

## About Swire Properties Limited

Headquartered in Hong Kong, Swire Properties is a leading developer, owner, and operator of mixed-use, principally commercial, properties in Hong Kong and the Chinese mainland, with a presence in Miami, U.S.A. We also have established offices in Singapore, Indonesia, and Vietnam. In 2021, total gross floor area attributable to the Group was 30.7 million square feet including retail, offices, hotels, restaurants, and mixed-used properties.

Creative Transformation captures what we do and how we do it. It underlines the creative mindset, original thinking and long-term approach that enables our employees to reach beyond the conventional and seek new perspectives. We strive to unlock the potential of places by creating vibrant destinations and stimulating further growth to produce sustainable value for our shareholders, our business partners, and the people with whom we work.

Our commitment to SD once again received global recognition in 2021. Swire Properties was ranked highly in several major SD-related benchmarks and indices. For the fifth year in a row, we were the only constituent company from Hong Kong to be listed on the DJSI World. We ranked seventh out of 237 leading real estate developers from around the world, and we ranked first in Asia.

For the fifth year in a row, we retained our Global Sector Leader title in the Mixed Use developments category under GRESB. We were also recognised as the Global Development Sector Leader in the same category for the second year in a row. In addition to our five-star rating on the benchmark, our public disclosure was awarded with the highest rating, “A”, for the fourth consecutive year.

In Hong Kong, we topped the Hang Seng Corporate Sustainability Index for the fourth consecutive year, receiving the highest total score among all index constituents, while also maintaining a “AAA” sustainability rating – the highest possible grading. We were one of only two companies to receive this rating among more than 500 assessed stocks.

For more details on Swire Properties: <https://sd.swireproperties.com/2021/en>

### **Problem Statement**

*To optimize freshwater consumption in AC cooling tower operations without compromising performance.*

### **Aims**

Swire Pacific Sustainable Development (SD) Fund Challenge Process, invites innovators to submit a new solution to be trialled with the intention of implementing and scaling to other sites with similar problems.

- Solutions may include, but are not limited to:
  - Water vapor capture and plume abatement technologies (building scale, not industry-scale)
  - Control systems/real-time monitoring of cooling tower systems
  - Advanced water recapture systems for re-use in a cooling tower
- Swire Properties is open to other research-phase technologies in their infancy as long as they are deployable for buildings and impact can be demonstrated.
- The trial will likely be conducted in one or more buildings in a Swire Properties' portfolio in Hong Kong or Chinese mainland.
- Innovation ideas suitable for existing commercial buildings are preferred.

### ***Problem Background***

Swire Properties' freshwater consumption accounts for 9% of total freshwater consumption of Swire Group. To move towards Swire Group's water neutrality goal by 2050, Swire Properties has continued implementing different water saving measures such as the retrofit of water-efficient fittings, construction of greywater recycling systems, and installation of smart water meters for tenants.

Now, Swire Properties is seeking to reduce the freshwater consumption of building air-conditioning cooling systems, which account for approx. 30% of the total freshwater (make-up) consumption across the Hong Kong and Chinese Mainland portfolios. During the heat rejection cooling process in Swire Properties' open circuit cooling tower systems, around 80% of the freshwater make-up is evaporated and 20% drained-off. Swire Properties is exploring new technology that could be used in building AC cooling tower operations to optimize freshwater make-up consumption without compromising cooling tower performance.