OUE Bayfront - 2030 Net Zero Transition Plan

Introduction

A 2030 Net Zero Transition Plan (the Plan) has been developed for OUE Bayfront to understand how the asset can support its overall commitment targets of achieving Net Zero, based on its Scope 1 and 2 carbon emissions.

2023 has been selected as the emissions baseline as it was assessed to be representative of current business activity levels.

This report considers only Scope 1 emissions (refrigerants) and Scope 2 emissions (purchased electricity), from this asset. The asset's largest source of emissions is electricity usage, reported under Scope 2 emissions. Therefore, the key focus of OUE Bayfront's carbon mitigation strategy is to reduce Scope 2 emissions through energy efficiency enhancements. This Plan has identified a series of energy-saving opportunities and efficiency measures based on the current available technology and practical implementation on-site.

Asset Information

OUE Bayfront is a landmark commercial development located between the Marina Bay downtown and the established financial hub of Raffles Place. OUE Bayfront is an 18-storey premium Grade A office tower, complemented by its retail facilities, OUE Tower and OUE Link. OUE Bayfront is jointly owned by OUE REIT and ACRE Angsana Pte. Ltd., a special purpose vehicle managed by PIMCO Prime Real Estate Asia Pacific Pte. Ltd. Refer to Table 1. for the property information.

Property Information as of 2024

Item	Detail
Site Name	OUE Bayfront, OUE Tower, OUE Link
Site Address	OUE Bayfront: 50 Collyer Quay, S049321 OUE Tower: 60 Collyer Quay, Singapore S049322 OUE Link: 62 Collyer Quay, Singapore S049325
Year of Completion	2011
Current Building Use	Office + Retail
Gross Floor Area (GFA), excluding carpark	46,902.3 m^2
Tenant Area (leased)	37,133.1 m^2
Building Certification / Last Dated Certification	BCA Green Mark Non-Residential Buildings 2021: Gold BCA Green Mark 2021 Full Certification: On-going

Table 1. Property Information

Asset Standing and Overview

The site energy audit conducted at OUE Bayfront in 2023 assessed the total energy consumption profile and estimated energy end-use allocations for each category, using the baseline usage data for electricity. Chillers, pumps and cooling towers contribute to the largest share of energy use, followed by plug loads and Air Side equipment. Refer to Figure 2 for the estimated energy breakdown.

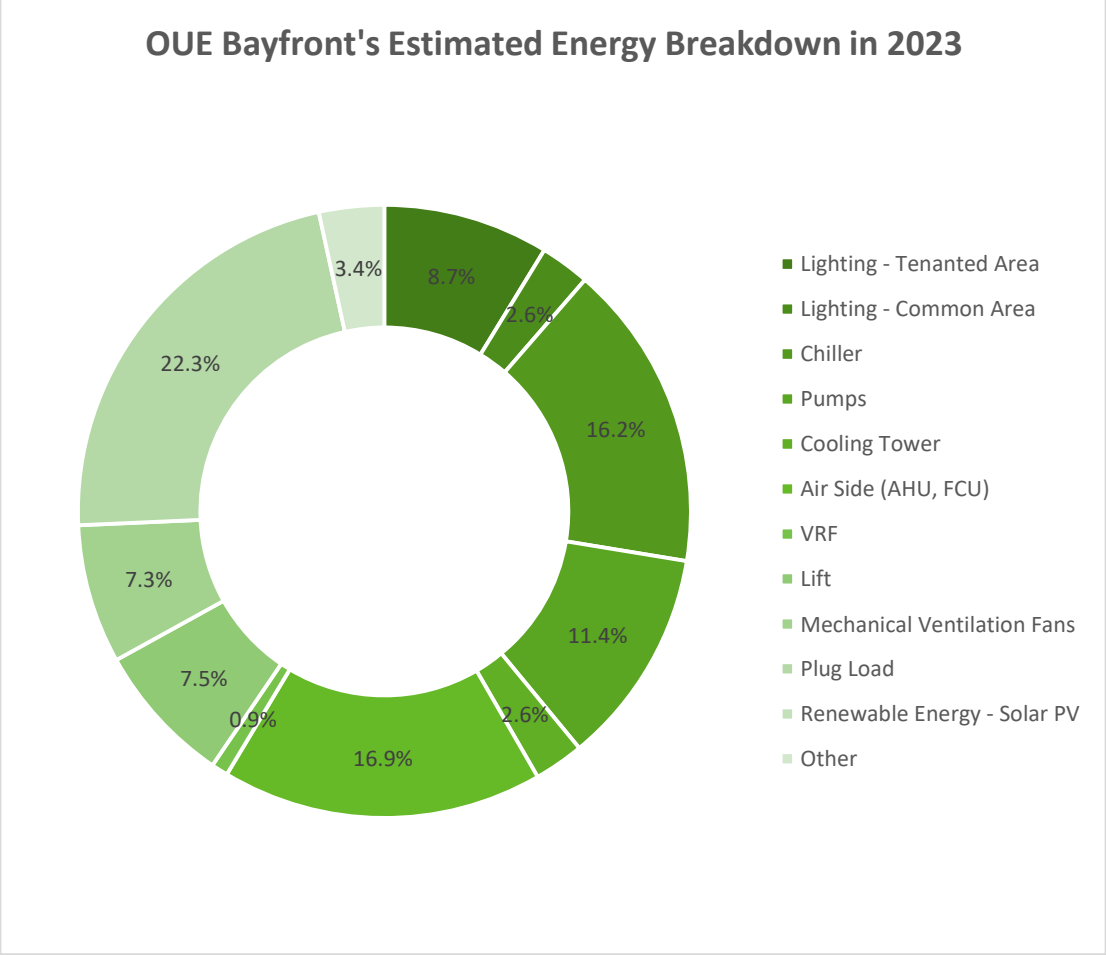

Figure 2. OUE Bayfront's Estimated Energy Breakdown in 2023[1]

Commit

OUE Bayfront is committed to achieve Net Zero for its Scope 1 and 2 emissions by 2030, in line with Singapore's Green Building Masterplan. To support this commitment, the asset has undertaken an on-site audit, reviewed its performance, and identified carbon emissions reduction opportunities. Short- and medium-term emissions reduction targets will also be set and tracked annually to ensure progress against the Net Zero commitment. These commitments, carbon emissions reduction opportunities and targets are detailed in subsequent sections of this Plan.

[1] The percentages presented in the chart may not sum to 100% due to rounding to the nearest one decimal place.

Disclose

OUE Bayfront will measure and disclose the building's asset energy demand and carbon emissions annually against the 2023 baseline. The baseline is representative of current business activities and considers the existing energy usage performance prior to any improvement work.

OUE Bayfront's baseline includes direct emissions (Scope 1) and indirect emissions (Scope 2) and excludes avoided emissions from investments into renewables and carbon offsets. All relevant Scope 1 and Scope 2 operational carbon emissions will be measured using carbon dioxide equivalence (CO_2e) in tonnes (t).

The baseline Scope 1 and Scope 2 location-based carbon emissions for OUE Bayfront from January 2023 to December 2023 was reported at 485.9 tonnes of CO_2 and 4,981.5 tonnes of CO_2 respectively. From January 2024 to December 2024, the Scope 1 and Scope 2 location-based carbon emissions for OUE Bayfront was 0 tonnes of CO_2 and 5,017.9 tonnes of CO_2 respectively. To achieve Net Zero emissions, it is necessary to review the sources of emission factors based on current conditions. These sources may be updated and will need to be considered. Singapore's average Operating Margin Grid Emission Factor (OM GEF) dropped slightly from 0.417 kg CO2/kWh in 2022 to 0.412 kg CO2/kWh in 2023. The projected GHG emissions detailed in this Net Zero Transition Plan will be based on the grid emission factors defined by the CRREM tool for Singapore.

OUE Bayfront's progress against the Plan will be publicly disclosed on OUE REIT's corporate website. The Plan, which details the strategic approach to achieving Net Zero at OUE Bayfront, will be published on the corporate website by September 2025. Subsequently, progress updates will be publicly disclosed by July annually.

Act

As part of its carbon emissions reduction strategy, OUE Bayfront is looking to reduce its energy consumption, enhance the building's energy efficiency, and invest in renewable energy. OUE Bayfront has set clear short- to medium term carbon emission reduction targets for its Scope 1 and 2 carbon emissions calculated based on the GHG Protocol.

OUE Bayfront's Scope 1 and 2 inventory includes the following emission sources:

Scope 1: Direct emissions from company-owned and controlled resources. Scope 1 emissions are released to the atmosphere as a direct result of a set of activities, at the building level.

- Fugitive emissions: GHG leaks from equipment such as refrigeration and air conditioning. Refrigerant gasses could be thousands of times more dangerous than CO2 emissions.
- Fuel: Emissions from fuel consumption are excluded since OUE Bayfront does not have company-owned and controlled machines such as vehicles and diesel generator sets.

Scope 2: Indirect emissions from the generation of purchased energy, from a utility provider.

- Purchased energy: Consumption of purchased electricity, steam, heat, and cooling.

Table 3 shows the prioritised 5-step approach towards achieving the Net Zero target.

Step 1:	Step 2:	Step 3:	Step 4:	Step 5:
Monitor	Optimise	Upgrade	Invest in renewables (On-site and off-site)	Purchase Carbon offsets

Table 3. OUE Bayfront's 5-step approach to achieving Net Zero by 2030

Step 1: Monitor

Energy consumption and Scope 1 and 2 carbon emissions will be monitored on a monthly basis through the property's Building Management System (BMS). The BMS is capable of monitoring OUE Bayfront's operational performance in a single dashboard and generate Overall System Efficiency (OSE) reports. The appointed personnel will conduct monthly checks using the OSE reports to ensure accurate reporting.

On an annual basis, energy consumption data obtained from the BMS will be analysed by external sustainability consultants and trended for annual corporate sustainability reporting. Staff are also trained on their data management responsibilities and procedures to enhance accuracy, completeness and reliability of data collected.

Step 2: Optimise

The property management team at OUE Bayfront monitor GHG emission trends through monthly tracking of their Scope 1 and Scope 2 emissions. The findings of the trend analysis inform OUE Bayfront on enhancements required to maximise operational building efficiency to ensure progress against targets set.

OUE Bayfront will carry out upgrading works progressively by 2027 to attain energy savings. These upgrading works and strategies include:

- Replacement of fluorescent lighting to LED lighting at landlord-controlled (common) areas
- Enhancement of tenant engagement through green clauses and plans for gradual rollout of green leases for new or renewed tenants
- Plans to tap on the Marina Bay District Cooling Network's centralised district cooling system ("DCS") . The Letter of Intent has been signed in 2024. The implementation is expected to commence in FY 2025, targeting for completion in 2026. With the DCS in place, energy efficiency can be improved further, lowering operational costs and reducing carbon emissions.
- Replacement of existing AHU, FCU and MV fans to electronically commutated (EC) motor fans

Step 3: Upgrade

OUE Bayfront will ensure that all systems and equipment maintenance works are performed regularly. There are term contracts and maintenance checklists to support with monthly monitoring and ensure that upgrades and maintenance are performed correctly. Where replacement works are required, OUE Bayfront will conduct thorough studies on the proposed selected equipment and how it would affect the overall performance of the building system.

Step 4: Invest in renewables on-site and off-site

As part of achieving the Net Zero target, on-site renewables investment is being explored. A feasibility study was conducted, with a proposal developed regarding the installation of solar panels on the rooftop of OUE Bayfront.

Off-site renewable energy procurement is currently of lower priority and will be considered if necessary to achieve Net Zero at OUE Bayfront. Renewable Energy Credits or Certificates (RECs) from specific renewable energy projects located off-site may form a part of the carbon emissions reduction strategy due to the lack of physical space in Singapore. Any renewable energy that OUE Bayfront intents to purchase will comply with the applicable standards in Singapore.

Step 5: Purchase Carbon offsets

OUE Bayfront will prioritise the optimisation of the building's energy efficiency before both on-site and off-site renewable energy. Once all carbon abatement methods have been exhausted, OUE Bayfront may consider the use of voluntary carbon credits, as one of the last-mile strategies, to offset residual emissions and achieve the Net Zero target.

Based on the retrofitting and strategies planned, OUE Bayfront is on track to reduce the Scope 1 and 2 carbon emissions by 50% in the short-term (2026 to 2028) and 100% by the medium-term (2029 to 2030), as seen in Table 4.

	2023 (Baseline)	2024	2025	2026	2027	2028	2029	2030
Carbon emissions reduction efforts and opportunity implementation	Conducted Energy Audit	Completed Energy Audit	Development of OUE Bayfront's 2030 Net Zero Transition Plan	Commencement of opportunity implementation	Completion of opportunity Implementation	Invest in renewables on-site and off-site	Invest in renewables on-site and off-site	Invest in renewables on-site and off-site or purchase carbon offsets*
Reduction in Scope 1 and 2 GHG emissions (%)	-	-	-	50%			100%	

* Purchase of carbon offsets to offset Scope 1 GHG emissions

Table 4: Short- to medium-term carbon emissions reduction targets until 2030

Verify

With the commitment set to achieve Net Zero at OUE Bayfront by 2030, there are retrofits planned and other sustainability efforts to be carried out to reduce the building's energy consumption and Scope 1 and 2 carbon emissions. These opportunities have been outlined in this document.

The progress of OUE Bayfront's energy and carbon emissions performance will be tracked monthly. OUE Bayfront's carbon emissions and progress against the Net Zero target shall be tracked and disclosed annually on OUE REIT's corporate website.

Acknowledged by:

Cho Wai

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Designation: HEAD, ASSET MANAGEMENT

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