

# SUSTAINABILITY REPORT 2010

## 二零一零年可持續發展報告



香港中文大學

The Chinese University of Hong Kong

## MESSAGE FROM THE VICE- CHANCELLOR 校長的話



*Prof Joseph J Y Sung, Vice-Chancellor and President  
The Chinese University of Hong Kong  
香港中文大學校長沈祖堯教授*

I received with great pleasure and a keen sense of appreciation from the Chairman of the Committee on Campus Environment the University's Sustainability Report 2010. The Committee is our principal mechanism for the coordination of all matters pertaining to environmental protection and sustainable development on campus.

Through scientific and meticulous monitoring and measurement regimes, the University has been able to keep its energy consumption and waste disposal under careful watch and stern control, while no efforts have been spared in advancing the green education for the campus population. Such efforts are well complemented by the appropriate activities in all academic, administrative and service departments, culminating in statistics of which the University can be justifiably proud, and in the various awards for environmental protection excellence that we have received in territory-wide competitions.

My sincere congratulations go to the Chairman and members of the Committee, as well as colleagues and students who have contributed to environmental activities and the furtherance of such causes. With the number of students on the rise, I look forward to more ongoing successes in the years to come.

頃接「校園環境委員會」主席提交的《二零一零年可持續發展報告》，我在此衷心致謝。香港中文大學校園內的環境保護和可持續發展事務，得「校園環境委員會」協調推動，成績有目共睹。

透過科學化而精細的監察和測量制度，中大已能有效控制能源消耗和廢物棄置。在校園推廣環保教育方面，在學系、行政、服務各部門努力配合之下，我們交出足以自豪的統計數字，亦在全港環保比賽中屢屢奪獎。

「校園環境委員會」的主席、各位委員以及參與環境事務的同事、同學，在過去一年的工作上貢獻良多。隨著入讀學生日增，委員會工作亦會更趨繁重，我在此祝願大家在豐盛的環保成果上，能繼續邁進。

## PREFACE 序言



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

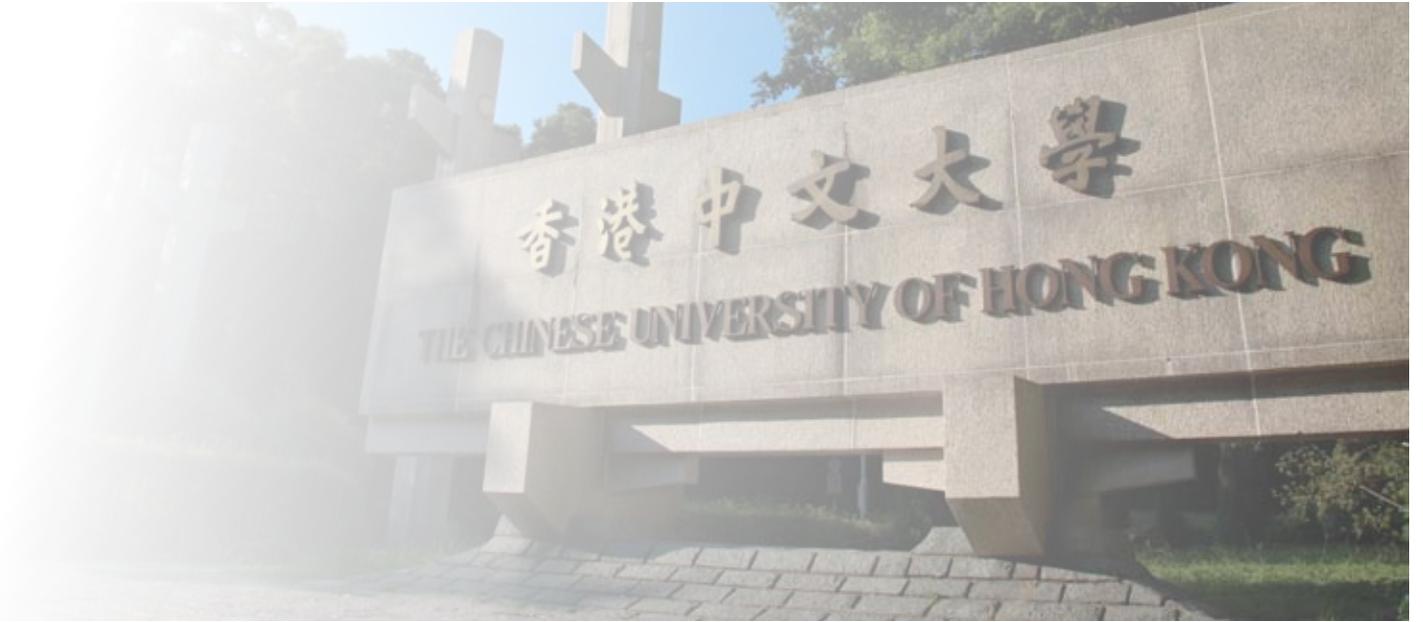
We are confronted with various challenges to our campus environment as we migrate to a four-year curriculum with the establishment of five new colleges. The last twelve months saw the peak of development and construction projects on campus, but thanks to the various relevant policies in place to protect our campus surroundings, conserve energy and manage wastes, we have stayed on track and minimized the damages. The policies, together with our core principles and values, have been guiding us in planning our university and the new colleges, in such areas as architectural design, energy outfits and landscaping layout. By doing bits and pieces in waste sorting and recycling, responsible procurement, energy saving, eco-driving, water saving and campus greening, we have helped in achieving environmental excellence and complied with university initiatives on environmental sustainability management.

Our objectives to sustainable development are by no means difficult to accomplish, but they do need concerted efforts from various stakeholders who may have different interests and choices. While policies may be top-down, more importantly, in planning and implementation, we need bottom-up participation. We have over a hundred environmental sustainability ambassadors to take lead, but we need the joint efforts of every single member of staff, student and alumnus to engage in action, no matter how small, to create an eco-friendly campus and to realize a green university of which we are all proud.

中大邁向四年制的發展進程中，需要建立五所新書院，校園環境因而備受各種挑戰。過去一年，校園大興土木，幸而我們各項保護環境、減低耗能、處理廢物的政策一向全面，使整體工作未受影響，校園環境的破壞亦得以減至最低。這些政策，加上中大的核心原則與價值觀，指導大學發展，協調興建新書院時的建築設計、能源配套、園林佈局。憑著在小處著力，如廢物分類與循環再用、環保採購、節省能源、環保駕駛，節約用水、綠化校園，我們不但符合校方在環境管理的要求，更在環境工作上取得優異成果。

可持續發展需要各方為環保共同努力才能達標。環保措施可自上而下，但參與和實行須自下而上。我們有逾百環保大使帶領這方面的努力，但仍需要每一位職員、學生、校友一起參與，不論出力多少，務求創造環保校園，讓中大成為我們引以為榮的綠色大學。

SUSTAINABILITY  
REPORT 2010  
二零一零可持續  
發展報告



In addressing emergent needs from the reversion to a four-year university curriculum, The Chinese University of Hong Kong (CUHK) has witnessed rapid development in its infrastructure in the recent few years. Such development unavoidably alters the physical landscape and environment of our campus. The increasing number of students and staff as a result of the curriculum reform also poses greater challenges to the University in the areas of resource consumption and environmental impact. This Sustainability Report, therefore, not only tracks the University's performance in the calendar year of 2010 and covers those significant impacts arising from infrastructure development and campus activities, but also addresses projected key impacts and commitments for 2011 so as to facilitate better management across our operations.

This report will focus on the University's progress towards environmental sustainability. Data from offices and activities outside campus, staff quarters, student hostels and canteens have been excluded from the report's statistical consideration as these parties possess individual meters and pay for their own consumption, and are beyond the manageability of the University.

To reduce paper consumption, this report is only published in electronic version on the University's website.

為配合大學回復四年制課程的需要，香港中文大學（中大）近年來迅速發展基礎建設，無可避免地改變了校園的景觀和環境。課程改革導致師生人數增加，在資源耗用、環境影響方面，均帶來較大考驗。因此，這份可持續發展報告不僅記錄中大在二零一零年的環境表現，涵蓋基建發展和校園活動的重大影響，而且列出二零一一年的計劃和預期的主要影響，以便更好地管理校園的運作。

本報告的重點在於環境上的可持續發展，報告內容也不會包括大學本部以外的辦事處和活動的數據，以及教職員宿舍、學生宿舍和飯堂的數據，因為這些地點均非大學管理，且資源用量都獨立計算，直接由職員和營運商支付。

為減少耗用紙張，本報告只以電子形式在中大網站出版。

# UNIVERSITY PROFILE 大學概覽

The University, which has a history of almost fifty years, is located along Tolo Harbour in Shatin, one of the first new towns developed in Hong Kong. The main campus consists of over 150 buildings on an area of 137.3 hectares, of which about 60% is covered by greenery, making the University the largest and greenest campus among all tertiary institutions in Hong Kong. More colleges and buildings are under construction to meet the increasing needs for space and facilities for the extra 3,000 undergraduates to be enrolled under the four-year curriculum. By 2012, together with the four existing colleges, there will be a total of nine colleges on campus.

At present, the University has eight faculties, viz., Arts, Business Administration, Education, Engineering, Law, Medicine, Science and Social Science. There are more than 6,500 academic and non-academic staff members, and the total number of postgraduate and undergraduate enrollment stands at over 23,500. In 2010, 7,601 first degrees and higher degrees were awarded, and the cumulative number of alumni was 134,533.

**Table 1. Total number of full-time equivalent (FTE) students and total number of full-time staff in CUHK as at 31 December 2010**

表1. 中大相當於全日制學生總數及全職教職員總數（截至二零一零年十二月三十一日）

	Number 人數	Percentage of Campus Population 佔校內人口比率
Total number of FTE students (including UGC-funded and self-financed) 相當於全日制學生總數（包括大學教育資助委員會資助的學生及自費學生）	20,036.4	75.1%
Total number of full-time staff 全職教職員總數	6,632	24.9%

\*As the students of School of Continuing and Professional Studies attended classes in the town centres, they were excluded from the above data set.

\*由於專業進修學院的學生在市區上課，以上數字不包括持續專業進修學院的學生數目。

中大有近五十年歷史，位於香港最早期新市鎮沙田的吐露港畔。本部有一百五十多座大樓，佔地137.3公頃，約六成有草木覆蓋，使中大成為全港校園面積最大、綠化範圍最廣的專上學院。推行四年制課程後，中大將多招收三千名本科生。為應付空間和設施上的額外需求，中大正加建書院和大樓。到二零一二年，連同現有的四所書院，中大校園內將共有九所書院。

中大現有八個學院，分別為文學院、工商管理學院、教育學院、工程學院、法律學院、醫學院、理學院和社會科學院，教職員六千五百多名，本科生和研究生總數維持在二萬三千五百人以上。二零一零年共頒授7,601個學士及更高學位，校友數目累計134,533名。

## GOVERNANCE STRUCTURE 管治架構



*The Committee on Campus Environment meets*  
校園環境委員會的常規會議

The University clearly delineates the environmental responsibilities and the governance is executed through its committees with the assistance of administrative offices.

The Committee on Campus Environment (CCE), under the Administrative Affairs Committee (AAC), is tasked to promote awareness among staff and students in environmental protection and campus ecology, to recommend for consideration by the AAC strategies and policies related to environmental protection, to investigate complaints on environmental matters and recommend actions where appropriate, and to undertake any other duties/functions in relation to environmental matters as assigned by the Vice-Chancellor.

The Campus Planning Committee (CPC) oversees the development plan on campus. It has two subcommittees - the Campus Landscaping Enhancement Committee (CLEC), which focuses on landscaping and greening issues, and the Committee on Campus Sustainability (CCS), which replaced the Steering Committee on Campus Master Planning (SCCMP) and is in charge of the follow-up of a series of action plans formulated in accordance with the SCCMP's recommendations and adopted by the University for campus development for the years leading up to 2021.

中大清楚界定環保責任，相關的管治工作由多個委員會執行，並由各行政部門輔助。

校園環境委員會，隸屬行政事務委員會，主要職責是促進學生和教職員的環保和校園生態意識，向行政事務委員會建議環保策略及政策，調查有關環境的投訴並建議恰當的跟進行動，以及執行校長指示的環保工作。

校園計劃委員會負責監督校園發展計劃，其下再有兩個附屬委員會，即校園景觀美化委員會，專責環境美化和綠化事宜，和取代校園發展計劃督導委員會的校園可持續發展委員會，負責跟進按校園發展計劃督導委員會的建議而制訂、並獲校方採納的多項行動計劃，處理直至二零二一年的校園發展。

## PERFORMANCE INDICATORS 表現指標



Induction street light  
感應街燈



Automatic smart thermostat  
智能自動恆溫器



LED lighting in the EMO building  
物業管理大樓的發光二極照明設施

### Energy Consumption

Electricity constitutes about 99% of energy consumption on campus, excluding transportation. According to the electricity bills issued by the power company, the University's electricity consumption reached 85,000 MWh per annum in 2010, and a growing trend is projected with the increase in campus population and floor area in the coming few years.

To conserve energy, the University has adopted various technologies and infrastructural changes, such as lighting retrofit, water-cooled chiller plants, motion sensors and solar shield window films in the past few years. Advanced measures such as LED lighting, induction street lights and automatic smart thermostats are being installed by the Estates Management Office (EMO) to further reduce electricity consumption, and the projects are expected to reach completion in 2011.

### 能源消耗

撇除交通運輸的燃料不計，電力佔校園內所耗能源約99%。根據電力公司發出的賬單，中大二零一零年的每年耗電量達八萬五千兆瓦小時。隨着未來數年校園人口和樓面面積增加，預計耗電量將持續增長。

為節約能源，中大近年採用了多種技術，以及在基礎設施上加以改動，例如更換光管，採用水冷式空調系統、人流感應器、太陽隔熱膜等。為進一步減少耗電量，物業管理處正裝設更先進的設備，例如發光二極體照明系統、感應街燈和智能自動恆溫器等，各項工程預計在二零一一年完成。



*A staff member of University Safety & Environment Office (USEO) measures the illumination level for administrative offices*

大學安全及環境事務處職員量度行政辦事處的照明度



*Thermometers are distributed as a reminder to keep the indoor air temperature to 25.5°C*

派發溫度計，提醒職員把室溫維持在攝氏二十五點五度

The major electricity users are identified and their performances monitored on a monthly basis. Various departments and offices take a proactive role in energy management, such as in switching off idle electrical appliances, lowering the illumination level of offices where possible, and maintaining the room temperature of all air-conditioned premises at 25.5°C during the summer months. Staff members are also encouraged to dress down in summer to reduce the use of air conditioning in offices.

校方已識別主要的電力使用者，每月監察耗電表現。各部門及辦事處均積極管理能源，例如關掉閒置的電器、盡可能降低辦公室照明度，以及在夏季期間把空調地點的室溫維持在攝氏二十五點五度。校方也鼓勵職員在夏季輕裝上陣，以減少使用空調。

## Greener Energy

With renewable energy having substantially less adverse environmental impacts than electricity generation and the combustion of fossil fuels, the University is keen on developing the necessary facilities to harness this green energy. Renewable energy facilities on campus including solar hot water systems in student hostels, solar bus stops, hydraulic ram pumps, wind turbines and solar street lightings are installed as public use or for amenity purpose. The latest breakthrough is the EMO's efforts to install a solar system to support office lighting and LED lighting. In 2010, the use of renewable energy accounted for 1,100,000 kWh in terms of electricity.

### 更環保的綠色能源

可再生能源對環境的負面影響，遠低於發電和燃燒化石燃料，因此中大積極建設所需設施，善用綠色能源。校園內的可再生能源設施，包括學生宿舍的太陽能熱水器、太陽能巴士站、水錘泵、風力發電機和太陽能街燈，供應公眾或文娛設施所需。最新的突破是，物業管理處正裝設太陽能系統，供應辦公室照明及發光二極體照明所需。二零一零年，可再生電能的使用量為一百一十萬千瓦小時。



Solar Garden on the roof of Lady Shaw Building  
邵逸夫人樓天台的太陽能花園

In 2010, each full-time equivalent (FTE) student consumed about 4,298.4 kWh of electricity per annum. This marked a rebound in the electricity consumption per FTE student following a decreasing trend in the past three years. To study the energy consumption patterns of the administrative offices, sustainability ambassadors from academic departments or administrative offices were trained to conduct an internal audit. It is anticipated that this will aid the formulating of effective measures to help conserve energy at workplaces.

二零一零年，每名相當於全日制學生每年使用約4,298.4千瓦小時電力，在以往三年耗電量下調後，首次呈現回升。為研究各行政部門耗用能源的模式，校方為各學術部門或行政辦事處的持續發展環保大使提供培訓，以從事內部審核。預期這做法有助制訂有效措施，在辦公室內節約能源。

Table 2. Energy consumption in terms of FTE student and per capita

表2. 按每名相當於全日制學生及每人計算能源消耗量

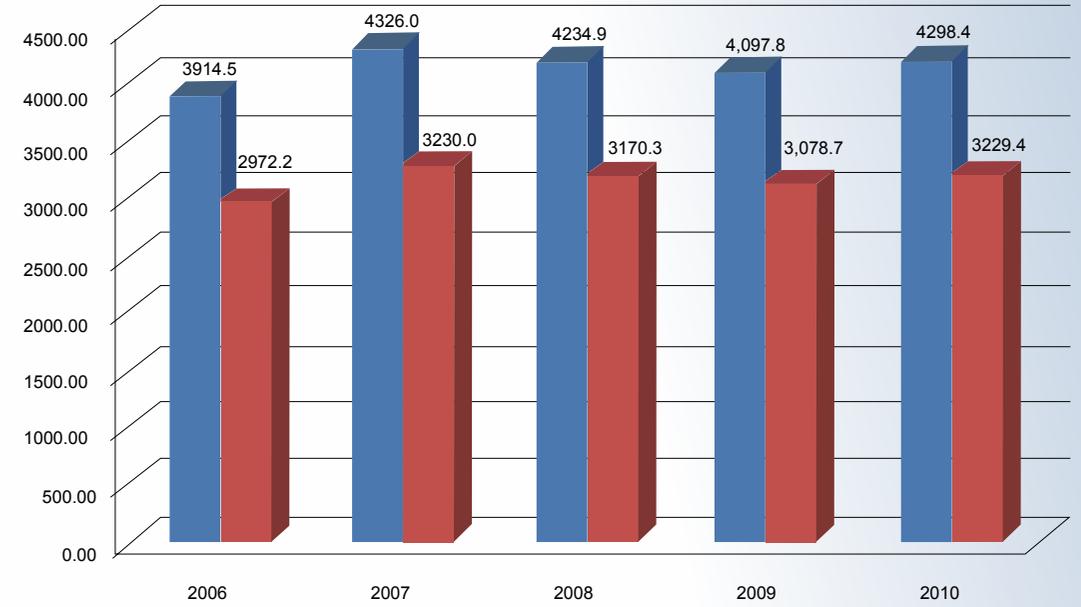
No. 編號	Indicator (Unit)指標 (單位)	Definition / Remark 定義 / 備註	Results 結果
EN1	Electricity consumption per FTE student (kWh / FTE student) 每名相當於全日制學生電力使用量 (千瓦小時/相當於全日制學生)	Total electricity consumption / Number of FTE students 電力總耗量/相當於全日制學生數目	4,298.4kWh / FTE student 4,298.4千瓦小時/相當於全日制學生
EN1	Electricity consumption per capita (kWh / total number of FTE students & full-time staff) 每人電力使用量 (千瓦小時/相當於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/相當於全日制學生及全職教職員數目	3,229.4 kWh / capita 3,229.4千瓦小時/人



Solar system that supports the office lighting and LED lighting of EMO Building  
 為物業管理處大樓辦公室照明及發光二極體照明供電的太陽能系統

Figure 1: Electricity consumption for the period 2006–2010

圖1：二零零六至二零一零年的電力消耗



Electricity consumption per FTE student (kWh/FTE student)

每名相當於全日制學生電力使用量 ( 千瓦小時/相當於全日制學生 )

Electricity consumption per capita(kWh/total number of FTE students & full-time staff)

每人電力使用量 ( 千瓦小時/相當於全日制學生及全職教職員總數 )

## Transportation

The University has a fleet of 122 vehicles including trucks, buses, vans, cars and scooters. They consume non-renewable fossil fuels and generate emissions. It is imperative to ensure that the emissions are kept at a minimum through proper vehicle maintenance, efficient use of transport, and the introduction of hybrid or electric vehicles for use on campus. Currently, all pre-Euro diesel vehicles have been phased out and new vehicles purchased to meet Euro III and Euro IV emission standards. Vehicles are checked regularly to ensure that they are in good condition to enhance fuel efficiency. All staff members are advised to carpool for duty visits to control fuel consumption and reduce pollution. Travel by public transport is also encouraged as a countermeasure to the rising Air Pollution Index.

## 交通運輸

中大有百二十二部車輛，包括貨車、巴士、客貨車、汽車和摩托車，耗用不可再生的化石燃料，並排放廢氣。校方務須藉着妥善維修車輛、有效率地使用交通運輸工具，以及在校園內引入混合動力車或電動車輛，把廢氣排放量降至最低。目前，所有歐盟前柴油車均已逐步更換，並已購置新車，以符合歐盟三期和歐盟四期的排放標準。車輛均定期檢查，確保狀態良好，加強能源效益。校方鼓勵職員因公外出時共用車輛，以控制燃料耗用量，減少污染。空氣污染指數上升之際，校方亦鼓勵職員使用公共交通工具。



*Mileage and fuel consumption are recorded in each university vehicle*

中大每輛車均記錄行車里數和燃料耗用量



*A free-ride campaign - "Hitchoffer" - was launched at United College, inviting college members to offer students and staff members free rides to mutually acceptable locations within the campus*

聯合書院推行「順風計劃」義載活動，鼓勵書院成員在校內駕駛時，順道接載同學及同事到校園內雙方同意的地點

Over 60 buses and minibuses currently provide the core transportation services for staff and students within the campus. Apart from that, contractors are hired to provide extra services at peak hours. To enhance transport efficiency, the Transport Unit monitors the operation of buses and reduces the running of half-loaded buses, while the Campus Transport Consultative Group for Student Services provides suggestions for the scheduling arrangements of bus services. In 2010, the coach mileage per FTE student was 48.8 km. The continuous downward trend since 2008 showed that the promotion of campus walking and rearrangement of bus routes have successfully reduced the usage of coach services. However, the diesel consumption per FTE student was 22.2 litres, which is higher than in 2009. The Transport Unit will continue its studies on fuel efficiency and the monitoring of the performance of contractors' vehicles.

校園現有六十多輛巴士和小巴，為師生提供基本交通服務。除此以外，繁忙時間亦由承判商提供額外服務。為加強運載效率，交通組監察巴士的運作，減少載客不足的情況，而校園學生交通服務諮詢小組亦就巴士班次編排提供建議。二零一零年，按每名相當於全日制學生計算的巴士行車里數為48.8公里。自二零零八年起，這數字有持續下降的趨勢，可見在校園內推廣步行，以及重新編排巴士路線的工作，能有效減少使用巴士服務。然而，按每名相當於全日制學生計算的柴油消耗量是22.2公升，比二零零九年高。交通組將繼續研究燃料效益，並監察承判商車輛的表現。



**Table 3. Coach mileage and diesel consumption in terms of FTE student and per capita**  
**表3. 按每名相當於全日制學生及每人計算的巴士行車里數及柴油消耗量**

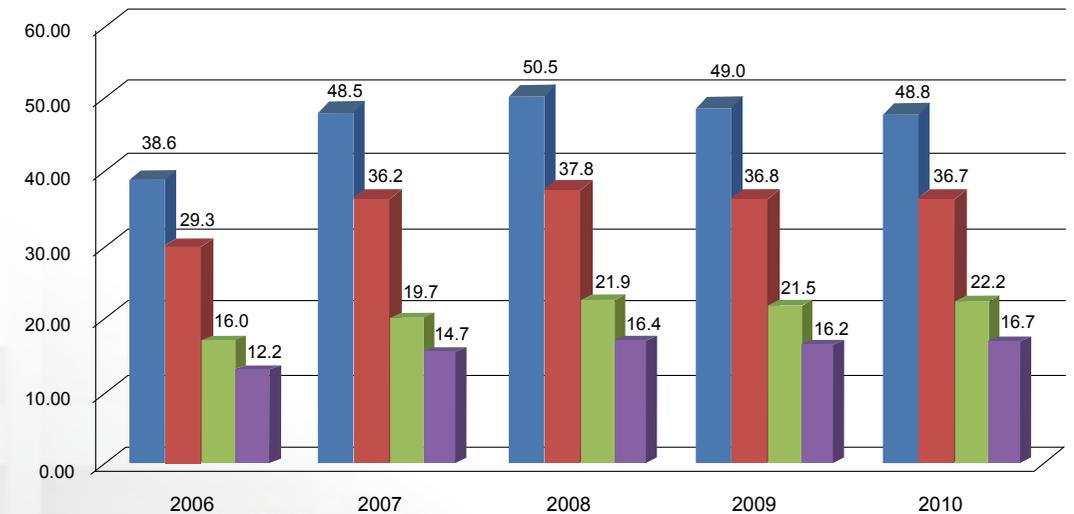
No. 編號	Indicator (Unit) 指標 (單位)	Definition / Remark 定義 / 備註	Results 結果
TP1	Mileage per FTE student (km / FTE student) 每名相當於全日制學生行車里數 (公里/相當於全日制學生)	Total mileage / Number of FTE students 總行車里數/相當於全日制學生數目	48.8 km / FTE student 48.8公里/相當於全日制學生
TP2	Mileage per capita (km / total number of FTE student & full-time staff) 每人行車里數 (公里/相當於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/相當於全日制學生及全職教職員數目	36.7 km / capita 36.7公里/人
TP3	Diesel consumption by coach per FTE student (litres / FTE student) 每名相當於全日制學生巴士柴油使用量 (公升/相當於全日制學生)	Total diesel consumption / Number of FTE students 柴油總耗量/相當於全日制學生數目	22.2 L / FTE student 22.2公升/相當於全日制學生
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/相當於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/相當於全日制學生及全職教職員數目	16.7 L / capita 16.7公升/人

\*"Coach" includes buses, minibuses and vans operated by the University and the contractor(s) that provide transport services for staff and students on campus.

\*「巴士」包括由中大和承判商營運，在校園內為師生提供交通服務的巴士、小巴和客貨車。

**Figure 2: Diesel consumption and mileage for the period 2006–2010**

**圖2：二零零六至二零一零年的柴油消耗量和行車里數**



- Mileage per FTE student(km/FTE student)  
每名相當於全日制學生行車里數 (公里/相當於全日制學生)
- Mileage per capita (km/total number of FTE student & full-time staff)  
每人行車里數 (公里/相當於全日制學生及全職教職員總數)
- Diesel consumption by coach per FTE student(litres/FTE student)  
每名相當於全日制學生巴士柴油使用量 (公升/相當於全日制學生)
- 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/相當於全日制學生及全職教職員總數)

## Healthy Transport

Walking is the greenest form of transport. Our Campus Master Plan (CMP) proposes developing a pedestrian-friendly campus to reduce transport demand and pollution. Footpaths and new buildings with vertical connections are built to enable fast and easy pedestrian movement up and down the hills. In addition, walking campaigns have been organized since 2007 to promote the culture of getting around the campus on foot. On 22 January 2010, one such campaign was organized in which over 1,000 staff members and students walked from the MTR University Station to Cheng Ming Building, New Asia College. The participants, about 70% of whom were students, came away with an enhanced awareness of environmental protection and living a healthy lifestyle. In support of the World Carfree Day, a "CUHK Carfree Day 2010" was organised on 22nd September 2010. Students and staff were encouraged to use public transport instead of private vehicles outside campus, and to walk instead of riding shuttle buses on campus. A walk was organized beginning at the University Station and ending at John Fulton Centre on Central Campus.

### 健康交通工具

步行是最環保的交通運輸模式。中大的校園發展計劃建議建設有利步行的校園，以減少對交通運輸的需求，例如修築行人徑，並在新大樓設置升降機，方便行人快捷輕易地上下山。此外，自二零零七年起還舉辦「樂步行」活動，推廣樂步健行的文化。二零一零年一月二十二日的「樂步行」，共有一千多名教職員及學生參加，由港鐵大學站步行至新亞書院誠明館。參加者當中約有七成是學生，活動完畢後，大家對保護環境和健康生活方式均有了更深刻認識。為響應「世界無車日」，二零一零年九月二十二日舉行了「中大無車日二零一零」，鼓勵師生在校園外使用公共交通工具，不用私家車，並在校園內步行，不坐穿梭巴士；另安排步行活動，由大學站步行至中央校園的富爾敦樓。



A walking campaign on CUHK Carfree Day  
「中大無車日」的步行活動



*Cycling track along Campus Circuit*  
校園環迴路旁的單車徑

Cycling is also a green way of transport on campus. Many students park their bicycles at the railway station to facilitate cycling to the nearby hostels and teaching venues. In 2010, a cycling track was being built along Campus Circuit between the MTR University Station and Area 39, a flat site where research facilities will be located. It is a starting point of a larger network of cycling trails, which may become a more feasible option once this green and healthy way of transportation gains popularity.

在校園內騎單車，也是環保的交通運輸模式，許多學生把單車泊在火車站旁，方便騎車到附近的宿舍和課室。二零一零年，港鐵大學站至即將興建研究設施的第三十九區之間的校園環迴路，沿途修築了單車徑；日後單車徑網絡將會擴大。騎單車這種環保而又健康的交通運輸模式日漸流行後，利用單車徑來往校園各處，可能成為較佳選擇。



## Wastes 廢物



A recycling bin is located on each building floor for source separation of domestic waste  
每個樓層設置回收箱，在廢物源頭將家居廢物分類



A new collection point to collect used banners  
新設收集點，收集用過的橫額



### Municipal Solid Wastes

Hong Kong faces a challenge in waste management as the three mega landfills in town are projected to reach their maximum capacity very soon. As a responsible corporate citizen, the University has implemented various waste reduction measures. We have installed recycling bins for paper, plastic, aluminum cans and printer cartridges at strategic points since the early 1990s; today, this has been extended to each floor of all buildings in support of the Programme on Source Separation of Domestic Waste organized by the Hong Kong Environmental Protection Department (EPD). Other recyclable items such as metal, CDs, rechargeable batteries and fluorescent tubes are collected regularly, whereas obsolete computers and electrical appliances are donated through charity organizations to people in need. With the aid of information technology, the University is moving towards a paperless office environment by introducing computerized documentation systems and encouraging communication within the workplace as well as with our stakeholders via electronic means.

### 都市固體廢物

香港三個大型堆填區即將飽和，為廢物管理工作帶來考驗。中大是盡責的企業公民，推行了多項減廢措施。自上世紀九十年代初起，中大已開始在校園有利位置設立回收箱，回收紙張、塑膠、鋁罐和影印機碳粉盒；時至今日，各大樓每個樓層均設置回收箱，響應環境保護署的廢物源頭分類計劃。其他可循環再造的物品，例如金屬、光碟、充電池、光管等，均定期回收；廢棄電腦和電器則透過慈善機構分贈有需要的人士。藉着資訊科技的協助，中大正邁向無紙辦公室的目標，設置電腦化檔案管理系統，並鼓勵職員以電子方式與同事或持份者溝通。

To study the waste collection pattern as well as views of the staff and students about waste management, Green World, the green student organization in CUHK, conducted a questionnaire in mid-2010 and reported the results to the CCE for discussion. The EMO has accepted some of its recommendations in improving the waste facilities on campus.

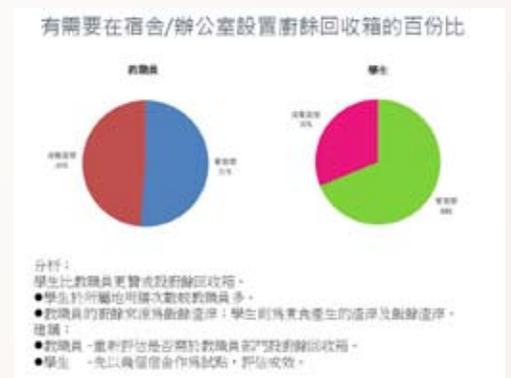
In 2010, the amount of municipal solid waste generated by each FTE student further decreased by 25% to 50.0 kg, and the overall recycling rate went up by 26.9%. The data are encouraging when compared with those of the past four years. The tremendous improvement is probably the result of the increased source separation of wastes and the strategic relocation of recycling bins.

為研究收集廢料的模式，瞭解師生對廢物管理的看法，中大的環保學生組織綠色天地在二零一零年中進行問卷調查，並把結果提交校園環境委員會討論。物業管理處已接納該組織的部分建議，改進校園內的廢物處理設施。

二零一零年，每名相當於全日制學生產生的都市固體廢物進一步減少25%至50.0公斤，而都市固體廢物的整體回收率增加26.9%。兩項數據均較過往四年有所進步，令人鼓舞。表現大有進步，大概是增加廢物源頭分類，以及重新編排回收箱的擺放位置所致。



Questionnaire designed by Green World  
綠色天地設計問卷



Views of staff and students for setting up food waste collection bins in offices/hostels  
教職員及學生對在宿舍/辦公室設立廚餘收集箱的意見

Table 4. Wastes collected during the period 2006–2010

表4. 二零零六至二零一零年回收的廢物

Items 種類	2006	2007	2008	2009	2010
Waste paper (kg) 廢紙 (公斤)	321,662	326,131	259,418	271,450	345,106
Plastics (kg) 塑膠 (公斤)	830	1,140	4,869	6,655	11,510
Aluminum cans (kg) 鋁罐 (公斤)	1,175	709	593	501	1,348
Metals (other than aluminum) (kg) 金屬 (鋁罐除外) (公斤)	---	---	544	1,840	5,310
Printer cartridges (unit) 影印機碳粉盒 (個)	567	568	743	878	655
Used clothing (kg) 舊衣物 (公斤)	894	4,165	4,629	3,576	3,390
Compost (kg) 堆肥 (公斤)	---	104	160	240	420
Recycling rate (%) 回收率 (%)	---	18.0%	11.0%	17.7%	26.9%

## Hazardous Wastes

The University has more than 500 laboratories to undertake a wide range of scientific and medical researches under funding from the University Grants Committee (UGC). Chemical wastes as well as biological wastes must be disposed of on a daily basis. Apart from that, spent lube oil and old lead acid batteries generated by workshops and garages are also disposed of from time to time. The University has compiled a guideline regulating the disposal of these hazardous wastes.

Radioactive substances are also used in our laboratories. For old radioactive sources, they are sealed and returned to the manufacturers for reuse. If the radioactive sources cannot be returned, short-lived radioisotopes will be sent to the radioactive waste store to decay for 10 half-lives whereas long half-life radioisotopes will be shipped to the EPD's radioactive waste storage facility at Siu A Chau. All disposals are recorded and comply with the disposal limits in the radiation licenses issued by the Hong Kong Radiation Board.

In 2010, 2.1 kg of chemical wastes, 1.2 kg of biological wastes and 0.0035 kg of radioactive wastes were generated by each FTE student. Both chemical wastes and biological wastes indicate an increasing trend in the past three years.

## 有害廢物

中大有五百多個實驗室，在大學教育資助委員會資助下，從事多項科學和醫學研究；實驗室的化學廢物和生物廢物，必須每天棄置。除此之外，工場和車房用過的潤滑油和鉛酸蓄電池，亦須不時棄置。中大已制訂有關棄置這些有害廢物的指引。

中大的實驗室也有使用放射性物料。用過的放射源均予封存，交還製造商，以便重用放射性物質。不能送還製造商的放射源，壽命較短的，會送往放射性廢料庫貯存至十個半衰期；而半衰期較長的放射源，則會送往小鴉洲，在環保署轄下的放射性廢料庫貯存。所有放射性物質的棄置安排均有紀錄，並符合由香港輻射管理局所發出的放射性物質許可證內註明的棄置限額。

二零一零年，每名相當於全日制學生產生2.1公斤化學廢物、1.2公斤生物廢物及0.0035公斤放射性廢料。過去三年，化學廢物及生物廢物均有增加趨勢。



*Chemical wastes are stored in the dangerous goods store and collected by the licensed collector*

化學廢物貯存於危險品貯存庫，由持牌收集商收集



*Old lead acid batteries are collected by the licensed collector*

持牌收集商收集用過的鉛酸蓄電池

## Construction & Demolition (C&D) Waste

In each development project, we require our contractor to avoid and minimize the generation of construction waste by recovery, reuse and recycling of the materials. Valuable materials such as metals are sold, inert materials such as rocks and concrete are reused by other construction sites or disposed of at public fills for land reclamation purposes, while non-inert C&D waste are disposed of at landfills as the last resort.

In March 2010, the University relocated the guard booths at the main entrance and reorganized the car park at John Fulton Centre to increase the number of parking spaces from 69 to 96. The soil removed was reused for the construction of a garden in a local secondary school, and the concrete debris cleared from the site was recycled as materials for the production of pavement blocks.

### 建築廢料

中大要求每項發展工程的承建商以物料回收、物料再用、循環再造等方法，避免和減少產生建築廢料。有價值的物料如金屬等，均予變賣；石塊、混凝土等惰性物質，均由其他地盤再用，或棄置在公眾填土設施，供填海造地之用；非惰性建築廢料，則只可在堆填區棄置。

二零一零年三月，中大搬遷了主入口的警衛亭，並重組富爾敦樓的停車處，把泊車位由六十九個增至九十六個。移除的泥土，供區內一所中學興建花園之用，而清理出來的混凝土廢料，則循環再造，成為製作行人路地磚的材料。

In 2010, 314.5 kg of construction waste per FTE student were generated. In comparison with 2009, the construction waste increased by about 35%, a record to date. The huge amount of construction waste is an inevitable result of the commencement of ten building projects responding to the needs of the new 3-3-4 curriculum.

二零一零年，每名相當於全日制學生產生314.5公斤建築廢料。與二零零九年相較，建築廢料增加約35%，創歷史新高。為配合全新三三四學制的需要，有十項興建工程展開；產生大量建築廢料，實在無可避免。



Waste sorting ground on construction site  
在地盤內把廢料分類



Car park rebuilt at John Fulton Centre  
重組富爾敦樓停車處

**Table 5. Volume of various wastes in terms of FTE student and per capita**

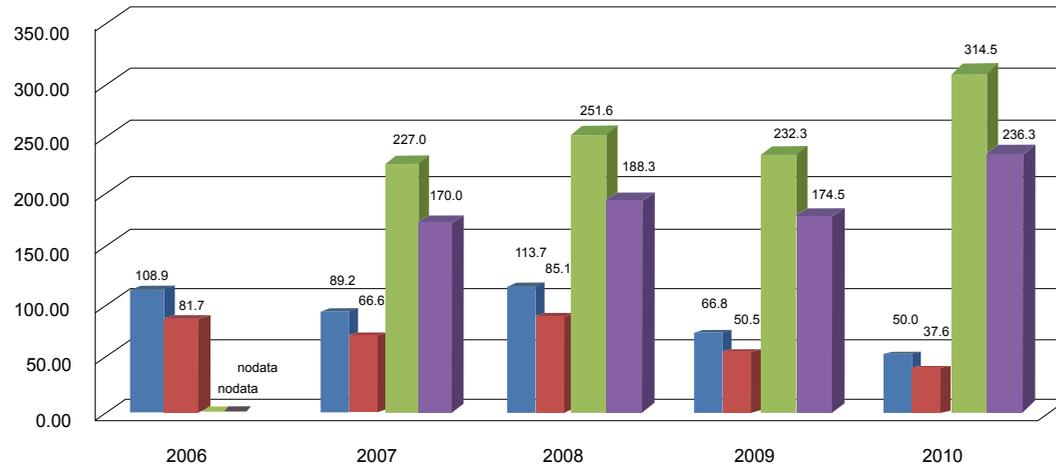
表5. 按每名相當於全日制學生及每人計算的廢物量

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) 每名相當於全日制學生都市固體廢物量 (公斤/相當於全日制學生)	Total municipal solid waste / Number of FTE students 都市固體廢物總量/相當於全日制學生數目	50.0 kg / FTE student 50.0公斤/相當於全日制學生
WM2	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/相當於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/相當於全日制學生及全職教職員數目	37.6 kg / capita 37.6公斤/人
WM3	Chemical waste per FTE student (kg / FTE student) 每名相當於全日制學生化學廢物量 (公斤/相當於全日制學生)	Total chemical waste / Number of FTE students 化學廢物總量/相當於全日制學生數目	2.1 kg / FTE student 2.1公斤/相當於全日制學生
WM4	Chemical waste per capita (kg / total number of FTE students & full-time staff) 每人化學廢物量 (公斤/相當於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/相當於全日制學生及全職教職員數目	1.6 kg / capita 1.6公斤/人
WM5	Biological wastes per full-time equivalent (kg / FTE) 名相當於全日制學生生物廢物量 (公斤/相當於全日制學生)	Total biological wastes / Number of full-time equivalent 生物廢物總量/相當於全日制學生數目	1.2 kg / FTE student 1.2公斤/相當於全日制學生
WM6	Biological wastes per capita (kg / total number of FTE & full-time staff) 每人生物廢物量 (公斤/相當於全日制學生及全職教職員總數)	Total biological wastes / Number of full-time equivalent & number of full-time staff 生物廢物總量/相當於全日制學生及全職教職員數目	0.9 kg /capita 0.9公斤/人
WM7	Radioactive wastes per full-time equivalent (kg / FTE) 每名相當於全日制學生放射性廢物量 (公斤/相當於全日制學生)	Total radioactive wastes / Number of full-time equivalent 放射性廢物總量/相當於全日制學生數目	0.0035 kg / FTE student 0.0035公斤/相當於全日制學生
WM8	Radioactive wastes per capita (kg / total number of FTE & full-time staff) 每人放射性廢物量 (公斤/相當於全日制學生及全職教職員總數)	Total radioactive wastes / Number of full-time equivalent & number of full-time staff 放射性廢物總量/相當於全日制學生及全職教職員數目	0.0026 kg /capita 0.0026公斤/人
WM9	Construction and demolition waste per FTE student (kg / FTE student) 每名相當於全日制學生建築廢料量 (公斤/相當於全日制學生)	Total construction and demolition waste / Number of FTE students 建築廢料總量/相當於全日制學生數目	314.5 kg / FTE student 314.5公斤/相當於全日制學生
WM10	Construction and demolition waste per capita (kg / total number of FTE students & full-time staff) 每人建築廢料量 (公斤/相當於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/相當於全日制學生及全職教職員數目	236.3 kg / capita 236.3公斤/人

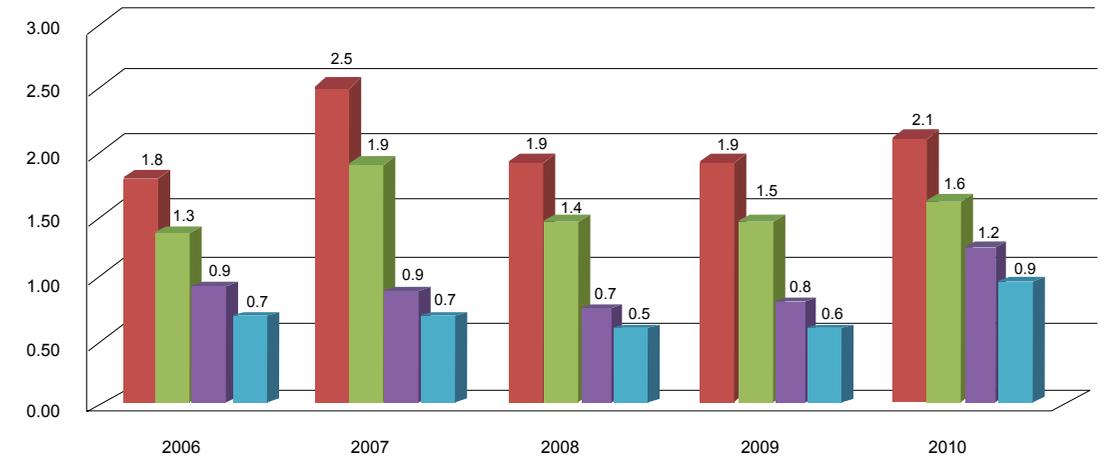


**Figure 3a & 3b: Waste generation during the period 2006–2010**

圖3a+3b：二零零六至二零一零年的廢料量



- Municipal solid waste per FTE student(kg/FTE student)  
每名相當於全日制學生都市固體廢物量（公斤/相當於全日制學生）
- 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/相當於全日制學生及全職教職員總數）
- Construction and demolition waste per FTE student (kg/FTE student)  
每名相當於全日制學生建築廢料量（公斤/相當於全日制學生）
- Construction and demolition waste per capita (kg/total number of FTE students & full-time staff)  
每人建築廢料量（公斤/相當於全日制學生及全職教職員總數）



- Chemical waste per FTE student (kg/FTE student)  
每名相當於全日制學生化學廢物量（公斤/相當於全日制學生）
- Chemical waste per capita (kg/total number of FTE students & full-time staff)  
每人化學廢物量（公斤/相當於全日制學生及全職教職員總數）
- Biological wastes per full time equivalent (kg/FTE)  
每名相當於全日制學生生物廢物量（公斤/相當於全日制學生）
- Biological wastes per capita(kg/total number of FTE & full-time staff)  
每人生物廢物量（公斤/相當於全日制學生及全職教職員總數）

## Water

The University reduces water wastage by conducting regular checks of the plumbing fixtures and underground water pumps to prevent bursting. Any leakage or dripping is fixed as soon as possible. Besides, water saving devices such as infrared sensors for urinal flushing, automatic cut-off taps and faucet aerators are installed in washrooms.

The slopes and drainages are designed to collect rainwater. Last year, about 409,207 m<sup>3</sup> of water were collected from Weiyuan Lake and Kau To Shan for the purposes of irrigation, flushing and cooling. Every year, when the swimming season ends, chlorine dosing for sterilization in the swimming pool is stopped. Under such circumstances, the residual chlorine normally degrades, and the pool water eventually turns green from algae growth. This is an indication that the concentration of chlorine has fallen to safe levels and no longer poses any harm to plants or aquatic life, and the pool water is then considered fit for irrigation. The EMO would use this 1,600 m<sup>3</sup> of water to irrigate parts of the Herbal Garden and as cooling water for air conditioning plants. This green measure conserves water resources and reduces energy consumption.

As a result of the above effective measures, each FTE student consumed 43.7 m<sup>3</sup> of potable water in 2010, which represents a 1% decrease as compared to 2009.

## 水

中大定期檢查輸水喉管和地下水泵，防止水管爆裂，從而減少浪費食水；如有滲漏或滴水，即盡快修復。此外，也在洗手間安裝節水裝置，如紅外線感應沖廁系統、會自動關上的水龍頭、水龍頭曝氣器等。

斜坡和排水系統的設計，均有助收集雨水。去年在禾圓湖和九肚山收集得約409,207立方米水源，作灌溉、沖廁和冷卻之用。每年泳季結束時，校方停止以氯為泳池消毒，泳池內殘留的氯逐漸降解，開始有水藻生長，池水最終變成綠色。這顯示氯含量已降低至安全水平，不會傷害植物或水生動物，池水可用作灌溉。物業管理處會用這一千六百立方米水灌溉藥園內的部分植物，並作為空調設施的冷卻用水。這項環保措施有助節約用水，減少耗用能源。

由於上述措施行之有效，二零一零年每名相當於全日制學生的耗水量為43.7立方米，比二零零九年下降約1%。



*Faucet aerator installed in a washroom*  
洗手間內的水龍頭曝氣器



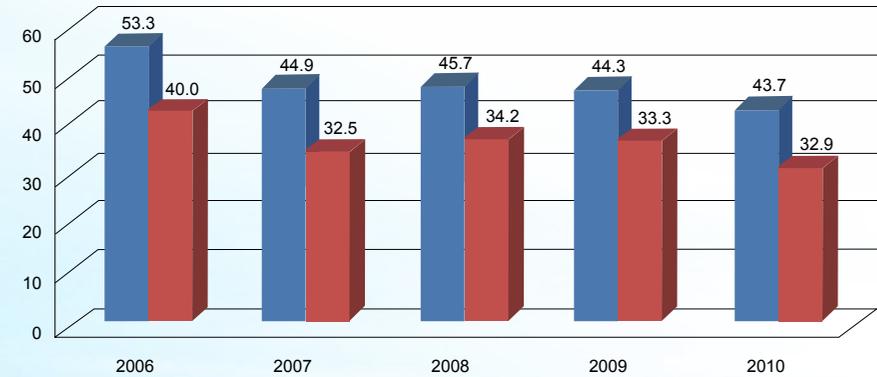
*Water from the swimming pool is used for irrigation in winter months after the residual chlorine decays*  
冬令時節，泳池內殘留的氯降解後，池水即用作灌溉

**Table 6. Water consumption in terms of FTE student and per capita**  
**表6. 按每名相當於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) 每名相當於全日制學生耗水量 (立方米 / 相當於全日制學生)	Total water consumption / Number of FTE students 總耗水量 / 相當於全日制學生數目	43.7 $m^3$ / FTE student 43.7立方米 / 相當於全日制學生
WA2	Water consumption per capita ( $m^3$ / total number of FTE students & full-time staff) 每人耗水量 (立方米 / 相當於全日制學生及全職教職員總數)	Total water consumption / Number of FTE students & number of full-time staff 總耗水量 / 相當於全日制學生及全職教職員數目	32.9 $m^3$ / capita 32.9立方米 / 人

**Figure 4: Water consumption during the period 2006–2010**

**圖4：二零零六至二零一零年的耗水量**



■ Water consumption per FTE student ( $m^3$  / FTE)  
 每名相當於全日制學生耗水量 (立方米 / 相當於全日制學生)

■ Water consumption per capita ( $m^3$  / total number of FTE students & full-time staff)  
 每人耗水量 (立方米 / 相當於全日制學生及全職教職員總數)

## Greenhouse Gas (GHG) Emission

The University has signed the Charter of Carbon Reduction promulgated by the HKSAR Government in August 2008. As a signee of the charter, we are committed to carrying out carbon auditing and reducing greenhouse gas emissions in daily campus activities. A group of Sustainability Ambassadors has been trained to calculate carbon dioxide emissions in terms of energy, fuels, paper, water consumption and other indirect emissions. In 2009, the first carbon inventory accounting procedures as well as our first carbon audit were completed. The audit was carried out in line with the government's "Guidelines to Account for and Report on Greenhouse Gas Emissions and Removal for Buildings in Hong Kong" and "The Greenhouse Gas Protocol" jointly issued by the World Business Council for Sustainable Development and the World Resource Institute.

Compared with 2009, the GHG emission per FTE student in 2010 was 2.4 tonnes which increased by about 8%. The trend was due to the increase of total gross floor area by 7% because of the opening of Cheng Yu Tung Building.

In a collaborative effort to combat global warming, the Hong Kong Sustainable Campus Consortium was formed in 2010 among the local universities. A declaration pledging greater commitment to addressing the challenges of climate change and sustainable development was endorsed in a ceremony by the heads of eight local universities.

## 溫室氣體排放

二零零八年八月，中大簽署了香港特區政府頒布的減碳約章。作為約章的簽署機構，中大致力進行碳審計，並在校園內的日常活動中減少排放溫室氣體。中大培訓了一眾環保大使，計算耗用能源、燃料、紙張和水資源的二氧化碳排放量，以及其他間接排放量。二零零九年首次完成碳排放計算程序，並完成首份碳審計報告。碳審計按照政府的《香港建築物的溫室氣體排放及減除的審計和報告指引》，以及由世界可持續發展工商理事會和世界資源研究院共同發出的「溫室氣體議定書」擬備。

二零一零年每名相當於全日制學生的溫室氣體排放量為2.4公噸，較二零零九年上升約8%。排放量增加，原因在於鄭裕彤樓啟用，總樓面面積增加了7%。

為合作應對全球暖化，本地各大學於二零一零年成立了「香港可持續校園聯盟」。在八所本地大學校長出席的典禮上，聯盟簽署了宣言，承諾致力面對氣候轉變和可持續發展所帶來的考驗。

A3.1.2 General Expenditure - 總開支		A3.1.2 一般開支		A3.1.2 一般開支		A3.1.2 一般開支		A3.1.2 一般開支	
Expenditure Description - 開支描述	Process (No.) - 程序 (編號)	Quantity (kg) - 數量 (公斤)	Unit Cost (HK\$) - 單位成本 (港幣)	Total Amount of GHG Emission (kg CO <sub>2</sub> e) - 總量 (kg CO <sub>2</sub> e)	Monthly Average GHG Emission (kg CO <sub>2</sub> e) - 每月平均排放量 (kg CO <sub>2</sub> e)	GHG Emission per FTE Student (kg CO <sub>2</sub> e) - 每位學生排放量 (kg CO <sub>2</sub> e)	GHG Emission per FTE Staff (kg CO <sub>2</sub> e) - 每位員工排放量 (kg CO <sub>2</sub> e)	GHG Emission per FTE Student (kg CO <sub>2</sub> e) - 每位學生排放量 (kg CO <sub>2</sub> e)	GHG Emission per FTE Staff (kg CO <sub>2</sub> e) - 每位員工排放量 (kg CO <sub>2</sub> e)
Academics 學術		48,800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Administration 行政		48,800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Business 商業		48,800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Medical 醫療		48,800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Non-teaching staff 非教學人員		48,800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Project 工程		48,800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Research 研究		48,800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Student 學生		48,800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Support 支援		48,800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Teaching 教學		48,800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
University 大學		48,800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other 其他		48,800	0.000	0.000	0.000	0.000	0.000	0.000	0.000

A carbon audit checklist to report the carbon footprint of each department  
碳審計清單，用以報告每個部門的碳足印



The Heads of Universities Committee (HUCOM) endorses the Hong Kong Declaration  
大學校長會簽署香港宣言

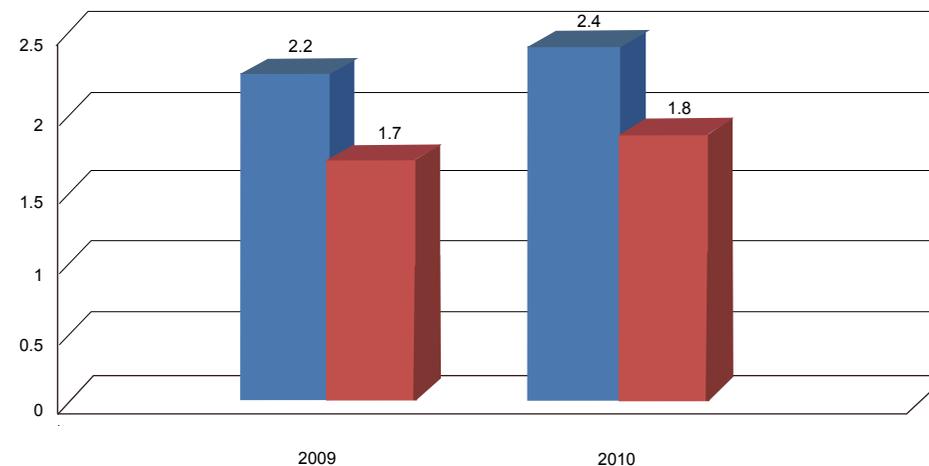
**Table 7. GHG emission in terms of FTE student and per capita**

表7. 按每名相當於全日制學生及每人計算的溫室氣體排放量

No. 編號	Indicator (Unit) 指標 (單位)	Definition / Remark 定義 / 備註	Results 結果
GHG1	GHG emission per FTE student (tonnes / FTE) 每名相當於全日制學生溫室氣體排放量 (公噸/相當於全日制學生)	Total GHG emission / Number of FTE students 溫室氣體排放總量/相當於全日制學生數目	2.4 tonnes of CO2 equivalent / FTE student 2.4公噸二氧化碳當量/相當於全日制學生
GHG2	GHG emission per capita (tonnes / total number of FTE students & full-time staff) 每人溫室氣體排放量 (公噸/相當於全日制學生及全職教職員總數)	Total GHG emission / Number of FTE students & number of full-time staff 溫室氣體排放總量/相當於全日制學生及全職教職員數目	1.8 tonnes of CO2 equivalent / capita 1.8公噸二氧化碳當量/人

**Figure 5: GHG emission during the period 2009–2010**

圖5：二零零九至二零一零年的溫室氣體排放量



■ GHG emission per FTE student (tonnes / FTE)

每名相當於全日制學生溫室氣體排放量 (公噸/相當於全日制學生)

■ GHG emission per capita (tonnes / total number of FTE students & full-time staff)

每人溫室氣體排放量 (公噸/相當於全日制學生及全職教職員總數)

## COMPLIANCE AND MONITORING 遵守法規與監察

The University strictly monitors air emissions, effluent discharge, waste management and environmental noise to ensure full compliance with environmental regulatory requirements.

中大密切監察氣體排放、污水排放、廢物處理和噪音情況，確保完全符合環保法規的要求。

### Environmental Protection Measures on Construction Sites

As mentioned, the construction of academic buildings and facilities has greatly increased on campus in response to the emergent needs of the 3-3-4 curriculum. The Campus Development Office (CDO) and the University Safety & Environment Office (USEO) are tasked with supervising the contractors and assessing their environmental performance. Apart from implementing basic mitigation measures such as dust suppression, wastewater treatment and noise control, contractors are required to follow the standard of the Hong Kong Building Environmental Assessment Method (BEAM) in recycling waste materials and conducting monitoring on site.

Since the implementation of a charging scheme for the disposal of construction wastes, fly tipping has become a widespread problem in Hong Kong. To prevent irresponsible dumping of C&D wastes by our contractors, all project works are required to maintain tracking according to the “Trip Ticket System” laid down by the Environment Bureau.



Carwash at the site entrance washes the vehicles' wheels to prevent dirt carried to roadside  
地盤入口的洗車機沖洗車輛輪胎，以免把地盤泥污帶到路面

### 地盤上的環保措施

上文提到為應付三三四學制的需求，校園到處大興土木，增建教學大樓和設施。校園發展處和大學安全及環境事務處負責監督承建商，評定他們的環境表現。除了採取基本的緩解措施，例如抑制塵埃、處理廢水和控制噪音外，承建商還須符合香港建築環境評審法的要求，循環再用廢料，並在地盤實地監察。

自從實施建築廢物處置收費計劃後，在香港隨處棄置建築廢料的問題相當普遍。為防止承建商不負責任地棄置建築廢料，校方要求所有工程按環境局制訂的「運載記錄制度」保存紀錄。



*Grease trap in canteen kitchen*  
飯堂廚房的隔油器



*Muddy water flowing from a construction site along Tai Po Road to Chung Chi campus*  
大埔公路一個地盤的含泥污水流向崇基學院

## Water Quality Control

To protect the surrounding water bodies in the University, our wastewater is discharged to sewers and finally conveyed to the Sha Tin Sewage Works for treatment. An underground storage tank is erected at the Science Centre to dilute and neutralize chemical-containing wastewater before discharge, and grease traps are set up at canteens to confine and collect used cooking oil.

A comprehensive water monitoring plan is implemented to monitor the quality of not only stream water but also drinking water, swimming pool water and cooling water on campus to ensure compliance with public health standards. As the Chung Chi Stream and Weiyuan Lake originate from Chek Lai Ping and the storm drains along Tai Po Road, their water quality is directly affected by the upper stream. During the rainy season of 2010, water pollution occurred due to the muddy runoff from a construction site on Tai Po Road. The case was reported to the EPD for inspection and followup.

## 控制水質

為保護中大校園內外的天然水體，校園污水均排放至污水管，最終輸送至沙田污水處理廠。科學館設有地下貯水箱，稀釋及中和含有化學物質的廢水，然後才排放。飯堂安裝隔油器，阻隔並收集用過的食油。

中大實施全面的水質監察計劃，不僅監察溪水的水質，也監察校園內的食水、泳池和冷卻用水的水質，確保符合公共衛生標準。小橋流水和未圓湖源自赤泥坪和大埔公路的雨水渠，因此水質很受上游水質影響。二零一零年雨季，大埔公路一個地盤流出含泥污水，導致水質污染。事件已報告環保署，由該署調查及跟進。



*The security guard at the main entrance regulates the traffic flow to the campus  
主入口的警衛控制進入校園的交通流量*



*The Ringelmann chart is used to monitor the exhaust of on-site machines  
利用力高文圖表監察機器排出的廢氣*

## Air Quality Control

To monitor ambient air quality, the USEO regularly measures the dust levels at Chung Chi College and Circuit Road as well as all construction sites. Also, to monitor indoor air quality (IAQ), the USEO has hired an external consultant who conducts IAQ monitoring for selected buildings based on the twelve parameters required by the EPD. Generally speaking, IAQ can be improved in several ways: using dehumidifiers to maintain comfortable indoor conditions and to suppress microbial proliferation by lowering humidity; avoiding formaldehyde-containing office fixtures and fittings; increasing fresh air supply and ventilation; and sealing off abandoned vents to prevent seepage of unpleasant odours.

Hundreds of cars enter the CUHK campus from the outside every day for various reasons such as delivery and visits. The security guards at the entrance keep a record of the vehicles and regulate the traffic flow to the campus if necessary. Staff of the Security Unit and the USEO also conduct regular patrol on campus and issue warnings to vehicles emitting black exhaust.

## 監管空氣質素

為監察空氣質素，大學安全及環境事務處定期量度崇基學院和環迴路以及所有建築地盤的塵埃水平。此外，為監察室內空氣質素，大學安全及環境事務處聘請了外聘顧問，按環保署指定的十二個參數監測選定大樓的室內空氣質素。一般而言，改善室內空氣質素的方法有多種：以抽濕機保持舒適的室內環境，並藉降低濕度抑制微生物滋長；避免採用含有甲醛的辦公室家具及裝修；增加新鮮空氣供應及加強空氣流通，並密封廢棄的通風口，防止異味滲入。

每天進入中大校園的車輛不下數百輛，目的各有不同，包括送貨、探訪等。入口的警衛記錄來訪車輛，有需要時亦控制進入校園的交通流量。保安組和大學安全及環境事務處的職員也定期在校園內巡邏，向排放黑煙的車輛發出警告。

## GREEN PURCHASING 環保採購

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The University gives consideration to not only monetary costs in its purchasing process but also the associated environmental impacts. In the centralized tendering procedure, the Business Office has incorporated green requirements for bulk purchase items such as computers, paper and tissue paper. With the decentralization of purchasing, all administrative units are now budget holders to making purchases. All units are encouraged and given incentives to purchase green products such as low VOC paints, energy-efficient lighting, and items that are durable, recyclable or produced with recycled content with reference to the green procurement policy of the HKSAR Government and the Green Council's green label scheme. For instance, the EMO, the biggest department on campus in terms of the number of staff, utilizes energy-saving lighting accessories, electrical appliances with an energy efficiency label, water-based paints, non-CFC / HCFC refrigerants and paving blocks made of recycled glass.



*A visit to a toilet paper manufacturing plant was arranged to evaluate its environmental performance*  
參觀衛生紙製造廠，評估其環保表現

在採購物資時，中大不僅考慮成本，還顧及對環境可能造成的影響。在中央招標過程中，商務組大量採購電腦、紙張及衛生紙等物品時，加入對環保的要求。隨着採購工作分散處理，行政單位現時各有資金購買物資。校方鼓勵各單位購買環保產品，如低揮發性有機化合物漆料、能源效益高的照明設施等，以及耐用、可循環再造、或含有再造物料成分的物品，採購時可參考香港特區政府的環保採購政策，以及香港環保促進會的環保標籤計劃。例如職員人數最多的物業管理處，就採用節能照明設施、有能源效益標籤的電器、水性漆料、非含氯氟烴製冷劑，以及以循環再造的玻璃製成的環保地磚。

Concrete and asphalt are widely used to pave roads, parking lots and pedestrian pavements in Hong Kong, but these concrete and asphalt facilities create huge heat mass, which results in heat island effect and increases ambient temperature. Besides, these impermeable surfaces prevent the soil and vegetation from absorbing rainwater. The University has purchased grass paving blocks, a new green construction material, to pave pedestrian pavements, foot paths, driveways and parking areas so that rainwater can penetrate the soil and subsoil zones, improving irrigation to trees and planting areas nearby. The grass paving blocks increase campus greenery in addition to preventing the heat island effect.

香港廣泛使用混凝土和瀝青鋪設路面、泊車處和行人路，但這些混凝土和瀝青設施產生龐大的熱質，造成熱島效應，使四周的溫度上升。此外，這些物料不透水，阻止泥土和植物吸收雨水。中大購置了環保地磚鋪設行人路、小徑、車道和泊車處，讓雨水滲進泥土和下層泥土，改善對附近樹木和種植區的灌溉。環保地磚不僅防止熱島效應，還使校園更加翠綠。



*Grass paving blocks on the EMO car park (left) and Lee Shau Kee Building (right)*  
物業管理處停車場(左)及李兆基樓(右)的環保地磚

## ENVIRONMENTAL PERFORMANCE OF BUILDINGS 環保建築

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*Sun shading panel of Cheng Yu Tung Building to prevent solar heat gain*  
鄭裕彤樓的遮陽板阻隔太陽的熱力



*Glass wall at the main entrance of Cheng Yu Tung Building to enhance daylight provision*  
鄭裕彤樓大門的玻璃牆有助增加大樓可得的日照

To build a greener future, we address sustainability in buildings by giving due consideration to energy efficiency and environmental sustainability. The University has proactively adopted requirements of the Government's Building Energy Codes and BEAM in new projects including academic, amenity and hostel buildings. Numerous green construction techniques are employed to help preserve the environment and conserve resources. In addition to making the best use of natural lighting and ventilation, we also use eco-friendly and durable materials to maximize the quality and life cycle of our buildings.

為建設更環保的未來，中大興建新大樓時，均適當考慮能源效益和環境上的可持續性。在教學樓、文娛設施和宿舍等新大樓興建工程中，中大積極遵守政府的建築物能源效益守則和建築環境評審法的要求，採用多種環保建築技術，以保育環境，節省資源。除善用天然光和注重通風外，還使用環保耐用的材料，使大樓質量更高，壽命更長。



*High efficiency light fittings and CO<sub>2</sub> sensors are installed in the lecture theatre*  
演講廳裝設高效能的照明裝置和二氧化碳感應器

Cheng Yu Tung Building at Chak Cheung Street displays features of a sustainable building. It is designed with a perforated shading panel to provide higher resistance to heat, so as to lower electricity demand and emission of greenhouse gases from air conditioning. The use of freshwater evaporative cooling towers for its air conditioning system greatly enhances the performance coefficient of the cooling system, which in turn further reduces the building's electricity demand. An environmentally friendly refrigerant is also employed in the cooling system. Carbon dioxide sensors are installed in the lecture theatre to optimize the inflow of fresh air to the building for ventilation, by reducing energy expended on cooling the fresh air supply when the theatre is not fully occupied. With regards to the lighting system, energy efficient light fittings - T5 fluorescent tubes - are adopted to fulfill building energy codes issued by the government. In addition, motion sensors installed in common areas such as corridors, lobbies, toilets and classrooms deactivate lighting when the spaces are unoccupied. Optical sensors installed at outdoor locations and communal spaces also deactivate outdoor lighting when natural illumination is deemed sufficient. Main entrance built of a high glass wall also enhances daylight provision to the building.



*Motion sensors in the lobby control the lighting*  
大堂的人流感應器可控制照明系統

澤祥街的鄭裕彤樓有着可持續建築物的多項特點。例如使用有孔的遮陽板，提高隔熱效能，減少倚賴空調，從而降低對電力的需求，減少排放溫室氣體。空調系統採用的淡水蒸發式冷卻塔，大大提高冷卻系統的表現系數，因而進一步降低大樓對電力的需求。冷卻系統也採用環保製冷劑。演講廳裝設二氧化碳感應器，使適量的新鮮空氣流進，保持空氣流通；演講廳內人數不多時，就可減少冷卻鮮風供應器所需的能源。照明系統方面，採用能源效益高的T5光管，以符合政府頒布的建築物能源效益守則。此外，走廊、大堂、洗手間和課室等公用地方裝設人流感應器，在無人時自動關燈。戶外和公共地點的光學傳感器，在天然光線充足時，也會關掉戶外照明設施。大門是高身的玻璃牆，有助增加大樓可得的日照。

# LANDSCAPE ENHANCEMENT 景觀美化

In 2010, a total of 182 trees, 8,734 shrubs, 5,303 floral plants, 8,511 ground cover and 11,220 m<sup>2</sup> of lawn were planted on campus and, at the same time, 67 trees were removed due to health problems and development. The campus maintained a 60% coverage by natural woodlands and landscaped areas such as natural slopes and roof gardens. In addition, 400 tree seedlings of native species were planted on Grassy Hill last year, and the cumulative number of seedlings planted exceeded 10,000 in the past four years. To enrich the greenery and enhance heat insulation and energy performance of buildings, we have taken effective greening initiatives such as the application of green roofs and vertical greening.

二零一零年，校園內共種植182棵樹、8,734棵灌木、5,303株花卉植物、8,511處地被植物和11,220平方米青草。但同時，67株樹木因為健康問題或受發展工程影響而移除。校園維持六成是綠化地帶，有天然樹林，也有園景美化區，例如天然山坡和天台花園等。此外，去年中大在草山種植了400株原產品種樹苗，過去四年累積種植了一萬多株樹苗。為增加綠化，加強建築物的隔熱和能源表現，校方採取了有效的環保措施，例如建設綠色天台、綠化外牆等。

Table 8. Plantation in the last five years

表8. 過去五年種植的植物

Year 年份	Trees (No.) 樹木 (棵)	Shrubs (No.) 灌木 (棵)	Flowering Herbs (No.) 花卉植物 (株)	Ground Cover (No.) 地被植物 (株)	Lawn (m2) 草地 (平方米)
2006	414	26,255	10,684	15,400	5,665
2007	106	8,344	5,275	3,285	27,508
2008	351	6,832	3,803	2,539	13,265
2009	221	10,199	3,688	12,191	5,065
2010	182	8,734	5,303	8,511	11,220



Climbers form a green curtain on the external facade of the Lee Shau Kee Building  
李兆基樓的攀爬植物



Felled trees are used as material for wood artwork  
樹木砍伐後成為製作藝術品的材料



*Tree assessment by sonic tomography*  
以聲納探測儀評估樹木



*Tree assessment by resistograph*  
以微型鑽探器評估樹木

## Ensuring Our Trees Safe and Green

Falling trees and improper pruning have become matters of public concern in the past few years. To keep our trees safe and green, daily maintenance and inspection are essential. The Landscape Section of the Estates Management Office has experienced staff to take good care of the plants by irrigation, trimming, fertilizer application, pest control, etc.. The health of trees and any internal decay are assessed on a regular basis using various methods.

## 確保樹木安全健康

近年來，公眾日漸關注砍伐樹木和不當地修剪樹枝的情況。為保持樹木安全健康，必須每天保養和檢查。物業管理處的園藝組職員經驗豐富，悉心照料校園內的植物，勤加灌溉、修剪、施肥和殺蟲。職員還定期以多種方法評估樹木的健康狀況，檢查樹心有沒有腐爛。

## Tree Renewal on Campus

Trees are planted along roads on campus to provide pedestrians with shade, produce oxygen, reduce noise, and create habitats for birds and other animals. The University's street tree population consists of about 1,800 trees of approximately 100 species, with Paper-bark Tree and Taiwan Acacia being the most common, planted forty years ago. As time goes by, these trees age and lose their tree form, and their aberrant shapes may end up threatening the safety of pedestrians. To enhance the landscape and safety, the Campus Landscaping Enhancement Committee (CLEC) has proposed to renew the aged trees.

Along the University Mall, several trees are also in their decline. A new tree species, *Tabebuia chrysantha* has been planted to replace several *Bauhinia variegata* in phases. This is an exotic and deciduous species which blooms in March and April. It presents different scenes in the four seasons: colourful flowers in springtime; beans in summer; leaves in the fall; and stark branches in winter. Five purple *Tabebuia impetiginosa* were planted in the courtyard of the Science Centre.

### 更新校園內的樹木

校園路旁種植樹木，為行人遮擋太陽，還可產生氧氣、減少噪音，並為雀鳥和其他動物提供棲息地。中大的道路一共種植了大約一千八百棵、一百個不同品種的樹木，最常見的是百千層和台灣相思，是四十年前所種。時間日久，這些樹木樹形漸變，畸變的外形可能危害途人的安全。為美化景觀，確保安全，校園景觀美化委員會建議更換老舊的樹木。

林蔭大道上的一些樹木也開始衰老。校方引入新樹種黃花風鈴木，分階段取代多株羊蹄甲。這種外來的落葉樹，在三月和四月開花，四季呈現不同的景象：春天繁花似錦，夏天豆莢纍纍，秋天滿樹葉子，冬天只剩禿枝。科學館院子裏種了五株紫色的風鈴木。



*Tabebuia chrysantha* on University Mall  
林蔭大道上的黃花風鈴木



*Colourful tree photos on exhibition during the fortnight  
綠色活動雙週期間展出色彩繽紛的樹木照片*

## Online Campus Tree Database

The Green Education Working Group, an impromptu organization formed by our staff, launched a project since 2008 to produce the first-ever 3D interactive map of trees on campus, an online campus tree database, a website about trees in the area, as well as mobile applications such as podcasts, audio clips and videos accessible on the iPad, iPhone, iPod touch and other mobile devices. The project received funding from Hang Seng Bank, and finally culminated in an exhibition, *The Science and Art of Trees of CUHK*, and the *Green Education Fortnight*, held at the foyer of Sir Run Run Shaw Hall. The exhibition, which ran from 5 to 15 October 2010, showcased the beauty of trees on CUHK's campus, and celebrated the completion of an enormous but meaningful undertaking.



*The Opening Ceremony of "The Science and Art of Trees of CUHK" Exhibition and "Green Education Fortnight" officiated by the Honourable Edward Yau (4th left), Secretary for the Environment, HKSAR; Prof Joseph JY Sung (4th right), Vice-Chancellor; Dr SY Hu (front row), Honorary Professor of Chinese Medicine; Prof T Fung (2nd left), Associate Pro-Vice-Chancellor; and Prof LM Chu (2nd right), Chairman of CCE.*

「中大樹木之科學與藝術展及綠色活動雙週」開幕禮，由香港特區政府環境局局長邱騰華先生（左四）、校長沈祖堯教授（右四）、中醫學榮譽講座教授胡秀英博士（前排）、協理副校長馮通教授（左二），以及校園環境委員會主席朱利民教授（右二）主禮。

## 網上校園樹木數據庫

中大職員即興組成的「綠色生活小組」，自二零零八年起推行一項計劃，製作首個立體互動地圖標示校園內的樹木；並設立網上校園樹木數據庫、有關區內樹木的網站，以及多種流動應用程式如播客、聲帶和短片，供平板電腦、智能手機、iPod touch多媒體播放器和其他流動通訊設備使用。計劃獲得恒生銀行資助，活動的高潮是「中大樹木之科學與藝術展」，以及在邵逸夫堂大堂舉行的「綠色活動雙週」。展覽於二零一零年十月五至十五日舉行，展現中大校園上樹木的美態，標誌一項龐大而有意義的工作圓滿結束。

# CAMPUS ECOLOGY 校園生態



*Pallas's Squirrel and Short-nosed Fruit Bat were recorded in the survey*  
調查期間錄得赤腹松鼠和短吻果蝠出沒



*On the advice of an ecologist, Chung Chi Stream was diverted to bypass the construction site of the New Chapel Building project to avoid any adverse environmental effects*  
校方遵照生態學家的建議，把小橋流水改道，繞過神學院新大樓的地盤，以免受污染

*\*Photos provided by Dr ST Tsim*  
\*照片由詹肇泰博士提供

The second phase of the ecological survey on terrestrial wildlife was conducted by a consultant in 2010. During the study period, there was indication of decline in terms of species richness and abundance of birds on campus. However, the abundance of butterflies and the species richness of dragonflies both had a tendency to increase on campus. Moreover, 19 species of terrestrial fauna were newly recorded, including 1 bird species, 13 butterfly species, and 5 dragonfly species. The increasing biodiversity found on campus suggested the existence of a diversity of habitat types. Conservation measures are taken to enhance habitat quality for wildlife in a sustainable manner.

二零一零年，顧問進行了第二階段陸上野生生物生態調查。調查期間有跡象顯示校園內雀鳥的種類多樣性和數量有所下降，而蝴蝶數量和蜻蜓的種類多樣性則有增加趨勢。此外，新記錄的陸上動物有十九種，包括一種雀鳥、十三種蝴蝶和五種蜻蜓。生物多樣性日增，顯示校園內有多種不同的生境。校方現正採取保育措施，以便持續提高野生生物的生境質素。



*A house swift and its incomplete nest in July 2010*  
二零一零年七月：家燕與未完成的鳥巢

## Home on Nest Box

Before the commencement of the Library Extension building project, the University installed 25 artificial nest boxes at the eaves of the southern façade of the University Library in March 2009. This was a measure to help the house swifts affected by the expansion works on the northern façade to relocate their nests. The 25 boxes comprised four models: two were introduced from the UK and two were designed by the EMO.

When house swifts lose their nests, they usually build new ones in the location of the original nest, or at a nearby site. The greatest difficulty in nesting on a vertical wall surface is creating a firm base. In July 2010, it was found on a regular monitoring visit that two pairs of house swifts were nesting on the southern façade of the library. One pair built the nest from scratch. The other used one of the locally-designed nest boxes as the base of their new nest. Almost two months later, the birds that built their nest from scratch had made little progress, while the pair that built their nest on the nest box had completed their new home. The nest box was made with a tree fern slab and a wooden board. This is the first case in Hong Kong where house swifts built their nest on an artificial nest box.



*A completed swift nest built on an artificial nest box in late August 2010*  
二零一零年八月：人工巢箱上的家燕巢已經完成

## 以巢箱為家

圖書館新翼工程展開前，中大於二零零九年三月在大學圖書館南面外牆上的屋簷裝設二十五個人工巢箱，方便北牆受新翼工程影響的家燕遷徙。二十五個巢箱共有四種款式，兩種來自英國，兩種則由物業管理處設計。

家燕失去鳥巢後，通常在原地或附近再築新巢。在筆直的牆上築巢，最大的困難是建立鞏固的底座。二零一零年七月，在例行監察期間，工作人員發現兩對家燕在圖書館南牆築巢，一對由零開始，另一對則以本地設計的巢箱為新巢底座。差不多兩個月後，由零開始的那對進展緩慢，而在巢箱上築巢的那對則已建成新居。巢箱以一片蕨葉和一塊木板製成。這是香港家燕在人工巢箱上築巢的首例。

# GREEN EDUCATION 環保教育

Undergraduate and postgraduate programmes on a wide range of energy, environment and broader sustainability issues are offered by almost all faculties, and include environmental science, food and nutritional science, architecture, geography and resource management, sustainable energy, mechanical and automation engineering, anthropology and public health. Research centres and laboratories have been established to conduct a number of research projects focusing on sustainability and environmental issues.

中大幾乎所有學院均開辦多項有關能源、環境和可持續發展的本科生和研究生課程，包括環境科學、食品及營養科學、建築學、地理與資源管理學、可持續能源、機械與自動化工程、人類學及公共衛生。校內設立多個研究中心和實驗室，就可持續發展及環境議題從事多個研究項目。

**Table 9. Programmes on environmental and sustainability-related issues offered by CUHK**

表9. 中大開辦的有關環境與可持續發展議題的課程

Faculty 學院	Undergraduate Programme 本科生課程	MPhil / PhD Programme 哲學碩士 / 博士課程	Taught Master Programme 修課式碩士課程
Arts 文學院	Anthropology 人類學 Cultural and Religious Studies 文化及宗教研究	Anthropology 人類學	MA in Anthropology 人類學碩士
Education 教育學院	Liberal Studies 通識課程	---	---
Engineering 工程學院	Electronic Engineering 電子工程 Mechanical and Automation Engineering 機械與自動化工程 Energy Engineering 能源工程	Mechanical and Automation Engineering 機械與自動化工程	---
Medicine 醫學院	Public Health 公共衛生	---	Master of Public Health 公共衛生碩士 MSc in Epidemiology and Biostatistics 流行病學與生物統計學理學碩士
Science 理學院	Environmental Science 環境科學 Biology 生物學 Biochemistry 生物化學 Food and Nutritional Science 食品及營養科學 Earth System Science 地球系統科學	Environmental Science 環境科學 Biology 生物學 Food and Nutritional Science 食品及營養科學	MSc in Nutrition, Food Science and Technology 食品及營養科學碩士
Social Science 社會科學院	Architecture 建築學 Geography and Resource Management 地理與資源管理學	Architecture 建築學 Geography and Resource Management 地理與資源管理學	Master of Architecture 建築學碩士 MSc in Sustainable and Environmental Design 可持續與環境設計理學碩士 MSc in Geoinformation Science 地理信息學理學碩士 MSc in Sustainable Tourism 可持續旅遊理學碩士
Inter-faculty 跨學院課程	---	Geoinformation Science 地理信息學	MSc in Earth System Science 地球系統科學理學碩士 MSc in Advanced Environmental Plan- ning Technologies 高級環境規劃技術理學碩士

General Education (GE) is instrumental in broadening students' horizons and developing their critical thinking. Currently, more than 200 GE courses are offered by over 40 departments from eight faculties. These courses, which fall into four main areas, cover a wide spectrum of topics and give students a more extensive exposure to different disciplines. Every student needs to take one course from each area. Among these four areas, Area (B) Nature, Technology and the Environment and Area (C) Society and Culture offer courses respectively related to green topics.

通識教育有助開拓學生視野，發展批判思維。目前八個學院四十多個學系共開辦二百多個通識課程，分為四個主要範疇，涵蓋內容廣闊，讓學生廣泛接觸不同學科。學生須於每一範疇選修一科。在四個範疇中，範圍B（自然、科技與環境）和範圍C（社會與文化）均有多項與環保有關的課程。

**Table 10. GE Courses in Area (B) and Area (C)**

表10. 範圍B與範圍C的通識課程

Area 範圍	Courses 課程
(B) Nature, Technology and the Environment (B) 自然、科技與環境	Earth as seen from Space 從太空觀地球
	Natural Hazards 自然災害
	Wonders and Insights in Bio-science 生物拾趣與啟示
	Forces of Nature 自然的秩序
	Exploring the Enigmatic Oceans 海洋探秘
	Resources Issues in the Age of Globalization 全球化時代的資源問題
	Human Evolution 人類進化
	Nature Conservation in Hong Kong 自然保育在香港
	Perspectives in Meteorology 氣象學概論
	Natural Wonders of the World 世界自然奇觀
	China's Mega-projects in the New Millennium 中國世紀工程
	Plants for Treasure and Pleasure 植物創富及添趣
	(C) Society and Culture (C) 社會與文化
Understanding Ecotourism 生態旅遊探索	
Foundations in Public Health 公共衛生學基礎	
Food and Hunger 糧食與飢餓	
Nature and Culture 大自然與文化	
Hong Kong and the Pearl River Delta 香港與珠江三角洲	
Experiencing Architecture 建築之體驗	
Pursuit of Ideal Living Environment 理想人居環境的追尋	
Cities in a Changing World 城市面面觀	
Issues in Environmental Education 環境教育議題	
The Japanese Environment: Destruction and Conservation 日本環境：破壞與保育	

Conferences, seminars and training by speakers from all over the world are regularly held at CUHK to exchange and deliver knowledge and ideas, and to encourage collaboration between institutes. For instance, the Institute of Space and Earth Information Science at CUHK held the Second International Conference on Global Change and the Environment in Asia and Pacific (GCEAP): Inland Waters and Coastal Environment in October 2010. The two-day conference provided a platform for scientists, industrial company managers, policymakers and satellite data providers to present the latest advances in inland waters and coastal environment monitoring, and helped strengthen the network of their national and international communities. It also fostered a greater understanding about environmental quality and the impact of global climate change on inland waters and coastal environments.

中大定期舉辦研討會、講座和培訓課程，邀請世界各地的專家主講，交流知識與意見，並鼓勵跨校合作。例如在二零一零年十月，中大太空與地球資訊科學研究所主辦第二屆全球變化暨亞洲及太平洋沿岸地區環境會議：內陸水域及沿海環境。在為期兩天的會議中，科學家、工業公司管理人員、政策制訂者和衛星數據提供者聚首一堂，介紹內陸水域與沿海環境監察的最新進展，並加強國內及國際間相關範疇學者專家的網絡聯繫；與會者對於環境質素以及全球氣候變化對內陸水域和沿海環境的影響，也有了更深入的認識。



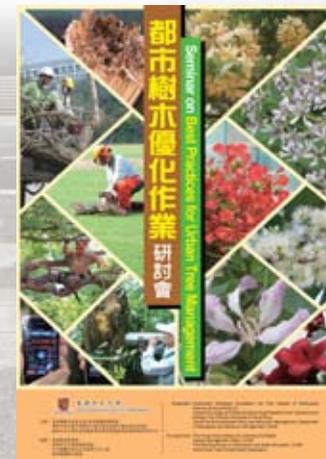
Group photo of experts and scholars on inland waters and coastal environment from all over the world  
全球各地研究內陸水域與沿海環境的專家學者合照

On the subject of global climate, the University presented the Wei Lun Public Lecture on “Rainstorms, Typhoons and Cold Surges in East Asia: Observation, Simulation and Impact of Climate Change”, given by Prof. Gabriel Lau Ngar-cheung, from the Geophysical Fluid Dynamics Laboratory (GFDL) of the US National Oceanic and Atmospheric Administration (NOAA) and the Department of Geosciences, Princeton University in January 2010.

To raise the awareness of tree protection and nourish the arborists, University and various professional parties organized a seminar on best practices for urban tree management in June 2010. Scholars, practitioners and conservationists shared their experience on tree policy, tree management and work technique.

在全球氣候方面，中大邀得劉雅章教授任偉倫訪問教授，於二零一零年一月主持公開講座，題為「東亞暴雨、颱風與寒潮：觀察、模擬和氣候變遷的影響」。劉教授任職於美國國家海洋和大氣管理局的地球物理流體動力學實驗室，同時擔任普林斯頓大學地質學系教授。

為提高保護樹木的意識，培養樹木專家，中大於二零一零年六月與其他專業機構舉辦都市樹木優化作業研討會，與學者、從業員與保育人士就樹木政策、樹木管理和工作技巧分享心得。



Seminar on Best Practices for Urban Tree Management  
都市樹木優化作業研討會



Group photo of tree experts, arborists, landscape practitioners and conservationists in the tree seminar  
參與研討會的學者、從業員與保育人士合照

## AWARENESS & OUTREACH 增強環保意識和 外展工作

41



*Training for environmental sustainability ambassadors  
培訓環保大使*



*Training for site staff and contractor's representatives  
培訓地盤職工和承建商代表*

Our training programme places great emphasis on equipping staff members to play specific and participatory roles in facilitating sustainable campus development. A tree safety course was provided to develop the professional skills of the EMO landscape workers. Workshops and activities were held for ambassadors from teaching and administrative departments to provide them with greater insight into climate change and carbon auditing. In July 2010, the EPD was invited to deliver a green talk on the topic, "Green Measures in Construction Sites", which equipped staff and contractors with useful knowledge and practical tips, and at the same time raising awareness on environmental protection and developing good practices.

中大安排各項培訓課程，著重給予職員所需知識和技能，讓他們身體力行，參與特定的工作，促進校園可持續發展。校方提供樹木安全課程，培養物業管理處園藝工作人員的專業技能；又為教學及行政部門的環保大使安排工作坊和其他活動，加深他們對氣候變化和碳審計的認識。二零一零年七月，環保署應邀主講環保講座，題為「建築地盤的環保措施」，向職工和承建商提供有用的知識和實用小貼士，同時提升環保意識，培養良好工作習慣。



Shaw College - Eco-tour to Guangxi  
逸夫書院舉辦的廣西生態遊



United College - a day trip to Hong Kong Geopark  
聯合書院舉辦的香港地質公園一日遊



"Vegetarian Week" organized by Green World to promote the idea of cutting carbon footprint through vegetarian diets  
綠色天地舉辦素食周，推廣藉素食減少碳足印

All colleges and green student societies also take active roles in organizing green activities on campus, such as the energy- and water-saving competition, recycling programmes, organic farming, tree walks and eco-tours, to enhance environmental awareness among staff and students.

各書院和綠色學生組織，也積極在校園內舉辦綠色活動，如節能及節水比賽、回收再造計劃、有機耕種、樹木導賞團、生態遊等，以提升師生的環保意識。

In recent years, we have made increased efforts to interact with the community and to raise awareness of environmental sustainability on and beyond campus. In November and December 2010, students from the Hong Kong Institute of Vocational Education (HKIVE) and the Institute of Tourism Studies Macau (IFT Macau) toured our green facilities, including the solar water heating system, green roof, and old clothes and banner recycling bins. The Green Education Working Group also organized many campus tree talks, tree walks and seminars benefitting over 1,600 CUHK staff, students and members of the public to promote the importance of protecting trees.

近年來，中大加強與社區互動，提升市民對保持校園內外環境可持續性的意識。二零一零年十一月及十二月，香港專業教育學院和澳門旅遊學院的學生參觀中大的環保設施，包括太陽能熱水系統、綠色天臺，以及舊衣物及橫額回收箱。綠色生活小組亦舉辦多項校園樹木講座、樹木導賞團和研討會，有逾一千六百名中大師生和市民參加，推廣保護樹木的重要性。



*Group of IVE students escorted by EMO staff to visit the green facilities  
香港專業教育學院學生由物業管理處職員陪同參觀各種環保設施*



*Tree walk guided by a member of the Green Education Working Group  
綠色生活小組成員帶領樹木導賞團*



The University and other local tertiary institutions formed the Hong Kong Sustainable Campus Consortium (HKSCC) in 2010 as the implementing body of the Hong Kong Declaration, which brings together academic and non-academic staff from universities across the city to respond to the challenges posed by climate change and sustainable development. In November 2010, CUHK and other universities joined hands with the policy think tank, Civic Exchange, to assist in various projects in the C40 Climate Conference held in Hong Kong.

二零一零年，中大聯同本港其他大專院校成立香港可持續校園聯盟，負責實踐香港宣言。聯盟集合各大學的教職員，應對氣候變化和可持續發展所帶來的挑戰。二零一零年十一月，中大和其他大學聯同「思匯政策研究所」參與在香港舉行的C40氣候會議，協助推行多個項目計劃。



*Lights-off in support of the "WWF Earth Hour 2010"  
關燈響應世界自然基金會的「地球一小時二零一零」行動*



## ACHIEVEMENTS 環保成就

Following the receipt of the silver award of the 2008 Hong Kong Awards for Environment Excellence (HKAEE) Sectoral Awards under the category of Public Sector, the University once again won recognition and brought home the gold award in the 2009 HKAEE Sectoral Awards under the same category, and was also granted the class of excellence 'Energywi\$e' label. CUHK became the first-ever organization to win this award, setting a model of sustainability in the academic sector. The award ceremony, officiated by Mr. Donald Tsang, Chief Executive of HKSAR Government, was held on 12 May 2010. The gold award is an important recognition for generations of CUHK members for their concerted efforts in promoting campus sustainability.

The HKAEE is jointly organized by the Environmental Campaign Committee, the EPD and several other organizations such as Hong Kong Productivity Council and Business Environment Council. Competitors in the HKAEE are subjected to three rounds of stringent assessment. The adjudicating panel screens all reports on environmental issues, reviews policies and measures submitted by the participating organizations, and meets with the management and staff to conduct field assessments on short-listed participants before selecting the winners. A total of 403 entries competed for the Sectoral Awards this year.



*Mr. Donald Tsang (left), Chief Executive of HKSAR, presenting the award to Prof. Lawrence J Lau, Vice Chancellor, CUHK, on 12 May 2010*

*香港特區行政長官曾蔭權先生（左）於二零一零年五月十二日頒獎予中大校長劉遵義教授*

繼獲得「二零零八香港環保卓越計劃」公共機構組別的「界別卓越獎」銀獎後，中大再度榮獲「二零零九香港環保卓越計劃」同一組別的「界別卓越獎」金獎，同時獲得卓越級別節能標誌。中大是首個奪得這個獎項的大專院校，為學術界樹立可持續發展的典範。頒獎禮由香港特區行政長官曾蔭權先生主禮，於二零一零年五月十二日舉行。這個金獎十分重要，肯定了中大歷屆師生促進校園可持續發展的共同努力。

香港環保卓越計劃，由環境保護運動委員會、環保署和其他機構合辦，如香港生產力促進局和商界環保協會。競逐「香港環保卓越計劃」獎項的參加者，須經過三輪嚴格的評核。評審小組翻閱所有有關環境事宜的報告、審閱參與機構提交的政策與措施，在初步篩選參加者後，與管理人員和職員會面，以作實地評估，然後才選出優勝者。今年共有四百零三家機構競逐「界別卓越獎」。



*Prof. LM Chu (left), Chairman of the Committee on Campus Environment, receiving the "U Green Award 2009" on behalf of CUHK*  
校園環境委員會主席朱利民教授（左）代表中大接受「U Magazine您想綠色生活大獎」

The University is committed to preserving plants, birds and the ecological environment of the campus. It is also devoted to pursuing multiple environmental strategies, including minimizing carbon emissions, saving on energy consumption, reducing waste production, developing green roofs, as well as using renewable energy, such as by installing solar hot water systems for all student hostels. These environmental endeavours were recognized by the presentation of the "U Magazine Green Award".

中大致力於校園內植物、鳥類和生態環境的保育工作，同時推動多項環保策略，包括減少碳排放、減少耗用能源、減少產生廢物、建設綠色天臺，以及利用可再生能源，例如為所有學生宿舍裝設太陽能熱水器。這些環保措施獲得承認，為中大奪得「U Magazine您想綠色生活大獎」。

# TARGETS 目標



Mr. SK Lam (right), Director of University Safety & Environment Office, CUHK, shares his experience in campus sustainability in a forum organized by the Hong Kong Baptist University

中大大學安全及環境事務處處長林樹佳先生（右）在香港浸會大學舉辦的論壇上，分享校園可持續發展的經驗

\*Photo courtesy of the Hong Kong Baptist University

\*照片由香港浸會大學提供

## Long Term Targets

### GHG Reduction

To develop a practically achievable model for a sustainable campus with a 25% cut in energy use and a 20% reduction in greenhouse gas emissions per capita by 2025.

### Enhance Environmental Awareness & Outreach

To deliver the message on environmental sustainability to members of the University and to expand outreach to all sectors of the community.

### Tree Renewal Plan

To survey trees on slopes and develop a planting plan to renew aging trees on campus.

## 長遠目標

### 減少排放溫室氣體

制訂切實可行的模式，據之以可持續的概念建設校園，目標是在二零二五年把人均能源消耗減少百分之二十五，人均溫室氣體排放減少百分之二十。

### 增強環保意識和外展工作

向中大師生傳揚環境可持續性的訊息，並向外推展至社會各層面。

### 樹木更新計劃

檢查斜坡上的樹木，並制訂植樹計劃，以更新校園內老化的樹木。



## Short Term Targets

### Water Treatment Facilities

To erect and operate a treatment plant to treat 1,200 m<sup>3</sup> of water from Weiyuan Lake daily for usage by the end of 2011.

### Recycle Park

To establish a small recycle park on campus to collect a wider range of wastes in 2011.

### Strengthen Collaboration with Cross-strait Universities

To collaborate with cross-strait universities and exchange academic findings and practical experiences on environmental sustainability.

### Green Purchasing

To prepare the green purchasing policy and develop a guideline for user departments.

## 短期目標

### 淨水設施

在二零一一年年底前設立並營運淨水場，每天處理未圓湖的一千二百立方米湖水，供不同用途使用。

### 回收再造園

二零一一年在校園內設立小型回收再造園，收集多種不同廢物。

### 與海峽兩岸大學加強合作

與海峽兩岸大學合作，就環境可持續發展交流學術成果和實際經驗。

### 環保採購

擬備環保採購政策，並為各部門制訂指引。

## Feedback

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 email or website.

## 回應

本可持續發展報告，顯示了中大致力建設綠色校園的努力，並概括說明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，幫助我們提升環保表現。歡迎透過電郵或網頁聯絡我們。

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