greenhouse gas (GHG) emissions. Using 2014 as the baseline year, HKUST's target is to achieve a 40% reduction in GHG emissions (Scope 1 and 2) by 2028.

The 2022-23 academic year showed a 38% decrease in total Scope 1 and 2 GHG emissions compared to the 2014 baseline, and a 5% increase compared to the 2021-22 figure. This year, the University emitted around 38,014 tonnes of CO_2-e from Scope 1 and 2. All scopes present an increasing trend to some degree, and between the two scopes of this graph, Scope 2 displays a greater increase, which was by 5% compared to 2021-22. This increase may be explained by HKUST's increased electricity consumption. Approximately 94 million kWh was consumed, a 5% increase from 2021-22.

The University's Scope 3 emissions for the year were 556 tonnes CO_2-e, a 115% increase from 2021-22. Scope 3 emissions currently encompass indirect emissions from fresh water, sewage water, and paper waste processing. This increase was due to the resumption of in-person activities on campus.

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

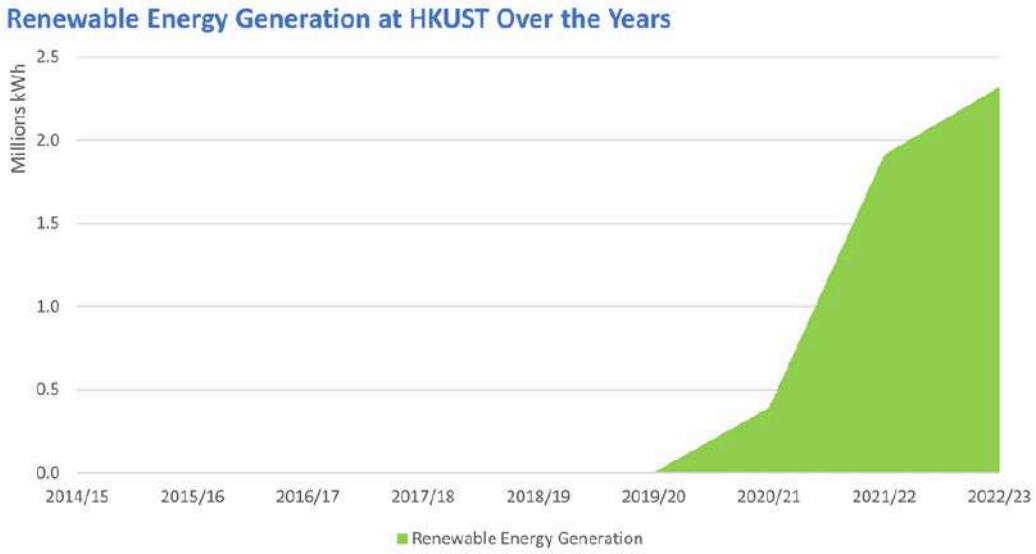


ENERGY & GHG — PERFORMANCE

PV panels installed on the Library roof

Renewable Energy Generation

Renewable energy generation has been on a steady rise for the past four reporting years since the installation of 8,000 solar panels in over 50 locations finished back in 2020. HKUST's renewable energy generation in 2022-23 has increased by 21% compared to 2021-22. The total generation is equal to 3% of the total electricity consumption. This year, an additional 296kW of PV panels was added at eight locations from the Main Academic Building to staff quarters and student halls. The University will strive to increase renewable energy installations through its Phase II solar project which includes non-traditional locations and building integrated technologies. Studies to optimize the performance of HKUST's existing solar panel installations are also underway through the University's Sustainable Smart Campus as a Living Lab projects.



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	2022-23 Tactic	2022-23 Progress & Key Activities
Energy Consumption Reduction	Continue with incremental improvements in lighting, equipment, and air conditioning system upgrades. Review and revise policies to facilitate the centralization and sharing of equipment.	• Energy efficiency upgrades included ten air handling units upgraded with EC motor fans, three lifts modernized with regenerative drivers, and 3,677 lighting upgraded with LED and occupancy sensors. • Studies for summer and computing energy use kickstarted. • Centralization of freezers planned for new Research Building 2.
	Incorporate metering and sensor data for more accurate analytics and ability to make changes rapidly and predictively.	• Developed a new air conditioner control system in student halls that adopts a mobile app for monitoring real-time energy consumption and payment. • Launch of a dashboard to evaluate the energy consumption, peak and minimum energy demand, renewable energy generation, and water consumption.
Policies & Standards	Develop high performance renovation strategies to increase performance for every new space retrofit, with an emphasis on windows and building envelope.	• Updated HKUST Sustainable Office Standards & Guidelines to include sustainable renovations. • Updated HKUST High Performance Building Standards & Guidelines with the latest energy standards. • Created new draft standards for net-zero new building. • Draft performance requirements for renewals developed by the Campus Renewal Project team. • Reuse of air conditioning system's condensate to pre-cool the air planned in new Research Building 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	2022-23 Tactic	2022-23 Progress & Key Activities
Policies & Standards	Adopt LCC and LCA evaluation metrics as standard.	• Developed life cycle cost analysis calculators and adopted for green reinforcement bar investment decisions. • Included LCA elements in draft procurement policies.
Renewable Expansion	Complete Solar project and develop a phase II renewable project that includes non-traditional locations and building integrated technologies.	• An additional 296kW of PV panels was added at eight locations from the Main Academic Building to staff quarters and student halls. • Phase II feasibility study nearing completion. Planning for pilot projects commenced.
Pilot Research Implementation	Fast-track SSC projects as pilots for larger implementation opportunities.	• SSC projects for facade BIPV and PV optimization including nano coating, high solar reflectance index, and green roof kickstarted.
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.	• Lab fume hood sash modification and occupancy sensor installation projects were implemented in chemistry research labs on the 6/F of the Cheng Yu Tung Building, saving 17,300 kWh over six months. • Development of fume hood sash height real-time data dashboard commenced. • Studies of ultra-low temperature freezers policies kickstarted.
	Develop a comprehensive plan for refurbishing labs over the next ten years with an emphasis on resource efficiency.	• Engaged consultants and issued draft reports for Campus Renewal Plan consultancy.

ENERGY & GHG — OPERATION PROJECTS

1. AHU Replacement with EC Motors

The air handling unit (AHU) replacement program allowed 300 of HKUST's AHUs of the air conditioning system to be upgraded with electronically commutated (EC) motor fans, resulting in an over 10% energy consumption reduction, while having a faster response time and maintaining thermal comfort on campus. Each year, about 10 AHUs are replaced as part of this program.

Key Performance

- **>10%** reduction in AHU energy
- Improved control accuracy

2. Lab Fume Hood Sash Modification & Sensors

The lab fume hood sash modification and occupancy sensor installation projects were implemented in chemistry research labs on the 6/F of the Cheng Yu Tung Building. Through the use of occupancy sensors and sash position information, the data was analyzed, and outreach to specific users was provided to inform them that fume hoods were left open overnight, wasting energy.

Key Performance

- **17,300** kWh saved over 6 months
- **6.7** CO_2 avoided over 6 months

3. Lift Modernization with Regenerative Drivers

As part of a 10-year plan, the shuttle lifts from L10 to L12 at the Main Academic Building were modernized this year—with an implementation of an energy regenerative drive system, resulting in approximately 30% energy savings compared to non-regenerative counterparts.

Key Performance

- **3** lifts modernized in 2022-23
- **30%** reduction in lift energy consumption

4. Lighting Upgraded with LED & Motion Sensors

HKUST's lighting upgrade program involved replacing less energy-efficient lighting with LED energy-efficient lamps and installing motion sensors in staircases and corridors. In 2022-23, 3,677 lighting fittings were replaced, resulting in a 60% reduction on average in lighting energy.

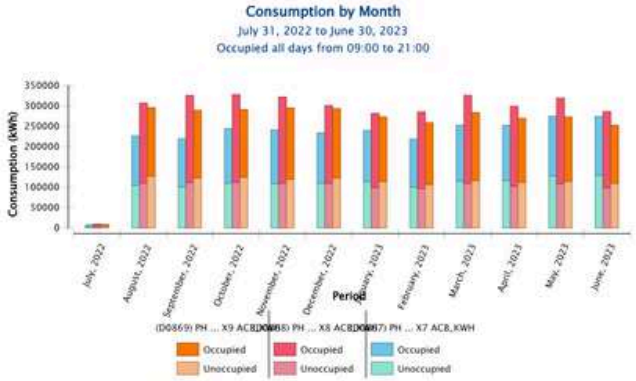
Key Performance

- **3,677** sets of LED lamps and motion sensors installed in 2022-23
- **60%** reduction in lighting energy

ENERGY & GHG — OPERATION PROJECTS

5. Energy Dashboard

Since 2022, HKUST has developed an energy dashboard to evaluate the cooling energy, energy consumption, peak and minimum energy demand, renewable energy generation, and water consumption. This is provided for each meter within a building on an hourly basis. The current data is compared to the baseline period, used to analyze trends and detect abnormalities.



6. EV Infrastructure Upgrade

To align with the government's roadmap on EVs, HKUST has set up a plan to implement EV chargers and payment systems to support 30%, or approximately 300 of existing car parking spaces with medium EV chargers by 2028.

The installation is being carried out in phases. Phase I focuses on staff quarters, Phase II on indoor car park building, Phase III on indoor and outdoor car parks and Phase IV on remaining installation and payment system setup. The year 2022-23 is focused on the installation of EV infrastructure, which involves upgrading the electrical distribution system, power cabling and other necessary components for the installation of EV chargers. In 2022-23, we have successfully completed all the EV infrastructure work for staff quarters, encompassing a total of 127 car parking spaces. With this EV infrastructure in place, the University will proceed with the bulk installation of EV chargers at a quicker rate to meet the HKUST 2028 Sustainability Challenge's target.

Key Performance

127 car parking spaces provided with medium speed EV chargers

ENERGY & GHG — BUILDINGS

The University strives to be a leader in sustainability, as articulated by the following sustainability mission statement:

HKUST will become a global leader in sustainability education by transforming the Clear Water Bay campus into a net-zero environmental impact living laboratory for experiential learning, demonstrating cutting-edge research and sustainable operations within a vibrant and engaged community.

To work towards this vision, HKUST is embracing the concept of becoming a "Smart and Sustainable Campus" where its buildings and surroundings are complementary to the learning environment, and where cutting-edge technologies, data, and building system information form a bridge between campus operations and learning priorities. HKUST's Smart and Sustainable Campus principles are:

- Emphasize flexibility in spaces;
- Anticipate future energy needs and opportunities;
- Maximize potential for metering, monitoring, and sensors;
- Embrace the benefits of the surroundings;
- Design for social interaction; and
- Integrate potential for student experimentation, research and exploration.

To achieve the best value for money from a net-zero aligned perspective and recognize the vital importance of procurement in influencing key purchasing decisions, HKUST has adopted a Life Cycle Cost Analysis approach to evaluating costs and benefits over time.

HKUST is dedicated to sustainability and has been recognized for its efforts in integrating sustainable practices into its building projects. Some notable achievements are illustrated below. These showcase the University's commitment to sustainability and its dedication to creating environmentally friendly buildings that meet exceptional performance standards.

ENERGY & GHG — BUILDINGS

Shaw Auditorium

The Shaw Auditorium is a world-class venue that provides an exceptional space for HKUST and the community. The building, designed by Henning Larsen Architects, features a flexible and sophisticated auditorium and bright, open social spaces that serve as a "living room" for the campus community. This space has been embraced by both students and faculty.

The venue can be adapted to accommodate a wide range of events with retractable seating that can be reconfigured for 840 or 1,300 seats to suit live orchestra concerts, conferences, and ceremonies or stored away to provide an open floor for exhibitions, gala dinners, and open days. The curved walls also function as a panoramic projection screen, enabling immersive audio-visual experiences.

The building has been awarded BEAM Plus V1.2 Final Platinum certification, adopting several sustainability initiatives, including passive shading from the building's deep circular overhanging balconies. The auditorium's self-shading design is complemented internally with bamboo cladding, sourced renewably, and finished with mineral paint. The project adopts an environmental strategy that includes a district cooling system, photovoltaics on the roof, lighting control, brushless DC motors, and an Aircuity System that monitors indoor air quality. The auditorium received Merit awards at the Quality Building Awards in 2022 (Hong Kong Non-Residential (New Building – Government, Institution or Community category) and at the Green Building Award 2023 (New Buildings Category: Completed Projects – Institutional), recognizing its high-quality design and construction as well as encouraging sustainable development in the industry. In addition, the auditorium had been honored with the AIA Hong Kong Honor Award for Architecture in the International Open category and the Gold Recognition for Best Alternative Project at the MIPIM Asia 2023 Awards.

Key Performance

- BEAM Plus V1.2 Final Platinum certification
- Merit Award — Green Building Award 2023
- Merit Award — Quality Building Awards 2022
- AIA Hong Kong Honor Award for Architecture
- Gold - Best Alternative Project - MIPIM Asia 2023

ENERGY & GHG — BUILDINGS

Martin Ka Shing Lee Innovation Building

The Innovation Building incorporates passive design features such as external shading devices, insulated glazing units, and optimized natural daylight. In addition, the building adopts an environmental strategy that includes a district cooling system, photovoltaics on the roof, lighting controls, and an indoor occupancy and climate monitoring system. The project is targeting a BEAM Plus Platinum certification.

Sustainable construction methods are also used. The Acacia trees that were previously taken down have been repurposed and used in the newly opened Student Center on campus. The ongoing construction of the Martin Ka Shing Lee Innovation Building highlights that 50% to 60% of the embodied carbon will come from steel reinforcement bars (rebar). However, investing in recycled steel produced in electric arc furnaces instead of coal-powered blast furnaces can reduce emissions by approximately 50%. This green procurement practice aligns with technical requirements and regulations and has no impact on the project timeline. Combining green concrete with the low carbon content of 30% to 35% embodied carbon in the superstructure works, the Innovation Building is projected to have an embodied carbon below 500 kg CO_2-e/m² for raw material supply, transport, and manufacturing. This figure is more than 30% lower than the Hong Kong Green Building Council's baseline for non-residential buildings. Expected to be completed in 2025, the project will continuously track and refine its embodied carbon calculations throughout the construction stage.

Key Performance

- **<500KG CO_2/M² projected superstructure embodied carbon**
- Use of green steel reinforcement bars and concrete for superstructure
- Reuse of felled trees to be made into furniture and interior works

ENERGY & GHG — BUILDINGS

Jockey Club iVillage

Designed as a series of prefabricated modules, the facade units incorporate thermal insulating layers and double-glazed windows with a low shading coefficient. Digital mapping evaluations of solar paths and heat gain have determined the geometries of the external solar shading fins positioned above the windows within the facade units. To ensure thermal comfort, these shading fins vary in depth and length in response to solar exposure on each facade unit and the planning of the interior spaces.

The halls' environmental systems are integrated within the University's centralized network. Incorporating a central chiller plant using fresh water cooling towers in a district cooling system providing significant reductions in energy consumption, this centralized smart system can predict and offset daytime energy demand in the academic buildings with evening demand in the residential accommodation.

As an important circulation route for the campus, the halls' roof includes substantial thermal and sound insulation while photovoltaic arrays installed on the roof's inaccessible sections will harvest renewable energy in accordance with the University's commitment to transforming its Clear Water Bay campus to net-zero operations.

The Jockey Club i-Village project has received several accolades, including the Silver Award at the HKIBIM Awards and the Grand Award in the Green Building Award for Residential Projects. It has also achieved the BEAM Plus-NB [v1.2] Provisional Platinum rating.

Key Performance

- Silver Award — HKIBIM Awards
- Grand Award — Green Building Award for Residential Projects
- BEAM Plus-NB [v1.2] Provisional Platinum rating

ENERGY & GHG — BUILDINGS

There are ongoing renovation works on the 1/F of the Academic Concourse to create more than 90 additional spaces for research post-graduate students, as well as converting over 750m² of existing laboratories into a large flexible open laboratory on 6/F helping to centralize communal space for better utilization and create an environment to foster collaboration.

With HKUST already passing its 30th anniversary, the University is undertaking a Campus Renewal Plan (CRP) exercise to assess the condition of the older building stock on campus and plan long-term renewal and upgrade strategies. These upgrades will bring the buildings in line with current expected standards of quality, design, performance, maintenance, and operations. They will also reduce the operational energy of the buildings to achieve the overall net-zero carbon goal. The upgrades from the CRP will cover the student and staff residences, Main Academic Building, and laboratory areas to reduce energy consumption, waste, and water use. In addition to operational benefits, the upgrades can also improve health and well-being.

Completed Enhancement works, AA&I, Minor Works

Throughout the year, the Campus Development Office carried out close to 100 upgrading projects ranging from small minor works to large-scale renovation and alteration projects including some of the below:

- Laboratory renovations in collaboration with The Hong Kong Jockey Club to create several STEM Labs for state-of-the-art research;
- Renovation of spaces to create new Research Postgraduate (RPg) Hubs providing central spaces for more than 250 RPg students from all schools along with communal breakout space, meeting rooms, and collaboration zones;
- Upgrade of virtual Classrooms and IT infrastructure to adapt to the changing education environment;
- Renovation of student facilities to improve functionality and usage including LG5 student space, ground floor student center and TST Art Hall; and
- Upgrade of Food & Beverage facilities including the Seafront Cafeteria, McDonalds, and Starbucks.

WATER — PERFORMANCE

2% decrease in water consumption compared to the 2014 baseline and 35% above 2021-22

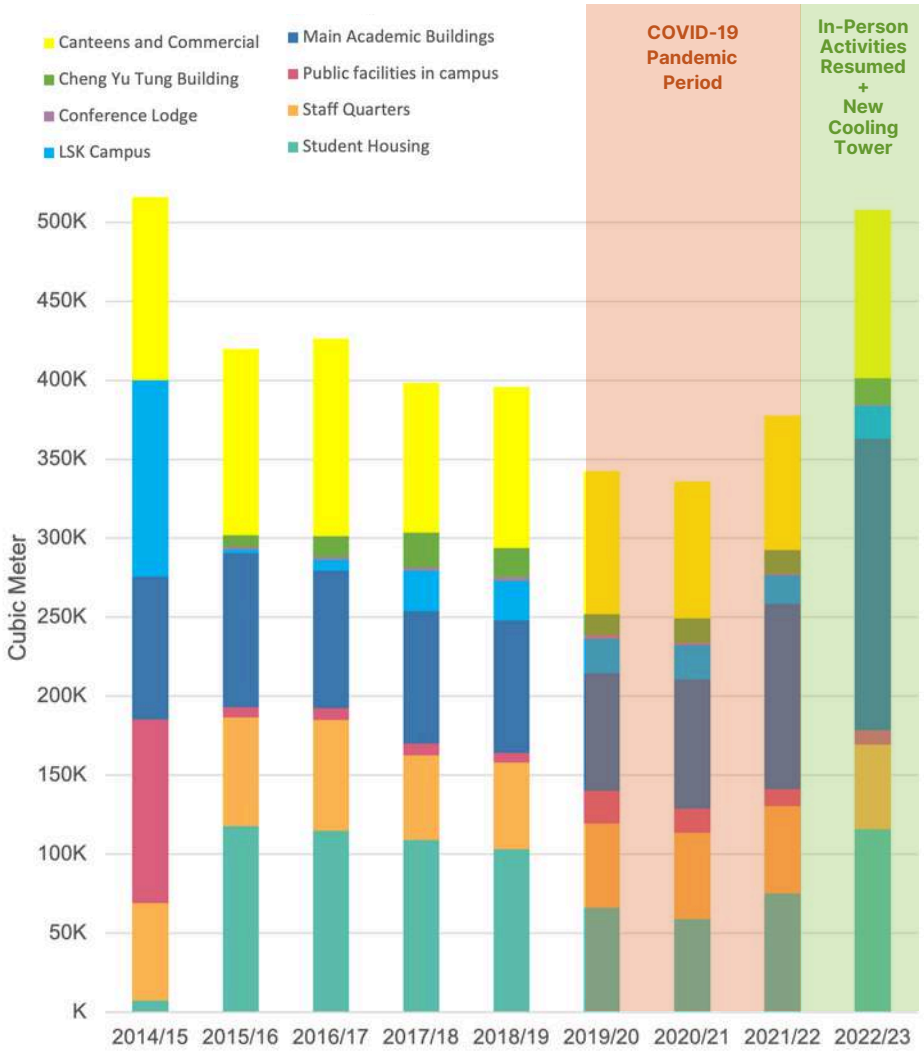
25% decrease in water consumption per capita compared to the 2014 baseline and 29% above 2021-22

Water Consumption Overview

In 2022-23, overall water consumption has decreased by 2% compared to the 2014 baseline and increased by 35% compared to the 2021-22 figure. In reference to the graph, the water consumption of locations around the HKUST campus is similar to the 2021-22, except for the public facilities and the Main Academic Building, with the latter having the greatest increase ever and reaching a new peak for this location. In comparison to 2021-22, the water consumption of the Main Academic Building increased by 57% while the total water consumption increased by 35%. This large increase may have been due to the mostly, if not full transition back to in-person classes and activities, and the installation of a new cooling tower.

Per capita, there is a 25% decrease in water consumption compared to the 2014 baseline and a 29% increase compared to the 2021-22. This is aligned with the overall water consumption trend.

Water Consumption Breakdown at HKUST Over the Years



WATER — PERFORMANCE

Increased Water Consumption by the Installation of a New Cooling Tower

Global warming has become more evident than ever—with the rise of seawater temperature—causing a domino effect on the environment. The cooling tower project was born to combat the increased energy use of the existing seawater cooling plant.

The cooling tower drastically increases the water consumption, with around 116,000m³ in 2022-23 and accounts for 23% of total water consumption. However, the cooling tower is critical in HKUST's central campus air conditioning system. It is a device to consume fresh water for air conditioning under the process of evaporative cooling, in which ambient air is in contact with falling water, thereby exchanging heat. When part of the water is being evaporated, the remaining cooled water will travel down to the pores lining the outside of the tower, where filtration takes place to separate impurities from the fresh water.

To adhere to the code of practice by the Electrical and Mechanical Services Department (EMSD), the condensing water is required to be continuously bled off to maintain the concentration of total dissolved solids and suspended solids at an acceptable level. In such a case, the cooling towers bleed-off at the HKUST Library will be used to supply water for toilet flushing.

The total cooling tower bleed-off water volume was 8,724m³ in 2022, while the average reuse rate for toilet flushing is 0.8L/s. The condensate from the air handling units (AHUs) inside the library building is also collected and pumped to the cooling tower. The designed daily volume of water reused for flushing is 5.9m³.

New cooling towers installed on the Library roof

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 m^3 by 2028.

Category	2022-23 Tactic	2022-23 Progress & Key Activities
Water Consumption Reduction	Retrofit all showerheads in staff quarters and residence halls with low flow models. Implement behavior change strategies that nudge residents towards more water savings actions.	• Piloted smart and water-efficient showerheads for 1,034 residents of student halls.
Use of Non-Potable Water Sources	Recommission existing underground water tanks.	• Recommissioned the underground tank near One University Road, saving 10m^3 per month.
	Identify ways to optimize use of rainwater and recycled water.	• Reuse system for bleed-off water of the Library cooling tower completed. • Tender and submission for connection of condensation water from Primary Air Handling Unit (PAU) at the Library cooling tower for reuse underway. • Provision allowed for future greywater connection in the new Research Building 2.

WATER — OPERATION PROJECTS

1. Global Graduate Tower (GGT) Rainwater Reuse

The rainwater harvesting in GGT collects A/C condensate and rainwater, diverting them to a 37m³ fibreglass tank, and treating the water using filters and UV sterilizers. The harvested water subsequently serves 950m² of landscape area for irrigation purposes. Around 10m³ of potable water consumption is reduced per month.

Key Performance

>10M³ potable water consumption reduced per month

2. One University Road Underground Tanks

The project's scope encompassed the resumption of the underground water tank at One University Road for plant irrigation. Compared to the previous system, the recommissioned water tank reduced potable water consumption by 10m³ per month and water consumption by 100%.

3. Smart Showerheads

HKUST has launched a Water Conservation Initiative (WCI) to promote responsible showering habits among undergraduate residents. The project has been implemented in two halls of residence and 87 smart showerheads have been installed, accessible to 1,034 hall-based students. The smart showerheads have an integrated water-powered LED light that changes color in line with actual water usage, urging users to hurry up. The water flow rate is as low as 6.6 L/min, up to a 45% reduction from the previously used showerheads.

Key Performance

- **1,034** hall residents benefited
- **45%** reduction in water flow rate

LANDSCAPE & BIODIVERSITY — OVERVIEW

As climate change progresses, biodiversity loss is accelerating at an unprecedented rate. Deterioration of the environment and depletion of natural resources are complex problems that require immediate solutions. Considering human dependency on biodiversity, HKUST is committed to protecting our ecosystem and managing natural resources for a sustainable and prosperous future.

HKUST is proud to host a diverse range of flora and fauna, contributing to the overall biodiversity on campus. Through a Roadside Tree Survey in 2018, the University has identified and catalogued 2,856 trees, representing 124 different species. These trees not only provide shade and aesthetic appeal but also support the local ecosystem. Additionally, the HKUST campus is home to approximately 75 species of birds and around 100 species of butterflies, further enhancing the ecological richness of our environment.

Key Biodiversity Figures

- ~2,000 trees
- ~120 different tree species
- ~75 different bird species
- ~100 different butterfly species

LANDSCAPE & BIODIVERSITY—PERFORMANCE

2028 Sustainability Challenge - Landscape & Biodiversity Goals

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

Category	2022-23 Tactic	2022-23 Progress & Key Activities
Healthy Soil	Allocate spaces on campus for utilizing "green" landscape wastes and storage of site-developed compost.	• New space allocation of shredded leaves storage in LG7 Nursery in addition to the recycling skip in One University Road Nursery for landscape wastes.
	Prioritize the use of compost in flower beds as a way to provide natural nutrients to a groundcover that can retain moisture.	• Use of wood chips and on-campus mulched leaves on exposed soil to retain moisture and natural nutrients.
	Experiment with "compost tea" as a way to add natural nutrients to the turf and grassy areas.	• Testing and discussions underway.
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.	• Developed the HKUST Biodiversity Map showcasing the biodiversity of the campus.
	Add specific landscape areas and features in the campus tours for incoming students and visitors.	• Planting of orchids in North Entrance and SSQ BBQ site to enrich landscape features.
	Engagement with contractor to ensure meeting all performance goals to reach incentive benchmark.	• Regular and active engagement of contractor through bi-monthly Biodiversity Steering Committee Meeting.

LANDSCAPE & BIODIVERSITY

Preservation and Enhancement of Natural Resources

To ensure the preservation and enhancement of our natural resources, HKUST has implemented sustainable landscaping practices. The University has established a new contract with incentives to encourage its landscaping contractor to adopt environmentally friendly practices. This contract promotes the use of sustainable methods, such as responsible water management and the reduction of chemical inputs.

The University has conducted trials with organic soil amendments. As part of this initiative, HKUST has imported woodchips from Y-Park, a local yard waste hub, to improve soil health and promote sustainable growth of plants. Furthermore, the University has actively removed invasive species, such as Mikania micrantha, to protect the ecosystem.

Incorporation into Taught Courses

Education is a key component of HKUST's approach to natural resource management. The University offers a series of specialized courses focused on biodiversity, conservation, and environmental science which engage around 240 students every semester. These courses provide students with a comprehensive understanding of the importance of biodiversity, ecosystems, and environmental conservation. Notable courses include "A Practicum on Wetland Conservation", "Biodiversity", "Coral Reef Ecosystem Science", "Environmental Conservation", and "Coastal Environmental Monitoring". These courses equip students with practical skills, foster environmental awareness, and promote experiential learning.

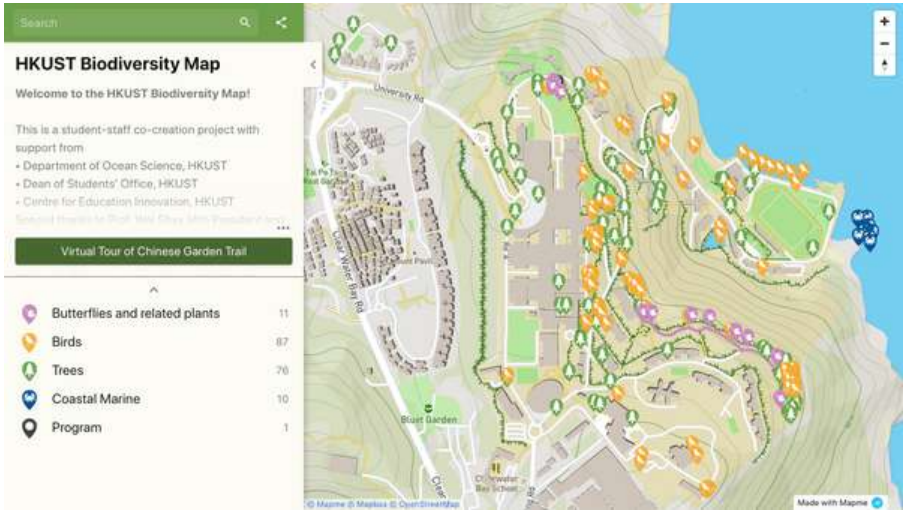
In addition to HKUST specialized courses, the University utilizes the campus landscape for field studies. In the "Marine Biology Laboratory" course, students explore and survey the rocky shore of HKUST to learn about ecological dynamics and perform research. This approach enhances the student's understanding of marine ecosystems and encourages environmental stewardship.

LANDSCAPE & BIODIVERSITY

Pollinator Attraction

In order to support pollinator populations and enhance biodiversity, the University has undertaken initiatives to attract pollinators. This includes the planting of orchids in areas such as the Upper BBQ site and the North Entrance, adding vibrant colors to the campus environment. Additionally, a SSC project is in progress to create a butterfly garden, providing a habitat for butterflies and further promoting biodiversity on campus.

HKUST Biodiversity Map



Research plays a vital role in the University's efforts to expand knowledge and contribute to the field of environmental sustainability. HKUST's researchers have developed a biodiversity map in collaboration with students, staff, and faculty. This map features over 100 species on campus, including birds, trees, coastal marine life, and butterfly and plant species. It also includes a 360° virtual trail and educational materials to facilitate teaching and learning outside classrooms.

Through these initiatives, HKUST strives to protect and enhance its natural resources, ensuring a sustainable and vibrant campus environment. By integrating education, research, and sustainable practices, the University aims to foster a culture of environmental stewardship and contribute to the broader goals of sustainable development.

LANDSCAPE & BIODIVERSITY

Community Garden

The HKUST Community Garden is a cherished space that thrives on the efforts of volunteers, including HKUST staff, students, and residents of the campus. It embraces the principles of organic farming and gardening, fostering growth, community, and engagement.

To embrace the principle of organic farming, the garden promotes conservation and sustainable land use through various practices.

- Tracing seed origins: Ensuring that no invasive species or GMO produce contaminate the campus landscape by carefully tracking the origin of the seeds sown in the garden's plots.
- Organic composting: Exclusively utilize organic compost and generate its compost using yard waste produced within the garden, no chemical fertilizer is allowed.
- Natural pest control: Avoiding synthetic herbicides or pesticides by employing biological control measures, such as planting pest-repelling plants, to manage pests.
- Inspiring others: Actively promote organic planting through social media by sharing success stories and inspiring others to adopt sustainable gardening practices.

The garden witnessed the enthusiastic participation of over 100 HKUST community members. Regular Saturday gardening sessions and a range of workshops, including organic farming, pest control, and vermicomposting, were organized to educate and raise awareness about the importance and techniques of organic farming.

WASTE TO THE LANDFILL — PERFORMANCE

45% decrease in landfill waste compared to the 2014 baseline and 16% above 2021-22

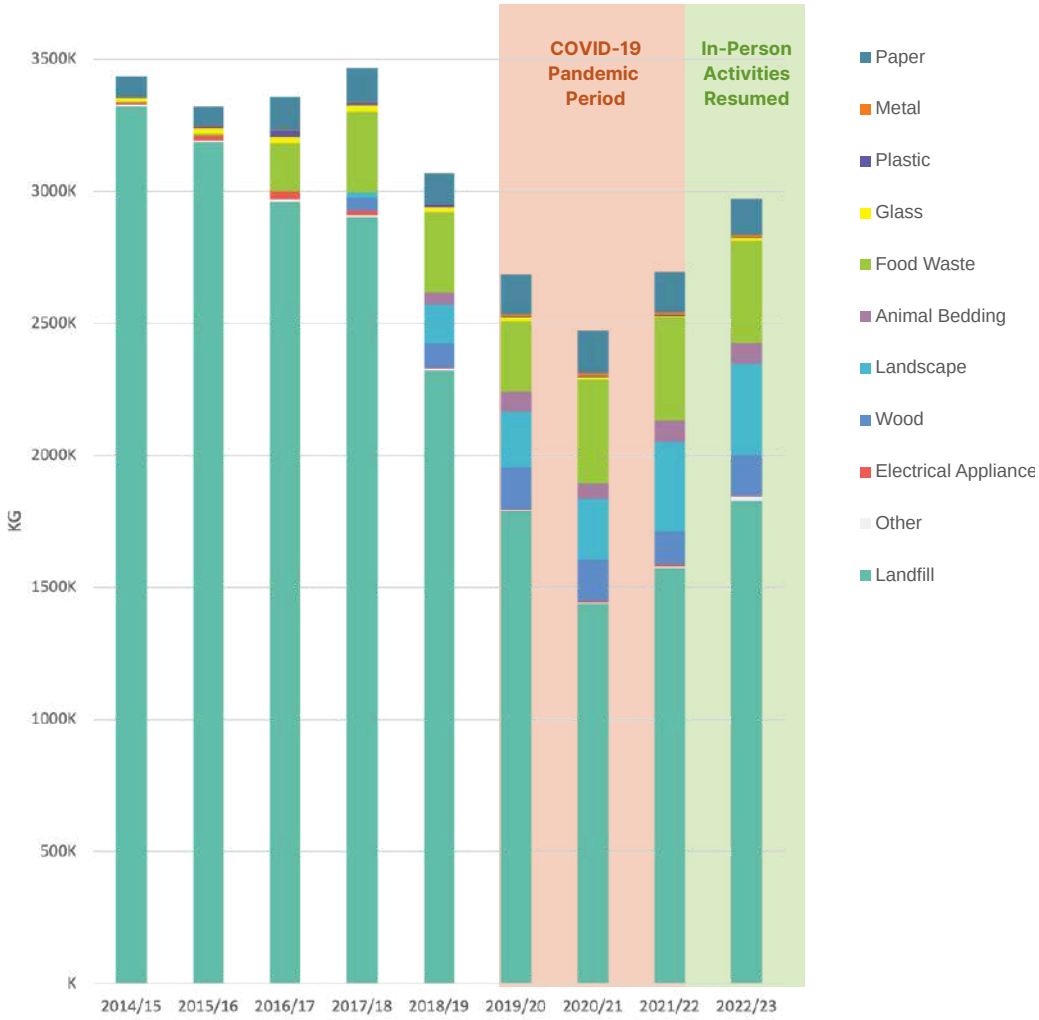
Recyclables increased by 9 times compared to the 2014 baseline and 2% above 2021-22

Waste Generation Overview

In the 2022-23 academic year, the waste generation of the landfill waste in 45% less than the baseline year of 2014. However, HKUST's landfill waste increased by 16% compared to the 2021-22 figure as the University has almost entirely resumed in-person academic and extracurricular activities.

Furthermore, the recyclables figure has increased by 4% compared to the 2021-22 figure, and nine times compared to the 2014 baseline year. This result is a testament to HKUST's continuous effort to increase recycling rates among students and staff on campus. The University has been recycling 15 types of recyclables including, but not limited to paper, metal, plastic, glass, food, animal bedding, landscape, wood, and electrical appliances. While the landfill waste generation increased compared to the 2021-22 figure, HKUST is working to further increase recycling rates, as most recyclable figures display increasing rates compared to the 2021-22 figures. Overall, the University is ambitiously working towards meeting the HKUST 2028 Sustainability Challenge target of diverting 75% of waste away from the landfill.

Waste and Recycling Generation at HKUST Over the Years



WASTE TO THE LANDFILL — PERFORMANCE

Paper Consumption

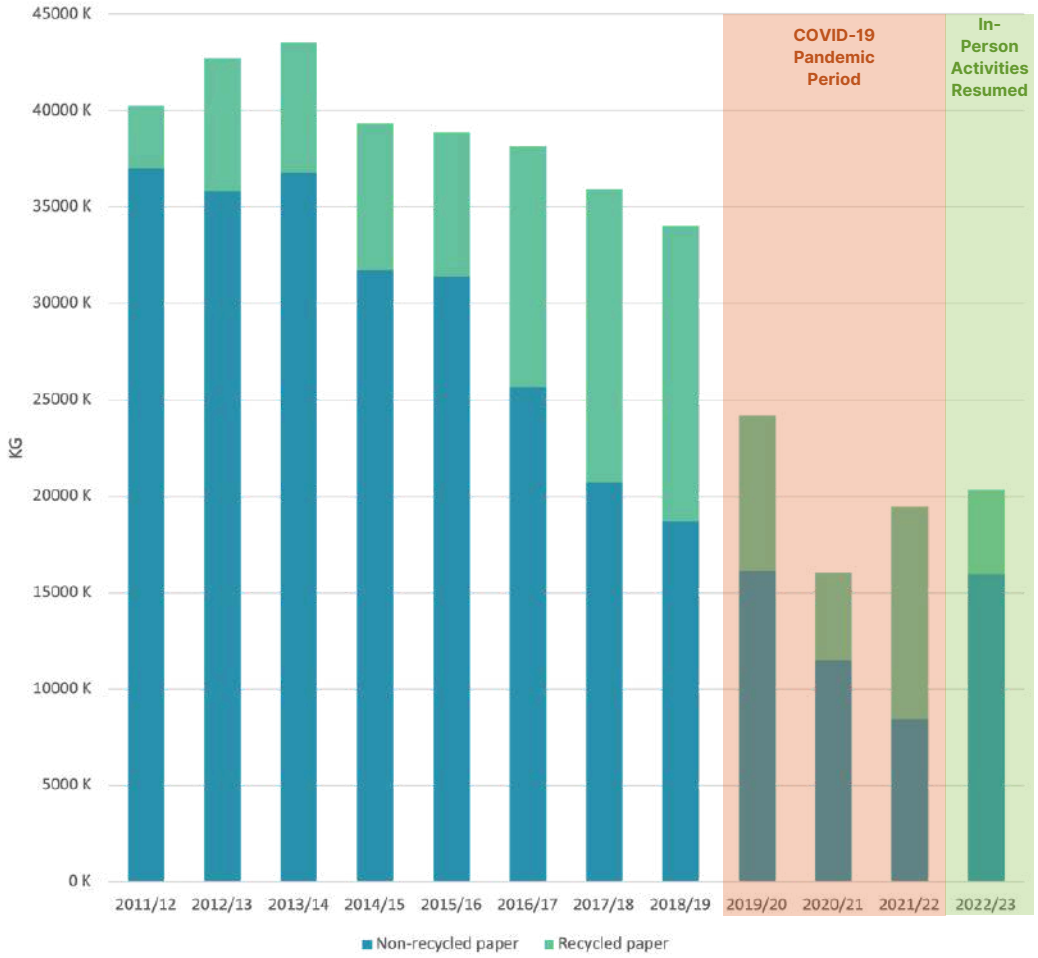
In the academic year 2022-23, HKUST underwent a significant transition as the University emerged from the challenges posed by the COVID-19 pandemic.

There has been an overall decrease of 49% in paper consumption compared to the 2014 baseline. This achievement can be attributed to 50% of the administrative offices adopted paper reduction practices during the pandemic, and 79% of these practices have been sustained even after the pandemic concluded. With students and staff returning to campus, there was a slight increase of 5% in paper consumption within the community compared to 2021-22.

The use of recycled paper was reduced by 60% compared to 2021-22 due to the supply chain disruptions during the pandemic. However, compared to the 2014 baseline there is still a 35% increase.

Looking ahead, the nine administrative offices under the Vice President of Administration and Business (VPAB) have committed to reducing their overall paper consumption by 25% in comparison to the 2022-23 period. With the development and promotion of new e-platforms, as well as initiatives aimed at cultivating paperless operational habits among staff members, the offices are demonstrating HKUST's ongoing dedication to minimizing environmental impacts and advancing sustainable practices in paper usage.

Paper Consumption Trend at HKUST Over the Years



WASTE TO THE LANDFILL — PERFORMANCE

2028 Sustainability Challenge - Waste Goals

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

Category	2022-23 Tactic	2022-23 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.	• Phase I pilot program of biodegradable containers in restaurants across campus. • Full launch of the Lunchbox Lending Program (LLP).
Extending Life of Materials	Develop more "sharing economy" opportunities.	• Reuse of second-hand furniture and launch of HKUST Second-Hand Goods Purchasing & Reimbursement Guidelines. • Two clothing swap events supported by the Jockey Club Sustainable Campus Consumer Program (JCSCCP). • Food collection and sharing programs during Chinese New Year & Mid-Autumn Festival. • Two-day student-run ANEW Market with second-hand goods. • Reuse of unwanted furniture and electrical appliance between departments.
	Emphasize repairing and reuse, and support activities like "Repair Parties" where equipment can be brought back to life.	• Repair party by REMAKE team and umbrella repair workshop to train campus users how to repair spoilt equipment.
New Approaches	Develop new on-site composting systems to allow many other options for waste reduction. Emphasis should be on paper towels for mixing with food waste to produce high quality compost for use on campus.	• Piloted Rocket Composter operation upcycling used paper towels and coffee ground.

WASTE TO THE LANDFILL — OPERATION PROJECTS

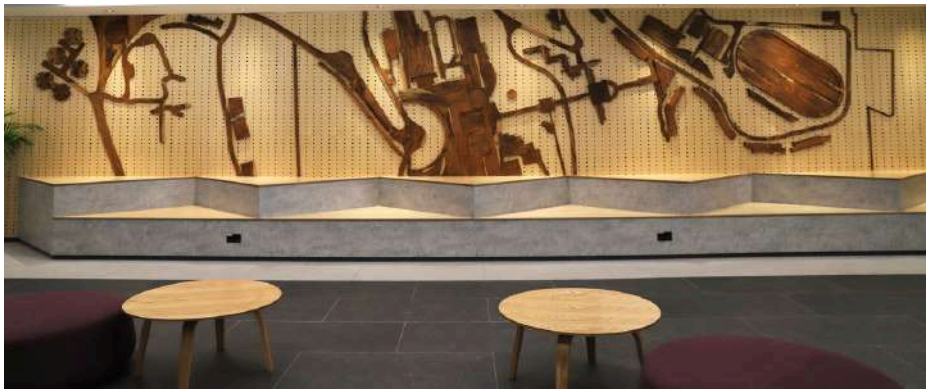
Innovation Building Tree Project

The much-loved mature tree grove made way for the construction of the new Martin Ka Shing Lee Innovation Building. Typically felled trees from construction sites are ground into wood chips or mulch and used as landscape amendments. While this makes use of the material, it represents a low value-added solution.

Utilizing the wood from the mature trees would trap carbon dioxide, effectively removing it from the atmosphere and reducing our embodied greenhouse gas emissions from the construction site by around 75 tonnes. Further, since carbon is stored in the waste wood, and raw materials are harvested and manufactured locally in a less energy-intensive way, making furniture and other products would result in a lower life cycle environmental impact.

Of the 97 trees on the original site, 34% were retained on site, and 64% of the remaining trees with broader diameters were collected to produce usable lumber.

The HKUST community can appreciate the beauty and heritage of these brownish and reddish hue woods in their new form on campus at the Student Center interior works, furniture at the HKUST offices, acknowledgement plaques around campus, and possibly interior works and furniture when the Innovation Building is completed.



Rocket Composter

HKUST has introduced a composting machine that can convert a maximum of 100L of organic waste into compost. The machine is accompanied by a shredder and mixer for organic waste processing. Frontline workers and officers have received training in its operation.

By processing targeted organic waste, such as coffee grounds from on-campus catering operators and used paper towels from washrooms, the machine reduces the amount of waste sent to landfills.

By diverting organic waste from landfills, HKUST reduces its environmental footprint and contributes to a more sustainable campus.

The next steps involve collaborating with cleaning and landscaping contractors to develop a Standard Operating Procedure and entering the trial stage, further advancing the effectiveness of the composting system.

WASTE TO THE LANDFILL — OPERATION PROJECTS

Jockey Club Sustainable Campus Consumer Program (JCSCCP) Initiatives

#EatForThePlanet Campaign

The purpose of this initiative was to raise awareness among students on how their purchasing decisions relating to food choices can have far-reaching impacts on the climate. At HKUST, campus chain caterers including Maxim's and Asia Pacific, which serve the LG1 and LG7 canteens, participated in the initiative.

A set of menus with carbon footprint labels was prepared in collaboration with Future Green (formerly Food Made Good HK). Student outreach campaigns were launched to provide information for students to make sustainable choices on food. An online interactive quiz was launched with the aim of educating participants on the carbon footprint of different meat types to encourage them to make more eco-conscious choices. Positive responses from 2,468 participants from eight campuses were recorded for this round of quizzes.

Clothing Swap Events

These events were split into two parts, firstly a pre-loved clothing collection period was conducted during the time students check out of their halls of residence; secondly to redistribute collected clothing to students on campus through a point system.

A total of nine sessions of clothing swap events were rolled out across all eight university campuses, including two at HKUST. These pop-up stores drew a lot of attention with more than 5,000 participants.

The initiative also partnered with a second-hand platform to further promote a circular economy and facilitate a continuation of responsible clothing habits after the events.

WASTE TO THE LANDFILL — OPERATION PROJECTS

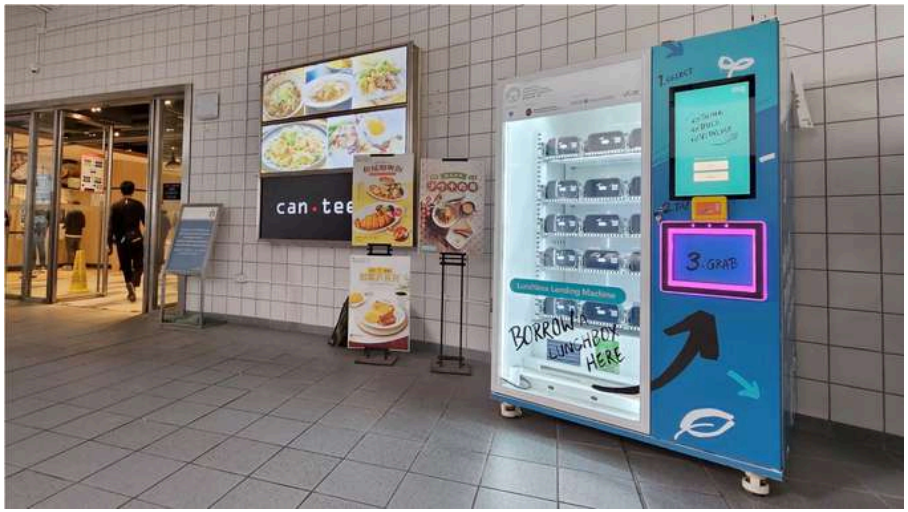
Jockey Club Sustainable Campus Consumer Program (JCSCCP) Initiatives

Lunchbox Lending Program (LLP)

The first system of its kind among universities in the Asia-Pacific region was initiated on the HKUST campus. This involved the installation of a distribution machine to lend up to 120 reusable lunchboxes, and a corresponding reverse vending machine equipped with internal cameras and AI object recognition software to facilitate the collection process. This initiative offers users a green alternative for the disposal of takeaway containers, helping to eliminate lunchboxes from landfills.

Two pairs of machines have been installed on the campus outside the LG1 canteen/Atrium and Passione in the Main Academic Building. To borrow a reusable lunchbox, a student or campus member would just need to tap their Octopus card at the vending machine to place a $20 deposit, which will be fully refunded to the Octopus card when an empty box is returned to the return machine.

A corresponding engagement campaign was also rolled out in parallel to educate users on campus on the rationale behind the LLP, as well as marketing campaigns to drive uptake.



SOCIAL

The University community has been an integral part of our 31 years of success. HKUST upholds the values of diversity and an inclusive and collaborative community. For faculty and staff, HKUST is committed to providing a supportive and dynamic work environment, and a learning culture to develop professionally. For students, HKUST seeks to provide a well-rounded education to enhance creativity, critical thinking, global outlook, and cultural awareness, as well as a campus life to prepare them as community leaders and lifelong learners.

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	2022-23 Tactic	2022-23 Progress & Key Activities
Healthy and Productive Workplaces	Develop a set of indicators that can be used to benchmark happiness and well-being for faculty and staff.	• Improvement in Net Promoter Score by 25% for academic staff and 22% for non-academic staff compared to 2021/22. A survey was sent as part of annual materiality survey.
	Adopt flexible modes of working by devising policies to cater to the different needs of our staff; including evaluation of software or technologies necessary to support flexible work arrangements and evaluation of schedules and adapted work.	• Established HKUST Staff Mobile Computing Guidelines. • Launch of four days special leave available to staff for participation in volunteering and wellness, or diversity and equal opportunities initiatives organized by the University.
	Provide career development training and mentoring.	• Initiated Redbird Staff Mentoring Program with Council members.

MEASUREMENT MATRIX

Net Promoter Score (NPS)

Assessing Staff Satisfaction

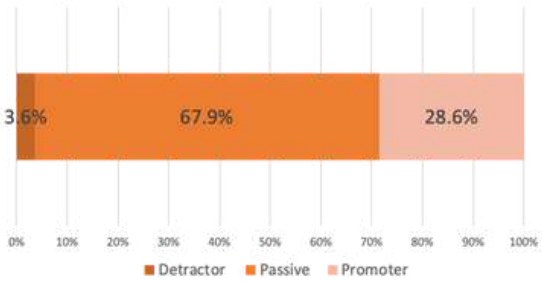
The Net Promoter Score (NPS) is a metric used to evaluate employees' job satisfaction by gauging their willingness to recommend their company to others. Employees were asked a specific question and rated their likelihood of recommending working for HKUST on a scale of 0 to 10.

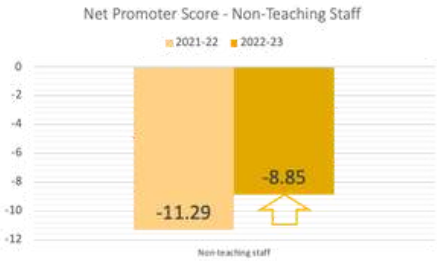
Employees who rate the University with scores of 9 to 10 are considered 'promoters', as they are likely to spread positive word-of-mouth. Those rating the University with scores from seven to eight are classified as 'passives', while those rating it with scores from zero to six are considered as 'detractors', indicating a high level of dissatisfaction.

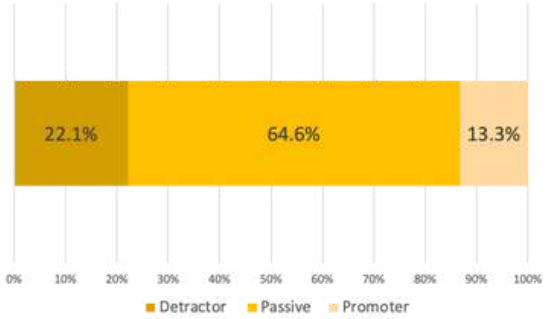
In this year's NPS assessment among the academic staff, while there has been a five-point improvement compared to 2021-22, 72% of respondents still fall into the 'passive' or 'detractor' categories. This suggests that there is potential for the respondents to transform into 'promoters' given the right conditions for growth. Compared to 2021-22, the NPS of the academic staff has improved by 25%.

On the other hand, regarding the non-academic staff, it is noted that 87% of the respondents are categorized as 'passives' or 'detractors', resulting in an overall negative NPS score. Compared to 2021-22, the NPS of non-academic staff has improved by 22%.

These findings emphasize the importance of taking appropriate measures to enhance job satisfaction and engagement among employees, particularly among the non-academic staff, to improve the overall NPS and create a more positive work environment.







FAIR WORKING & STUDYING ENVIRONMENT

Inclusivity, Fairness & Diversity

Advancing Diversity and Equal Opportunities

The establishment of the Diversity and Equal Opportunities Committee in 2022, chaired by the VPAB, has been a significant milestone for the University in advancing its work in promoting diversity and equal opportunities on campus. The new setup exemplifies the University's effort to bring a consolidated approach to promoting diversity, equity, and inclusion through enhanced communication and collaboration between schools or units; partnership with external communities or organizations; engagement with university members, as well as strengthening its mechanism and policy about anti-discrimination.

As one of the University's strategic goals in the HKUST Strategic Plan 2031, HKUST will continue to encourage all members to embrace and value differences, to learn from each other, and to foster a mindset of diversity that promotes inclusiveness, collegiality, and respect. The University aimed to bring down prejudices and biases and ensure a level playing field, regardless of sex, physical ability, family status, race, etc. These are to be achieved by means of training and educational activities, publicity, and communication with stakeholders about the following areas:

- Understanding of diversity, equity, and inclusion;
- Mitigating unconscious bias; and
- Reducing discrimination and harassment of any form.

Supporting a Diverse Community

HKUST demonstrates its commitment to reducing inequalities through a range of inclusive facilities and services. The HKUST campus provides diverse catering options, including a Halal food outlet and vegetarian food outlet options. To ensure accessibility for people with disabilities, HKUST also offers services such as the Welcab service – an on-campus transportation service for students with a mobility disability; accessible parking; tactile guide paths; barrier-free access; lifts with braille markers and audible messaging; accessible toilets, and accessibility services in the library. Facilities for interfaith prayer and meditation are also provided. Family-friendly provisions, such as mothers' stations, kindergarten services, and medical benefits, all contribute to a supportive environment. The presence of various student societies, Staff Association, Christian fellowships, University Parents Community, and Women Faculty Association further enriches the inclusive and diverse campus atmosphere.

Inclusive Design in Global Graduate Tower

The Global Graduate Tower (GGT) has purpose-designed bedrooms for students with physical disabilities. The bedrooms are equipped with height-adjustable furniture, an automatic door, and motion-sensing switches for light and air-conditioning.

FAIR WORKING & STUDYING ENVIRONMENT

Inclusivity, Fairness & Diversity

SEN (Special Educational Needs) Support

The University takes a proactive role in ensuring and cultivating a positive learning environment for students, where equal opportunities in academic and non-academic pursuits are guaranteed for each student. The SEN Support provided under the Counseling and Wellness Center offers a wide range of support services and resources to ensure that all students have equality of opportunity, in that they benefit equally from university life, and to cultivate a campus culture of inclusion.

The month-long "From Diversity to Infinity" Festival in the fall semester and related workshops raised awareness of special educational needs (SEN) and how to create a positive campus environment for all students. This led to the inaugural HKUST SENtastic Staff Awards, where the University recognized nine staff members for their exceptional care and commitment to the overall well-being and SEN of the students.

Anti-Discrimination

HKUST actively promotes a working environment free of discrimination and harassment. The University has implemented anti-discrimination and sexual harassment policies and established committees to address gender discrimination and sexual harassment. Through these measures, HKUST strives to create equal opportunities for all employees, with workshops and seminars offered to raise awareness and educate staff members and students about these important issues.

Along with the policies and committees, the Code of Conduct for Outsourced Service Providers at HKUST ensures that contractors providing services to the University adhere to specific standards. These include being equal opportunity employers; maintaining safe and healthy working conditions; committing to environmentally-friendly practices; upholding high ethical standards, and treating employees with respect. The Code holds subcontractors accountable to the same standards and encourages the employment of workers from outgoing contractors with comparable terms and conditions.

Enhancing Governance

To foster and maintain a diverse, inclusive, and open environment, and to ensure inclusion and equality are embedded into its functions, operations, and activities, the University sets out its standards and approach for the University's community via its new Equal Opportunities and Anti-discrimination Policy. Also, the Procedures for Handling Discrimination and Harassment Complaints has been implemented, replacing the Policy on Sexual Harassment, offering a more comprehensive, transparent, and accountable approach for handling discrimination and harassment matters at the University.

FAIR WORKING & STUDYING ENVIRONMENT

Inclusivity, Fairness & Diversity

Raising Awareness through Regular Promotion and Outreach

Various workshops, events, and publicity campaigns were held to promote the understanding and appreciation of diversity at the University, attracting a total of 1,500+ participants:

- Silence Experience and Light Picnic at Deaf Cafeteria (23 February 2023)
- Celebrating International Women's Day at HKUST (1 to 15 March 2023)
- How Guide Dogs are Raised and Trained (9 March 2023)
- Panel Sharing and Discussion "Understanding and Addressing Unconscious Bias in the Education Sector in Hong Kong" on the International Day for the Elimination of Racial Discrimination (21 March 2023)
- Distribution of Lanyards, Badges and Stickers to Support Neurodiversity (2022-23 Spring Term)
- "Gift Me A Moment": The Art Exhibition of People in Recovery (4 to 19 April 2023)
- Pride Market: Promoting Diversity (23 June 2023)

The following are some feedback from participants:

"It's a great opportunity for us to get to know the differences between humans. Thanks for organizing it and helps to reflect on how we can use this mindset on day-to-day work."

"The experience was great and I got to know a lot about the reality that people of difference are facing! Thank you very much for the arrangement!"

In addition, the "Seminar on Sexual Harassment Prevention" was held regularly for managerial staff or rank above, and the "Exhibition on Anti-discrimination and Sexual Harassment" was organized to enhance the University community's awareness of the topic. With the joint effort of the eight UGC-funded institutions and the Equal Opportunities Commission, the Online Training Module on Preventing Sexual Harassment was launched in early 2023 for HKUST students and the University was proudly providing technical support for the learning platform.

FAIR WORKING & STUDYING ENVIRONMENT

Staff Support

Staff Well-Being

In the 2022-23 academic year, HKUST has prioritized staff well-being through various initiatives and programs. These efforts aim to create a positive work environment, promote work-life balance, and enhance emotional and social well-being.

HKUST has established a "Leave Policy for Volunteering" that enables teams and individual staff to engage in community service throughout the year. This approach not only benefits the University community but also serves as a way to build up well-being among staff.

The Redbird Staff Mentoring Program fosters the continuous professional growth of university staff and strengthens a sense of community belonging by matching groups of staff with senior leadership mentors from the University and Council.

To support emotional and social well-being, HKUST has implemented the Employee Assistance Program (EAP). This program offers assistance to staff and their immediate family members facing work, family, or interpersonal difficulties, improving work performance and work-life balance.

Wellness workshops, including singing bowl experiential and Zentangle meditative drawing workshops were held this year, providing tools for relaxation and stress management. These interactive sessions contribute to a positive work environment.

Whistleblowing Policy

A whistleblowing mechanism is in place to enable all stakeholders of the University to raise concerns with the appropriate University authorities against any malpractice within the University. The University adheres to the Policy to ensure University members can raise concerns confidentially and do not tolerate any retaliation against whistleblowers.

Employment of Children Regulations under Employment Ordinance (Cap. 57)

HKUST abides by the Employment of Children Regulations, made under the Employment Ordinance (Cap. 57), which prohibits the employment of children in non-industrial establishments, so as not to interfere with their schooling.

Protection under Employment Compensation Ordinance (Cap. 282)

Employees receive support for their time loss through protection from the Employment Compensation Ordinance (Cap. 282). This ordinance applies to situations where an employee, during employment, suffers injury or damages. Protection includes no-fault compensation without needing to prove the fault of any party.

FAIR WORKING & STUDYING ENVIRONMENT

Staff Support

Living Wage Guarantee

HKUST is committed to ensuring that all employees and contractors serving on the University campus receive at least a living wage, which is higher than the statutory minimum wage to ensure all living expenses can be covered without relying on external assistance.

Therefore, all contract workers including security, landscape, cleaning and food services are evaluated, new contracts for security, cleaning and landscape now include a provision that their contract employees must be paid a living wage.

Grievance Procedures

HKUST has established Staff Grievances Procedures to address employment-related concerns in an impartial and timely manner. Supervisors are responsible for actively listening to staff members' concerns and resolving them informally whenever possible. Face-to-face communication is encouraged, and if an informal resolution is reached, a written record should be kept. If an issue cannot be resolved informally, staff members can raise the matter formally following the prescribed procedures.

HKUST Staff Association

HKUST Staff Association is established with the mission of promoting social, cultural, and recreational activities among staff members and protecting the welfare of HKUST staff while acting as a communication link between the University and its staff members. The association also provides financial assistance in times of need and difficulty for eligible members.

FAIR WORKING & STUDYING ENVIRONMENT

Development Assistance

University Financial Assistance

HKUST offers financial aid programs for both undergraduate and postgraduate students. The University Financial Assistance (UFA) is available to local students facing financial hardship, with assistance levels determined by their family's financial circumstances, including special provisions for Emergency Financial Assistance. The University also supports students with programs such as Deferment of Tuition or Hall fees and a Loan Scheme for Searching Off-campus Housing.

WeCan Scholarship

The *WeCan* Scholarship Scheme helps students to pursue first-degree courses in the eight UGC-funded universities and The Hong Kong Academy. After the reward of the *WeCan* Scholarship, the alumni family are invited to participate in volunteering activities under *WeCan* and community services to give back to the *WeCan* and society.

Personal Finance Ambassador Program

To further sustainable finance, the University also holds a special Personal Finance Ambassador Program in collaboration with Career Sparkle for students to practice managing one's financial resources that balances both personal goals and long-term environmental and social sustainability.

Local Start-Up Assistance

HKUST supports the local entrepreneurship ecosystem by providing financial and non-financial support to locals. In 2019, the University set up a HK$50 million fund to support start-ups in addition to working closely with industry partners to organize competitions nurturing start-ups with innovative technologies, as well as high potential to bring about social and economic impact. The HKUST-Sino One Million Dollar Entrepreneurship Competition 2023 is a platform for HKUST and surrounding community members to create new businesses and to prepare students to start their future careers in entrepreneurship.

Career-Building Support

HKUST Alumni launched the HKUST United Program to support students by offering career advice, start-up support, and job or internship opportunities.

HEALTH & SAFETY

Physical Health & Safety

Hazardous Materials and Waste Disposal

The Health, Safety and Environment Office (HSEO) plays a vital role in ensuring the health and safety of the HKUST campus community. It has implemented various initiatives to effectively manage hazardous materials and waste disposal. The HKUST Disposal of Hazardous Materials and Items under the Regulatory Control Guideline provides guidelines for waste segregation, proper forms, and safe storage. The HSEO offers guidance, evaluates compliance, and arranges for waste disposal. The HKUST Liquid Effluent Management Guideline also ensure compliance with environmental standards for sewage and coastal water discharge. Regular sampling is conducted to monitor parameters such as pH, oxygen demand, and toxic metals. The University emphasizes the proper disposal of hazardous waste and prohibits dilution.

Occupational Health and Medical Surveillance Program

The HSEO provides an occupational health and medical surveillance program that meets regulatory requirements and professional standards to ensure a safe work environment for employees.

The pre-placement examination evaluates overall fitness and physical ability to perform the required, consisting of an inspection of medical history, occupational history and physical examination.

Before performing work assignments, a more detailed medical assessment and stricter occupational medical surveillance are conducted with the assistance of HSEO as well.

HEALTH & SAFETY

Physical Health & Safety

Sport Facilities

The University provides a variety of sports and recreation facilities for students, staff, alumni, and their family members.

This includes a large indoor sports hall of 1,600m² for badminton, basketball, volleyball, and handball; as well as an outdoor sports center with an artificial turf soccer pitch, 400m track with eight lanes, hard-surface mini-soccer pitch, basketball courts, lawn area, and tennis court.

Apart from track and field, HKUST also has a 50m outdoor pool and a 25m indoor pool available for aquatic activities, alongside a Water Sports Center providing dragon boat, coastal rowing, windsurfing, kayaking, and sailing equipment for eligible users.

Two fitness centers with cardio and weight-training equipment are available as well.

Athletic Opportunities

The Sports Association is the official student entity that aims to promote a healthy lifestyle and spur interest in sports activities. Under the association, there are over 30 Sports Clubs providing a range of sports activities.

Mainly formed from the Sports Clubs are the University Sports Team. There are currently over 50 HKUST Sports Teams consisting of enthusiastic participants in inter-collegiate, local and international sports competitions.

With these organizations and facilities, HKUST community members are provided with various opportunities to engage in sports activities and promote physical fitness.

HEALTH & SAFETY

Physical Health & Safety

Food Outlets

At HKUST, several food outlets display the calorie information on the purchase display boards.

In addition, vegan and vegetarian options are served in food outlets near all academic buildings at HKUST.

Operational Emissions Do Not Harm People or Environment

The University complies with Hong Kong's Air Pollution Control Ordinance Law Act to evaluate air emissions and define the level of danger.

Emission levels determined to be harmful will be addressed to further prevent potential detrimental effects to the related stakeholders.

Drinking Water

Free and clean drinking water is also provided to the community.

HKUST aims to eliminate the use of one-time-use plastic water bottles by providing safe water supplies through constant monitoring done by the HSEO and government.

HEALTH & SAFETY

Mental Health

Counseling Services and Workshops

HKUST prioritizes the well-being of its students through the Dean of Students' Office (DSTO)'s initiatives. The Counseling and Wellness Center offers counseling sessions and a 24-hour helpline for students and staff seeking support. The Center also organizes workshops and programs addressing mental health topics such as sexual health, trauma, and emotional well-being. Additionally, the Division of Public Policy launched MindMatters, a program funded by the Hong Kong Government's Mental Health Initiatives Funding Scheme. MindMatters raises awareness of mental health among Hong Kong's ethnic minorities by training "lay leaders" to provide community-based support networks and early identification of mental health needs.

Comfort Paws

The DSTO launched the Comfort Paws Program to enhance students' psychological and social well-being through human-animal interactions; raise community awareness on animal care; protection and welfare; nurture students' love for animals; and train passionate students to host animal-assisted activities.

The Program facilitates weekly mingling sessions during term time for students to interact with therapy dogs.

COMMUNITY OUTREACH

HKUST Connect

90
Community Engagement Programs

14 SDGs Addressed

HKUST Connect is a community engagement initiative that aims to build upon the University's efforts to raise civic awareness and develop sustainable partnerships with the wider community.

During the 2022-23 academic year, HKUST Connect offered 90 community engagement programs ranging from one-off volunteer services to long-term development initiatives. These programs contributed to 14 Sustainable Development Goals (SDGs). Specifically, 41 programs contributed to SDG 10, 23 contributed to SDG 3, and 20 contributed to SDG 4.

Among these programs, 26 projects were aligned with 24 organizations as part of Connect for Change – Global Service Day 2023. To rebuild connections with the community after the pandemic, 470 service opportunities were provided to all HKUST community members.

The attendance amounted to 395 participants, involving 222 students, 19 alumni, and 39 staff members who utilized the special leave provision to contribute to the community and enhance their well-being through service.

COMMUNITY OUTREACH

The following are activities held by HKUST Connect, organized according to the SDG they addressed:

SDG 1: No Poverty

With programs like “Struggle for Survival Poverty Simulation & Service” and “Street Cleaners and Scavengers Visit”, students developed a sense of empathy and compassion towards those living in vulnerable circumstances and were inspired to make an impact on society, fostering a new generation of change-makers to contribute towards the global goal of eradicating poverty and creating a more equitable and inclusive society.

SDG 2: Zero Hunger

To promote a deeper understanding of sustainable food practices and food security risks, we organized community outreach programs such as the “Fellowship with Feeding Hong Kong” and volunteering with “HKUST Bread Run”. These programs raised awareness and encouraged students to participate directly towards reducing food waste, addressing food insecurity, and promoting sustainable food systems within the HKUST community.

SDG 3 :Good Health and Well-being

HKUST Connect actively engaged with the community through programs like “Kiddy Online Game Day Online Game”, “Zoom U Next Time with Elderly”, and “Mid-Autumn Festival Visit - Let Care Reach Street Cleaners and Scavengers”. The University aims to improve the overall health and well-being of individuals in various target groups. By providing support, companionship, and care, HKUST Connect fosters positive social interactions and promotes the well-being of participants and community members.

COMMUNITY OUTREACH

SDG 4: Quality Education

HKUST has actively engaged in community outreach initiatives to support public education. The University collaborated with various organizations such as the YMCA and NAAC TOUCH to provide English storytelling sessions for primary students from grassroots families and ethnic minorities, enhancing their language skills and social interaction.

HKUST also collaborated with the Hong Kong Family Welfare Society to offer a specialized education program "Exploring Space with Kids" to teach space science to children from divorced or blended families, fostering interest and knowledge in astronomy. Additionally, volunteers also provided online tutoring and assistance with homework for students from low-income families, helping to bridge educational gaps.

SDG 10: Reduce Inequality

HKUST organized a range of programs and events aimed at promoting inclusivity, raising awareness about marginalized communities, and empowering individuals to contribute to reducing inequalities.

In collaboration with the Crossroads Foundation, HKUST students participated in the "Struggle for Survival Poverty Simulation & Service" program, allowing them to experience the challenges faced by the visually impaired and those affected by HIV or AIDs. Following the simulation, participants took proactive steps to assist those in need through logistical support, sorting various donation materials, and helping with repair and maintenance work.

GOVERNANCE

Governed by the Court, Council and Senate Secretariat, together with its committees, HKUST is committed to delivering effective governance practices on behalf of students and staff.

With the assistance from non-executive members, the President, academic and administrative, student and staff representatives, HKUST has set high standards for its activities and accountability and transparency in ethical behavior, which are crucial to the community, are promoted.

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 (KPIs) and other measurable items. The operational focus area of the HKUST 2028 Sustainability Challenge includes specific goals and targets in five priority areas:

- Energy & GHG Emissions
- Waste to the Landfill
- Water Consumption
- Landscape & Biodiversity
- Community Well-Being

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

ORGANIZATION

Sustainable Operation Committee (OpCo)

In line with the HKUST 2028 Sustainability Challenge, the University has established the Sustainable Operation Committee (OpCo) under the guidance of the VPAB. The primary purpose of this committee is to provide advice and guidance on projects aimed at achieving sustainability targets within the campus operations. The OpCo convenes monthly meetings to discuss and assess the progress of these initiatives.

The committee is comprised of a diverse group of members, ensuring representation from various stakeholders. It includes representatives from different administrative offices, faculty members, as well as undergraduate and postgraduate students. This diverse composition enables the OpCo to incorporate different perspectives and opinions into its decision-making.

During each meeting, the committee members engage in a comprehensive review of ongoing projects, assessing their progress and impact. Additionally, they have the authority to approve proposed initiatives that align with the sustainability objectives of the university. Through these regular meetings, the OpCo plays a crucial role in monitoring and advancing sustainability efforts within HKUST's campus operations.

Working Groups

A number of working groups are formed to implement the plans set by the OpCo, and communicate with frontline workers on how to incorporate these plans into the routine campus operations.

ORGANIZATION

Cleaning Steering Committee

The Cleaning Steering Committee consists of representatives from the Purchasing Office (PO), Campus Management Office (CMO), SUST, and cleaning contractors. They meet bi-monthly to discuss waste and recycling management, review data, conduct food waste audits, and prioritize the well-being of cleaners. The committee also promotes the use of environmentally friendly cleaning agents. Their goal is to ensure efficient and sustainable cleaning practices at HKUST.

Biodiversity Steering Committee

The Biodiversity Steering Committee comprises representatives from the CMO, SUST, and the landscape contractor. They meet bi-monthly to review landscape operations and discuss sustainable landscaping practices. Their main objective is to enhance biodiversity within the campus environment at HKUST.

Green Labs

The Green Labs working group is an action-oriented team comprised of representatives from the CMO, SUST HSEO, and the Campus Development Office (CDO). It also receives support from the Green Lab network or users from the Building Service team, Laboratory Service team, and HSEO labs. The primary focus of this group is on addressing energy, waste, and water-related issues within laboratories. They achieve this by conducting thorough analysis through measurement and establishing KPIs. The Green Labs working group is dedicated to implementing sustainable practices and promoting efficient resource management in lab environments.

Energy Leadership Team

The Energy Leadership Team, previously known as the "Energy Technical Working Group", consists of faculty members from the Division of Environment and Sustainability as well as representatives from the CMO building services team and SUST. This collaborative team is dedicated to exploring a comprehensive perspective on energy-related matters, including but not limited to over-cooling and other technical challenges, by leveraging the potential of big data.

ORGANIZATION

Student Participation in Decision-Making

Students actively participate in the governance of the University through various means, from serving as a member of a university body to conveying suggestions to staff members formally or informally. One of the participation methods is through joining the Students' Union which is an unincorporated association, formed by HKUST students who choose to register as its members and operates independently from the University.

Apart from joining the Student Union, student representatives hold seats on several University Committees, which play decision-making or advisory roles in the formulation of policies and management matters. There are two major types of committees which include students as members:

1. The University Senate, which is the supreme academic body of the University
2. Committees of the Senate, including:
   - Committee on Undergraduate Studies
   - Committee on Postgraduate Studies
   - Committee on Teaching and Learning Quality
   - Committee on Student Affairs
   - Student Disciplinary Committee

To fulfill the role of committee members, student representatives are encouraged to consult their fellow students for opinions and be prepared to exercise their best judgment in representing the interests of the student body. The student representatives are nominated by the University, their home schools, or the relevant student bodies.

GUIDELINES FOR SUSTAINABLE OPERATIONS

Procurement Safeguards

To pursue future fitness, HKUST anticipates the negative impacts that its procured goods and services could be contributing to. The key component of HKUST's strategy towards its waste reduction goal is recycling at the end of each product's life and effectively disposing hazardous materials under regulatory control. The University commits to dealing with recycled materials in an environmentally responsible way throughout the process. For electronics, HKUST partners with WEEE Park to collect old electrical appliances. Food waste is delivered to O-Park, a government-supervised facility, where it will be recycled into biogas and compost using anaerobic digestion and composting technology. As stated in the HKUST Operational Guidelines on Sustainable Purchasing, HKUST encourages the purchasing of appliances that have Energy Label Grade 1 and water appliances that achieve "Water Sense" Grade 1 conservation criteria. On the other hand, HKUST employs TCO Certified and EPEAT, a global third-party sustainability certification, for personal IT equipment to assess the drawbacks that may arise from IT equipment purchases. For cleaning products, Green Seal certification is encouraged to be met to ensure the fulfillment of health and environmental criteria.

High Performance Building Standards & Guidelines

The HKUST High Performance Building Standards & Guidelines highlight the University's priority on sustainability and energy efficiency for major upgrades of existing buildings and the design and construction of new buildings. This document was updated to better emphasize the biodiversity requirements pertaining to SDG 15, which includes compensatory planting proposals for any tree-felling activities, with a focus on native species while avoiding exotic or invasive ones. Additionally, the conservation of species listed in the IUCN Red List or protected under Hong Kong regulations is emphasized. The standards and guidelines also, encourage water recycling provision and sub-metering, reference new energy and green building certification standards to ASHRAE 90.1-2022 and BEAM Plus 2.0 respectively, and set the minimum energy performance level to 20% reduction below ASHRAE 90.1-2022.

Sustainable Office Standards & Guidelines

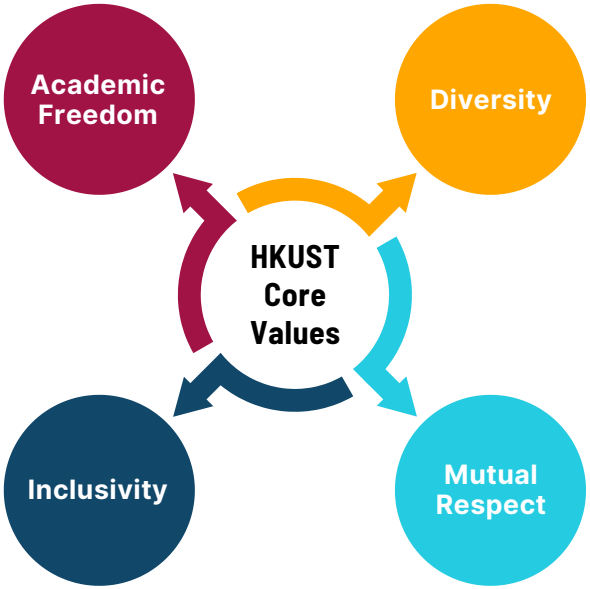
The HKUST Sustainable Office Standards and Guidelines encourage energy-efficient practices, waste reduction, sustainable sourcing of materials, and eco-friendly communications for renovations. A sustainable renovation section was added to the latest revision to encourage the use of energy-efficient lighting and temperature controls, together with office layout, office furniture and equipment, and staff wellbeing.

COMMITMENT

Adopt a Public Commitment to Ethical Conduct

Over the past few years, Hong Kong has faced challenges from health crises, fractures, and conflicts. Despite these obstacles, HKUST has strived to uphold its apolitical principles and concentrate on the University's basic principles which include academic freedom, diversity, inclusivity, and mutual respect. These values all serve as the cornerstones of HKUST's academic environment. Since the inception of the University, HKUST has been staunch supporters of such openness and is committed to holding to that position in the future.

As part of HKUST's Strategic Plan from 2021 to 2028, the University is committed to continuing to protect its core principles and values by exercising individual and institutional integrity. HKUST will provide financial and human resources to address all these issues and needs.



Establish Internal Controls to Ensure It Lives Up to the Public Commitment

HKUST is dedicated to upholding high ethical standards and operational integrity. Improper acts, behaviors, or practices that are illegal, unethical, or against the core principles of HKUST could affect the University stakeholders and negatively impact its reputation.

To uphold the highest standards of professionalism and integrity, the University has published the Employee Handbook, which outlines the standards of professional conduct, such as acceptance and use of donations, avoidance of corruption and bribery, and conflict of interest in procurement duties, to which all employees are expected to adhere. Seminars or training on Personal Data Privacy are organized periodically to provide staff members with the knowledge and skills they need to handle personal data.

HKUST's Membership in International Sustainability Organizations

To demonstrate HKUST's unwavering commitment to whole-institution sustainability, the University has proudly become a member of the International Sustainable Campus Network (ISCN) and the Association for the Advancement of Sustainability in Higher Education (AASHE). Through connecting and collaborating with campus sustainability experts worldwide, the University aims to share its best practices, flagship programs, and projects with peers via its websites, newsletter, and social media platforms. HKUST's enduring commitment to sustainability leadership is aimed at positively influencing the regions and communities in which the HKUST community work, live, and learn.

COMMITMENT

Financial Assets Safeguard the Pursuit of Future-Fitness

HKUST is the first university in Hong Kong to pledge to eliminate investments in fossil fuels, with a concrete environmental, social, and corporate governance (ESG) investment strategy to demonstrate the University's commitment to be a sustainability leader across the region and beyond.

As an investor with a long-term vision, HKUST will adopt a Net-Zero Carbon Investment Strategy by working closely with investment managers for whom ESG considerations are integral and manifested throughout their investment process. HKUST seeks to gradually remove investments in fossil fuels from its "in-scope assets" – mainly public equities and public fixed income which made up the majority of HKUST's long-term investment portfolio. At the same time, the University will allocate around 5% of its investment to companies that offer climate solutions.

This strategy is to ensure the investment approach is consistent with the scientific consensus on climate change and the goals of the Paris Agreement, as operationalized by the Science-Based Targets initiative. By 2030, 100% of in-scope assets will be invested in companies that have adopted the Science-Based Targets.

The strategy has three broad goals:

1. To ensure the risks and opportunities arising from a low carbon transition are reflected in the way investments are chosen for the portfolio.
2. To seek out investments whose activities can profitably accelerate or otherwise support the low carbon transition.
3. To support and encourage all businesses to adopt business plans and strategies consistent with the goals of the Paris Agreement.

External investment managers commissioned by HKUST will be required to provide a well-explained, well-documented, and evidenced-based process on how they incorporate climate change risks and opportunities into the investment portfolios. They shall also be active in proxy voting and engage with portfolio companies to emphasize the interests of long-term shareholders in line with ESG considerations.

COMMITMENT

Climate Adaptation & Resilience Conference (CARE)

With the high-level support from four Bureaux and nine Government Departments, officials, business executives, financiers, investors, technologists, and climate action practitioners gathered and discussed Hong Kong's adaptation and resilience planning in the face of climate change with HKUST scholars at the University's three-day CARE2022 Conference, which was attended by a thousand online and in-person participants between 10 to 12 December 2022.

The first large-scale climate adaptation event in Hong Kong received broad attention and support from the HKSAR Government and both public and private sectors, with 800 participants joining the policy-relevant discussions for strengthening our city's resilience.

This year, HKUST presented CARE2022 soon after COP27 and focused on both "Adaptation" and "Mitigation". The conference was kicked off with Science & Policy Day, which offered a comprehensive presentation of Hong Kong's adaptation plans and projects by the Government, followed by in-depth discussions at two workshops. The discussion was extended on day two by academic scholars in greater detail and concluded with the Policy & Green Finance Forum on day three.

EDUCATION

HKUST's overarching sustainability education goal is to ensure that by 2028, all students gain a solid understanding of sustainability concepts and graduate with the capacity and commitment to solve problems locally and globally. HKUST envisions sustainability education as interdisciplinary, inclusive, and multigenerational, fostering problem-solving skills and a common values framework. Strategies will focus on assessment of sustainability content and literacy, creating resources, supporting extracurricular activities for sustainability learning, making the campus a place for learning, and facilitating a community of practice.

TEACHING AND LEARNING

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

Evaluation of Sustainability Coursework

HKUST's overarching goal for Sustainability Education is to ensure that all students gain a solid understanding of sustainability concepts and graduate with the capacity and commitment to solve problems locally and globally. HKUST aspires to create conditions for students to thrive, over time, and within planetary boundaries. Of the range of courses offered to students, there are sustainability-focused and sustainability-related courses; the former would have at least 75% of its class time spent covering a wide range of sustainability concepts or issues and addressing one or more sustainability concepts or issues in depth, while the latter would be focused on a non-sustainability topic but cover some sustainability content or related ideas and principles (in at least 25% of its class time).

In the 2022-23 academic year, all schools included at least one course related to sustainability education in their course offerings. A total of 90 newly offered courses were reviewed and five new courses were added to the sustainability course inventory. Additionally, 2,292 graduates which are 94.2% of the total graduates had enrolled in at least one sustainability course throughout their undergraduate education. Of those, 1,605, 66% of all graduates, completed two or more sustainability-focused courses and are graduating with 'strong exposure' to sustainability issues/concepts. Around 6% would have graduated with no course exposure to sustainability, reflecting a similar trend to previous years.

HKUST Sustainability Education Community of Practice (SEC)

The Sustainability Education Community of Practice (SEC) was established at HKUST in 2017 as a platform for meaningful ideas on Sustainability Education (SE). After a hiatus due to the COVID-19 pandemic, the SEC was relaunched with a renewed vision to support a wider network of stakeholders and explore collaboration opportunities. Identified focus areas include enhancing experiential learning, highlighting human well-being in sustainability, and promoting inter-school collaborations for SE resources.

Events like the HKUST Amazing Sustainability Race and wellness workshop were organized, aiming to engage students and address campus sustainability efforts. The race allowed students to learn about the 2028 Sustainability Challenge and sustainable consumption practices. The Wellness workshop fostered discussions on work-life harmony and student perspectives.

The SEC plans to organize stakeholder engagement meetings to understand the SE landscape and meet the needs of staff, faculty, and students.

TEACHING AND LEARNING

Sustainable Design Thinking Program

From 1 to 9 June 2023, a dynamic 31 selected students from HKUST and HKUST(GZ) came together to tackle real-world sustainability challenges. With diverse academic (undergraduate and postgraduates from all schools and hubs) and cultural backgrounds (five nationalities), these students identified innovative solutions for issues like water, food waste, wellbeing, recycling, and energy on both the Clear Water Bay and Guangzhou campuses, addressing SDGs 3, 6, 7, and 12.

The Sustainable Design Thinking Certificate Program, funded by the Tung Foundation, was an intensive nine-day training that included team-building activities, design thinking and life cycle thinking workshops, stakeholder interviews, as well as campus tours and visits to the Guangzhou Automotive Group Science Museum, Guangzhou city center, and Hong Kong Science Park. The program not only developed the participants' design-thinking mindsets but also fostered lifelong friendships between participants.

This program focused on identifying creative solutions for specific sustainability design challenges on both campuses, while connecting students to enhance communications and synergy. Participants gained the rare opportunity to visit and learn from sustainable smart projects, and speak to operators and start-ups.

HKUST Life Cycle Lab

Since its launch, the HKUST Life Cycle Lab has made great strides towards its vision. The website is a comprehensive resource hub for practitioners, contractors, and suppliers, and provides valuable insights for students and academics interested in life cycle thinking.

The bi-monthly e-Newsletter engages the audience with content related to life cycle thinking in Hong Kong, featuring profiles of individuals, organizations, and movements driving progress in the field. It presents thought-provoking discussions through commentaries that challenge existing ideas and assumptions.

To foster connections and knowledge exchange, an official LinkedIn profile was established, connecting with academics and industry professionals who share the similar commitment.

Throughout the year, the team expanded network and collaboration opportunities through key events including the launch of the Asia Circular Economy Association, the ReThink Conference 2023, and The Mills x H&M Foundation Global Change Award 2023. These events allowed the team to engage with innovative thinkers and advance sustainable solutions in fashion.

TEACHING AND LEARNING

HKUST-Sino One Million Dollar Entrepreneurship Competition

This year, the flagship HKUST-Sino One Million Dollar Entrepreneurship Competition 2023 drew a record 234 teams from the HKUST community, the Mainland, and abroad. The annual event also introduced the Sustainability Impact Awards, a new honor dedicated to recognizing outstanding performance in the areas of ESG.

Blue Ocean Conference

The University's commitment to SDG 14 is reflected in the HKUST X France One Ocean Conference in 2022-23. Focusing on preserving Marine Life and Blue Finance, the conference brought together experts from academia, business, and civil society to discuss tangible actions and solutions for ocean sustainability. By emphasizing the need for international collaboration and raising awareness about the threats facing marine ecosystems, the conference seeked to advance the protection and responsible management of our oceans for the benefit of both present and future generations.

Academy for Bright Future Young Engineers (ABFYE)

The ABFYE program provides authentic engineering experiences to high school learners, promoting quality education and interest in the field. The Underwater Robot Competition offers iSTEAM education to students from diverse backgrounds, fostering inclusivity and hands-on experience in robotics and engineering.

The Student Innovation for Global Health Technology (SIGHT)

The SIGHT platform empowers students to address global health challenges through innovative solutions, promoting social impact and inclusivity in healthcare targeting resource-limited communities. Community Services Project courses also allow engineering students to address real-world challenges through hands-on learning experiences, develop skills to address community needs and promote practical education.

RESEARCH AND DEMONSTRATION

Sustainable Smart Campus as a Living Lab (SSC)

Key Achievements in 2022-23

5 Recently Approved Projects

$3M
Total Funding for New Projects in 2022-23

25 Campus Project Solutions from Students

Other Achievements

- Honorary Member Award in 2022 International Sustainable Campus Network (ISCN) Excellence Award.
- 300 visitors from the industry (Jockey Club, Great Eagle Group, Buro Happold, Sun Wah group), government sector (Education Bureau, University Grants Committee), academia (Institute of Sustainability and Technology, Tseung Kwan O Government Secondary School).
- Collaboration with 12 HKUST departments or schools on ceremonies, seminars, conferences, Christmas Show, message wall, campaigns and calls for action held at the SSC Hub.

Launched in 2019, the Sustainable Smart Campus a Living Lab (SSC) is an initiative that aims to transform the campus into a testing ground for learning, experimenting, and advancing smart and innovative ideas to address real-life sustainability challenges. Embracing the framework of using the HKUST campus as a living lab, the SSC emphasizes the interconnection of research, operation, and community. Through trials and errors, and always being open to new ideas and approaches, SSC intends to promote a culture of learning and a sense of community. This programme is open to students, faculty, staff, alumni, and strategic partners who develop and implement projects on campus as showcases of sustainable and smart thinking.

RESEARCH AND DEMONSTRATION

Sustainable Smart Campus as a Living Lab (SSC)

Aligned with the HKUST 2028 Sustainability Challenge, the Sustainable Smart Campus as a Living Lab (SSC) targets on its five key focuses—energy and greenhouse gas (GHG) emissions, water, waste to the landfill, landscape and biodiversity, community well-being—to drive down carbon emissions and promote wellness on campus.

Status	Project Name	Addressed SDGs
Recently Approved	Low-carbon elastocaloric fridges and air conditioners for sustainable and smart HKUST	
Recently Approved	AI ambassdor: Virtual assistant for SEN Students using NLP and TSS	
Recently Approved	Integrated photovoltaic systems on campus buildings	
Recently Approved	Passive radiative cooling for solar PV frames + cooling tower water tank	
Recently Approved	You will see a birdwing: Butterfly garden	
On-going	Tree-inspired, solar-driven transpiration system for sustainable humidity control of buildings	
On-going	Upcycling yard and food wastes into new resources: Hydrochar for supporting HKUST greening	

RESEARCH AND DEMONSTRATION

Sustainable Smart Campus as a Living Lab (SSC)

The tables **above** and this page show the on-going and recently approved projects this year, details of the project, as well as the SDGs it aims to achieve.

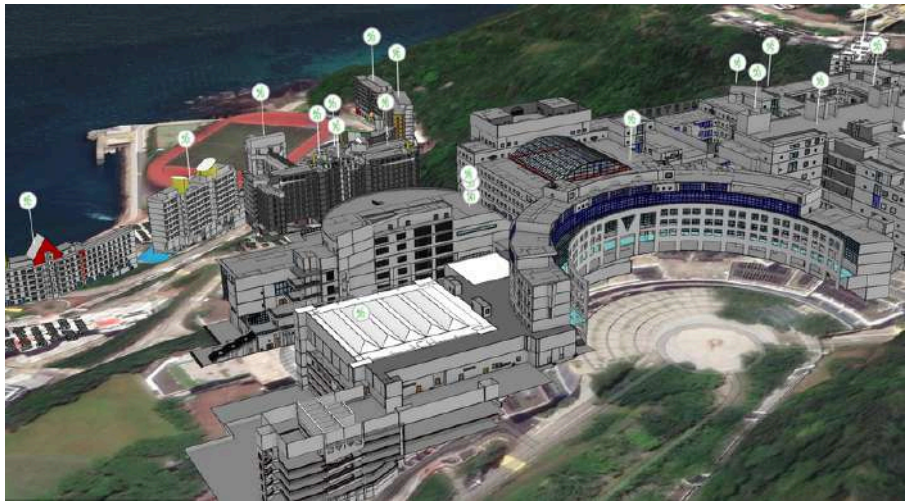
Status	Project Name	Addressed SDGs
On-going	Turning construction and Ca-food wastes into new sustainable geological materials by carbon dioxide sequestration: Eco-brick	
On-going	A sustainable movable vertical garden: Carbon-free vertical farm	
On-going	Staying smart by taking a nap: Sleeping pod	
On-going	An educational agricultural IOT demonstration platform for sustainable food production with aquaponics farming	
On-going	A smart cooling strategy for photovoltaic solar cells via a sustainable coating	

RESEARCH AND DEMONSTRATION

Sustainable Smart Campus as a Living Lab (SSC)

Over the years, SSC has helped create many "firsts". The examples below demonstrate how SSC goes above and beyond to extend its impact to the greater community:

- HKUST was the first university in Hong Kong to launch a **blockchain-based degree authentication system**, ensuring highly secured and authentic certificates while reducing paper waste.
- HKUST was one of the first universities in the world to create **3D BIM models** for the whole campus. Through conducting various simulations by integrating IoT and BMS, the University can understand the buildings in real time, allowing improvements in building management while reducing energy and carbon footprint.
- The University also serves as a **start-up incubator**, including TerraGreen Limited for eco-bricks, Coatlot Tech for multifunctional nanocoating, and WeShare Tech Limited for smart tracking tray inventory system in wet laboratories.



HKUST's Digital Twin created with 3D BIM Models

The pandemic sparked the importance of mental health awareness. In the past two years, the SSC has put well-being as one of the key themes for Call for Proposals. Related projects include a nap pod study to promote sleep quality and learning efficiency of students, and a butterfly garden to promote well-being, biodiversity, and community building.

Net-zero emissions is another main goal in the SSC agenda. More than half of funded projects are proposing solutions to help drive down GHG emissions. Some examples are developing a tree-inspired, solar-driven transpiration system for efficient humidity control of buildings; applying colored facade integrated photovoltaic on campus buildings for solar energy harvesting and exploiting elastocaloric refrigeration technology that is zero-GHG-refrigerant and 100% recyclable.

Moving forward in its fifth year, SSC will continue to support and encourage innovative solutions that can contribute to a sustainable and smart campus, empowering members of the HKUST community to use the campus as a platform for learning, experimenting and showcasing new ideas and approaches.

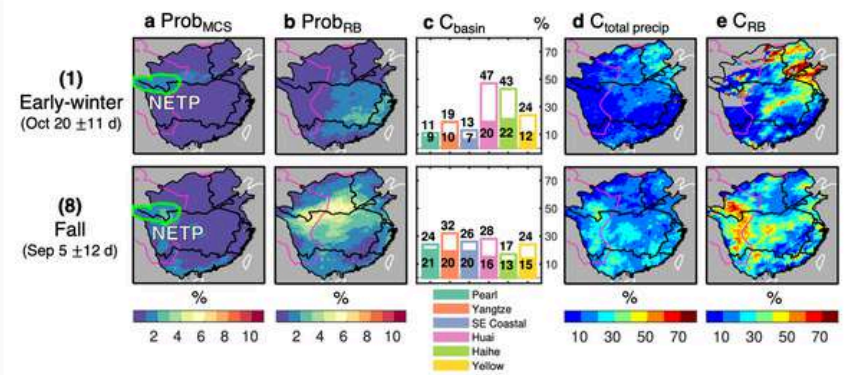
RESEARCH AND DEMONSTRATION

Besides SSC, the University fully recognizes the pressing need for research-driven solutions to sustainability, a key theme in HKUST Strategic Plan 2021-2028 and a reflection of the University's commitment to the UN SDGs. Over 2022-23, SSC made significant strides toward this objective with a host of related research developments. Some of them included:

- A project that aims to devise a planning model for Hong Kong's electric vehicle charging infrastructure. Using optimization algorithms and spatial econometric models, the initiative will formulate a year-by-year plan to establish charging stations over the next five years.
- Upgrading the WavyOcean online marine environmental visualization platform from 2D to 3D, for marine management in Hong Kong, the Greater Bay Area, China Seas, and Western Pacific.
- Launch of the Green Sustainability Open Lab by HKUST Shenzhen–Hong Kong Collaborative Innovation Research Institute, Shui On Xintiandi and its InnoSpace GBA incubator.
- Establishment of the Data Analytics for Sustainable Development Lab to devise novel ways to achieve sustainability in data center management.

Insights on Flood Preparedness from High-Resolution Rainstorm Database

Prof. LU Mengqian and her team developed a database of mesoscale convective systems (MCS) to analyze heavy rainstorms and flood risks in eastern China. The database enables fresh insights for flash flood preparedness, adaptive measures, and weather simulations in the region.



Joint Government and Academia Endeavour to Develop Smog Control Strategies

Research teams from HKUST, CUHK, CityU and PolyU collaborated with the HKSAR Environmental Protection Department to develop science-based regional ozone and photochemical smog control strategies. This collaboration combines multidisciplinary expertise with leading technology to improve the quantitative understanding of different emission sources and formulate effective strategies.

ESG FRAMEWORKS

This report had been prepared in accordance with the Future Fit Business Benchmark (FFBB), United Nation's Sustainable Development Goals (SDGs) and Global Reporting Initiative (GRI) standards.

Adopting the Future Fit Business Benchmark enables a more forward thinking approach for HKUST, helping to shift the focus away from today's best practice towards tomorrow's required practice. SDGs offer better alignment to university rankings. GRI Standards is commonly adopted among Hong Kong corporations, and some overseas universities.

ALIGNMENT WITH FUTURE FIT BUSINESS BENCHMARK (FFBB)

To facilitate reporting in accordance with FFBB, a cross-referencing exercise has been conducted to identify how the current reporting aligns with the 23 breakeven goals under FFBB.

Alignment with Future Fit Business Benchmark

Theme	Recommended Disclosures	Relevance to the Reporting Scope	Relevance to Environment, Social or Governance	Page
Energy	Energy is from renewable sources	Yes	Environment	17
Water	Water use is environmentally responsible and socially equitable	Yes	Environment	27-30
Natural Resources	Natural resources are managed to respect the welfare of ecosystems, people, and animals	Yes	Environment	31-35
Pollution	Operational emissions do not harm people or the environment	Yes	Environment	53
	Operations emit no greenhouse gases	Yes	Environment	16
	Products do not harm people or the environment	No	Environment	/
	Products emit no greenhouse gases	No	Environment	/
Waste	Operational waste is eliminated	Yes	Environment	36-41
	Products can be repurposed	No	Environment	/
Physical Presence	Operations do not encroach on ecosystems or communities	Yes	Environment	62

ALIGNMENT WITH FUTURE FIT BUSINESS BENCHMARK (FFBB)

To facilitate reporting in accordance with FFBB, a cross-referencing exercise has been conducted to identify how the current reporting aligns with the 23 breakeven goals under FFBB.

Alignment with Future Fit Business Benchmark

Theme	Recommended Disclosures	Relevance to the Reporting Scope	Relevance to Environment, Social or Governance	Page
People	Community health is safeguarded	Yes	Social	51-54
	Employee health is safeguarded	Yes	Social	51
	Employees are paid at least a living wage	Yes	Social	49
	Employees are subject to fair employment terms	Yes	Social	48-49
	Employees are not subject to discrimination	Yes	Social	46
	Employee concerns are actively solicited, impartially judged, and transparently addressed	Yes	Social	48
	Product communications are honest, ethical, and promote responsible use	No	Social	/
	Product concerns are actively solicited, impartially judged, and transparently addressed	No	Social	/
Drivers	Procurement safeguards the pursuit of future-fitness	Yes	Governance	62
	Financial assets safeguard the pursuit of future-fitness	Yes	Governance	64
	The right tax is paid in the right place at the right time	No	Governance	/
	Lobbying and advocacy safeguard the pursuit of future-fitness	No	Governance	/
	Business is conducted ethically	Yes	Governance	63

ALIGNMENT WITH UN SDGS

HKUST is striving to make a meaningful contribution to addressing the SDGs through its operation, research, education, development of next-generation leaders, and community engagement. Many of the initiatives and actions contained in this report are in alignment with addressing the SDGs.

Alignment with SDGs

SDG		Details	Section	Page
1	**No Poverty**	End poverty in all its forms everywhere	Social	49
2	**Zero Hunger**	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Environment, Social	35, 53
3	**Good Health and Well-being**	Ensure healthy lives and promote well-being for all at all ages	Social	51, 54
4	**Quality Education**	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	Social, Education	46, 50, 67
5	**Gender Equality**	Achieve gender equality and empower all women and girls	Social	46
6	**Clean Water and Sanitation**	Ensure availability and sustainable management of water and sanitation for all	Social	51, 53
7	**Affordable and Clean Energy**	Ensure access to affordable, reliable, sustainable and modern energy for all	Environment	17
8	**Decent Work and Economic Growth**	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	Social	48-51
9	**Industry, Innovation and Infrastructure**	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	Education	71-74
10	**Reduced Inequalities**	Reduce inequality within and among countries	Social	45-47

ALIGNMENT WITH UN SDGS

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Alignment with SDGs

SDG		Details	Section	Page
11	**Sustainable Cities and Communities**	Make cities and human settlements inclusive, safe, resilient and sustainable	Environment	16, 35, 36
12	**Responsible Consumption and Production**	Ensure sustainable consumption and production patterns	Environment, Social, Goverance	36, 51, 62, 67
13	**Climate Action**	Take urgent action to combat climate change and its impacts	Environment	16, 73
14	**Life Below Water**	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	/	/
15	**Life on Land**	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	Environment	32, 35
16	**Peace, Justice and Strong Institutions**	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	Social, Governance	48-49, 57-59
17	**Partnerships for the Goals**	Strengthen the means of implementation and revitalize the global partnership for sustainable development	Governance, Education	63, 68

ALIGNMENT WITH GRI

This report has reported with reference to the GRI Standards for the period of July 2022 to June 2023. It discloses HKUST's performance against some of the selected issues that are considered most materials to the University's stakeholders.

Alignment with GRI Goals

GRI Standards	Reporting Requirement		Section	Page
GRI 2: General Disclosures	2-1	Organizational Details	Cover page	Cover page
	2-3	Reporting Period, Frequency and Contact Point	Last page	Last page
	2-23	Policy Commitments	Overview, Social	2-3, 63
	2-24	Embedding Policy Commitments	Governance	63
	2-26	Mechanisms for Seeking Advice and Raising Concerns	Social	49
	2-28	Membership Associations	Governance	63
	2-29	Approach to Stakeholder Engagement	Materiality	9-10
GRI 3: Material Topics	3-1	Process to Determine Material Topics	Materiality	10
	3-2	List of Material Topics	Materiality	11-13

ALIGNMENT WITH GRI

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Alignment with GRI Goals

GRI Standards	Reporting Requirement		Section	Page
GRI 302: Energy	3-3	Management of Material Topics	Energy & GHG	15-21
	302-1	Energy Consumption within the Organization	Energy & GHG	15
	302-4	Reduction of Energy Consumption	Energy & GHG	15
GRI 303: Water	3-3	Management of Material Topics	Water	27-30
	303-5	Water Consumption	Water	27
GRI 305: Emissions	3-3	Management of Material Topics	Energy & GHG	16, 22-26
	305-1	Direct (Scope 1) GHG Emissions	Energy & GHG	16
	305-2	Energy Indirect (Scope 2) GHG Emissions	Energy & GHG	16
	305-3	Other Indirect (Scope 3) GHG Emissions	Energy & GHG	16
	305-4	GHG Emissions Intensity	Energy & GHG	16
	305-5	Reduction of GHG Emissions	Energy & GHG	16

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Alignment with GRI Goals

GRI Standards	Reporting Requirement		Section	Page
GRI 306: Waste	3-3	Management of Material Topics	Waste to the Landfill	36-41
	306-2	Management of Significant Waste-related Impacts	Waste to the Landfill	36-41
	306-3	Waste Generated	Waste to the Landfill	36
	306-4	Waste Diverted from Disposal	Waste to the Landfill	36
	306-5	Waste Diverted to Disposal	Waste to the Landfill	36
GRI 403: Occupational Health and Safety	3-3	Management of material topics	Social	48-49, 51
	403-3	Occupational Health Services	Social	51
GRI 406: Non-discrimination	3-3	Management of material topics	Social	45-47

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