



Appendix 2

Environmental Features of a CUHK Green Office

1. LED Lighting Saving 80% Energy

- More than 300 LED tubes are installed to replace the traditional T5 fluorescent tubes, reducing more than 40% of energy consumption. Taking into account the availability of solar electrical generation, the saving can go up to 80% on a sunny day.
- All lighting can be operated by motion sensor when unattended to reduce energy wastage.

2. Renewable Energy Application – Solar Energy

- 41 sets of solar panels are installed at various spots of the backyard garden (e.g. the edge of the top of window, the front entrance, the switch room). 4,410 watts of electrical power at 12 volts direct current are generated for both indoor and outdoor lighting and a circulating pump for the landscaping pond, a good application of renewable energy for 6% of energy consumption.

3. High Energy Performance Air-conditioning System

- The coefficient of performance (COP) of the office's window/split air-conditioning units reaches 3.85, and that of the VRV system central air handling unit used in the general office and communal areas without windows is 4.57, much higher than 2.8 as specified in the requirement for energy label grade 1 of the Electrical and Mechanical Services Department.
- As a result, power consumption is reduced by over 30%.

4. Paperless Office and Effective Paper Recycling

- Adopting the concept of paperless office, staff members are encouraged to send and receive files via electronic means to reduce printing and photo-copying. Documentation is to be saved in electronic format to replace paper file storage. Consequently, the total paper consumption in the first five months of this year is about 30% lower than the same period in 2008.
- Bar code identification collection bags are used to collect paper for recycling so as to better measure the amount of paper consumed against recycled. Target to reach balance in consumption and recycling in two years' time.
- Around 90% of the paper used in the office is recycled paper.



5. Food Waste Composter

- Two food waste composters are in place to rapidly convert food waste into compost through a bio-decomposition process, which can then be safely used as natural fertilizer for gardening.

6. A Truly Natural Garden

- The backyard garden is formed using natural resources. Walls and water ponds are formed with rocks excavated from construction sites. Stream water is also collected and diverted for irrigation and fish ponds.
- An innovative pillow-type vertical greening technique is used for vegetation planting on slope to green the environment.

7. Grass Block Paving

- Grass paving blocks are used to pave the car park and pedestrian path, allowing rain water to drain naturally, while at the same time reducing the bad heat island effect of concrete paving surfaces.

8. Green Roofs

- Vertical greening technique is applied on some metal roof huts of the University, successfully reducing indoor temperature during summer, which in turn greatly reduces power consumption for air-conditioning to up to 70%. The technique will be further applied to other locations on campus to maximize the impact.