



/ EFFICIENCY // SUSTAINABILITY /// RESPONSIBILITY

GO Earthwise

Panattoni: delivering sustainability at scale

As the largest developer of industrial logistics space in Europe, Panattoni is delivering sustainability on an unrivalled scale. Over 21 million square feet of BREEAM-accredited space has already been delivered across the continent, with a further 21 million square feet in the pipeline.

Our approach to sustainability is shaped by our long-standing experience creating spaces for the logistics industry. By its very nature, logistics requires connected thinking on a global scale; we have simply taken that approach and applied it to drive our sustainability agenda.

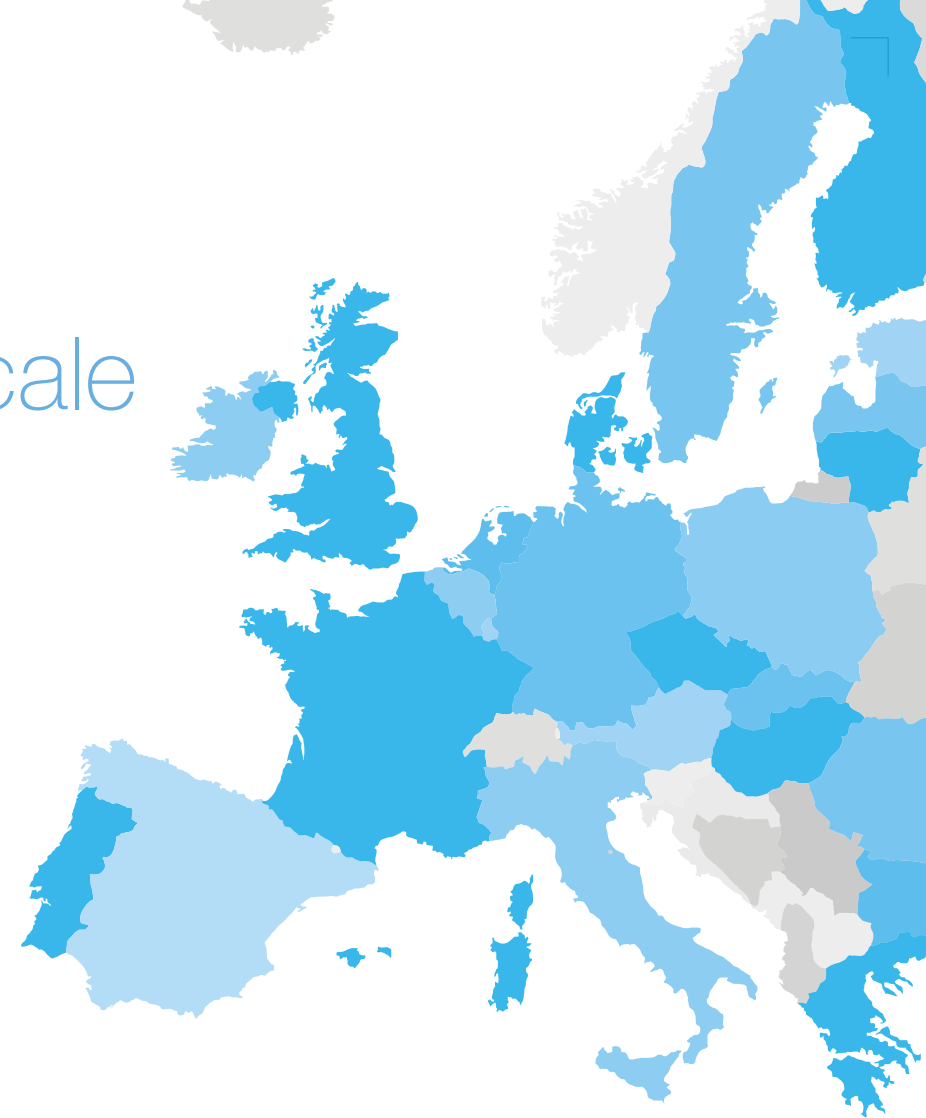
In practical terms, what does that mean?

- **Locations chosen close to major trunk routes and population centres, reducing road miles.**
- **New developments designed from the outset to meet European sustainability standards.**
- **A specification with carbon “built out” and energy and resource efficiency “built in”.**
- **Enhanced sustainability options that enable our customers to further their own sustainability plans.**
- **A commitment to quality, creating buildings with longer lifespans.**
- **Taking a long-view of industrial and societal trends to ensure we create spaces capable of meeting future demands.**

Joined-up thinking around sustainability also requires that we think outside the box. We treat the green spaces around our developments not as an afterthought, but as an opportunity to protect nature, enhance biodiversity, and to improve well-being within the local community by providing valuable shared amenities.

Our approach to sustainability reaps dividends for our customers, as a low carbon, sustainable space is an efficient one. Our commitment to driving down consumption of key resources such as energy and water empowers our occupiers to do more with less, reducing their running costs as they do so.

Panattoni may be Europe’s biggest industrial logistics developer, but we never rest on our laurels. We understand that the decisions we make as a company have global reach and an out-sized impact not just for our customers, but also for our investors and our planet. Our responsible approach to sustainability is key to achieving the long-term goals of all our stakeholders.





sustainability **built in**

Benefit from a high standard specification harnessing Low and Zero Carbon (LZC) technology to prioritise energy efficiency and reduce operating costs

BUILDING BEST PRACTICE

- A build specification that exceeds statutory requirements
- Baseline BREEAM 'Very Good' with the ability to aim for an 'Excellent' rating where conditions allow
- Minimising the use of finite resources, favouring sustainable and renewable resources
- Reducing transport during construction by locally sourcing materials and components

ENERGY EFFICIENCY

- EPC A energy rating
- High level of natural daylight via optimised window placement and 15% roof lights to the warehouse
- Glazing providing excellent thermal performance and optimum reflectance, minimising solar heat gain
- "Supertight" air tightness of 2.5m³/m²/hr @ 50Pa
- Internal and external high efficiency LED lighting with daylight sensors and auto dimming

EVERY DROP COUNTS

- Rainwater harvesting systems
- Water conserving sanitary ware including dual flush, low flow cisterns and automated urinals
- Low flow aerated taps and shower heads
- Water meter and water leak detection systems to monitor water consumption

COMFORT + CONTROL

- High efficiency zoned office ventilation with hybrid heat recovery and low energy mechanicals
- Variable speed pumps and fans, minimising energy usage in low draw situations compared to single speed systems
- Automatic controls based on modular, open standards
- Sub-metering on energy use

MINIMISING WASTE

- Utilising efficient, modularised off-site manufacturing processes where appropriate
- Specifying recycled components and aggregates
- Recycling of all construction waste where possible
- Provision of recycling facilities during occupation
- Use of unbonded materials to facilitate end of life recycling

thinking **outside** the box

The green spaces surrounding our developments are opportunities to protect nature, enhance diversification and improve well-being

NATURE + BIODIVERSITY

- Investigating the ecological footprint of each development to create a site-specific mitigation, protection and enhancement plan
- Landscaping with trees and shrubs to enrich the surrounding ecosystems
- Habitat creation for key protected species
- Shelters for invertebrates, insects and birds, protecting and promoting biodiversity
- Sustainable urban drainage measures, taking into account the effect of climate change on global weather patterns

PEOPLE + PLACE

- Electric vehicle charging points, with infrastructure for additional charging points as required
- Bicycle parking shelters
- Schemes to minimise car travel
- Develop a green transport plan in collaboration with local planning authorities

Lowering CO₂ with intelligent design

The most important time to consider carbon reduction is at the design stage.

Two of the biggest causes of wasted energy are lack of natural light and heat loss through air leakage. All Panattoni buildings include warehouse roof lights and are constructed with a 'supertight' building envelope as standard. Along with intelligent lighting in the offices, these measures reduce electricity consumption by up to 70%, cutting emissions and increasing cost efficiency.

In the summer months a major driver for the overuse of air conditioning is solar heat gain. Panattoni considers the orientation of office space and window positioning at the planning stage, specifying glazing with optimum reflectance and including solar shading where required.





raising the standard

Every new Panattoni development is designed to meet Europe's toughest sustainability measures.

BREEAM

The world's most popular methodology for developing buildings, infrastructure and master-planning projects providing for sustainable use of resources. It is based on the principles of achieving optimal performance, care for the natural environment and multiple use, reconstruction and renovation.

BREEAM considers the environmental, social and economic dimension of projects. As a result, in BREEAM-certified facilities people feel better, natural resources are protected, and investments yield higher returns.

As a minimum, every Panattoni UK build targets a BREEAM 'Very Good' rating, with a BREEAM 'Excellent' rating where applicable.

Areas: Energy, Health and Well-being, Innovation, Land Use, Materials, Management, Pollution, Transport, Waste, Water

LEED*

LEED certification is awarded to green buildings. It means that the project has a positive impact on the people who use it, and on the communities and areas where it was built. It is safe, healthy and was built in a sustainable way.

LEED certification addresses all phases in the life cycle of a building – including the design, construction and performance during subsequent operations.

Panattoni's projects are certified in the category O+M: Warehouses and Distribution Centres.

WELL*

The WELL v1 standard is revolutionising the way people think about building function. It proves that design, use and behaviour in places where we live, work, learn and play can have a profound effect on our life and well-being. Exploring its main areas and resulting functionalities, WELL is a highly flexible standard bringing us into the world of modern design.

Areas: Air, Water, Light, Nourishment, Fitness, Comfort, Mind

From better to best: achieving BREEAM 'Excellent'

As part of our flexible sustainability offering, Panattoni works directly with customers looking to achieve the BREEAM 'Excellent' rating.

To meet this rigorous standard we undertake:

- Early stage planning
- Brownfield location sourcing
- Enhanced sustainable build specification
- Additional sustainable construction measures

So far, three Panattoni developments have achieved the prestigious BREEAM 'Excellent' standard. You can read their case studies overleaf.



sustainable leadership team

Panattoni's Sustainable Leadership Team has been setting the pace in renewable energy and low carbon development for over 20 years, keenly aware that the global economy must make the transition away from fossil fuels to deliver a future that protects both our economy and the environment.

Sustainable industrial development is about understanding both the embedded and operational carbon costs of a building, a development's impact on biodiversity, the way local communities and employees interact with a new scheme, and, vitally, how the power it needs during its operational phase is generated.

When all of these issues are addressed holistically, while never losing sight of the commercial imperatives for investors and occupiers, truly sustainable development becomes possible. Our sustainable leadership team has a proven track record of delivering such schemes, at scale, and at the leading edge of technical innovation.

On the following pages you will find case studies of their most significant sustainable development projects.



CASE STUDY

Stanley Black & Decker · Northampton

Stanley Black & Decker is the world's largest tool, storage and security systems provider. The company approached Panattoni to build a bespoke logistics hub to service their UK-wide operations.

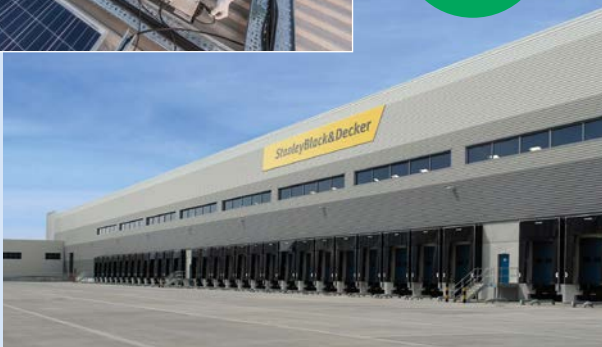
A grade-A 262,500 sq ft build-to-suit was the result. In addition to our sustainability-led standard specification, the client also specified a roof mounted solar PV array. This helped the development to achieve BREEAM Excellent certification.

“Panattoni not only gave us total cost certainty but helped us value engineer the whole project to really drive efficiency. They then delivered an outstanding project and were really easy to work with.”

Alan Carswell, Director Real Estate,
Stanley Black & Decker, Inc.



BREEAM®
‘Excellent’



CASE STUDY

Marks & Spencer · EMDC · East Midlands

At 900,000 sq ft, the solar array Panattoni fitted at the M&S distribution centre near Nottingham was the biggest in Europe when completed. Comprised of 24,272 PV panels, the 5,000MW array will reduce the building's carbon footprint by 48,000 tonnes over 20 years. The array provides almost 25% of the energy the distribution centre needs, making it nearly self-sufficient during daytime operations.

All Panattoni roofs are designed to be strong enough to support a retrofitted solar array, an important part of 'built-in' sustainability. The M&S distribution centre also has a solar wall that allows the building to passively regulate its own internal temperature, and the enabling work included 92,000 tonnes of concrete broken out and recycled on site.

These measures earned the building a 'carbon neutral' certificate and BREEAM excellent accreditation.

BREEAM®
‘Excellent’



CASE STUDY

Co-operative Group · Mansfield

Panattoni delivered a high profile National Distribution Centre for the Co-operative Group.

Built to service 529 regional stores, the 480,000 sq ft ambient and chilled storage facility has the capacity to handle 68 million cases of groceries a year.

Securing up to 900 jobs, the NDC also featured 41,000 sq ft of offices and 36,000 sq ft of ancillary accommodation.

Panattoni's low carbon standard specification, including an EPC 'A' rating, 15% rooflights, improved airtightness, energy efficient office lighting, intelligent lighting controls, plus water conservation features such as rainwater harvesting and dual flush toilets, was key to the NDC achieving a BREEAM Excellent rating.

“We were very impressed with the high degree of professionalism and efficiency demonstrated by the Team, and the quality of the finished product.”

Tim Ellis, Co-operative Group

BREEAM®
‘Excellent’





CASE STUDY COMING SOON

Wind Farm Extension · Kettering

At Kettering Energy Park we delivered the extension to the existing Burton Wold wind farm. This involved the installation of nine GE 1.6MW turbines, the most efficient available when commissioned, to create a new 14.4MW wind farm at the site.

The carefully chosen site has an average wind speed 2.2m/s higher than the UK average, allowing for an annual energy production of over 45,000MW. This saves an average of 12,831 tonnes of CO₂ each year. In its remaining 15 years of life the wind farm is expected to save another 201,000 tonnes of CO₂; a return on investment that benefits everyone.



CASE STUDY COMING SOON

Kettering Energy Park

The wind farm was originally conceived as the epicentre of a more ambitious project. An energy park where wind, solar, biomass and anaerobic digestion would be used to create electricity, heat and vehicle fuel. Occupiers at the site could include growers, using the heat and CO₂ in hydroponic greenhouses, data centres, running on green energy and generating even more heat to be used locally, or other high energy users. The power created would be used on the park and by the local community, eliminating transmission losses and giving Kettering a secure, sustainable electricity supply.

The success of the Energy Park required imagination and political will at a national level that didn't exist at the time. But times change. Many of the solutions proposed at the Energy Park are still relevant and the need is more urgent than ever.



CASE STUDY

Panattoni Park Aylesford

BREEM®
'Excellent'



Panattoni Park Aylesford, our flagship scheme, combines everything we have learned about development that minimises CO₂ emissions, preserves biodiversity and supports sustained and sustainable economic growth.

It is being built using sustainable construction methods such as recycling construction waste and using unbonded materials to facilitate end of life recycling.

Operational carbon use is being addressed through passive design features and the use of LZC (low or zero carbon) technologies.

Passive design features include 15% roof lighting and the use of supertight building envelopes, which require less energy to maintain a constant temperature.

The LZC technologies deployed as standard will be air source heat pumps, to control the temperature in the offices, and roof mounted PV panels.

But operational carbon also includes the carbon used to get people to work. At Aylesford we have all the bases covered. Sustainable transport options include: train, bus service, cycling, walking and car share.

To further encourage take up of these options, it is intended to place e-bikes at key locations near the site for employees to complete their journey to work, and to travel to and from the site at lunch time. Employees at each building will also have free access to an electric car.

In short, every available means will be used to reduce the carbon footprint of this scheme and CO₂ savings of at least 10% are expected. These will complement the 10% net biodiversity boost achieved by a landscaping plan that will make Aylesford one of the greenest schemes in the region.



To find out more about Panattoni's approach
to sustainability, contact us today.

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