HKU Centennial Campus LEED Platinum Certification

Special sustainability and innovative features

- Solar panels (太陽能集熱系統)on rooftops and building integrated photovoltaic fins at south-facing facades of Jockey Club Tower.
- A variety of wind turbines (風力渦輪機)
- Lift regenerative power
- Waste heat recovery system, energy recovery wheel, energy efficient chillers, chilled water storage system(水蓄冷系統)(300 cu m storage tank), night air purging system(晚間換氣系統)
- Displacement cooling system (置換通風空調系統)at Lee Shau Kee Lecture Halls
- Water recycling system for rainwater, air-conditioning condensate, surface runoffs from landscape features and waste water from basin, to be used in irrigation, cleansing and A/C cooling tower make up water (45 cu m grey water tank)
- Daylight sensors (日光感應) for control of lighting intensity, occupancy sensors for switching on/off lightings, LED lightings as main light source
- Fresh air on-demand for all air-conditioned areas
- Greening structures: green rooftops, green walls, green sky and landscaped gardens
- Food waste decomposer(廚餘分解系統)to handle food waste from three on campus canteens
- Two saltwater reservoirs relocated in a rock cavern.
- Environmental performance monitoring display system(環境監測系統).

Key indicators and figures

- A maximum of 60 cu m of water collected per day for irrigation
- 100% reduction in potable landscape water use
- 40% water saving of using water efficiency appliances
- Total water saving up to 75,000 cu m a year (or 30 Olympic standard size of swimming pool)
- Green energies can contribute up to a maximum of 1.7% of total energy sources
- 30.4% total energy savings compared to the same scale and usage of building
- Annual energy saving 6,500,000kwh (annual energy consumption of 4,500 households, or 100 nos. 100W light bulbs for 650,000 hours)
- Annual reduction of CO2 production of 4,000 tons (Quantity of CO2 absorbed by 160,000 trees)

Detailed greening and sustainability features

1. Energy efficiency

Solar collection system

- Annual energy saving 150,000kwh(千瓦小時的電量) (or annual energy consumption of 100 household, or 100 nos. 100W light bulbs for 15,000 hours)
- Annual reduction of CO2 production of 100 tons (or quantity of CO2 absorbed by 4,000 trees)

Wind energy

- Mini wind turbines, two types of vertical-axis wind turbines
- Annual energy saving 4500kwh (or 100 nos. 100W light bulbs for 450 hours)
- Annual reduction of CO2 production of 3 tons(or quantity of CO2 absorbed by 120 trees)

2. Water efficiency

- 60 cu m of rain water collected per rainfall for irrigation
- 100% reduction in potable landscape water use
- 100 cu m of air-conditioning condensing water and 35 cu m of waste water collected per day for A/C cooling tower make up water and cleansing
- 40% water saving of using water efficiency appliances

3. Environmental friendly construction materials and resources

Selection of environmentally appropriate materials, including:

- recycled content building materials (再生含量建材)
- regionally extracted, harvested, recovered, or manufactured materials(原材料建材)
- FSC-certified wood products (認證的木材產品)
- diversion of construction and demolition debris (建築物廢料分類)

4. Innovative designs

- Relocating existing reservoirs in hillside rock caverns to avoid extensive excavation and disturbance to the natural habitats.
- Appropriate acoustic design to enhance speech privacy and airborne sound isolation between spaces. (e.g Grand Hall of Lee Shau Kee Lecture Centre)

以下環保設施於香港大學百周年校園內採用:

1. 廢水循環再用系統 (Grey water recycling system)
2. 風力發電裝置 (Wind turbines)
3. 太陽能板 (Photovoltaic panels)
4. 環境監測系統 (Environmental display monitoring system)
5. 冷凍水儲存系統 (Chilled water storage system)
6. 置換通風空調系統 (Displacement AC design)
7. 電梯再生能源應用 (Lift Regenerative Power)
8. 廚餘分解系統 (Food waste decomposer)
9. 晚間換氣系统 (Night Air Purging)
10. 雨水循環再用系統 (Rainwater recycling system)
11. 空調節能系统(滾動式熱交換器, 熱泵, 噪音高效能製冷機, 等等) (Efficient A/C (Rotary heat wheel, Heat pump, low noise/ energy chiller, etc.))
12. 使用環保物料(無揮發有機物質, 採購有森林管理理事會認證木材, 等等) (Use of Environmental Material (No VOC, FSC wood, etc.))
13. 低耗能 LED 照明系統 (Low energy LED lighting)
14. 節能幕牆 (Energy Efficient Façade)
15. 雙感應坐厠沖水系統 (Dual flush sensors for all WC)