



香港中文大學
The Chinese University of Hong Kong

Sustainability Report 可持續發展報告

2007



FOREWORD

前言

We published our first sustainability report two years ago, which is a big step forward in our environmental performance. Since then, there have been internal discussions and reviews on various aspects to adjust and improve. It is ideal to have a report on sustainability that covers its three pillars: the environment, society and economy. However, it is certainly out of the scope of the University Safety and Environment Office and the Committee on Campus Environment. It will be more practical to focus on environmental sustainability instead. Over the years, we have been making all efforts in reducing our wastes, saving our energy and greening our campus. As a tertiary institution, we feel the responsibility in environmental management. I am thankful to all stakeholders in the campus community, who have been actively involved in the pursuit of promoting a healthy and congenial campus environment. We can see signs of progress, and the university administration is taking every opportunity to endeavor on a sustainable basis. I strongly believe that we can build on our past success, continue to excel, and confront the challenges of creating and maintaining an eco-model university.



Prof. L.M. Chu, Chairman of the Committee on Campus Environment
校園環境委員會主席朱利民教授

兩年前，我們發表首份可持續發展報告，在保護環境的工作上向前邁進了一大步。此後，大學內部討論和檢討不同範疇，以作調節和改進。理想的可持續發展報告，應能涵蓋環境、社會和經濟三方面，但這肯定超出了大學安全及環境事務處以及校園環境委員會的工作範圍，因此，專注於環境方面的可持續發展，是較可行的做法。多年來，我們致力減少廢物、節約能源、綠化校園。作為專上學院，我們深感有責任管理環境。我衷心感謝校園內的每一分子，他們積極參與，使校園環境更健康、更優美。我們看到了一些進展，而校方也致力研究可持續發展的方向。我深信我們能以過去的成績為基礎，繼續有良好表現，為創建和維護生態模範校園而努力。

SUSTAINABILITY REPORT 2007 可持續發展報告二零零七



The CUHK Community Afforestation Scheme on Grassy Hill
中大草山社區植林計劃



The Chinese University of Hong Kong (CUHK) is committed to taking a responsible approach to protect the environment through all aspects of our daily activities. Ongoing efforts have been made, first and foremost, to reduce and recycle wastes since these have been the major areas that need addressing, and also to conserve water and energy, improve our environmental performance, and build a sustainable, green community.

This Report focuses on the University's own strategic measures related to environmental sustainability and does not include other issues such as social equity and economics. Also not included in the statistical consideration are offices and activities beyond the Main Campus. Similarly, staff quarters, student hostels and canteens operated within the Main

Campus are not factored into the Report because they are individually metered and paid by the parties concerned, and are therefore beyond the manageability of the University.

香港中文大學（簡稱「中大」）致力以負責任的態度，在各種日常活動中保護環境。廢物是最需要處理的範疇，因此中大首先努力減少廢物、循環再造；又致力節約用水和能源、提升環境表現，並建構可持續的、綠化的環境。

本報告重點報道中大在環境方面的可持續發展策略性措施，不包括社會公義和經濟等範疇。數據方面，本報告不包括主校園以外的辦事處和活動。同樣，報告並無涵蓋主校園內的教職員宿舍、學生宿舍和飯堂，因為這些設施使用的資源均由有關方面計算及支付，不在中大管理範圍之內。

A Decade of Environmental Protection Work at the University:

- 1996 The Environmental Protection Monitoring Group was formed to advise the University on environmental matters.
- 2000 An Environmental Audit of CUHK, the first of its kind ever conducted in local universities, was completed. The University Steering Committee on Environment (USCE) was formed to lay down environmental policies for the University. The University Safety Office was restructured to become the University Safety & Environment Office to assist USCE in implementing various environmental projects and plans.
- 2005 The Sustainability Indicator Study was conducted and put in place environmental sustainability indicators for the University.
- 2006 The Steering Committee on Campus Master Planning and the Campus Landscaping Enhancement Committee were established, with the former for the future planning of campus development and the latter, to oversee landscaping and greening issues.
- 2007 The first Sustainability Report of CUHK was prepared and the Campus Master Plan was being designed. The Community Afforestation Scheme on Grassy Hill was implemented to plant tree seedlings outside the campus, which would greatly increase the tree compensation ratio for development and construction projects within the university campus.

中大環保工作十年

- 一九九六年 成立校園環境保護督導小組，就環保事宜向校方提出建議。
- 二零零零年 完成中大環境審核工作，在香港大專院校中開創先河。成立大學環境事務督導委員會，為中大制訂環保政策。重組大學安全事務處為大學安全及環境事務處，以協助大學環境事務督導委員會實施各項環保工程及計劃。
- 二零零五年 從事可持續發展指標研究，為中大制訂一套可持續發展指標。
- 二零零六年 成立校園發展計劃督導委員會，負責校園發展的未來規劃；又成立校園景觀美化委員會，專責環境美化和綠化事宜。
- 二零零七年 擬備首份中大可持續發展報告，並制訂校園發展計劃。在草山實行社區植林計劃，在校園外廣種樹苗，大大提高因校園發展及建設而須補植樹木的比例。

UNIVERSITY PROFILE 大學概覽

Table 1. Total Number of Full-time Equivalent (FTE) Students & Total Number of Full-time Staff in CUHK as at 31 December 2007

表1. 中大等同全日制學生總數及全職教職員總數（截至二零零七年十二月三十一日）

	Number 人數
Total number of FTE students (including UGC-funded & self-financed) 等同全日制學生總數（包括大學教育資助委員會資助的學生及自費學生）	18,133
Total number of full-time staff 全職教職員總數	6,155

With an area of 134 hectares and over 150 buildings, CUHK has the largest campus among the tertiary institutions in Hong Kong. It is formed by the four constituent Colleges: Chung Chi College, New Asia College, United College and Shaw College. Currently, the University provides more than 6,000 hostel places for students and staff quarters of about 300 units for staff members and their families. With the reversion to a four-year normative curriculum in 2012, the University will admit an extra 3,000 undergraduates. To meet the increasing needs, the University is building five new Colleges: Morningside College, S.H. Ho College,

C.W. Chu College, Wu Yee Sun College and Lee Woo Sing College.

At present, the University has seven faculties - Arts, Business Administration, Education, Engineering, Medicine, Science and Social Science - and the School of Law. There are about 6,000 academic and non-academic staff members, and the total number of postgraduate and undergraduate enrolment stands at over 20,000. In 2007, 6,277 first degrees and higher degrees were awarded and the cumulative number of alumni is 109,734.



●● The sites of Morningside College and S.H. Ho College
●● 晨興書院及善衡書院

中大校園面積達一百三十四公頃，共有一百五十多座樓宇，是香港專上學院之冠。中大由崇基、新亞、聯合和逸夫四所書院組成，目前為學生提供六千多個宿位，另設教職員宿舍，提供約三百個住宅單位供教職員及其家屬居住。二零一二年回復本科四年制課程後，中大將多招收三千名本科生。為配合需求，中大現正加建五所新書院：晨興書院、善衡書院、敬文書院、伍宜孫書院及和聲書院。

中大現有七個學院，分別為文學院、工商管理學院、教育學院、工程學院、醫學院、理學院和社會科學院，另設法律學院，教職員共約六千名，本科生和研究生總數維持在二萬人以上。二零零七年共頒授6,277個學士及深造學位，校友數目累計109,734名。

GOVERNANCE STRUCTURE 管治架構

The University has established several committees to ensure a balance vis-à-vis development needs, campus community safety, and environmental conservation and enhancement. They are as follows:

- The University Steering Committee on Environment is a subcommittee under the Administrative Affairs Committee (AAC). Its major tasks are to promote environmental awareness among students and staff, recommend for consideration by AAC strategies and policies related to environmental protection, curb any activities on campus that are in contravention with legislation, and undertake any other duties/functions in relation to environmental matters assigned by the Vice-Chancellor.
- The Steering Committee on Campus Master Planning concentrates on designing the Campus Master Plan.
- The Standing Committee on Campus Geotechnical Matters monitors slope projects and has the right to approve slope improvement projects.
- The Building Committee is a project-based, ad hoc committee that deals with issues specifically related to building projects.
- The Campus Landscaping Enhancement Committee focuses on landscaping and greening issues.

At the same time, relevant offices and units work to maintain consistently the University's hygiene, safety and environmental standards at levels above that required by law, while the Colleges and their Environmental Committees help to promote environmental awareness among students and staff, and maintain a high standard of environmental quality.

The Estates Management Office (EMO), being the service unit with the largest number of staff members, is devoted to creating and maintaining a green working environment and providing highly efficient services to meet customer expectations. To facilitate these objectives, EMO has successfully implemented an Environmental Management System that conforms to the international standard ISO 14001:2004 since May 2007. Staff training is provided on a regular basis and management efficiency reviews are conducted periodically to ensure the effectiveness of this systematic management approach towards sustainable development.

中大成立了多個委員會，確保在發展需要、師生安全、環境保育與改善等各方面取得平衡。各委員會概述如下：

- 大學環境事務督導委員會隸屬行政事務委員會，主要職責是提高教職員和學生的環保意識，向行政事務委員會建議環保策略，遏止校園內任何違反環保條例的活動，以及執行校長指示的環保工作。

- 校園發展計劃督導委員會專責制訂校園發展計劃。
- 大學校園岩土事務委員會監察斜坡工程，有權批核斜坡改善工程。
- 建築委員會是因應個別項目而設立的專責委員會，處理與興建項目有關的事宜。
- 校園景觀美化委員會專責環境美化和綠化事宜。

此外，各有關部門和單位致力確保中大的衛生、安全和環境維持在法定標準以上，各書院及其環境委員會也協助提高師生環保意識，保持校園環境清潔。

物業管理處是職員人數最多的服務單位，致力創建和維持環保的工作環境，並提供高效率服務，以符合客戶期望。為協助達到這些目的，物業管理處自二零零七年五月起實施符合ISO 14001:2004國際標準的環境管理系統，並定期培訓員工，檢討管理效率，確保這種系統管理方法能有效促進可持續發展。



●● ISO 14001:2004 Certificate
●● ISO 14001:2004證書

PERFORMANCE INDICATORS 表現指標

Energy Consumption

Currently there are over 60 blocks of academic and administrative buildings housing facilities such as classrooms, libraries, laboratories and other communal amenities on campus. Electricity is the main source of energy consumed for air-conditioning, lighting, computers and other equipment to support our teaching and research activities. In 2007, each full-time equivalent (FTE) student consumed about 4,326.40 kWh of electricity per annum.



Occupancy sensors are installed to control the lighting of corridors. 走廊安裝了自動感應器控制照明系統。

The University is a pioneer of energy conservation and is constantly taking proactive measures to achieve this goal. The occupants of different buildings are informed of the building energy consumption through the Monthly Energy Performance Index (EPI) which is posted in prominent areas such as the building entrance. To enhance effectiveness of this benchmarking, building representatives are authorized to monitor the consumption per month. The EMO has also implemented such measures as the Campus-Wide Lighting Retrofit Programme, Installation of Energy Saving LED Exit Signs, Installation of Energy Efficient Water-cooled Chillers, Occupancy Sensor Installations in Communal Areas and Power Factor Improvement, etc..

To encourage participation within the University community, an Energy Saving Incentive Scheme was launched. In the summer of 2006, four buildings including the Wu Chung Library, Ch'ien Mu Library, Shanghai Fraternity Association Research Services Centre and Tin Ka Ping Building were selected to participate in a pilot scheme. The results were encouraging and 490,000 kWh of electricity was saved between June 2006 and May 2007. Half of the cost savings was allocated for incentive activities such as the 'Eco Wetland Tour' to reward the participants. This scheme will be extended to other academic buildings in the near future.

能源消耗

中大校園目前共有六十多座教學及行政大樓，內有教室、圖書館、實驗室和其他公用設施。電力是校園使用的主要能源，用作空調、照明、驅動電腦和其他設備，以輔助教學和研究工作。二零零七年，每名等同全日制學生每年使用約4,326.40千瓦小時電力。

中大是節約能源的先鋒，積極採取多項措施以達節能目標。每座樓宇都在入口等當眼處張貼每月能源表現指數，讓樓宇的使用者得悉能源消耗情況。為加強這項指標的效用，我們授權樓宇代表監察每月能源消耗量。物業管理處亦已推行多項措施，包括全面翻新照明系統、安裝發光二極體出路燈箱和水冷式空調系統、在公用地點安裝自動感應器，以及改善功率因素等。

為鼓勵中大師生參與，我們推行了節能獎勵計劃。二零零六年暑假，胡忠圖書館、錢穆圖書館、上海總會科研技術中心和田家炳樓等四座大樓獲選定參加先導計劃，成績理想，二零零六年六月至二零零七年五月間共節省四十九萬千瓦小時電力。省回的一半成本用作舉辦獎勵活動，例如「濕地生態遊」，以資嘉獎。這計劃將於短期內擴展至其他教學大樓。



Participants of the Energy Saving Incentive Scheme on their Mai Po Ecotour 大學舉辦了米埔生態遊，以鼓勵節能獎勵計劃的參加者。

Renewable Energy Installation

Renewable energy is sustainable, clean and abundant in the world as it can be derived from solar, water, geothermal, wind, solar, tidal, wave and ocean sources. Our campus is a launch pad for innovative energy applications. Many pilot projects such as the solar hot water installations were kicked off here. The first solar hot water project was completed in the Cheung Chuk Shan Amenities Centre in 2004. The Phase III Solar Hot Water Programme also commenced in 21 student hostels in the summer of 2007.

In the Lady Shaw Solar Garden, photovoltaic panels were applied to lighting and fountain operations. In the Chung Chi Stream, hydraulic ram pumps were installed for irrigation and flushing to serve part of the areas adjacent to the Chapel and Theology Building.

再生能源裝置

再生能源可持續使用、清潔且來源廣泛，可從陽光、水力、地熱、風力、潮汐、波浪和海洋等途徑產生。中大是創新能源設備的試用場，許多先導計劃，例如太陽能熱水裝置，都在這裏率先推行。二零零四年，我們在張祝珊師生康樂大樓完成首項太陽能熱水器工程。二零零七年暑假，又開展了第三期太陽能熱水計劃，為二十一幢學生宿舍安裝太陽能熱水系統。

在邵逸夫人樓的太陽能花園，我們安裝光伏板，以供照明和維持噴泉運作。我們也在小橋流水裝設水錘泵，輸送溪水供禮拜堂和神學樓附近地區作灌溉和沖廁之用。



● Solar Light System
● 太陽能照明系統。

Table 2. Energy Consumption in terms of FTE Student & Per Capita

表2. 按每名等同全日制學生及人均計算的能源消耗量

No. 編號	Indicator (Unit) 指標 (單位)	Definition / Remark 定義 / 備註	Results 結果
EN1	Electricity consumption per FTE student (kWh / FTE student) 每名等同全日制學生電力使用量 (千瓦小時 / 等同全日制學生)	Total electricity consumption / Number of FTE students 電力總耗量 / 等同全日制學生數目	4,326 kWh/FTE student 4,326千瓦小時 / 等同全日制學生
EN2	Electricity consumption per capita (kWh / total number of FTE students & full-time staff) 人均電力使用量 (千瓦小時 / 等同全日制學生及全職教職員總數)	Total electricity consumption / Number of FTE students & Number of full-time staff 電力總耗量 / 等同全日制學生及全職教職員數目	3,230 kWh/capita 3,230千瓦小時 / 人

Transportation

Currently, the University owns more than 110 vehicles for transportation and most of them are used for intra-campus transportation. Apart from 4 private light buses and 18 private buses, bus services are also hired from a contractor as the main mode of transportation within the campus. In 2007, the coach mileage and diesel consumption per FTE student were 48.5 km and 19.7 litres respectively.

To reduce black smoke emissions, maintenance work is performed regularly to keep all University vehicles in top mechanical condition and minimize their impact on the environment. Older buses will be phased out and replaced by buses with Euro IV engines. Furthermore, the University has also introduced electric scooters which are quieter and more environmentally friendly.



CUHK's green scooter fleet is unique among Hong Kong's tertiary institutions.
中文大學擁有全港大專院校唯一的環保電動摩托車隊。

交通運輸

目前中大有百一十多部車輛提供交通服務，大部分為校園內部交通運輸之用。除擁有四輛小型巴士和十八輛巴士外，我們還向承判商租用巴士服務，作為校園內的主要交通工具。二零零七年，按每名相當於全日制學生計算的巴士行車里數和柴油消耗量，分別是48.5公里和19.7升。

為減少排放黑煙，中大定期維修車輛，使所有車輛的機械性能保持最佳狀態，把對環境的影響減至最低。較舊的巴士，已逐步更換為使用歐盟四型引擎的巴士。中大也設有電動摩托車隊，比柴油車更寧靜、更環保。

Table 3. Coach Mileage & Diesel Consumption in terms of FTE Student & Per Capita

表3. 按每名等同全日制學生及每人計算的巴士行車里數及柴油消耗量

No. 編號	Indicator (Unit) 指標 (單位)	Definition / Remark 定義 / 備註	Results 結果
TP1	Mileage per FTE student (km / FTE student) 每名等同全日制學生行車里數 (公里 / 等同全日制學生)	Total mileage / Number of FTE students 總行車里數 / 等同全日制學生數目	48.5 km / FTE student 48.5公里 / 等同全日制學生
TP2	Diesel consumption by coach per FTE student (litres / FTE student) 每名等同全日制學生巴士柴油使用量 (升 / 等同全日制學生)	Total diesel consumption / Number of FTE students 柴油總耗量 / 等同全日制學生數目	19.7 L / FTE student 19.7公升 / 等同全日制學生
TP3	Mileage per capita (km / total number of FTE student & full-time staff) 每人行車里數 (公里 / 等同全日制學生及全職教職員總數)	Total mileage / Number of FTE students & full-time staff 總行車里數 / 等同全日制學生及全職教職員數目	36.2 km / capita 36.2公里 / 人
TP4	Diesel consumption by coach per capita (litres / total number of FTE student & full-time staff) 每人巴士柴油使用量 (公升 / 等同全日制學生及全職教職員總數)	Total diesel consumption / Number of FTE students & full-time staff 柴油總耗量 / 等同全日制學生及全職教職員數目	14.7 L / capita 14.7公升 / 人



●● Lifts and bridge links on campus
●● 連接校園各地的升降機和天橋

Developing a Walking Culture

To encourage getting about the campus on foot in order to reduce the volume of vehicular traffic, the University's Campus Development Office (CDO) and EMO have developed scenic and convenient pedestrian links, such as footbridges, vertical lifts and footpaths. Results of on-site testing, gauged by the same starting and finishing points, indicated that the amount of time used for travelling on foot is comparable to that of travelling by shuttle bus. An added plus is that persistent walking burns fat, tones muscles and strengthens bones while we help to reduce air pollution from vehicle emission.

To promote walking on campus, two walking campaigns were organized by the University's Committee of Health Promotion and Protection in March and November 2007, with more than 400 and 600 CUHK staff and students taking part respectively. The routes, which took the participants from the train station to the upper campus, showed them how quickly and enjoyably a journey could be covered on foot.



●● Bridge links between Engineering Buildings
●● 連接工程大樓的天橋

推廣步行文化

為鼓勵在校園內步行，減少車流，大學校園發展處和物業管理處聯手設計貫通校園的步行捷徑，包括行人天橋、升降機、小徑等，來往校園各處方便快捷，且沿途景觀優美。現場測試結果顯示，以同一起點和終點計算，步行所需的時間，與乘坐校巴相若。堅持步行還可消耗脂肪、鍛煉肌肉、鞏固骨骼，而且有助減少汽車污染物排放，減低空氣污染。

為推廣在校園內步行，大學健康促進及防護委員會先後在二零零七年三月和十一月舉辦兩項「樂步行」活動，分別有四百多和六百多名中大師生參加，由火車站步行至校園內地勢較高的地點，讓參加者體會到步行可以迅速到達目的地，步行的過程也可以很輕鬆愉快。



●● Walking Campaign - Launching Ceremony
●● 「樂步行」開步禮

WASTE 廢物

The University is always mindful of its responsibility to minimize waste generated by its daily activities. The 4 'R' strategy - Reduce, Reuse, Recycle and Replace - has been adopted and implemented since the early 1990s, and staff members have been encouraged to save resources, minimize generation of waste and adopt the recycling approach wherever feasible. Over 65 strategic recycling points were established to facilitate the recycling of paper, plastics, metals and toner cartridges. Over 2,000 desk-side

recycling bins were placed at offices to enhance office paper recycling. Recycling programmes were conducted to collect rechargeable batteries and other items such as CDs, old clothes, books and toys which were then distributed to new immigrant families and the elderly in HK and the less fortunate in mainland China through local charity organizations.

Municipal Solid Waste

In 2007, municipal solid waste incurred by each FTE student was 89.2 kg. Over the past few years, the University has implemented measures to reduce the volume of waste produced daily on campus. Last year, 326,131 kg of paper, 709 kg of aluminum, 1,140 kg of plastics, 568 printer cartridges and 4,165 kg of old clothes were collected for recycling. The overall recycling rate of municipal solid waste was over 18%.

中大時刻緊記在日常活動中減少產生廢物的責任。上世紀九十年代初期開始，中大已採取4R策略，即減少廢物、物料再用、循環再造和取代使用，鼓勵職員節約資源、減少產生廢物，並盡可能採用循環再造的方式。我們已在超過六十五個有利位置設立廢物回收點，以便回收廢紙、塑膠物料、金屬和影印機碳粉盒。辦公室內設有二千多個桌旁回收箱，鼓勵辦公室廢紙回收再用。另推行回收計劃，收集充電池、光碟、舊衣物、書籍和玩具等，以便透過本地慈善機構轉贈新移民家庭、長者，以及內地的弱勢社群。

都市固體廢物

二零零七年，每名等同全日制學生產生的都市固體廢物為89.2公斤。過去數年，中大推行多項措施，以減少校園內每天產生的廢物量。去年，我們收集了326,131公斤廢紙、709公斤鋁、1,140公斤塑膠、568個影印機碳粉盒和4,165公斤舊衣物供循環再用。都市固體廢物的整體回收率超過18%。



Hazardous Waste

In 2007, 2.52 kg of chemical waste including acid, alkali, solvent, spent lube oil, spent paint and pharmaceutical liquid were generated by each FTE student. All these waste materials were properly stored, collected and transported by licensed collectors. Waste disposal guidelines were set down and communicated to staff and students, requiring them to properly dispose of hazardous waste as part of their duties and work routines.

有害廢物

二零零七年，每名等同全日制學生產生2.52公斤化學廢物，包括酸、鹼、溶劑、用過的潤滑油、用過的油漆、醫藥液體等。這些廢物都經妥善儲存，然後由持牌收集商收集搬運。我們備有廢物處理指引，並已向教職員和學生說明有關指引，要求他們在工作上妥善棄置有害廢物。



●● Chemical wastes are properly stored and collected.
●● 化學廢物都被妥善儲存及收集。

Electronic and Electrical Waste

To reduce the quantity of unwanted computers and obsolete electrical and electronic equipment going to landfills, the University did not dispose of them in the conventional way. Instead, 162 items were auctioned among departments and staff for reuse; 20 items were donated to non-profit-making organizations; and 1,226 items were sold through public auctions for reselling and recycling. Further, computer recovery programmes are organized by the hostels each summer. The items collected are delivered to charity or non-profit-making organizations to give to those in need.

電器及電子廢物

為了減輕堆填區的負荷，中大沒有以傳統的方法直接把舊電腦、電器及電子用品棄置。這些物件回收後，162件由大學部門和職員購置重用，20件捐贈非牟利機構，1,226件則公開出售，供轉售及循環再造。此外，各宿舍每年夏季均舉行回收計劃，所得物品分別捐贈慈善團體或非牟利機構，幫助有需要的人士。



● Old computers are collected and delivered to those in need.
● 舊電腦會被收集，並會被轉贈有需要的人士。

Construction and Demolition Waste

To reduce the waste problem, the University requires contractors to submit a waste management plan which outlines their waste minimization measures. During the construction phase, contractors are required to strictly follow the measures specified, such as minimizing the generation of construction waste, using recycled materials and providing an effective on-site sorting of construction wastes. Metal has been used to replace hardwood for site hoardings, formworks and scaffoldings as metal-made alternatives are reusable and greatly reduce the generation of used timber as a construction and demolition waste. In 2007, 227 kg of construction waste per FTE student was generated.

建築廢料

為減少廢料問題，中大要求承建商提交廢料管理計劃，列明減廢措施。建築工程進行期間，中大要求承建商嚴格遵守計劃內列明的措施，例如減少產生建築廢料、使用循環再造材料，以及安排在地盤內有效把建築廢料分類。地盤圍板、模板和棚架的用料，均以金屬取代木材，因為金屬製件可以再用，由此減少建造和拆卸時產生的廢棄木材。二零零七年，每名等同全日制學生產生227公斤建築廢料。



Construction waste is sorted for reuse or recycle.
建築廢料會被分類，以便再用或循環再造。

Table 4. Waste Volume in terms of FTE Student & Per Capita

表4. 按每名等同全日制學生及每人計算的廢物量

No. 編號	Indicator (Unit) 指標 (單位)	Definition / Remark 定義 / 備註	Results 結果
WM1	Municipal solid waste per FTE student (kg / FTE student) 每名等同全日制學生都市固體廢物量 (公斤 / 等同全日制學生)	Total municipal solid waste / Number of FTE students 都市固體廢物總量 / 等同全日制學生數目	89.2 kg / FTE student 89.2公斤 / 等同全日制學生
WM2	Chemical waste per FTE student (kg / FTE student) 每名等同全日制學生化學廢物量 (公斤 / 等同全日制學生)	Total chemical waste / Number of FTE students 化學廢物總量 / 等同全日制學生數目	2.52 kg / FTE student 2.52公斤 / 等同全日制學生
WM3	Construction and demolition waste per FTE student (kg / FTE student) 每名等同全日制學生建築廢料量 (公斤 / 等同全日制學生)	Total construction and demolition waste / Number of FTE students 建築廢料總量 / 等同全日制學生數目	227 kg / FTE student 227公斤 / 等同全日制學生
WM4	Municipal solid waste per capita (kg / total number of FTE students & full-time staff) 每人都市固體廢物量 (公斤 / 等同全日制學生及全職教職員總數)	Total municipal solid waste / Number of FTE students & full-time staff 都市固體廢物總量 / 等同全日制學生及全職教職員數目	66.6 kg / capita 66.6公斤 / 人
WM5	Chemical waste per capita (kg / total number of FTE students & full-time staff) 每人化學廢物量 (公斤 / 等同全日制學生及全職教職員總數)	Total chemical waste / Number of FTE students & full-time staff 化學廢物總量 / 等同全日制學生及全職教職員數目	1.88 kg / capita 1.88公斤 / 人
WM6	Construction and demolition waste per capita (kg / total number of FTE students & full-time staff) 每人建築廢料量 (公斤 / 等同全日制學生及全職教職員總數)	Total construction and demolition waste / Number of FTE students & full-time staff 建築廢料總量 / 等同全日制學生及全職教職員數目	170 kg / capita 170公斤 / 人

- Upstream water at Chek Lai Ping is regularly monitored by USEO staff.
- 大學安全及環境事務處職員定期監察赤泥坪上游水質。



- The water quality of Chung Chi Stream and Weiyuan Lake is closely monitored.
- 小橋流水和未圓湖水質受緊密監察。



WATER 水

In 2007, each FTE student consumed about 45 m³ of potable water per annum and the University continued its efforts in reducing water wastage in administrative and academic buildings through such measures as installing automatic cut-off taps in bathrooms and posting up notices. An automatic watergate was installed at Weiyuan Lake to use stream water for irrigation and cooling. Contractors were encouraged to recycle water for use during construction.

The waste water generated by residences, student hostels, offices, laboratories and canteens were discharged to municipal sewers and conveyed to the Shatin Treatment Works. Grease traps were installed at all canteens and restaurants. The staff from University Safety & Environment Office (USEO) and external consultants conducted regular water testing to monitor the water quality of Chung Chi Stream and Weiyuan Lake.

二零零七年，每名等同全日制學生消耗約45立方米飲用水。中大繼續採取多項措施，減低行政教學大樓的耗水量，包括在洗手間安裝會自動關上的水龍頭，以及張貼告示等。我們在未圓湖安裝自動水閘，利用溪水作灌溉和冷卻之用；又鼓勵承建商在建築工程中循環用水。

由教職員住宅、學生宿舍、辦公室、實驗室、飯堂等地產生的污水，均排放至污水管，輸送至沙田污水處理廠。所有飯堂和餐廳，均安裝隔油器。大學安全及環境事務處的人員和校外顧問定期檢測小橋流水和未圓湖的水樣本，以監察水質。

Table 5. Water Consumption in terms of FTE Student & Per Capita

表5. 按每名等同全日制學生及每人計算的耗水量

No. 編號	Indicator (Unit) 指標 (單位)	Definition / Remark 定義 / 備註	Results 結果
WA1	Water consumption per FTE student (m ³ / FTE) 每名等同全日制學生耗水量 (立方米 / 等同全日制學生)	Total water consumption / Number of FTE students 總耗水量 / 等同全日制學生數目	44.9 m ³ / FTE student 44.9立方米 / 等同全日制學生
WA2	Water consumption per capita (m ³ / total number of FTE students & full-time staff) 每人耗水量 (立方米 / 等同全日制學生及全職教職員總數)	Total water consumption / Number of FTE students & Number of full-time staffs 總耗水量 / 等同全日制學生及全職教職員數目	32.5 m ³ / capita 32.5立方米 / 人

INDOOR AIR QUALITY 室內空氣質素

It is the aim of the University to provide a safe and healthy environment for staff, students and visitors. The 'No Smoking' policy is implemented and relevant notices and signs have been put up all around the campus since 2007.

The EMO regularly inspects and maintains the air-conditioning system on campus. On-site indoor air quality (IAQ) inspections were regularly carried out to check and take rectification actions if the premises have any IAQ problems. In 2007, the University hired a consultant to carry out in-situ IAQ sampling and subsequent laboratory analysis in the Pi' Chiu Building and William M.W. Mong Engineering Building. Two IAQ parameters, namely, total bacterial count (TBC) and total fungal count (TFC) were monitored for each sampling location. The *Guidance Notes for the Management of Indoor Air Quality in Offices and Public Places 2003* published by the Hong Kong SAR Government was used as reference. The test results revealed that the IAQ regarding TBC and TFC of the monitored locations was substantially satisfactory.

中大致力為教職員、學生和訪客提供安全健康的環境，實施「不准吸煙」政策，自二零零七年起，已在校園各處設有說明和標誌。

物業管理處定期檢查維修校園內的空調系統，並定期檢測室內空氣質素，如發現有問題，即採取措施糾正。二零零七年，中大聘請了顧問，在碧秋樓和蒙民偉工程學大樓進行室內空氣質素抽樣調查和實驗分析，每個抽樣地點均監察細菌總數和真菌總數兩個室內空氣質素參數，並以香港特區政府在二零零三年出版的《辦公室及公眾場所室內空氣質素管理指引》作為參考。測試結果顯示，根據細菌總數和真菌總數的數據，各監測點的室內空氣質素均相當令人滿意。



In-situ indoor air quality sampling including total bacterial count and total fungal count is conducted at selected locations.

工作人員會在選定地點進行室內空氣質素抽樣調查，計算細菌總數和真菌總數。



COMPLIANCE AND MONITORING 遵守法規與監察

The University periodically conducts audits and reviews of its environmental management system and environmental compliance. During the year, the University and its contractors had zero conviction for environmental non-compliance. A total of six environment-related complaints were received, most of which were related to the pollution from vehicle exhaust and tree felling. A Campus Landscaping Enhancement Committee was formed to handle all tree and landscaping issues.

In addition, the University also encourages contractors to improve their environmental performance. In 2007, one of the contractors won the Silver Award in the Considerate Contractors Site Award Scheme organized by the Development Bureau of HKSAR in recognition of their caring consideration for the public and for their neighbours in carrying out works, outstanding site safety, environmental performance, and good site management.



All trees on campus are protected by the Tree Preservation Policy.
校園內所有樹木均受樹木保育政策保護。

中大定期審核和檢討其環境管理系統和環境合規情況。年內，中大及其承辦商從未因不符環保要求而被控。有關環境的投訴共六宗，大部分與汽車廢氣污染和砍伐樹木有關。我們成立了校園景觀美化委員會，處理所有樹木和環境美化事宜。

此外，中大還鼓勵承建商提升環保表現。二零零七年，一名承建商榮獲香港特區政府發展局公德地盤嘉許計劃銀獎，表揚其在工程進行期間對公眾和鄰近人士表現的關懷、傑出地盤安全表現、環境表現和良好地盤管理。

LAND 土地



Trees, shrubs and ground cover are planted everywhere to green the campus.
校園各處種有喬木、灌木和地被植物，綠化環境。

The University campus is the largest among the local tertiary institutions, with a total area of 1,344,017 m². About 60% is greenery comprising slopes, landscaped areas and roof gardens, 10% is covered by buildings, and the remaining 30% consists of sports fields, roads and car parks. To enhance campus greening, landscaping planning and design have been incorporated into road and building projects.

Our campus is home to about 189 tree species, including pine, willow, orchid and bauhinia, as well as a range of wildlife, in particular birds. To protect its flora and fauna, the University adopts a variety of measures, such as maximizing greenery, planting native species and minimizing the use of pesticide. In 2007, a total of 106 trees, 8,334 shrubs, 5,275 floral plants, 3,285 ground cover and 27,508 m² of grass were planted on campus. Pursuant to the felling of 39 trees in the construction projects, 29 trees and 3,050 seedlings were planted as compensation.

中大校園總面積1,344,017平方米，是本地大專院校之冠，當中約六成是綠化地帶，包括斜坡、園景美化區和天台花園，約一成是建築物，另三成是運動場、道路、停車場等。在建造道路和大樓時，均進行園景美化規劃和設計，使校園更趨綠化。

中大校園共有一百八十九個樹種，包括松樹、柳樹、蘭花和洋紫荊，也有多種野生生物，雀鳥尤多。中大採取多項措施保護動植物，例如擴大綠化地帶、種植原生植物品種，以及盡量減用殺蟲劑。二零零七年，校園內共種植106棵樹、8,334棵灌木、5,275株花卉植物、3,285處地被植物和27,508平方米青草。因建造工程砍伐39棵樹後，我們另行種植29棵樹和3,050株樹苗，以作補償。



●● Prof. P.W. Liu, Pro-Vice-Chancellor (left), and Prof. K.C. Lam, Chairman of USCE planting trees on Grassy Hill at the Kick-off Ceremony of the CUHK Community Afforestation Scheme.
中大社區植林計劃啟動禮上，副校長廖柏偉教授(左)和大學環境事務督導委員會主席林健枝教授在草山植樹。

Planting Trees for the Community

Apart from greening the campus, the University is the first local tertiary institution to take part in the Corporate Afforestation Scheme of the Agriculture, Fisheries & Conservation Department of the Hong Kong SAR. According to plan, three years would be for the planting of seedlings and then two for management and maintenance. The total area of afforestation on Grassy Hill and in Tai Po Kau will be two hectares. Planting more trees can help prevent soil erosion, keep the air clean, alleviate global warming and provide hikers with scenic amenities. Trees can also provide birds and animals with food and shelter.

The CUHK Community Afforestation Scheme kicked off on 27 October 2007. Over 150 alumni, staff members and students joined a two-hour hike and planted tree seedlings in, weeded and irrigated a selected area on Grassy Hill. Last year, 2,772 tree seedlings were planted on the site. In the long run, the target is to plant 10,000 trees of different species, mainly native species such as the Chinese guger tree, Hong Kong hawthorn, Hong Kong gordonia, thick-leaved oak, bunch-like reevesia and common melastoma over a five-year span. With the careful planning of the EMO Landscaping Section, the weeds within five to ten metres of the cultivated area were removed to create a fire break, and fire-resistant trees were also planted in the periphery to create a green fire break.

為社區植樹

除了綠化校園外，中大也是第一所參加漁農自然護理署舉辦的企業植林計劃的本地大學，按照計劃利用三年時間種植樹苗，兩年時間管理和維護。在草山和大埔潛的植林範圍將共達兩公頃。栽種樹木有助防止泥土侵蝕、保持空氣清新、減輕全球暖化問題，並為遠足人士提供優美的環境。此外，樹木還可為雀鳥和其他動物提供食物和棲息地。

中大社區植林計劃在二零零七年十月二十七日展開，逾一百五十名校友、教職員和學生一起遠足兩小時，在草山一處選定地點植樹、除草和灌溉。去年在該地點共種植2,772株樹苗，長遠目標是在五年內種植一萬棵不同品種的樹木，主要是原生品種，例如木荷、車輪梅、大頭茶、厚葉櫟、梭羅樹和野牡丹。在物業管理處園景美化組悉心策劃下，我們除去種植區旁五至十米範圍內的野草，形成隔火路，而植樹區邊緣則種植耐火品種的樹木，形成綠色隔火路。

PLANNING A SUSTAINABLE CAMPUS 策劃可持續發展校園

The preliminary conceptual designs of CMP on display in the exhibition. 校園發展計劃的初步設計概念在展覽中展出。



The campus population of CUHK will surge to 30,000 with the resumption of the four-year undergraduate curriculum by 2021. The Steering Committee on Campus Master Planning was set up in 2006 to draw up a long-term master plan for campus development up to 2021. Invitations for expression of interest were sent out to firms of environmental consultants, planners and architects with extensive experience in campus development in October 2006. After a careful selection exercise, the University invited four professional consultants to submit preliminary proposals on conceptual designs of the Campus

Master Plan (CMP). Three presentation sessions on the consultants' preliminary proposals, a Q&A session, and an exhibition of the consultants' future campus models were held. The Committee will assess the proposals according to the views gathered from public consultation as well as to such criteria as innovativeness, practicality, sustainability, environmental and heritage conservation, consideration for pedestrian and vehicular traffic, and landscape and building design. The CMP engagement process will take place in a few years' time.

大學恢復本科四年制課程後，到二零二一年，中大師生人數將急升至三萬人。我們在二零零六年成立校園發展計劃督導委員會，為直至二零二一年校園的發展進行長遠總體規劃。二零零六年十月邀請多家經驗豐富的环境顧問、規劃師和建築師機構表達興趣，經審慎甄選後，邀請四家專業顧問公司提交關於校園發展計劃概念設計的初步建議書。校方安排了三場簡介會，介紹顧問提交的初步建議書；又安排答問會，並展出顧問心目中的未來校園模型。委員會將根據公眾諮詢所得的意見，並按多項準則審核建議書；這些準則包括創意、實用程度、可持續發展程度、對環境和傳統的保護、對行人和汽車交通的考慮、園景美化和建築設計等。校園發展計劃交流活動將於數年內推展。



● Eco-glass blocks
● 環保地磚

Retaining Greenness

To meet the increasing demand for sports facilities in 2012, it was originally planned that six additional tennis courts would be built adjacent to the Sir Philip Haddon-Cave Sports Field. However, a tree survey indicated that the proposed construction would affect as many as 100 trees, which was not in line with the University's tree preservation policy. To protect the trees, the University decided that the number of tennis courts would be reduced from six to three, and the number of trees affected has subsequently been reduced by 90% to 11, which will be transplanted to adjacent locations. The decision reflects the University's strong commitment to retaining greenery during campus development.

保留綠化地帶

為配合二零一二年對運動設施的需求，中大原計劃在夏鼎基運動場旁加建六個網球場。但經過樹木調查後，發覺加建計劃會影響多達一百棵樹木，有違中大的樹木保育政策。為保護樹木，校方決定把新建網球場的數目由六個減為三個，受影響的樹木因此減少九成，只有十一棵樹須移植至鄰近位置。此決定反映中大發展校園時致力保留綠化地帶的精神。

Green Purchasing

Since 2005, paper purchases of the University have been based on joint university tenders under the University Grants Committee. The choice of paper must comply with, and be certified to meet, earth-friendly requirements, such as paper of the recycled category or sourced from sustainable forests.

Some 1,700 m² of the University's roads have been repaved with eco-glass blocks. When repairs on underground utilities are needed, the blocks can be easily removed and repaved and the noise nuisance during road construction will be greatly reduced. The EMO has also been producing a new generation of eco-glass blocks from glass, fly ash and recycled aggregate with a construction materials company.

環保採購

自二零零五年起，中大已透過大學教育資助委員會的協助，與其他大學共同招標採購紙張。所選紙張必須證明為符合環保要求，例如是再造紙，或來自可持續發展的樹林。

校園內的道路，約一千七百平方米已重新鋪上環保地磚。在有需要維修地下設施時，這些磚塊可輕易地移去和重鋪，大大減低修路時的噪音。此外，物業管理處正與一家建築材料公司生產新一代的環保地磚，以玻璃沙、粉煤炭和循環物料製成。

EDUCATION 教育



The University offers a wide range of courses to educate undergraduate and postgraduate students on environmental awareness. Forums and seminars featuring expert speakers from all over the world are also organized to shed light on topics related to the environment. In addition, the University also organizes a wide range of activities to enhance environmental awareness within the community. The Environmental Protection Week was launched in October 2007, with the theme 'Building a Sustainable Campus'. The aim was to encourage the staff and students to adopt a green lifestyle. Mr. Yau Tang-wah Edward, Secretary for the Environment, and Prof. Lawrence J. Lau, Vice-Chancellor of the University, officiated at the opening ceremony, during which they presented awards to buildings that had made outstanding achievements in energy saving. Other activities included a green campus exhibition, a film show and discussion, and tree planting.



Mr. Yau Tang-wah Edward (middle) and Prof. Lawrence J. Lau (right) at the Opening Ceremony. 邱騰華先生(中)和劉遵義教授(右)攝於揭幕禮。



中大提供多樣化的課程，向本科生和研究生灌輸環保知識；又舉辦論壇和研討會，邀請世界各地的專家討論環保議題。此外，中大還舉辦多種不同活動，提高師生的環保意識。二零零七年十月舉行環保周活動，以「共建可持續發展校園」為主題，目的是鼓勵全校師生奉行環保生活方式。揭幕禮由環境局局長邱騰華先生和中大校長劉遵義教授主持，其間二人向節能成績優異的樓宇頒發獎項。環保周的活動，還包括綠色校園展覽、電影欣賞與討論、植樹等。

Mr. Yau takes a ride on the Intelligent Hybrid Electric Vehicle before the officiating guests visit Adam Schall Residence to conduct a symbolic ceremony to turn the power on for the solar water heater system on its rooftop. 邱先生試坐混合動力智能汽車，其後主禮嘉賓參觀湯若望宿舍，為宿舍天台太陽能熱水器系統主持啟動儀式。

●● Recycling on College campus
●● 書院內的廢物回收安排



每所書院也為學生舉辦配合活動，例如書院環保周、生態遊、有機耕種和節能比賽等。

「綠色天地」是中大的學生組織，有十五年歷史，宗旨是在校園內推廣環保意識，並討論社會上的環保議題。歷年舉辦多項活動，如「少飯」運動、「月餅盒回收計劃」，以及宿舍退宿物品回收計劃。



●● Tree planting activity
●● 植樹活動

In support, each College also organized activities such as College Environmental Week, ecotour, organic farming and energy saving competition for their students.

The Green World, which has a history of 15 years, is a student group of the CUHK. Its mission is to promote environmental protection awareness on campus and also to address environment-related issues in society. Over the years, it has held the 'Less Rice' Campaign, a 'Mooncake Container Recovery Programme', and an end-of-residence recycling scheme in hostels.



●● No Plastic Bag Day
●● 無膠袋日



●● Snorkeling at Port Shelter in Sai Kung
●● 西貢牛尾海浮潛活動



●● Windmill tour on Lamma Island
●● 遊覽南丫島風力發電站



●● Joint-University Dolphin Watch & Tai O Tour
●● 大專聯校觀海豚及大澳遊活動

COMMUNICATION 溝通

Throughout 2007, the University continued to engage its stakeholders - staff members, students, alumni, environmental groups, professional groups, regulators, contractors and suppliers - through meetings, site visits, workshops, consultations, community education, conferences and seminars. We also took an active part in community and public services in support of the sustainable development of Hong Kong.

The Council for Sustainable Development of the Hong Kong SAR had issued an Invitation and Response document, 'Clean Air - Clear Choices', in June 2007 to mark the launch of its Engagement Process on Better Air Quality (BAQ) which invited community views on ways to improve air quality. By inviting staff and students to actively discuss and comment on three key areas of concern, namely,



Dr. Edgar Cheng (middle), GBS, JP, Vice-Chairman and Ir. Otto Poon (left), BBS of the Council for Sustainable Development, HKSAR, present the Invitation and Response document "Clean Air - Clear Choices" at the press conference.

香港特區可持續發展委員會副主席鄭雄健博士(中)及委員潘樂陶先生(左)在記者會上發表誠邀回應文件「未來空氣，今日靠你」。

二零零七年，中大繼續透過會議、實地視察、工作坊、諮詢活動、社區教育和研討會，加強與教職員、學生、校友、環保團體、專業組織、監管機構、承建商和供應商溝通。我們也積極參加社區和公共服務，支持香港的可持續發展。

香港特區可持續發展委員會在二零零七年六月發表題為「未來空氣，今日靠你」的文件，開展「更佳空氣質素」社會參與過程，誠邀市民回應，提供改善空氣質素的建議。中大各行政辦公室、學院、書院和學生環保組織紛紛協助在校園內推動更佳空氣質素活動，邀請教職員和學生積極討論和發表意見，討論內容環繞三個關注重點，即空氣污染嚴重日子應採取的行動、節約能源或需求方管理，以及道路收費機制。在崇基利黃瑤壁樓地下大堂舉行的更佳空氣質素展覽和九月份的中六學生開放日期間，還進行即場調查。二零零七年八月至十月間，在書院集會和課堂上、學生宿舍、教職員宿舍、飯堂、文化廣場和百萬大道共派發約一萬五千張傳單。中大師生填妥的問卷約二千份，收回後已送交可持續發展委員會參考。

TARGETS 目標



- Surveys will be conducted to study the wildlife on campus.
- 大學將會調查校園內的野生動植物。

Long Term

Building a Sustainable Campus

CUHK will appoint a consultant to draft the Campus Master Plan (CMP) in building an ideal, sustainable campus. The extensive consultation process may comprise meetings, workshops and a forum, and teachers and students will be involved at different stages.

Corporate Afforestation Scheme

CUHK targets to plant 10,000 trees of different species on Grassy Hill and the site will be managed in a five-year plan.

長遠目標

共建可持續發展校園

中大將委聘顧問草擬校園發展計劃，建構理想的可持續發展校園。在構思計劃的過程中，將進行廣泛諮詢，例如舉行會議、工作坊和論壇，並在不同階段邀請師生參與諮詢過程。

企業植林計劃

中大計劃於草山種植一萬株不同品種的樹苗，以五年時間管理該地點。

Short Term

Habitat Mapping

The Campus Landscaping Enhancement Committee will launch a tree survey to study and map out the trees on campus.

Promoting a Walking Culture

The Committee on Health Promotion and Protection will organise another Walking Campaign to encourage a walking culture within the campus.

Conducting Surveys on Birds, Butterflies and Dragonflies

The University Steering Committee on Environment plans to conduct surveys to study the birds, butterflies and dragonflies within the campus.

短期目標

繪製樹木地圖

校園景觀美化委員會將進行樹木調查，以研究校園內的樹木，繪製成地圖。

推廣步行文化

大學健康促進及防護委員會將再舉辦「樂步行」活動，鼓勵師生在校園內步行。

調查雀鳥、蝴蝶和蜻蜓

大學環境事務督導委員會計劃進行調查，研究校園內的雀鳥、蝴蝶和蜻蜓。



FEEDBACK 回應

This Sustainability Report represents the University's commitment to building a green campus and outlines the University's plans to seek continual improvement. We have incorporated the basic elements of the Global Reporting Initiative (GRI) G3 Guidelines into this report. To help us improve our performance, please let us have your comments and suggestions. You are most welcome to contact us via our hotline, email or web site.

本可持續發展報告顯示中大致力建設綠色校園的承擔，並概述中大持續改善環境的計劃。在報告中，我們採納了「全球報告倡議組織：G3指南」的基本元素。為使本校的環保工作更臻完善，請不吝惠賜意見和建議。歡迎透過熱線、電郵或網頁聯絡我們。

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