CLIMATE ACTION

Research

Research Centre for Resources Engineering towards Carbon Neutrality (RCRE)

The University is working towards the goal of carbon neutrality and the RCRE is at the forefront, not only for the University but also for the whole community. Focusing on resources engineering for carbon neutrality, it has established a strong track record and a recognised reputation in the waste management research community. Having been already commended for its contribution in advancing the development of decarbonisation technologies and related policy study, the RCRE will spearhead further advances in this arena.

Study of Carbon Sequestration in Hong Kong's Vegetation

Coordinated by Professor Charles Wong Man-sing, Associate Dean of the Faculty of Construction and Environment and Professor of the Department of Land Surveying and Geo-Informatics, the study is supported by a Research Grants Council funding amounting to nearly HK$5 million. As it is known that carbon stock and carbon sequestration of vegetation play a pivotal role in absorbing atmospheric carbon dioxide, the project proposes to use geospatial technologies to map and estimate the biomass and carbon sequestration of Hong Kong's vegetation, by integrating satellite-, airborne- and ground-based remote sensing technologies.

Establishment of the Research Centre for Carbon-Strategic Catalysis (RC-CSC)

Established in June 2022, the Centre is the first research centre of its kind among Hong Kong institutions, serving as a platform for strengthening the University's research collaborations to achieve more impactful outputs focusing on advanced catalyst design and synthesis for sustainable energy development strategies. The team, which includes professors of the Department of Applied Biology and Chemical Technology, the Department of Building and Real Estate, and the School of Fashion and Textiles, carries out in-depth explorations of catalysts and their applications in different chemical reactions related to multiscale energy conversion and supply systems, as the means to achieve carbon neutrality goals.

Education

Carbon Neutrality Gambit: Field Trip and Innovation Challenge 2022

In January 2022, the RCRE organised a three-day student event, focusing on a group competition and generating ideas about how Hong Kong might move towards a carbon-neutral future. Students went on a field trip to the environmental education centre named T-PARK and the Eco Block Manufacturing Plant, and attended sharing sessions hosted by the University's professors focusing on carbon neutrality research. They later transferred their learning to develop and present their research ideas and strategies.

Service Learning: Building Green Communities with Environmental NGOs

Hosted by the Department of Management and Marketing, the subject aims to introduce students to conceptual and practical issues related to environmental policy and management, civil society and NGOs, business environmental responsibility, and collaborative environmental governance, as well as enhancing their awareness of civic duty and community needs. Students work as a team with an environmental NGO to deliver a project serving the communities in either Hong Kong or Mainland China in various formats, such as environmental education in the community, policy advocacy to address environmental challenges, design of corporate environmental initiatives to serve specific communities.

Engagement

Nurturing Energy Talent for Sustainable Living

To support sustainable power development, PolyU has again joined hands with the State Grid Corporation of China, Hongkong Electric and Xi'an Jiaotong University to launch the latest online "Belt and Road Advanced Professional Development Programme in Power and Energy" in 2021. The programme attracted **255 participants from 25 countries or regions** to learn about the latest industrial practices and research findings related to tackling climate change, and had fruitful online interaction with speakers and other participants.

Policies and Operations

Green Campus

Being committed to a green built environment and one which is sustainable and low-carbon, PolyU is undertaking a series of campus development initiatives to create an environment conducive to driving its strategic development in education and research excellence. The University strives to integrate green features and innovative solutions from its research into campus development projects and, in this regard, has gained wide recognition and received many awards. In order to strengthen its work in this area, the University has recently formed the Campus Carbon Neutrality Committee to oversee implementation of campus carbon neutrality initiatives.

Roadmap to Achieving Carbon Neutrality on Campus

Leveraging techniques and innovative solutions from PolyU's own research and as laid out in its "Roadmap to Achieving Carbon Neutrality on Campus", the University aims for campus carbon neutrality by 2045. In the short and medium terms, the University targets reducing Scope 1 and Scope 2 carbon emissions (direct and indirect emissions mainly arising from use of fuel and purchase of energy) **by 20% to 25% by 2028** and **by 50% by 2033** (compared to the 2005/06 levels) respectively. In the long term, the University intends to achieve Scope 1 and 2 carbon neutrality by 2045, which is **five years ahead** of the Hong Kong Government's plan.

Direct and indirect carbon emission per capita (tonnes CO_2e)

1.42

Reduced **>30%**

(compared to the peak level in 2014/15)

Carbon Neutrality Funding Scheme

The scheme was established in 2022 to support carbon neutrality research projects and the application of research outcomes on campus through close collaboration with the Campus Facilities and Sustainability Office and the Campus Development Office with a view to reducing the University's carbon emissions.