

機電署與醫管局的節能減碳措施 榮獲科技大獎

Energy-saving and Carbon Reduction Initiatives of EMSD and HA Won Technology Award



為響應《香港氣候行動藍圖2050》所提出的實現碳中和目標，機電署聯同醫院管理局（醫管局）制訂多項節能減碳改善工程，其中一個重點項目是為屯門醫院主座進行高效能空調製冷機組更換工程。該項目已於2023年竣工，新機組投入運作，大幅節省空調製冷機的用电量達26%，為屯門醫院主座每年節省約280萬度電，即減少約1 950噸碳排放。

 **1 950** 噸

鑑於全球暖化日趨嚴重，機電署特意引入使用低毒性和非易燃的新型氫氟烯烴環保雪種R1233zd的空調製冷機組，以助減緩全球氣候變化。此外，為確保空調供應穩定可靠，以支援醫院24小時無間斷運作，該項目參考了機電署出版的《暖通空調裝置優良操作和維修作業手冊》，在更換空調製冷機組的過程中，調整設計以納入互連、轉換和旁通設施，務求提高整體空調系統的應變能力，以及在維修作業期間減少對用戶的影響。



機電署為屯門醫院主座更換的高效能空調製冷機組。

The high energy-efficient chillers at the Main Block of Tuen Mun Hospital installed by the EMSD for replacement.

機電署和醫管局成功落實上述項目，更藉此榮獲美國供暖製冷及空調工程師學會香港分會2024年科技大獎。機電署工程團隊對獲獎深感鼓舞，亦期待繼續與醫管局及其他客戶部門合作推展更多創新機電項目，從而提升客戶機電設施的能源效益，為香港應對氣候變化和實現碳中和出一分力。



機電署和醫管局憑藉屯門醫院空調製冷機組更換工程項目，榮獲美國供暖製冷及空調工程師學會香港分會2024年科技大獎。圖為機電署和醫管局的得獎團隊。

The EMSD and the HA received the ASHRAE Hong Kong Chapter Technology Award 2024 for their chiller replacement project at Tuen Mun Hospital. The photo shows the winning teams of the EMSD and the HA.

In response to the target of achieving carbon neutrality set out in the Hong Kong's Climate Action Plan 2050, the EMSD has collaborated with the Hospital Authority (HA) to develop various energy-saving and carbon reduction improvement projects. One of the key projects is the replacement of high energy-efficient chillers at the Main Block of Tuen Mun Hospital. With the project completed and the new chillers put into operation in 2023, the electricity consumption of chillers has significantly been reduced by 26%, resulting in an annual saving of approximately 2.8 million kWh of electricity, or a reduction of 1 950 tonnes of carbon emissions for the venue.

Given that global warming is getting increasingly serious, the EMSD has specially introduced chillers using the new environmental friendly hydrofluoroolefin (HFO) refrigerant R1233zd, which has low toxicity and is non-flammable, to help mitigate global climate change. Moreover, in order to ensure a stable and reliable supply of air-conditioning to support 24-hour uninterrupted operation of the hospital, the project has made reference to the Best Practices for Operation and Maintenance Service of Heating, Ventilation and Air-Conditioning Installations published by the EMSD. In replacing the chiller units, the related design was adjusted to incorporate interconnections, changeover and by-pass facilities, so as to maximise the resilience of overall air-conditioning system and minimise impact to users during maintenance activities.

With the successful implementation of the above project, the EMSD and the HA were awarded the ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) Hong Kong Chapter Technology Award 2024. The EMSD engineering team is much encouraged by the award, and looks forward to continuing collaboration with the HA and other client departments to take forward more innovative E&M projects, with the aim of enhancing the energy efficiency of clients' E&M facilities, and thereby contributing to Hong Kong's effort in combating climate change and achieving carbon neutrality.