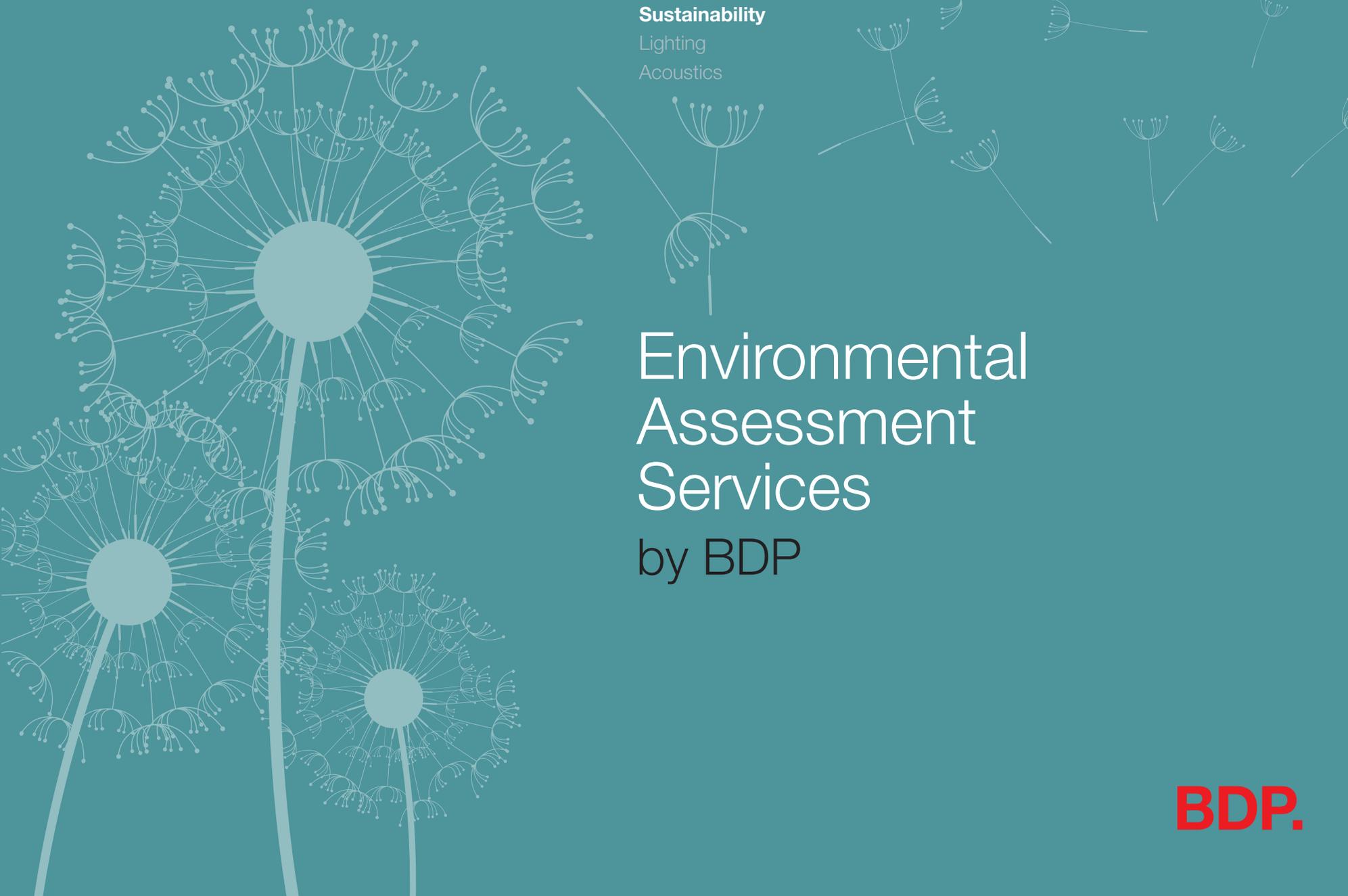


Architecture
Design
Engineering
Urbanism
Sustainability
Lighting
Acoustics



Environmental Assessment Services

by BDP

BDP.

About BDP

BDP is a major international, interdisciplinary practice of architects, designers, engineers and urbanists.

We work closely with users, clients and the community to create special places for living, working, shopping, culture and learning across the world.

Founded in 1961, we now have studios across the UK, Ireland, Netherlands, the MENA region, India, and China.

We combine expertise across disciplines, locations, sectors and all major building types to deliver a truly integrated way of working, resulting in high quality, effective and inspiring built spaces.

BDP brings together the major and specialist skills involved in the design of great buildings into a single, managed service.

Sustainability at BDP

BDP's sustainability group brings together environmental best practice, leading-edge analysis, research into better building techniques, and aims to communicate knowledge and experience within BDP, and throughout the industry.

Through our specialist sustainability team we offer a wide range of sustainability consultancy, assessment and design services. We benefit from being an interdisciplinary consultancy, allowing us to utilise the skills of our architects, engineers, planners and designers to offer comprehensive turnkey services to our clients. Working with experts throughout BDP, we specialise in coordinating and delivering exemplar sustainable solution for the built environment.

Our sustainability team works across the entire built environment spectrum including initial strategy and planning, the design and delivery of sustainable buildings and the assessment and certification of sustainable developments. Our broad expertise allows us to provide a flexible approach to clients depending on their requirements and the scope of the project.

Recent specialist commissions include the delivery of a BREEAM Outstanding headquarters of a leading professional services firm at 7 More London, Environmental Impact Assessment for the Manchester City Football Club Etihad Stadium and LEED assessment for two new state of the art academies in Qatar.

Environmental Services and Assessments

As an interdisciplinary practice we are able to utilise the skills of our architects, engineers, town planners, designers and environmental consultants. Coordinated and managed by our in-house specialist sustainability team, we offer comprehensive, sustainability led, environmental services and assessments to our clients including BREEAM, ecology surveys, EPC/DEC, EIA and planning support.

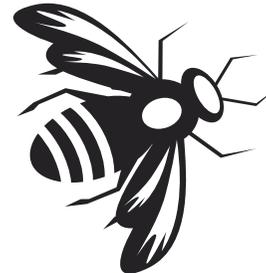
Environmental Services and Assessments

From planning application support to habitat surveys and energy audits. Our services and assessments are broadly grouped into the following key categories:



Environmental Assessments for Built Environment

- BREEAM
- Code for Sustainable Homes
- LEED
- CEEQUAL
- ESTIDAMA
- SKA
- Post Occupancy Assessment
- Development of bespoke Sustainability Framework and Compliance Criteria



Ecology Surveys and Assessments

- Desk Study
- Extended Phase1&2 Habitat Survey
- Protected Species Survey
- BREEAM Ecology Survey
- Ecological Design
- Ecology Management Plans
- National Vegetation Classification Survey
- GIS mapping



Environmental Impact Assessments

- Environmental Impact Assessment Coordination and Management
- Technical Chapter Authorship for Scoping Report and Environmental Assessment
- Habitats Regulation Assessment (HRA)



Energy Performance

- Statutory and Regulatory Compliance Simulation and Testing
- Energy Performance Certificate (EPC)
- Display Energy Performance Certificate (DEC)
- Energy and Carbon Audit
- Specific BREEAM and LEED Calculations
- CIBSE TM54 Modelling
- Life Cycle Costing



Regulations and Policy Compliance

- Sustainability and Energy Statement
- Low Carbon Feasibility Assessment
- BREEAM Pre Assessment
- Building Regulation Compliance (Part 1, section 6)

Environmental Assessments



إستدامة
estidama



breeam

Our Approach

Environmental assessments such as BREEAM and LEED are commonly utilised tools within the built environment industry, steered by policy, funding or corporate targets. BDP recognises that, whilst the assessment methodologies are standard in format, the service requirements are unique to the project. Some clients may simply require assessment services, whilst others may require a comprehensive consultancy package which will allow them to understand and implement measures to achieve assessment certification.

Our assessment services include:

- In-house support for hands on assistance in compliance and assessment evidence collation;
- Bespoke assessment toolkits to facilitate compliant implementation and documentation of sustainability measures during design and construction;
- Training workshops to ensure a full understanding of the assessment scheme, requirements and individual responsibilities.

We aim to open the dialogue with client and design team from the early stages of project development. This integrated approach ensures that we can tailor our service accordingly. Early involvement increases opportunities for cost effective sustainability implementation within the design.

International Environmental Assessments:

BDP's specialist sustainability team is a leading UK specialist in international environmental assessment methods. We are qualified LEED, Estidama, CEEQUAL and BREEAM International assessors and have a wealth of practical project experience of undertaking environmental assessments in a diverse range of geographical locations.

International environmental assessment methodologies present additional challenges in sustainable design and construction, from implementation of sustainability requirements in a challenging geographical or political climate, to interpreting country-specific standards and relating them to appropriate local standards.

BDP has successfully undertaken numerous environmental assessments for clients both in the UK and abroad. Projects include Manchester City Football Academy, Qatar Academies and Bentley Systems London Office.

Close collaboration with the project team is a key component to success, ensuring that it is well supported throughout in interpreting the credit requirements and demonstrating compliance through achievement of the specific standards.



Case Studies

7 More London *BREEAM Outstanding and Post Occupancy Evaluation*

BDP was commissioned to undertake the BREEAM assessment for a flagship office in the heart of London. 7 More London is the first building in London, and the first major office in the UK, to be awarded the new exemplar performance standard rating of Outstanding.

We were appointed to undertake a Post-Occupancy Evaluation (POE) to establish whether the building was performing as designed following commissioning of systems and occupation. The POE was undertaken as a two-stage process. The

first is to work closely with the client to consult on and assess a BREEAM In-Use assessment.

The second phase of the appointment is the aggregation and profiling of the energy meter data for the building, taken from over 300 energy meters installed within the building. Data profiling will provide a breakdown of consumption for each zone, suggest reasons for consumption, and highlight areas where improvements could be implemented to reduce energy consumption. Profile data will also be fed back into the design stage BDP energy model, in order to determine the accuracy of the assumptions within the model. Collectively, the two-stage process will inform decisions regarding the interventions and measures which will have the greatest impact on reducing future carbon emissions for 7 More London.



International Environmental Assessment Method: Manchester City Football Academy *LEED Fit Out assessment*

The City Football Academy in east Manchester was borne of Manchester City Football Club's vision was to create a global centre of excellence for the development of promising young players. A transformative investment in east Manchester, the project saw the redevelopment of a brownfield site adjacent to the club's Etihad station to an 80 acre state-of-the-art facility. The academy development includes 16.5 football pitches, a 7,000 capacity stadium, player accommodation, dedicated media centre and 1st team building.

The academy was designed from the onset to achieve high environmental standards. The former industrial site has been remediated to transform

the vast tract of polluted land into clean land to sustain growth of the high quality turf pitches and extensive site landscaping. MCFC established a target to achieve Gold standard LEED* (*Leadership in Energy and Environmental Design). MCFC sought the experience and expertise of BDP as consultant and LEED assessor to guide the design to achieve the stringent requirements for LEED Gold. The scale of the development and the high sustainability aspirations of MCFC required a strong collaborative approach between BDP and the client and design team in order to maximise opportunities for cost effective, appropriate and LEED compliant design decisions throughout. Once complete and certified by the US Green Building Council, MCFA looks set to become the largest development in the UK to achieve the prestigious LEED Gold rating, establishing the facility at the forefront of environmental design.

Ecology



BDP's in-house ecology team provides a wide range of habitat and protected species surveys to assist planning applications and to ensure our projects comply with all EU and UK wildlife legislation.

The team understands that biodiversity is a fundamental element of holistic design and we are able to raise the ecological credentials of our projects by providing tailored design advice to enhance biodiversity value and achieve maximum BREEAM Land Use and Ecology credits.

BDP. Ecological Survey Calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Habitat	Limited by vegetation					Optimal vegetation				Limited by vegetation			
Badgers	Limited activity	Bait marking and sett surveys					Limited field signs			Sett surveys		Limited activity	
Bats	Hibernation roost surveys			Limited activity		Summer roost and activity surveys				Limited activity	Hibernation roost surveys		
Birds	Wintering surveys		Breeding and migrant surveys		Breeding surveys		Limited activity		Migrant surveys		Wintering surveys		
Dormice	Hazelnut search					Nest box surveys					Hazelnut search		
Great Crested Newt	Hibernating			Pond surveys				Terrestrial surveys			Hibernating		
Otters	Field surveys can be carried out throughout the year												
Reptiles	Hibernating		Limited activity	Activity surveys		High temperature limit surveys			Activity surveys		Hibernating		
Water Vole	Limited activity			Field sign and activity surveys							Limited activity		
White Clawed Crayfish	Limited activity			Field signs and activity surveys	Restricted due to presence of young		Field signs and activity surveys				Limited activity		

The calendar indicates the time of year specific ecological surveys can be carried out. It is intended as a guide, please contact us for further information BDP, 11 Ducie Street, PO Box 85, Piccadilly Basin, Manchester, M60 3JA

Optimal Survey period
 Sub-optimal survey period
 Survey not possible

Tel: 0161 828 2480
ecology@bdp.com

Habitat surveys:

- Extended Phase 1 Habitat Survey
- National Vegetation Classification Survey
- Bespoke Botanical Survey

Protected species:

- Great crested newt
- Badger
- Bat
- Reptile
- Dormouse
- Water Vole

Ecological Design:

- Creating Habitats
- Native Planting Design
- Green Roof Design
- Ecological Management Plans

Environmental Impact Assessments Coordination and Technical Chapter Authorship

Our Approach

BDP offers a complete Environmental Impact Assessment (EIA) service, taking projects through from concept to planning submission and consent. Our approach is centred around a strong collaborative work ethic. Through our interdisciplinary integrated team, we are able to ensure that complex and interrelated issues are identified with consideration for their wider impact so as to ensure a well informed, comprehensive mitigation solution.

EIA Coordination and Management

BDP has a dedicated team of experienced environmental planning consultants who specialise in the efficient management and coordination of the Environmental Impact Assessment process.

Technical Chapter Authorship

Our team of experienced interdisciplinary specialists undertake all of the necessary surveys, assessments and reporting required for a robust EIA. As an interdisciplinary practice we are able to offer a full comprehensive EIA service, drawing on the expertise of our specialist across the relevant disciplines.

EIA Quality Mark

BDP is proud to hold the IEMA EIA quality mark. The quality mark provides a new benchmark in quality EIA practice. It provides our clients with independently verified assurance of experience and integrity in successful EIA delivery.

- Planning Policy
- Local Community and Community
- Archaeology and Cultural Heritage
- Flood Risk and Drainage
- Lighting
- Transport Noise
- Waste
- Landscape and Visual Impact
- Geology, Soils and Contamination
- Ecology and Biodiversity
- Climate Change and Sustainability
- Air Quality

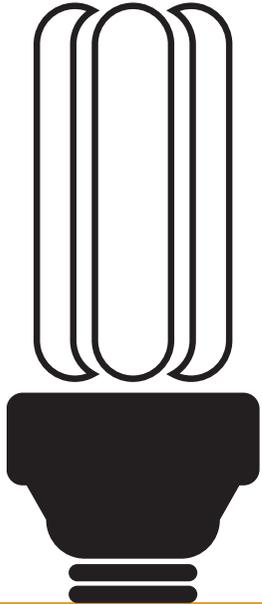


Case Study

Manchester City Etihad Stadium Expansion

BDP was appointed to provide environmental and ecological consultancy services, including technical input to the Environmental Impact Assessment; scoping report and Environmental Statement. Utilising a raft of skills within our interdisciplinary practice, we provided technical input in archaeology, noise and vibration, air quality, flood risk assessment and water resources, ecology, waste and resources. Assessing the site and surrounding area within the context of the local planning policy, each specialist team provided comprehensive assessment of constraints, opportunities and mitigation to ensure the negligible environmental impact of the stadium expansion.

Energy Assessment



Life Cycle

As carbon emissions from new and refurbished buildings continue to drive down, the environmental impact of building materials themselves is becoming more significant. Popular internationally recognised rating schemes such as BREEAM have recognised this for some time. It is only recently however that mature tools and the advent of BIM have made such assessments practical on the average project. The tools and methods are still maturing however and this has been recognised by providing opportunities to early adopters (extra BREEAM exemplar credits, for example).

Whether the question is to refurbish or rebuild, or merely a matter of what Environmental Product Declarations are required, BDP can assist in navigating to the correct decisions through bespoke life cycle analysis.



Our Approach

BDP offers comprehensive energy assessment services throughout the development program. Our clients are informed and represented in the best way regarding energy related legislative and policy requirements.

Whether it's a building control submission or assisting with an ambitious carbon reduction target, BDP's fully accredited energy assessors offer a comprehensive suite of compliance assessments, including:

- Building Regulations Part L Certification;
- Energy Performance Certificates (EPC) and Display Energy Certificates (DEC);
- LEED PRM ASHRAE 90.1 compliance calculations;
- SAP calculations;
- Alternative Energy Systems report (new Part L requirement);
- CIBSE TM 39 - metering strategies;
- CIBSE TM 54 - operational energy performance.

Case Study

Manchester Town Hall *TM39 and TM22 Energy Metering and Compliance Analysis*

BDP developed and implemented a TM39 extensive metering strategy, for the Manchester Town Hall Complex Transformation project to facilitate live, intelligent energy monitoring and performance analysis during operation. 447 energy, electrical and water meters have been installed on the project, all of which are referenced and displayed through the building management system. We developed 'norms' for each individual meter – by calculating the expected consumption of each meter. This extensive exercise allows

Manchester City Council to see alarms if any of the meters are measuring consumption in excess of calculated usage. This approach allows problems to be identified and rectified and encourages friendly competition between departments, in reducing energy and water consumption.

The key outputs of the exercise included:

- Cataloguing and embedding of 447 meters and associated schematics in the BMS;
- Embedding calculated 'norms' against each meter in the BMS;
- Metered energy and water consumption visible to all staff through their PCs;
- Live facility for MCC to adopt energy monitoring and performance analysis procedures inline TM22 guidelines.

Regulation and Policy Compliance



Our Approach

Sustainability, energy efficiency and carbon reduction are becoming increasingly prevalent considerations within the UK, driven by national mechanisms including national legislation, local planning policy, government taxation and funding requirement standards. Often, in response or in addition to regulations and policy, corporate drivers and strategic targets provide an additional layer of sustainability requirement adherence.

Our approach is to develop a robust sustainability case at project onset, extrapolating the sustainability brief and developing a thorough understanding of all relevant compliance requirements. Embedding the sustainability requirements within the design from the earliest stages establishes opportunities for compliance at minimal additional project cost, whilst ensuring policy requirements are fully addressed.

Case Study

Manchester University Library Better Buildings Initiative (BBI)

The Better Buildings Initiative (BBI) is the University of Manchester's bespoke approach to ensuring that estate development projects deliver buildings to the overarching sustainability, energy efficiency and overall performance standards required by the University. BBI incorporates elements from the Soft Landings Framework, RIBA 2013 Plan of Works and the NEC contract philosophy. The ultimate aim of BBI is to deliver buildings which exceed the University's expectations for sustainability, energy efficiency, manageability and overall performance.

BDP was appointed as M&E engineers and sustainability consultants for the University Library refurbishment. Within our sustainability remit BDP took ownership of BBI responsibilities, developing a compliance framework to monitor and document design actions at each stage against the BBI requirements. A key aspect of the BBI brief aligned to the Soft Landings framework was the undertaking of a design commissioning review at RIBA Stage 3. The review was undertaken by an independent commissioning specialist.

The design commissioning review is a key tool in reducing the potential for negative environmental impacts by verifying that buildings are designed, constructed and operated as intended, so as to 'best fit' solutions the client's operational use requirements and sustainability requirements.

Environmental
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