Sustainability at CityUHK
城大可持續發展

CityUHK is committed to integrating sustainability into university education, exploring sustainability challenges through research, and minimising waste and promoting resource conservation in our campus operations. Here is a snapshot of our activities related to sustainability over 2023/2024.

城大致力將可持續發展融入大學教育，透過研究探討可持續發展挑戰，並在校園運作的層面減廢和推動資源保育。以下是我們於2023/2024年度推動可持續發展的相關活動概況。

Sustainability at CityUHK
城大可持續發展

The new CityUHK Sustainability Report outlines our multi-prolonged approach to addressing the SDGs.
城大於可持續發展報告闡述大學以多管齊下的方式，實現可持續發展目標。

Newly published Sustainability Report

Promoting sustainability, championing a green environment and empowering change are fundamental to our academic mission aimed at supporting the United Nations' (UN) 17 Sustainable Development Goals (SDGs).

CityUHK outlined its multi-prolonged approach to addressing these SDGs, thereby creating a self-sustaining campus and positively impacting society more broadly, through its Sustainability Report.

發表可持續發展報告

城大致力推動可持續發展和綠色環境，以落實聯合國提出的17項可持續發展目標，促進改變。

城大於可持續發展報告闡述大學以多管齊下的方式，實現可持續發展目標，建立自給自足的校園，為社會帶來更廣泛的正面影響。

This Report focuses on how our teaching and learning strategies, global research collaborations, and ongoing community engagement have established a network of linkages between higher education, industry, and government interests in Hong Kong and beyond to achieve the SDGs.

Distinguished Lecture Series on Global Sustainability

Professor James Heckman, Director of the Center for the Economics of Human Development at the University of Chicago and Nobel Laureate in Economics, gave an address, "Promoting Skills to Promote Equality and Social Mobility", for the inaugural event in June 2024 for the Distinguished Lecture Series on Global Sustainability organised by the Office of the Vice-President (Research).

This new series spotlights key issues surrounding economic and social development worldwide while emphasising sustainability's importance as the future guiding principle and in terms of CityUHK's pursuit of the UN's SDGs.

該報告聚焦城大如何透過教學策略、環球研究協作、持續社區參與以建立網絡，加強高等教育界、業界和政府在香港以至世界各地的連繫，落實可持續發展目標。

全球可持續發展傑出講座系列

芝加哥大學人類發展經濟學中心主任、諾貝爾經濟學獎得主James Heckman教授，於2024年6月發表演講，題為「提升技能以促進平等與社會流動性」，是副校長室（研究）主辦的全球可持續發展傑出講座系列的首場活動。

這個新講座系列聚焦全球經濟和社會發展的重點議題，強調可持續發展作為未來指導原則的重要性，以及城大致力實現聯合國可持續發展目標。

Professor James Heckman's talk was the inaugural event for the Distinguished Lecture Series on Global Sustainability.
James Heckman教授的演講為全球可持續發展傑出講座系列揭開序幕。

Global Sustainable Development Congress

The pressing need for urgent solutions and approaches to the sustainability emergency dominated the opening keynotes, panel sessions, presentations and an exhibition spearheaded by CityUHK teams at the Global Sustainable Development Congress in Bangkok in June 2024.

The event, co-hosted by Times Higher Education and Thailand's Ministry of Higher Education, Science, Research and Innovation, with CityUHK serving as the event's Green Innovation Partner, served as a clarion call to action for global universities and businesses to pivot their educational, research, innovation and outreach programmes towards tangible outcomes.

At an invitation-only session Leaders' Summit with senior leaders in higher education and the NGO sector, Professor Freddy Boey, CityUHK President, spoke about acting rapidly, smartly and locally if we are to address energy and climate challenges.

全球可持續發展峰會

城大於2024年6月參與在泰國曼谷舉行的全球可持續發展峰會。城大團隊分別於峰會的開場演講、專題研討會、專題簡報和展覽中，針對全球可持續發展伴隨的挑戰，以多角度提出策略和願景。

峰會由泰晤士高等教育和泰國高等教育和科研創新部聯合主辦。城大為峰會的綠色創新夥伴，號召全球院校和企業將其教育、研究、創新和外展計劃，積極轉化為實際成果。

城大校長梅彥昌教授獲邀在首日的領袖專題峰會討論上，與其他高等院校和非牟利機構的領導層，分享其對可持續議題的看法。他認為，我們必須以迅速的行動和機智的反應，從本地層面着手，解決能源和氣候危機。

CityUHK teams attended the Global Sustainable Development Congress in Bangkok.
城大團隊參與在泰國曼谷舉行的全球可持續發展峰會。

CityUHK won the Research Project of the Year: STEM at THE Awards Asia 2024, the only university in Hong Kong to win this prestigious award this year.
城大於2024年泰晤士高等教育亞洲大獎中，榮獲「年度研究項目：STEM」，為香港唯一勇奪殊榮的大學。

THE Awards Asia 2024

Competing with seven other nominees from other prestigious universities in Asia in this category, CityUHK scientists won the Research Project of the Year: STEM at Times Higher Education (THE) Awards Asia 2024, the only university in Hong Kong to win this prestigious award this year. The research aims to help solve the twin crises of freshwater and electricity production shortages.

2024年泰晤士高等教育亞洲大獎

城大於2024年泰晤士高等教育亞洲大獎中榮獲「年度研究項目：STEM」獎項，是香港唯一一家獲此殊榮的大學。城大團隊與七所亞洲區的優秀大學團隊入圍角逐並勝出，獲獎項目旨在解決水資源及能源短缺的雙重危機。

The search for solutions at Green Energy Summit

In keeping with our drive to meet the UN's SDGs, experts, including Professor Michael Graetzel from École Polytechnique Fédérale de Lausanne in Switzerland, explored innovative solutions in green energy production, storage, and utilisation at the HKICE Summit on Next-Generation Green Energy Materials and Applications organised by CityUHK's Hong Kong Institute for Clean Energy (HKICE) in June 2024. During the event, participants discussed the latest advancements in next-generation green energy materials and their applications, embracing various fields such as solar and wind energy and bioenergy.

舉辦綠色能源峰探討解決方案

為了實現聯合國可持續發展目標，城大香港清潔能源研究院於2024年6月舉辦「香港清潔能源研究院：下一代綠色能源物料及應用峰會」，匯聚各地專家，包括瑞士洛桑聯邦理工學院Michael Graetzel教授，共同探討生產、儲存和使用綠色能源的創新解決方案。是次峰會，與會者探討了下一代綠色能源材料及其應用的最新進展，包括太陽能、風能和生物能源等多個領域。

Nearly 2,000 bifacial solar panels will be installed on the rooftops of over 30 campus buildings.
城大將在校園內30多幢建築物天台上，安裝近2,000塊雙面太陽能板。

Solar power system installed across the campus

Nearly 2,000 high-efficiency bifacial solar panels will be fitted on the rooftops of more than 30 buildings on campus, covering approximately 4,500 square metres of rooftop space through a one-stop Solar-as-a-Service solution provided by CLPe and CityUHK. Work on the solar project is expected to begin in the third quarter of 2024 and to be completed in the first quarter of 2025. The system should generate approximately 1.15GWh of electricity per year and to reduce carbon emissions by an estimated 450 tonnes a year.

Award for contribution to SDGs

Professor David Lou Xiongwen, Chair Professor of Materials Chemistry, was honoured with the first Young Scientist SDGs Award at the opening ceremony of the 2023 World Young Scientist Summit in Wenzhou, Zhejiang. Professor Lou was the sole recipient from Hong Kong, while the other two awardees were scientists from mainland China and the UK. The award will allow Professor Lou to collaborate with other scientists and experts to further promote sustainable energy development research and practice.

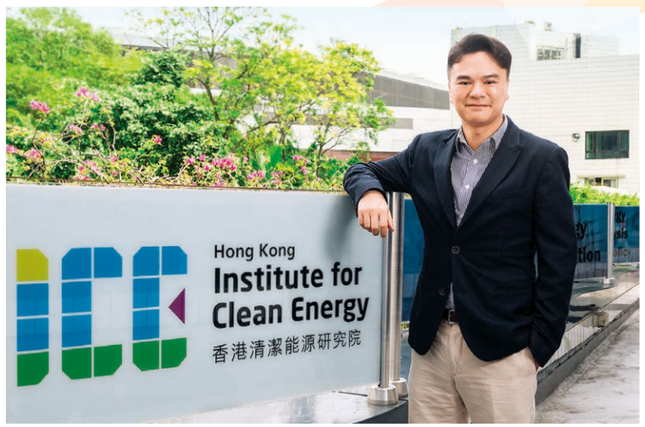
城大校園安裝太陽能發電系統

中電源動與城大合作，提供一站式太陽能發電方案，將會在城大校園內30多幢建築物天台上，安裝近2,000塊新型的高效能雙面太陽能板，所覆蓋的校園天台面積高達約4,500平方米。此項目預計在2024年第三季動工，2025年第一季前完成，預計每年可產生約115萬度電，並每年有助減少約450公噸碳排放。

教員推動可持續發展目標獲嘉許

在浙江溫州舉行的2023世界青年科學家峰會開幕禮上，材料化學講座教授樓雄文教授獲頒首屆「可持續發展青年科學家獎」。樓教授是唯一的香港得獎代表，其餘兩位得獎者則是內地及英國的科學家。獎項為樓教授提供更多與其他科學家及專家合作的機會，以進一步促進可持續能源發展的研究和應用。

Professor Angus Yip Hin-lap
葉軒立教授



Professor Chen Guohua
陳國華教授

HKEST Award for pioneering renewable energy research

Professor Angus Yip Hin-lap, Associate Director of the Hong Kong Institute for Clean Energy, received the Hong Kong Engineering Science and Technology Award (HKEST Award) 2023 in recognition of his exceptional contributions to the advancement of renewable energy research. Professor Yip's research focuses on enhancing urban renewable energy access through the development of innovative photovoltaic (PV) technologies.

Pro-Chancellor's Seminar Series explores energy, the environment and sustainability at CityUHK

The second seminar of the Pro-Chancellor's Seminar Series, held in March 2024, delved into the dynamic realm of "Energy, Environment, and Sustainability: Local Strength and Global Impact", led by Professor Chen Guohua, Dean of the School of Energy and Environment. The event also celebrated the 15th anniversary of the School and highlighted its achievements, including advances in energy storage, clean technology, and sustainability initiatives.

憑開創性可再生能源研究榮獲香港工程科技獎

城大香港清潔能源研究院副院長葉軒立教授獲頒2023年度香港工程科技獎，以表彰他推動可再生能源研究的傑出貢獻。葉教授的研究重點是透過研發創新光伏技術，促進城市運用可再生能源。

城大「副監督講座系列」探討能源、環境和可持續發展

城大於2024年3月舉行「副監督講座系列」第二場講座，由能源及環境學院院長陳國華教授主講，題為「能源、環境及可持續發展：本地優勢與全球影響」。是次活動同時慶祝該學院成立15周年，並展示學院在能源儲存、潔淨科技及可持續發展項目等範圍所取得的進展。

Pivotal breakthrough in adapting perovskite solar cells for renewable energy

A fascinating innovation could pave the way for commercialising perovskite solar cells, bringing us closer to an energy-efficient future powered by sustainable sources. The CityUHK team engineered a unique type of self-assembled monolayer, or SAM for short, and anchored it on a nickel oxide nanoparticles surface as a charge extraction layer, thereby enhancing the thermal robustness of the cells. The journal *Science* reported the research as "Stabilized hole-selective layer for high-performance inverted p-i-n perovskite solar cells".

鈣鈦礦太陽能電池新技術取得重大突破

城大團隊研發出一種獨特的「自組裝單層薄膜」(self-assembled monolayer, SAM)， 並將其與在氧化鎳納米顆粒薄膜結合作為電荷提取塗層，藉以大幅提升鈣鈦礦太陽能電池在高溫下的穩健程度。這項令人振奮的創新發明可促進鈣鈦礦太陽能電池商業化，為由可持續能源驅動的節能未來向前邁進一步。上述研究刊登於國際期刊《科學》，題為「為高效能倒置 p-i-n 鈣鈦礦太陽能電池而設的穩定空穴選擇層」。

A team co-led by Professor Zhu Zonglong engineered a unique type of self-assembled monolayer.
由朱宗龍教授共同領導的團隊，研發出一種獨特的「自組裝單層薄膜」。

Professor Jeffrey D. Sachs
Jeffrey D. Sachs教授

US economist Jeffrey Sachs gives talk on sustainability development

US economist Professor Jeffrey D. Sachs, Director of the Center for Sustainable Development at Columbia University, spoke at a distinguished lecture at CityUHK in October 2023 in which he argued that new politics for sustainable development based on peaceful global cooperation, as well as ethics that transcend national rivalries, prejudice and history, are urgently needed to tackle the global crises we collectively face.

美國經濟學家Jeffrey Sachs教授主持可持續發展講座

美國哥倫比亞大學可持續發展中心主任、著名經濟學家Jeffrey D. Sachs教授於2023年10月在城大主持傑出講座，指出要解決當前人類集體面對的全球危機，必須盡快以環球和平合作為基礎，並且以跨越國家角力、偏見及歷史因素的道德標準，致力建立可持續發展的新政治思維。

Hydrogen generation study

Cleaner energy sources are desperately needed but the challenges in weaning the world off fossil fuels and onto more sustainable energies are enormous. But an international team led by CityUHK has developed a highly efficient electrocatalyst that can enhance hydrogen generation through electrocatalytic water splitting. The paper was published in *Nature* under the title "Phase-dependent growth of Pt on MoS_2 for highly efficient H_2 evolution".

高效產氫研究

人類對更潔淨的能源需求甚殷，但要擺脫依賴化石燃料轉用更可持續的能源仍挑戰重重。由城大領導的國際團隊研發出一種高效的電催化劑，可大幅提升電催化水分解產生氫氣的效能。相關論文刊於國際期刊《自然》，題為「鉑在二硫化鉬上的晶相依賴生長以實現高效產氫」。

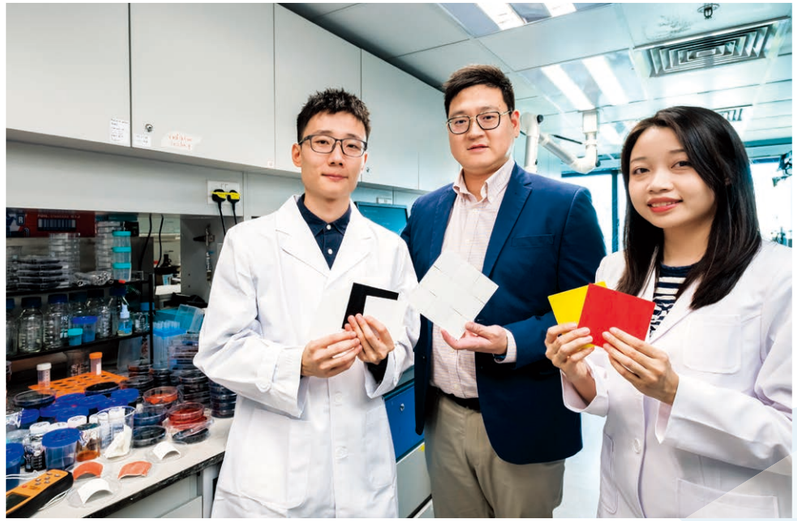
An international research team led by Professor Zhang Hua has successfully developed a highly efficient electrocatalyst.
由張華教授領導的國際團隊成功研發高效電催化劑。

Cooling ceramics

A passive radiative cooling material, known as cooling ceramic, that achieves high-performance optical properties for energy-free and refrigerant-free cooling generation was announced by CityUHK researchers. The ceramic is cost-effective, durable and versatile, making it highly suitable for commercialisation in numerous applications, particularly in construction. By reducing the thermal load of buildings and providing a stable cooling performance, even in diverse weather conditions, this cooling ceramic can enhance energy efficiency and combats global warming. The findings were published in *Science* as "Hierarchically structured passive radiative cooling ceramic with high solar reflectivity".

製冷瓷磚有效提升能源效益

城大研究人員成功開發一種被動輻射製冷材料（稱為「製冷瓷磚」），它不需要使用能源及製冷劑即能做出高效的光學特質從而製冷。這種材料兼具高成本效益、耐用及多功能的優點，適合作廣泛商業應用，在建築業尤其合適。製冷瓷磚在不同天氣都可以穩定地減低建築物的熱負荷及提供製冷效果，有助提升能源效益及對抗全球暖化。研究結果刊載於《科學》期刊，題為「具有高太陽反射率的階層式結構被動輻射製冷瓷磚」。



Professor Edwin Tso Chi-yan (centre) and his team made a significant breakthrough in developing passive radiative cooling materials.
曹之胤教授（中）及其團隊研發被動輻射製冷材料，取得重大突破。

The Lunchbox Lending Programme was implemented to foster the 'plastic-and-disposable free' culture on campus.
大學推出餐盒借用計劃，在校園推廣「走塑、走即棄」文化。

Convenient Lunchbox Lending Programme

A convenient lunchbox lending and return system has been launched in the eight publicly-funded universities including CityUHK to reduce single-use plastic consumption and promote sustainable development on campus.

A ceremony held in October 2023 marked the implementation of the Lunchbox Lending Programme, a key initiative of the eight universities under the umbrella of the Jockey Club Sustainable Campus Consumer Programme, which aims to drive sustainability and promote the UN's SDG#12: Responsible Consumption and Production.

便利餐盒借用計劃

包括城大在內的八所教資會資助大學推出便利餐盒借用計劃，以減少消耗即棄塑膠，促進校園的可持續發展。

餐盒借用計劃的啟動儀式於2023年10月舉行。相關計劃是八大在「賽馬會綠續．源園」計劃下的重要項目，旨在推動可持續發展及推動聯合國可持續發展目標中的第12項「負責任消費與生產」。