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 reduce GHG emissions from building energy use through hydrogen technology (with on-site hydrogen generation and fuel cell technology) or other low/zero carbon energy sources which are capable of generating on-site power for buildings.

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:
  - **On-site hydrogen production (green/blue hydrogen)**
  - **Hydrogen fuels cells for building use**
  - **Distributed energy storage solutions**
  - **On-site distributed geothermal systems**
  - **Waste-to-power systems**
- 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.
- Solutions should be modular or easily installed on-site of a building development.
- The trial will likely be conducted in one or more buildings in a Swire Properties' portfolio in Hong Kong or Chinese Mainland.

Problem Background

Swire Properties (SPROPS) has its Science Based Targets approved with a target of reducing Scope 1 and 2 absolute emissions by 25% and 46% by 2025 and 2030 respectively versus a 2019 baseline. The majority of SPROPS' emissions come from electricity consumption; thus, they aim to explore technologies which can generate clean electricity on-site.

The electricity grid which supplies SPROPS' electricity is still mostly powered by fossil fuel, leading to high quantities of carbon being emitted per energy consumed. In the coming few years, the grid is aiming to decarbonize, but it may not be at the rate at which SPROPS needs to reach their Science Based Targets: Hong Kong Electric aims for all-gas power generation after 2023, with minimal renewable energy, while Chinese Mainland aims to have the share of non-fossil energy consumption to reach around 25% by 2030.

Therefore, SPROPS wishes to explore hydrogen-driven or other low carbon/zero-carbon on-site power sources for building usage during this transition period of the grid before it is fully decarbonized. These power sources can increase on-site low carbon/zero-carbon power generation for buildings, and can be used as standalone individual power sources for building usage.