Asia Business Council

Ocean Financial Centre

Ocean Financial Centre (OFC) is a redevelopment of two existing office buildings (Ocean Building and Ocean Towers) in Singapore's central business district (CBD). This eco-friendly office of the future adopts numerous green features that are incorporated with state-of-the-art technologies to maximize indoor environment quality, employee health and productivity, while minimizing energy consumption.

GREEN FEATURES AND SUSTAINABLE TECHNOLOGIES

TRIPLE-GLAZED FAÇADE GLASS

Triple-glazed façade glass with state-of-the-art low emissive coating is used to maximize light transmittance and transparency while minimizing heat gain. The high-performance and low-emission triple-glazed glass curtain-wall system is not only engineered to provide maximum protection for occupants, but the unitized curtain-wall design is also prefabricated locally to minimize carbon footprint.

POWER-SAVING LIGHTING

The use of power-saving LEDs on the building façade and the roof crown creates an unforgettable silhouette along Singapore's magnificent skyline.

PHOTOVOLTAIC (PV) CELLS

The building has the largest PV system for a high-rise commercial building in the CBD area, with more than 400 m² of solar PV panels harnessing 75kWp of solar energy. Located on top of one of the tallest buildings in Singapore, at approximately 250 m AMSL in height, it will be the highest PV assembly in Singapore.

REGENERATIVE DRIVE LIFTS

All passenger lifts are fitted with regenerative drive. This feature feed energy usually lost during braking back into the building where it can be used for other loads, hence reducing overall energy usage.

ECO-SWITCH

A programmable switch that provides an option for tenants to control their air-conditioning temperature and lighting level to suit their needs during off peak and lunch hour.

PAPER RECYCLING

An integrated paper recycling facility encourages the recycling of paper waste generated by the commercial office. A

PROJECT DETAILS

LOCATION
Singapore

NAME
Ocean Financial Centre

DEVELOPER
Ocean Properties Pte Ltd

PROJECT MANAGER
Keppel Land International Ltd

ARCHITECT
Architects 61 Pte Ltd

ARCHITECTURAL DESIGN
Pelli Clarke Pelli Architects Inc.

SIZE
6,109 m² (total site area)
25,165 m² (total green area)
96,063 m² (total GFA)
78,028 m² (net lettable area)

TYPE
Commercial

BUILDING DETAILS
43-story office building
5-story podium carpark
1-story basement retail link

RATINGS
Green Mark Platinum Award (highest accolade given by Singapore's Building and Construction Authority)

MEASURABLE RESULTS

ENERGY SAVINGS

35% (or 9.08 million kWh/year)

REDUCTION IN CO_2 EMISSIONS

4,500 tonnes/year

WATER SAVINGS

37% (or 42,000 m^3/year)

ENVELOPE THERMAL TRANSFER VALUE

42.76 W/m^2 (15% lower than the allowable 50W/m^2)

AIR CONDITIONING SYSTEM EFFICIENCY

0.662 kW/ton (excellent rating)

ENERGY EFFICIENCY INDEX (EEI)

174 kWh/m^2/year

paper recycling chute is provided to serve users on all office floors.

GREENERY

OFC uses extensive vertical green walls for a cooler and greener environment. The building's green plot ratio (a measure of greenery provision in building development, which takes into consideration the three-dimensional volume covered by plants) exceeds the industry's best practice of 4.0.

WATER EFFICIENCY

Water conservation measures include using water-efficient fittings, using submeters for monitoring and leak detection, and harvesting rain water for irrigation

OTHER NOTABLE GREEN INNOVATION

- Energy efficient air-conditioning
- Energy efficient lighting
- Motion sensors for all toilets and staircases
- Insulating paints for all external walls
- Auto-condenser tube cleaning system
- Heat recovery system for hot water production
- Anti-corrosion coating for pre-cooled AHUs
- Collection of condensate water for cooling tower make-up
- Car parking guidance system
- Recycling of existing buildings materials, such as plywood and timber for use in the construction of the new building
- Conservation and transplanting of existing trees and use of horticulture recycled waste

COST AND BENEFITS

By incorporating green features and innovations, construction cost for OFC has increased by approximately four percent. However, the long-term benefits translate to a payback period of seven to nine years, based on the energy and water savings achieved.

The eco-features will also bring about savings in energy and water consumption in the long term for tenants. Other intangible benefits include better indoor air quality and environment, which contribute to improved employee productivity and wellness.

For more information, visit www.AsiaBusinessCouncil.org