Energy-Saving and Efficiency Enhancement at Our Properties

Cooling-as-a-Service Implemented to Boost Sustainability and Cost Efficiency

In 3Q 2024, Cooling-as-a-Service (CaaS) systems were set up at Raffles City Singapore, Plaza Singapura, and The Atrium@Orchard, covering a total of 4.8 million square feet (sq ft) of gross floor area (GFA). The cooling systems will have a combined installed capacity of approximately 15,000 refrigerant tonnes (RT) across the three properties.

The CaaS contracts, structured on a utilisation-based payment model, are projected to reduce energy consumption at the three properties by over 30%[1], translating to savings of at least 118,680 tonnes of carbon emissions over a 15-year period[2]. Annually, the energy saved will be enough to power more than 4,800 four-room HDB flats[3]. The contracts were awarded to Keppel DHCS (Keppel) for Raffles City Singapore and ENGIE Southeast Asia (ENGIE) for Plaza Singapura and The Atrium@Orchard.

Planned Green Certification Upgrades
With enhanced energy efficiency from the CaaS systems, CICT aims to upgrade the green certifications for these three properties under the Building and Construction Authority (BCA) Green Mark scheme:

- Plaza Singapura and Raffles City Singapore are expected to achieve Green Mark Platinum, upgrading from their current Green Mark Gold and Gold^{PLUS} ratings.
- The Atrium@Orchard is expected to improve from Green Mark Gold to Green Mark Platinum (Super Low Energy).

In addition to rating upgrades, the cooling performance of all three properties is expected to meet the efficiency requirements for BCA's Green Mark Platinum (Super Low Energy).

Comprehensive Scope of CaaS Contracts
Under the 15-year performance-guaranteed contracts, Keppel and ENGIE will manage the design, build, operations, maintenance, repairs, and upgrades of the cooling systems. As part of the Total System Efficiency model, they will retrofit the buildings' existing central water-cooled chilled water system and air-side equipment, as well as operate the systems throughout the contract period via a supply-and-service subscription. The system will be monitored for efficiency, and any identified inefficiencies to be promptly addressed.

The contracts also include provisions for equipment reviews and upgrades, ensuring the systems remain up-to-date with the latest technologies and sustainability standards. In addition, the agreements come bundled with Green Mark consultancy and renewal services, further supporting CICT's sustainability goals.

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[1] This is in comparison to total energy consumption in 2023.
[2] Emission factors used for computation of 2023 emissions were from IEA 2023 v1.1 (AR4 Applied).
[3] The average household electricity consumption is based on the Energy Market Authority's statistics.

This initiative is a significant step in CICT's ongoing efforts to enhance operational sustainability and achieve greater energy efficiency across its integrated developments. By leveraging CaaS, CICT demonstrates its commitment to reducing environmental impact while aligning with global sustainability benchmarks.