

# SUSTAINABLE DEVELOPMENT & REFURBISHMENT

Over the last 20 years, we have developed more than 2.1 million m<sup>2</sup> with projects ranging in size from less than £1 million to in excess of £150 million. Our experienced team operates across all of the major property sectors throughout the UK, and possesses the necessary skills to develop a wide range of opportunities, including regional shopping centres, business parks, retail warehouses, city centre office buildings, mixed-use urban renewal schemes, hotels and leisure facilities. We also provide our clients with a wide range of development services covering land investments, acquisition, site assembly, appraisal, design, planning, marketing, letting and full project management.

## OUR SUSTAINABILITY COMMITMENT

Through our Sustainable Development and Refurbishment Frameworks we will adopt cost-effective design solutions and implementation strategies for our developments and major refurbishments to maximise their social and economic contribution and minimise the adverse impact of our activities on the environment.

## OUR SUSTAINABILITY STRATEGY

In 2007 we launched our Sustainable Development Framework and in 2008 we developed a Sustainable Refurbishment Framework. These documents form the basis of our sustainable development strategy and are at the heart of the development process.

Our Frameworks provide a basis for decision-making on all our projects by introducing a series of sustainability issues which the design and construction teams should consider and where possible develop solutions to address.

Specific issues to be considered fall under the following general impact areas:

- Energy and Carbon
- Water
- Materials and Waste
- Land Use and Ecology
- Pollution
- People and Buildings
- Building Operation and Maintenance
- Transport.

In accordance with our Frameworks, a sustainability workshop is held at each of the four stages of a development or refurbishment project: feasibility, work-up, procurement and construction to agree targets and benchmarks. At the end of the project, a Gateway Review is conducted to ensure that proper consideration has been given to all relevant matters.

## KEY FACTS

- 11 development projects with construction value of £117 million commenced in 2008
- Four development projects with a total construction cost of £145 million completed in 2008
- 32 projects with construction value of approx £500m are currently in the development pipeline
- Approximately 46,500 m<sup>2</sup> are currently under development.

## HEADLINE KEY PERFORMANCE INDICATORS

INDICATOR	2007	2008
Proportion of completed developments on brownfield land	71% by area	100% by area
Proportion of completed development projects registered under the Considerate Constructors Scheme	100%	100%
Total community contributions through planning agreements with local authorities (including Section 106)	£278,422	£373,000

## CASE STUDIES: SUSTAINABLE DEVELOPMENT IN PRACTICE

We have highlighted some notable examples of sustainability measures implemented at a selection of our development and refurbishment projects during 2008. More detail about the initiatives undertaken at these and other sites, together with a complete account of our performance against our targets and key performance indicators, can be found on our website.

### THE HILTON HOTEL



#### The Project

In 2008 PRUPIM developed the new Hilton Hotel at Southside, Reading. The 210-room hotel

offers conference facilities, a restaurant and a health club (including steam room, solarium, pool, dance/fitness studio and gymnasium).

The hotel was developed with sustainability at the forefront of its design and is expected to achieve annual reductions in CO<sub>2</sub> emissions between 6% and 10% below the baseline for Part L 2006 Building Regulations.

All of the initiatives implemented at the site will assist Hilton in achieving its global sustainability objectives laid out in 2008; to reduce energy consumption, CO<sub>2</sub> emissions and waste by 20%.

#### Sustainability Measures

Central to the property's energy efficiency is the Building Energy Management System (BEMS), which controls all heating and ventilation systems and includes:

Scheduling of **ventilation** temperature set points in response to external conditions, thus optimising the performance of the ventilation system.

Advanced hotel reservation system which activates a **heating** setback facility in unoccupied meeting and guest rooms.

Master switches fitted in all guest rooms which enable control of **lighting** and ventilation.

Heat recovery circuits installed within ventilation systems, coupled with free **cooling** strategies.

In addition to the sophisticated BEMS, we have installed energy efficient heating, cooling and lighting systems. Energy sub meters have also been installed to monitor energy use and a recycling centre to minimise waste sent to landfill.

## CASE STUDY: SUSTAINABLE OFFICE REFURBISHMENT, SWAN HOUSE



Swan House, located in the heart of London, offers up to 2,250 m<sup>2</sup> of newly refurbished office space over six floors. The refurbishment project was completed by PRUPIM in autumn 2008 and included some notable examples of sustainable initiatives:

- The toilets are flushed using water collected from a new rainwater harvesting system which is supplemented by mains water only when required
- The light fittings are very efficient and have daylight and presence controls. In addition, they are configured using local lighting zones
- Secondary window glazing was installed to enhance thermal performance
- The heating and cooling systems were replaced with modern efficient systems which include air-to-air heat recovery between discharge and supply air streams and exceed Part L minimum compliance
- Lifts were replaced with new units calculated to be 40% more efficient than the originals.

### CITY PLACE HOUSE



#### The Project

PRUPIM moved into City Place House, our new headquarters, at the beginning of 2008. In line with

our commitment to minimising the environmental footprint of our own office occupation, we sought to ensure that the refurbishment of our new headquarters was sustainable.

We appointed Overbury, a carbon neutral and ISO 14001 certified company as our principal contractor. They were contractually obligated to undertake a sustainability audit of all sub-contractors involved in the project and to provide PRUPIM with a monthly Sustainability Report. We also ensured that the refurbishment incorporated a number of sustainability measures.

#### Sustainability Measures

To optimise **lighting** performance, low energy light bulbs, daylight and movement sensors and timers were installed.

Our target to **recycle** 60% of waste during the refurbishment was achieved as a result of recycling a number of waste streams including plasterboard, cardboard, wood, metal, access floor tiles and general waste.

A list of prohibited **materials** was developed which included wood from unsustainable sources. All timber was FSC certified and where a similar audit system existed for other materials, the audit trail was requested. Upon completion of the works, our contractor was required to certify that none of the prohibited materials were used in either the manufacture of components or in the construction of the works.

## OUR FUTURE TARGETS

We have set ourselves nine targets to achieve by the end of 2009 (unless otherwise stated) with the aim of improving the sustainability performance of our property development and refurbishment. These are listed on page 22.



See more at  
[www.prupim.com/about/sustainability](http://www.prupim.com/about/sustainability)