Regent's Place Case Study

REGENT'S PLACE

THE CONCEPT
DELIVERING VALUE AND EXCEEDING OCCUPIERS' EXPECTATIONS

Regent's Place is a 13 acre, fully managed mixed use estate in London's West End. It comprises office buildings,residential buildings, retail spaces, landscaped gardens and a community theatre, with Regent's Place Plaza - a place to meet, eat, drink and spend time – at the heart of the estate. High quality spaces, enhanced by numerous public art installations and by an array of regular events, connect the buildings, whereas a network of streets encourage links to the surrounding local area. Regent's Place is the result of a complete transformation that took place over the last seven years that turned the estate into a high quality place to live, work and play perfectly integrated with the West End of London.

"Today, occupiers increasingly want flexible, high-quality, open plan offices with larger floor plates, which are technology and environmentally friendly. Our office investments over the years have focused on high-quality buildings in the City and West End of London, combined with active property management "

Tim Roberts,
Head of Offices - British Land

MITSUBISHI ELECTRIC
HYDRONICS & IT COOLING SYSTEMS S.p.A.

CLIMAVENETA®

A key part of this transformation project by British Land, one of the Europe's largest REITS, (real estate investment trusts) was the purchase of the western end of the estate from The Crown Estate in 2005.

The subsequent development of 10 and 20 Triton Street, which were completed in 2010, turned Regent's Place into a vibrant mixed use estate covering 140,000 m^2 of office, retail and residential space.

In 2013 British Land will complete the project delivering the North East Quarter, (NEQ), a further 47,000 m^2 of new office and residential space.
Once the NEQ is complete, Regent's Place will be capable of accommodating over 14,000 workers and residents.

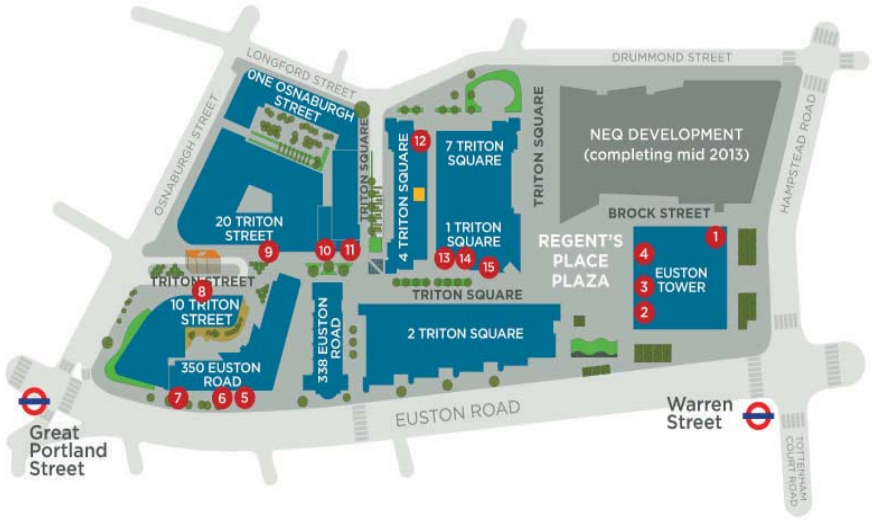
Being one of the largest and most successful developments in London, Regent's Place is a showcase of best practice in high quality, sustainable property development and management.
Consistently with British Land's market leading approach, sustainable considerations have been put at the heart of all development and management strategies. This includes both design concept and choice of partners, as well as on site operations and estate management, oriented to the highest standards of service and based on close cooperation with the occupiers and residents.

This approach has resulted in numerous awards such as the "Biodiversity" award at the 2011 Guardian Sustainable Business Awards and the 2012 Royal Town Planning Institute "Sustainable Communities" award.

THE ESTATE AND THE BUILDINGS

THE REGENT'S PLACE MASTER PLAN, A PLACE TRANSFORMED

The Regent's Place mixed use development comprises commercial office buildings sited at the gateway to the new Triton Street, a residential building on Osnaburgh Street comprising of 154 apartments, a twenty storey tower with views over Regent's Park and private landscaped gardens, a community theatre (New Diorama Theatre), retail spaces, office spaces still under construction, external landscaping and public works of art.
The Regent's Place mixed use development comprises commercial office buildings sited at the



The buildings at Regent's Place include:

- 1,4 and 7 Triton Square
- 10 Triton Street
- 20 Triton Street
- The Euston Tower
- 338 Euston Road
- 350 Euston Road

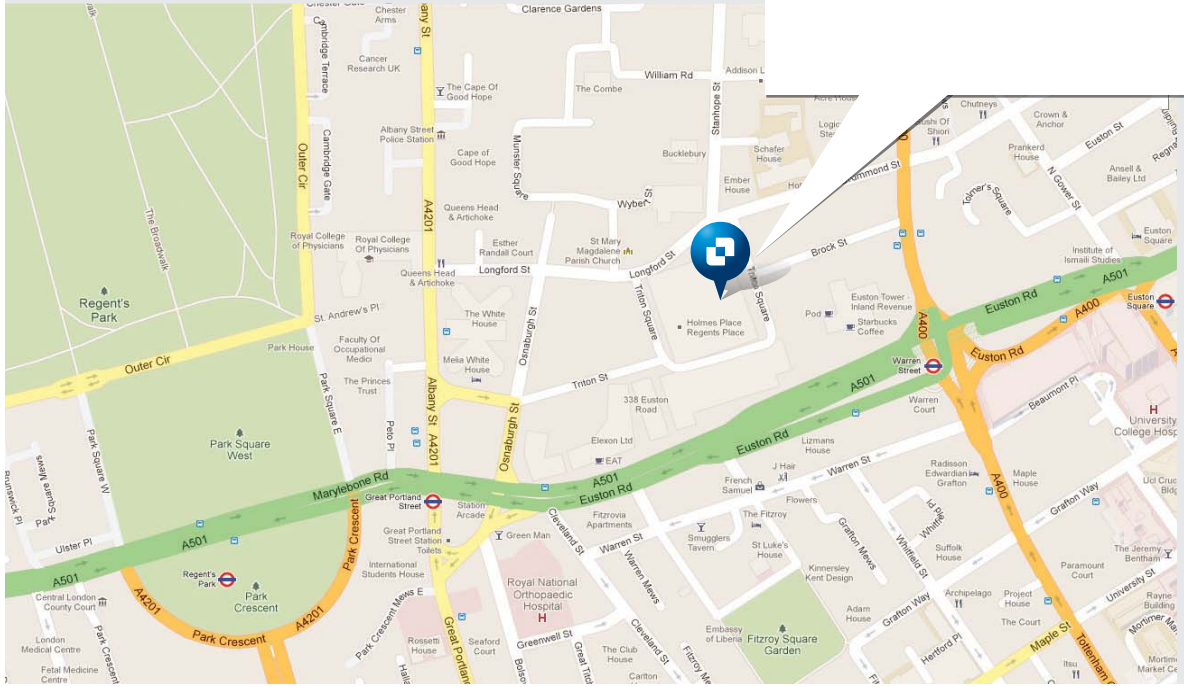
Buildings under development at the NEQ include:

- 10 Brock Street (offices)
- 20 Brock Street (residential)
- 30 Brock Street (offices)

This estate also includes 2 Triton Square, and One Osnaburgh Street a prime residential building.

Climaveneta has provided chillers for:

- 10 Triton street
- 20 Triton street
- 2 Triton square
- 10, 20 and 30 Brock Street part of The NEQ Development



SUSTAINABILITY AND ENERGY EFFICIENCY

BRITISH LAND HAS LONG BEEN COMMITTED TO PUTTING SUSTAINABILITY AT THE HEART OF ITS BUSINESS

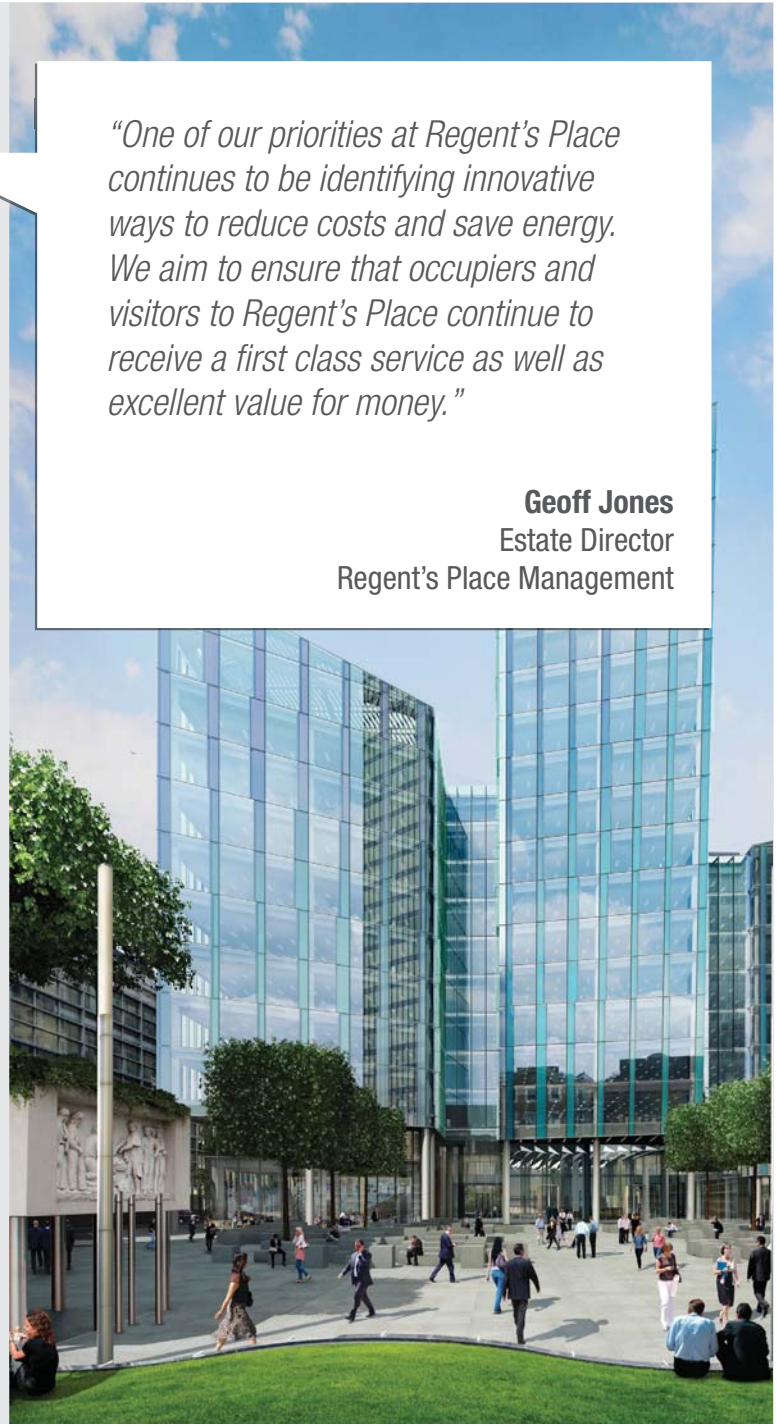
Regent's Place is a perfect example of British Land's approach to drive energy reduction in their portfolio, providing real economic benefits and demonstrating that green buildings are good for asset performance.

It is based on a holistic approach to development, taking care of every aspect of the project, from efficient construction to cost and carbon emission reduction, managing environmental risks and conserving natural resources through energy efficiency, water efficiency and initiatives to reduce and recycle waste.

This vision is also achieved through the ability to attract high quality partners. British Land attains the highest international standards of sustainable design and construction within its supply chain and throughout the development process, selecting the most reliable partners worldwide that share the same sustainability approach.

"One of our priorities at Regent's Place continues to be identifying innovative ways to reduce costs and save energy. We aim to ensure that occupiers and visitors to Regent's Place continue to receive a first class service as well as excellent value for money."

Geoff Jones
Estate Director
Regent's Place Management



British Land sustainable approach in Regent's Place is focused on achieving:

- **Excellent BREEAM ratings**
  Majority of the buildings on the Estate have been designed to obtain very high BREEAM ratings, with 10 and 20 Triton Street rated Excellent and One Osnaburgh Street rated Very Good in Ecohomes terms. The NEQ development is aiming for an Excellent BREEAM 2008 certification rating.

- **BEST SUSTAINABILITY STANDARDS DURING DEMOLITION AND CONSTRUCTION**
  Best practice in recycling and waste management have been applied to the whole supply chain during demolition and construction. 24.6% of construction materials used at Regent's Place have come from recycled sources. 100% of the timber was certified sustainable and over 85% of the development waste was either reused or recycled.

- **CARBON EFFICIENT DESIGN**
  Regent's Place is designed to be up to 32% more carbon efficient than current standards, thanks to enhanced air thightness, high performance glazing, motion and daylight sensors, and electronic energy monitoring.

HIGH EFFICIENCY AIR AND GROUND SOURCE HVAC SOLUTIONS

For British Land, investing in high efficiency, innovative systems based on leading edge technologies is the first step in obtaining a significant energy reduction for the whole building. A particular care has been taken in the HVAC design by Watkins Payne Partnership.

Opting for Climaveneta high efficiency chillers featuring magnetic levitation compressors, both in 10 and 20 Triton Street, as well as in the NEQ development, the energy consumption due to central air conditioning has been reduced by 40% compared to other solutions. Leading edge heat recovery solutions enhance the advantages of Climaveneta high efficiency chillers and make HVAC a decisive factor in Regent's Places sustainability.

PHOTOVOLTAIC INSTALLATION 20 TRITON STREET AND THE NEQ

Besides reducing energy consumption throughout each design choice, parts of the Estate are equipped with a photovoltaic installation, producing over 15.000 kW/h each year. Hence a considerable amount of the energy supply required by the building is produced by renewable sources directly on site.

EXTENSIVE GREEN ROOF SURFACES

With 1,750 m^2 of green roof, Regent's Place is an achievement in this respect. This choice encourages biodiversity and provides attractive areas for occupiers. The green roof design was an award winning, two- year green roof pilot project with ecologist Arup.

WATER EFFICIENCY

Water management as well as energy is a further key point in the Regent's Place sustainability strategy. Around 2.4 million litres of rainwater are harvested every year, for toilet and urinal flushing as well as for irrigation purposes.

✔ ZERO WASTE TO LANDFILL POLICY

Regent's Place's energy savings and waste reductions are part of an unique concept aimed at minimising the impact of the build environment, with no compromises on the comfort level. In 2011, 200 tonnes out of 290 have been recycled, with the rest being sent for incineration with energy recovery.

✔ COMPREHENSIVE ENERGY REDUCTION STRATEGY

Energy reduction is a key factor for British Land. To address it British Land has developed a comprehensive approach to building management, that breaks down energy consumption between landlord and occupier, identifying the share each stakeholder controls or influences.

According to this method, developed in collaboration with the Better Building Partnership, only 14% of energy consumption of a building, due mainly to common parts, is controlled by landlords.

Whereas 36% is only partly influenced by the landlord and is due to shared services. The remaining 50% is controlled by the occupier, and directly depends on how they use the building. Thanks to advanced metering, energy reductions resulting from innovations and best practice in managing the building can be easily associated to landlord or occupier. This encourages collaboration between the landlord and occupiers in operating the building efficiently and ensuring more transparency in their behavior.

This method enables a better valuation of the real return of the additional investment, demonstrating the accelerated payback of the installed systems.

On the other hand the adoption of advanced energy metering allows continuous measurement and precise identification of inefficiencies, fixing them as soon as they arise and going beyond the traditional fix and forget approach. Moreover, such a complete view of the energy performance of the building and of each system fosters informed decisions about upgrades and refurbishments, as well as how the building performs in relation to original design assumptions. Finally this allows the management team to drive and later test changes in their management and in the occupier's behavior, based on real data collected.

At Regent's Place this has resulted in a landlord influenced energy reduction of 33%, with cumulative savings of 10.7 million kW/h. This has saved over £500,000 in energy costs and 4000 tonnes of carbon.

FOCUS ON
10 AND 20 TRITON STREET BUILDINGS HVAC SYSTEMS

10 and 20 Triton Street are the first two new buildings at Regent's Place that were completed in 2010. Designed by Farrells, the buildings – 10 Triton Street with 18,500 m^2 of office space over nine floors and 20 Triton Street which provides 34,500 m^2 over ten floors – both achieved 'Excellent' BREEAM and EPC 'B' (Energy Performance Certificate) ratings.
Operating consistently within the sustainability strategy for the Estate, 10 and 20 Triton Street are designed to be over 30% more energy efficient than at the time of development and share all the sustainability and energy efficiency choices highlighted above.
Designed by Watkins Payne Partnership, the HVAC systems are a highlight of these buildings. Based on low NOx emission boilers and on Climaveneta high efficiency chillers with magnetic levitation, the systems feature advanced heating and cooling systems.

To achieve the high target set by the British Land's sustainability brief, the design incorporates 4 pipe fan coil units in the ceilings with variable air volume and variable water flow. Fan coil units feature EC/DC fans and the water pumps have VSD inverter motors and 2 port valves on FCU's. High efficiency gas boilers have also been installed. The air handling units have heat recovery heat exhangers and VSD fans. Climaveneta high efficiency TECS chillers have been installed with magnetic levitation VSD inverter drive compressors. The lighting has automatic occupancy controls and automatic daylight dimming control.

FOCUS ON
NEQ DEVELOPMENT HVAC SYSTEM

As part of British Land's vision for Regent's Place, the delivery of the North East Quadrant (NEQ), which faces onto the Regent's Place Plaza, has always been a key component in completing the master plan for the Estate.

Construction has now started and the buildings will be finished in mid 2013, bringing a further 47,000 m^2 of office, retail and residential accommodation to Regent's Place. Again air conditioning is among the strong points of this building in terms of energy efficiency and reduced environmental impact.

In this case Watkins Payne Partnership (WPP) opted for a combined heat and power generator integrated with air cooled high efficiency Climaveneta TECS chillers with magnetic levitation compressors, serving both the residential as well as commercial spaces with 4-pipe fancoil units with variable air volume.

The system is complete with air handling units with heat recovery heat exhangers and VSD fans.

Phil Draper,
Senior Sustainability & Technical Manager
Regent's Place Management

"The design by WPP will achieve 25% better performance than Part L regulations require which will result in a lower EPC value, better quality environment and a Benchmark building."

WHY CLIMAVENETA

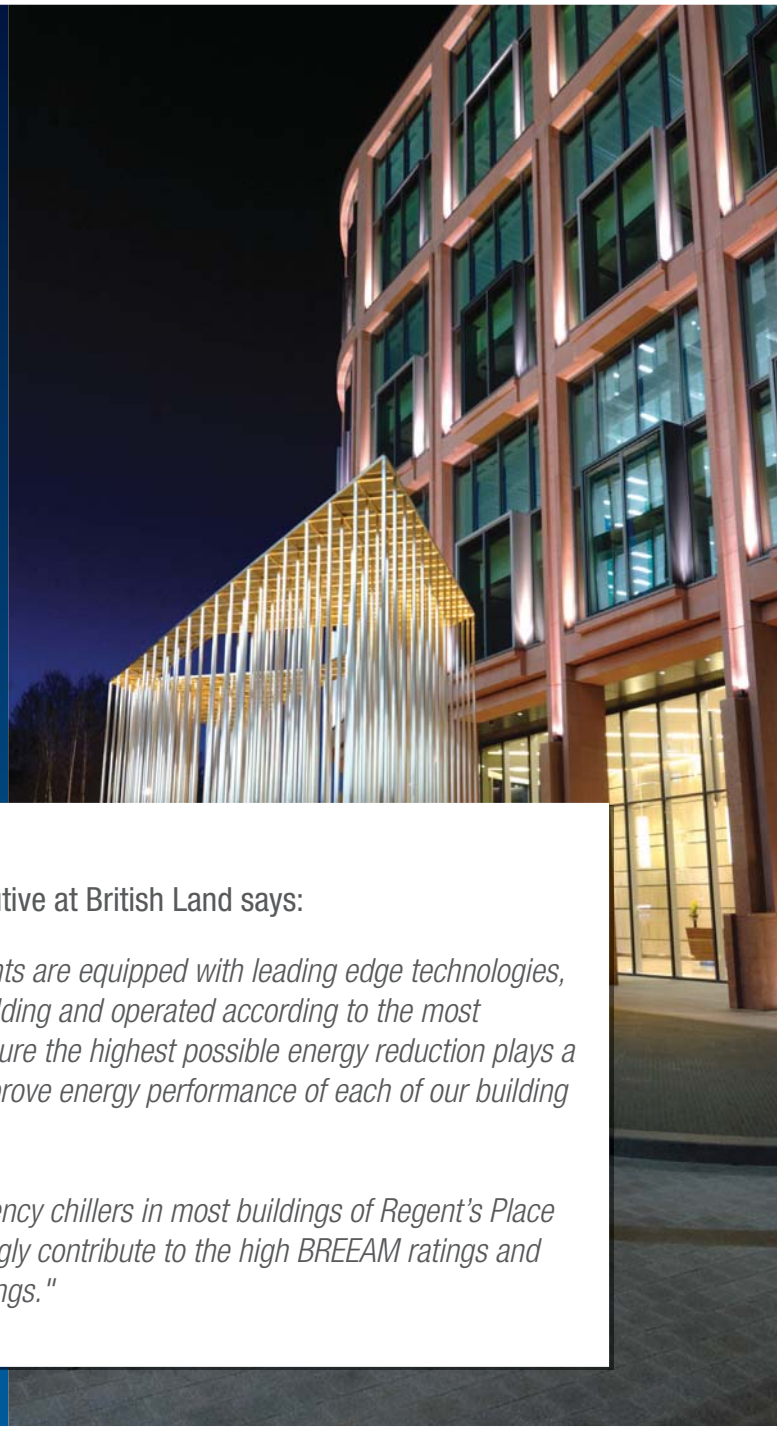
For the central air conditioning systems of several buildings at Regent's Place, Climaveneta high efficiency TECS chillers have been specified by the consulting engineers - Watkins Payne Partnership. These units are characterised by an oil-free centrifugal compressor that is radically innovative: magnetic bearings and digital rotor speed control allow full and partial load efficiency levels to be reached, impossible for any other unit in the market.

The choice of the Extra Low Noise version, as result of a systematic design oriented to minimise the noise level, gives the best compromise between silence and efficiency on the market.

Climaveneta is among the first manufacturers to apply this innovative technology to HVAC, with the first launch in the market back in 2006.

Since then significant R&D research as well as extensive on site experience, gained with hundreds of projects in the UK and worldwide proved to be decisive to enable designers, landlords and occupiers to get full advantage of the opportunities offered in terms of high efficiency and fast payback by this technology, combining it with utmost reliability and complete after sales service. A thorough supportive approach that resulted in a substantial market share in the UK and worldwide.

TECS | VISION 2.0



Sarah Cary,
Sustainable Developments Executive at British Land says:

"Making sure that our developments are equipped with leading edge technologies, optimally integrated within the building and operated according to the most advanced methods in order to ensure the highest possible energy reduction plays a key role in our commitment to improve energy performance of each of our building of our portfolio."

"Installing Climaveneta high efficiency chillers in most buildings of Regent's Place contributes to this effort and strongly contribute to the high BREEAM ratings and energy performances of the buildings."