HKUST Environmental Report
2011 Update

HKUST continues to develop an environmentally friendly culture. This report highlights our efforts in the year of 2011.

1 Wastewi$e Award

The requirements of the Hong Kong Awards for Environmental Excellence were successfully fulfilled and HKUST was again awarded the ‘Class of Excellence Wastewi$e Label’ in the year of 2011. The multiple waste reduction efforts on campus continued throughout the year and the additional focus was on compact discs (CDs) recycling. A total of 10,524 used CDs were collected in 2011, representing a 37% increase.

![Used CDs Recycling Graph]

2 Silver Award and Model Member Award

HKUST joined the Programme on Source Separation of Commercial and Industrial Waste organized by the Environmental Protection Department (EPD) and won the Silver Award as well as the Model Member Award.

3 Waste Recycling and Minimization

3.1 There was a 22% increase for the amount of aluminum / iron cans collected for recycling, i.e. from 361kg in 2010 to 441kg in 2011.

3.2 The number of printer cartridges also increased from 1,747 in 2010 to 2,036 in 2011, representing an increase of 17%.

3.3 We continued to collect waste paper, plastic bottles, fluorescent tubes, energy efficient light bulbs and rechargeable batteries for recycling. The total quantities collected were:

- Waste paper: 121,230kg
- Plastic bottle: 1,690kg
- Fluorescent tube: 9,600kg
- Light bulb: 8,400kg
- Rechargeable battery: 151pc
3.4 In the year of 2011, the quantity of food waste collected and converted to fertilizer/soil conditioner was 7,200kg.

3.5 Garage Sale was organized in May and December 2011 by the Facilities Management Office (FMO).

3.6 Collection of used moon-cake boxes for recycling after the Mid-Autumn Festival was jointly organized by the Staff Association, FMO and HKUST-Hang Seng Bank Green Ambassadors Program.

3.7 Unwanted chemical reagents were given to chemical users of HKUST or users of other local tertiary institutions free of charge. In 2011, a total of 19 items (4,500ml and 1,900g) were given out.

3.8 With the roll-out of the Enterprise Resources Planning application system, Purchasing Office started to launch paperless e-requisitions such as approving requisitions online and dispatching documents directly from the system to facsimile machine, etc. Users were also reminded to consider environmentally friendly purchasing in selection and acquisition of products.

3.9 About 1500 used textbooks were collected by a student group and were lent to other students free of charge.

4 Resource Conservation

4.1 554 sets LED flood lights, tubular lamps and exit signs were adopted to replace aged, less energy efficient units on campus. This replacement is projected to save $85K in electricity per annum.

4.2 Addition of sensors to control 28 sets air-conditioners at student halls saves $49K per annum.

4.3 Adoption of energy efficient lamps to replace 660 sets aged, less energy efficient units in campus areas continued. This replacement, plus ongoing lighting optimization by fine-tuning of lighting operation hour and illumination levels, saves $40K per annum.

4.4 Sensors and timers were installed to control 300 sets lighting fixtures at laboratory corridors and student hall areas. It saves $34K per annum.

4.5 A campus-wide independent energy audit was conducted to further explore energy conservation opportunities.

4.6 Updating of FMO website on details of historical energy saving activity continued to promote energy saving awareness.

4.7 Back-lit LED for HKUST signboard at North Gate roundabout was adopted.

4.8 6 new staff bus coaches which were in compliance with the requirement of EURO5 were purchased. As a result, 9 out of 11 coaches of the fleet belong to either EURO4 or EURO5 categories.

4.9 A new gasoline/electric hybrid Camry was purchased to replace an executive sedan.

5 Sustainable Practice

5.1 The Solar Hot Water System, funded by the Environmental Campaign Committee (ECC) and the Environment and Conservation Fund (ECF), continues to produce hot water for UG Hall VII.

5.2 3 solar LED lamps were installed at the Piazza.

6 Indoor Air Quality

Indoor Air Quality Certificates (Good Class) for S H Ho Sports Hall, lecture theatres and computer barns were renewed.

7 Hang Seng Bank – Green Ambassador Program

A number of student-related green activities were organized, including: learning trip to Thailand, recycling activity during check-out period in fall and spring, learning trip to Australia, collection of candies and gift packs for the elderly, E-Month @ HKUST, vegetarian food promotion week at catering outlets, glass recycling plant visit, "Gift of Communication" – collection of used mobile phones, Organic Fun Day @ HKUST, collection of used digital cameras, collection of used/unwanted books, Green Summer Internship @ Hong Kong International Work Camp, Eco-Park visit, Good Waste Recycling Tour in HKUST, brain storming with students on green initiatives and project ideas, collection of used moon-cake tins, training on green knowledge, learning trip to visit the fish folk’s village on Lamma island and promotion of the use of recycling bins on campus.
Working Group on Enhancing Campus Energy Efficiency and Waste Management

The working group is made up of students and staff, including colleagues of Health, Safety and Environment Office, Institute for the Environment, FMO, Student Affairs Office, Campus Services Office and Public Affairs Office, and student representatives from Students Union. The group met three times in 2011, major achievements included: increasing recycling bins in student halls for normal time, establishing recycling/donation to charity campaign during hall checkout periods, enhancing energy saving in common areas of student halls, pushing for more recycling and green practices in campus caterer operations, and promotion of UST green practices through internal and external channels. The group will continue to operate as a platform to coordinate and enhance cross-cutting energy efficiency and waste management issues on campus.

Promotion of Environmental Awareness

Environment Week 2011 was organized from 18 to 21 April 2011 with efforts and input from different groups throughout the University. Activities included:

- Sustainable Easter Egg hunt to introduce HKUST’s sustainability initiative in a fun and engaging activity

- Carbon trading game held in The Hong Kong Jockey Club Atrium to introduce the concept of carbon trading through an interactive game

- Gigantic Jenga designed to raise awareness of the impact of sharks on our marine ecosystems

- Outreach Activity - Planet Solar Summer Sustainable Day organized to invite secondary and primary schools to HKUST to witness Planet Solar, the world’s first catamaran traversing the globe using only solar power

Environmental Sustainability Steering Committee (ESSCom)

In the past year, ESSCom had developed and finalized the “Greener UST” initiative, a strategic plan aims at institutionalizing sustainability across all facets of the University. The initiative is currently being assessed by the University management. It had also explored opportunities to collaborate closely with EPD particularly to establish and promote a “Community Recycling Network” at HKUST as part of a citywide initiative.

Hong Kong Sustainable Campus Consortium

HKUST is serving as the Secretariat for the Hong Kong Sustainable Campus Consortium. Key initiatives spearheaded by HKUST included: standardizing sustainability reporting across all tertiary institutions and establishing collaboration/outreach opportunities with local organizations such as Ocean Park and other international universities including Aston University (UK) and Macquarie University (Australia).
HKUST Eco Park

The HKUST Eco Park opened in September 2011. The Park, located at Wan O Road of Tseung Kwan O district near the MTR LOHAS Park Station, covers an area of over 3,000 square meters. The Park aims at promoting environmental sustainability from a wider perspective through research and educational activities. Colleagues of the Division of Life Science cultivate multi-functional plants from the southern China region, including species for ornamental, medicinal, ecological and food purpose. Staff members, students, citizens and school students from local community participate in the organic farming activity in the Park managed by Health, Safety and Environment Office. Department of Civil and Environmental Engineering conducts research on green slope development while Department of Mechanical Engineering studies the renewable energy (solar and wind) for electricity supply in the Park.

Environmental Research Projects

13.1 A number of environmental research projects were conducted. The scope of these projects covered a great variety of environmental issues including sustainable energy production, development of high-energy density fuel cells, energy conservation, green buildings, wastes management, sewage management, marine environment, water treatment, air quality, mechanism of bio-mediated soils, etc.

13.2 Units engaging in environmental studies include:
- Department of Chemical and Biomolecular Engineering
- Department of Chemistry
- Department of Civil and Environmental Engineering
- Department of Electronic and Computer Engineering
- Department of Mathematics
- Department of Mechanical Engineering
- Department of Environment
- Division of Life Science
- Division of Social Science
- HKUST Fok Ying Tung Graduate School
- Interdisciplinary Programs Office

13.3 A comprehensive list of environmental research projects conducted in 2011 is accessible at:

Water Quality Control

14.1 In 2011, a total of 5,756kg used cooking oil was collected from catering outlets for recycling.

14.2 Monitoring of water quality is an ongoing effort. Water samples were collected from potable water outlets, University’s swimming pools and Dental Clinic for water quality testing.

Environmental Compliance

All environmental regulatory requirements applicable to University’s operations are complied with. These include monitoring of waste water and sea water discharges, hazardous waste management, air emission and environmental noise, etc.

Other Green Websites of HKUST

- FMO website on energy conservation
  http://eoz354.ust.hk/bs/web/EnergySaving/
- Live green website
  http://llc.ust.hk/live_green/
- Green UST website
  http://green.ust.hk/

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