

# Low Carbon Workplace:

## Premier House



### Introduction

Premier House is a multi-tenanted 41,000 square foot office in Twickenham refurbished by the Low Carbon Workplace, a property development partnership between sustainability experts the Carbon Trust, asset manager Columbia Threadneedle and developer Stanhope.

The Low Carbon Workplace partnership acquires commercial office buildings and refurbishes them into modern, energy efficient workplaces. Occupiers benefit from ongoing support from the Carbon Trust, helping them to minimise their energy costs and carbon emissions. Occupiers that successfully meet specific performance criteria are awarded with certification to the Carbon Trust's Low Carbon Workplace Standard.

Following its refurbishment, Premier House was awarded a BREEAM Excellent rating and an Energy Performance Certificate (EPC) rating of B. The refurbishment, coupled with the Carbon Trust's ongoing support to its occupiers, has seen Premier House's energy consumption reduce by a staggering 64 percent.

In 2015 Premier House received CIBSE's *Refurbishment Project of the Year (Value Over £5m)* award.



**STANHOPE**



### The Refurbishment

Premier House is a concrete, brick-skinned office, built in the 1970s. Before its refurbishment it had inefficient heating, cooling and ventilation systems, single-glazed windows and a leaky façade. Its EPC rating was E.

The refurbishment improved the building's energy performance in three fundamental ways:

- **Passive measures:** The building's fabric was upgraded to improve air-tightness and reduce heat loss. Specific measures included introducing double-glazed windows with low emissivity coatings, upgrading wall insulation and exposing the building's thermal mass to better regulate temperatures.
- **Active measures:** Energy efficient heating, cooling, ventilation and lighting solutions were deployed. These included an active chilled beams system, which provides cooling by passing cold water along ceiling-mounted pipes ('beams'). In addition, thermal wheels were added to ventilation units to recover heat and humidity from air exiting the building, greatly reducing the energy needed to heat incoming air.
- **Measuring and monitoring:** Systems were installed to monitor and control the building's energy efficiency. Meters and sensors gather half-hourly data which forms the basis of the ongoing support provided to occupiers by the Carbon Trust.

In addition, the refurbishment introduced additional floor area and significantly improved the quality of the working environment.

### Occupier Support

In line with the Low Carbon Workplace philosophy of 'better buildings, used better', the occupiers of Premier House benefit from ongoing support from the Carbon Trust. Support focuses on helping to minimise energy consumption and carbon emissions, and is vital in ensuring that improvements made in the refurbishment are not counteracted by inefficient usage.

Thames Valley Housing (TVH), the largest occupier of Premier House, is also the longest-standing tenant in any of the Low Carbon Workplace buildings. Uniquely for a Low Carbon Workplace tenant, TVH occupied the building before the refurbishment and then following a spell in temporary accommodation while the refurbishment took place, moved back in once it was completed. At this point, TVH signed the Low Carbon Workplace Charter, signalling a commitment to work collaboratively with the Carbon Trust to minimise future carbon emissions from the building.

The Carbon Trust played an active role in advising TVH during the office fit-out process to ensure it complemented Premier House's base design. Since then, TVH has benefitted from regular performance monitoring and reporting. Granular data is gathered from smart energy sub-meters and occupancy sensors on how energy is being used. Energy consumption is compared with prior periods, industry benchmarks and occupancy levels to identify opportunities to optimise performance.



## The Low Carbon Workplace Standard

Low Carbon Workplace occupiers' energy and carbon performance is monitored and assessed against the Carbon Trust's Low Carbon Workplace Standard. The Standard provides a robust and transparent approach to measuring workplace carbon emissions. Occupiers who successfully meet the performance criteria are certified to the Standard. This provides a tangible reward for occupiers and enables them to communicate their performance to external stakeholders with confidence.

TVH certified to the Low Carbon Workplace Standard in early 2015 and is now focusing on how to keep improving its performance, with a view to recertifying in 2017.



“Low Carbon Workplace transformed Premier House into a modern, desirable, energy efficient office that we’re proud to call home. The Carbon Trust’s ongoing support has been invaluable in helping us to maintain low energy consumption and CO2 emissions and achieve our sustainability objectives.”

Jonathan Ling,  
Head of HR, Thames Valley Housing



Reduction in energy consumption



The Low Carbon Workplace concept was developed by the Carbon Trust in 2010 to break the ‘circle of inertia’ that has prevented many cost effective carbon reduction opportunities in non-domestic buildings from being realised. Frustrated by the lack of progress being made, the Carbon Trust decided that the best way to catalyse change was to prove the commercial model for low carbon property development itself.

Low Carbon Workplace’s underlying philosophy is ‘better buildings, used better’ – taking a holistic approach to deliver low carbon performance in buildings. A good design means nothing if the design intent is diluted in development, or if the occupiers use the building poorly. The partnership delivers high-quality refurbished low carbon buildings to occupiers who are both motivated and empowered to ensure potential energy and carbon savings are achieved. Occupiers reap the benefits of an efficient, comfortable and environmentally sensitive workplace, and investors and landlords profit from having attractive, ‘future-proofed’ buildings in their portfolios.

From planning and design through to occupation, we work with our partners and project teams to find ways to continue reducing carbon emissions. We seek practical measures that deliver tangible positive impacts. We look for the unique opportunities offered by each building, and explore different solutions that lead to genuine low-carbon and broader sustainability benefits.

The Low Carbon Workplace currently comprises eight buildings.

Further details can be found at

[www.carbontrust.com/lowcarbonworkplace](http://www.carbontrust.com/lowcarbonworkplace)