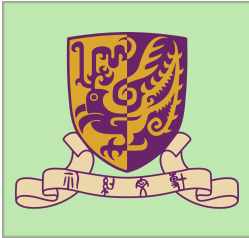


Energy Conservation Incentive Scheme

The Chinese University of Hong Kong
November 15 2022

Net Zero on Campus Community Case Study

The [Net Zero on Campus](#) initiative, a collaborative effort between SDSN, the Climateworks Centre, and Monash University, aims to facilitate the sharing of lessons and resources to accelerate the decarbonization of university campuses around the world. The initiative consists of a “how-to” guide and accompanying online toolkit that will enable universities to accelerate the planning and implementation of net zero strategies, and act as living laboratories for testing solutions.



What is the case study trying to accomplish?

The Chinese University of Hong Kong (CUHK) has a larger campus area than any other local tertiary institution. Its campus covers an area of 137 hectares and contains nearly 170 buildings, which provide a wide range of facilities for over 30,000 faculty members, staff and students. The energy consumption in day-to-day operation is high, accounting for over 90% of our greenhouse gas emissions. Whilst the growing campus population and new facilities will inevitably increase the demand for electricity in the coming years, we will continue to pursue energy efficiency strategies to meet the 'CUHK Carbon Neutral 2038' target.

The scheme builds on and complements the University's Energy Efficiency and Conservation Policy and the associated Energy Efficiency and Conservation Guidelines. It provides incentives to motivate university units to save electricity and reduce

<p><u>University Information</u> City: Hong Kong SAR Country: China Region: Asia Campus Area (m2): 1,370,000 Number of Staff: Large (between 6,000 - 10,000 staff) Number of Students: Large (between 30,000 - 60,000) Type of Institute: Public</p> <p><u>Case Study Overview</u> Category: Energy Initiative: Reduce campus energy demand Type of Net Zero Solution: Behavioral intervention Funding Source: University funding Emissions Scope: Scope 2 Impact on Net Zero: Large positive impact (total of 22,000,000 kwh conserved) Scale: \$1 million to \$10 million (HKD 21.92 million savings in electricity bills during the 8-year period) Timeframe: Long (between 2 and 5 years) Stakeholders: Faculty, Students, Sustainability Office, University Administration, University Board, Professional and Administrative Service Unit Staff Transformational Potential: Very significant</p>

carbon emissions in their daily operations. Under the scheme, a target of reduction in electricity consumption is set and a building's electricity consumption is tracked and reviewed. Units in the same building that have contributed to reaching the reduction target can share the savings in electricity bills at the end of the review period.

In 2014, CUHK launched the Energy Conservation Incentive Scheme to reduce its impact on the environment. The scheme aims at raising the energy awareness of university members and further reducing the university's energy consumption and carbon emissions. The participating units have shown enthusiasm and effort in implementing various energy saving measures, including upgrading the lighting to an LED system, adjusting the air-conditioning according to the number of occupants, suspending lift services on weekends and holidays, and sharing laboratory freezers among research teams. With sustained efforts, the participating units have jointly accomplished a significant reduction in electricity consumption (21,920,000 kWh) and major savings in electricity bills (HKD 21.92 million at HKD 1 per kWh) over the past eight years. The university is planning to expand the reach and impact of the scheme. The 'College Electricity Conservation Incentive Scheme,' for implementation in the student hostels of CUHK's 9 colleges, will be introduced in the year 2023/24.

What were the key success factors in implementing the case study?

We are committed to using energy more efficiently and reducing energy consumption on campus. The success of the CUHK Energy Conservation Incentive Scheme depends on this strong commitment of all members of the university community, from senior management to students. The building users' active participation in identifying and implementing new measures and the university administration's funding support are also crucial to the effective implementation of the scheme as a net zero solution.

What were the challenges or barriers you had to overcome in implementing your initiative?

The successful implementation of the CUHK Energy Conservation Incentive Scheme requires effective multi-way communication among all stakeholders in the identification of appropriate decarbonization strategies and the maximization of energy saving opportunities. We have appointed Energy Wardens in all university units and equipped them with the required knowledge and skills to communicate decarbonization targets and initiatives to all members of the units, create buy-in, and collect feedback and ideas to inform decision-making.

What did you learn from the process and what are your recommendations to others?

Infrastructure and incentives are key to a successful transition to energy-efficient and low-carbon operation. Universities often find that, in the immediate years following the completion of improvement projects to campus infrastructure and facilities, the steps to achieving savings in energy consumption and electricity bills are easy and evident. The

achievement of additional reduction, however, slows down as the room for improvement narrows.

To continue creating results in energy conservation, it is important to inspire and incentivize participation on a personal level. The Energy Conservation Incentive Scheme not only provides incentives for more energy-efficient building operations, but also aims to cultivate among individual building users a sense of ownership in the achievement of energy saving and encourage positive behavioural changes to reduce their carbon footprint.

The CUHK Energy Conservation Incentive Scheme is an effective approach to motivating behavioural change at all levels in the university community. It positively complements the existing energy policy and implementation guidelines and can help to achieve more aggressive reductions in electricity consumption and carbon emissions. We encourage all socially responsible universities to adopt a similar approach to accelerating progress in reduction in energy consumption to achieve carbon neutrality.

What resources did you use to implement this initiative?

Resource	Why is this resource helpful?
Monthly and Quarterly Reports on Electricity Consumption (by Building)	A website that provides information on building electricity consumption, for access by CUHK staff. Unit heads may take reference from the data when planning for their energy conservation strategies. It also serves as a reminder for individual staff to continue their energy-saving efforts.
Energy Efficiency Implementation Fund	A funding scheme to support university units to implement measures within their premises to improve energy efficiency.

Green Office Programme Checklist	<p>A 'go green' guide and checklist for all university units to follow. Units with outstanding performance will be recognized at an annual award ceremony, where they can share their experience and best practice to encourage more units to practice energy- and carbon-saving behaviour.</p>
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- Share your questions and/or feedback with us at info@unsdsn.org.

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- Join our global community of practice and Net Zero on Campus LinkedIn Group;
- Join global networks of academic institutions working on decarbonization: [SDSN](#), [Second Nature](#), and [EAUC](#). See our resource directory for more networks;
- Join the [Race to Zero for Universities and Colleges](#) campaign and make a net zero commitment;
- Empower your students and engage them in your campus decarbonization efforts: join [SDSN Youth](#) and see our guide for more information.

Learn More

- Explore [SDSN's free, open educational resources](#) from the world's leading sustainable development experts to use in your classrooms: MOOCs, educational videos and lectures, and global community of practice.

[Net Zero on Campus](#) is a collaboration between [SDSN](#), [the Climateworks Centre](#), and [Monash University](#), in partnership with [Second Nature](#) and the [EAUC](#) (Secretariat of the Race to Zero for Universities and Colleges).