Strata SE1

Elephant & Castle, London

Strata SE1 is a 148-metre-high 43-storey residential development that creates a dynamic new landmark on the London skyline. The first building in the world with integral wind turbines, it sets a new benchmark in terms of environmental strategy. This 408-apartment development is also a major catalyst for the ongoing regeneration of the Elephant & Castle area in central London, its modest footprint creating additional areas of public realm at ground level. The scheme also includes an adjacent five-storey pavilion building that will comprise residential and retail facilities.

The client's brief challenged the design team to develop a concept that embraces energy efficiency, targeting an EcoHomes assessment rating of "excellent". Located in one of the Mayor of London's Energy Action Areas, Strata SE1 embraces sustainable design and the latest renewable energy technologies. The wind turbines are expected to produce 50 Mwh (Mega watts per hour) of electrical power per year for the landlords' supply, approximately 8% of the building's total energy consumption.

Strata SE1 is designed for sustainable living. The scheme's environmental strategy includes three five-bladed, nine-metre diameter integrated wind turbines; a bespoke, high-performance unitised aluminium curtain wall system with an air permeability leakage rate (that is 50% more efficient than required building regulations); rainwater harvesting and recycling; and low-energy light bulbs throughout. While all landlord areas are low energy (and have absence and presence lighting control systems), apartments are typically 40% low energy and 60% Tungsten lamping. This is an improvement of 15% above the minimum regulation requirement of 25% low energy as stipulated in Part L. Strata will be connected to the planned Elephant & Castle MUSCo (Multi-Utility Services Company), a community combined heating and power scheme.

Independent analysis has compared CO2 emissions from Strata SE1 against the Building Regulations 2006 Part L2 targets. The result demonstrates that Strata SE1 will achieve a predicted 73.5% reduction in CO2 emissions when compared against the Building Regulations benchmark. The project is adaptable to planned future developments in sustainable technologies within the SE1 area.

Project details

Height	148 metres (AGL)
Quantum	306,000 sq ft GEA 255,000 sq ft NIA
Total Development Cost	£113.5m
Project Status	Completing May 2010

Team

Client	Brookfield Europe
Construction Advisor	Brookfield Construction UK Ltd
CDM Co-ordinator	Construction Project Services UK Ltd
Structural/ M&E Engineer	WSP Group
Acoustic Consultants, Fire Engineer	
Environmental Advisor	URS Corporation Ltd
Planning Consultant	DP9
Townscape Consultant	The Richard Coleman Consultancy
Aviation Consultant	Donald Butler Associates Ltd
Wind Engineer	RWDI-Anemos Ltd
Wind Turbine Designer/Manufacturer	Norwin AS
Cost Consultant	Gleeds