

PLINTHOS

ESG Valuation Insert

RICS Sustainability and ESG in Commercial Property Valuation, 4th Edition

PROPERTY	Thornley House, 22 Colworth Row, Manchester M2 3FJ
TYPE	Multi-let office 4 tenants Grade B specification
FLOOR AREA	1,394 m ² (15,006 sq ft) GIA
EPC RATING	Band C Score 68
VALUATION DATE	30 June 2026
REFERENCE	PLT-2026-WE-001

This ESG Valuation Insert is prepared as a standalone appendix for inclusion in a Red Book valuation report. It provides the structured ESG risk and cost data required under RICS Sustainability and ESG in Commercial Property Valuation, 4th Edition (effective 30 April 2026).

WORKED EXAMPLE — This document uses a fictional property and illustrative data. It demonstrates the format and depth of a Plinthos ESG Valuation Insert. It does not constitute professional valuation advice.

Executive Summary

Thornley House is a 1,394 m² multi-let office building in Manchester city centre, currently holding an EPC rating of Band C (score 68). Under the current Minimum Energy Efficiency Standards (MEES), the asset is fully compliant. However, the Government’s interim response published on 18 June 2026 confirms that privately rented non-domestic buildings above 1,000 m² will be required to achieve EPC B by 2031, subject to secondary legislation. This asset falls within scope.

The analysis identifies two regulatory exposure points. First, the asset will fail the proposed 2031 MEES threshold without intervention, creating a lettability risk that directly affects market rent assumptions and yield. Second, the asset’s carbon intensity of 38.2 kgCO₂e/m²/yr — driven by an energy use intensity of 237 kWh/m²/yr including gas-fired heating at 87 kWh/m²/yr — exceeds the CRREM 1.5°C decarbonisation pathway for UK offices from approximately 2035, indicating a stranding risk under institutional ESG screening criteria.

A targeted retrofit package — LED lighting, building management system (BMS) optimisation, and secondary glazing — is estimated at £65,000–£85,000 and would be sufficient to achieve EPC B, resolving both the MEES compliance risk and extending CRREM pathway alignment to beyond 2040. The retrofit passes the MEES seven-year payback test.

MEES Risk Tier	Stranding Year	Capex to EPC B	Payback Period
AMBER	2031	£65k–£85k	4.8 years

Module 1: EPC & MEES Risk Classification

This module classifies the asset's regulatory risk using a Red/Amber/Green framework aligned with the RICS standard risk matrix, as recommended in Section 5.2 of the RICS Sustainability and ESG in Commercial Property Valuation, 4th Edition.

Current EPC Rating

Parameter	Detail
Current EPC Band	C (score 68)
Certificate Reference	0000-0000-0000-0000-0000 (fictional)
Assessment Date	14 March 2024
Valid Until	13 March 2034
Assessor	Registered Energy Assessor (Level 3/4)
Primary Heating	Gas-fired boiler system (installed 2012)
Lighting	Mixed fluorescent / LED (approx. 60% fluorescent)
Insulation	Cavity wall insulation; single-glazed windows to rear elevation

MEES Compliance Assessment

Regulatory Threshold	Requirement	Asset Status	Compliance
Current MEES (2023)	EPC ≥ E	EPC C (score 68)	COMPLIANT
Proposed MEES (2031)	EPC ≥ B (>1,000 m²)	EPC C (score 68)	NON-COMPLIANT

Regulatory note: On 18 June 2026, the Department for Energy Security and Net Zero (DESNZ) published Written Statement HCWS126 confirming that privately rented non-domestic buildings above 1,000 m² will be required to achieve EPC B by 2031, where cost-effective. The previously proposed interim EPC C target for 2027 has been dropped. Buildings below 1,000 m² remain subject to the existing EPC E standard. The requirement is subject to secondary legislation. Existing flexibility mechanisms, including the seven-year payback test and current exemptions, will be retained.

Risk Classification

Risk Tier	EPC	Implication for Valuation	This Asset
GREEN	A or B	Compliant under current and proposed MEES. Potential green premium on rent and yield.	
AMBER	C to E	Compliant under current MEES. Non-compliant under proposed 2031 threshold for buildings >1,000 m². Capex required; adjust yield to reflect transition risk and cost to comply.	●
RED	F or G	Non-compliant under current MEES. Unlettable without exemption. Material valuation impairment; may require brown discount to yield.	

Valuation implication: The AMBER classification indicates that the asset is operationally compliant today but faces a regulatory transition risk within the valuation's five-year cash flow horizon. The valuer should consider reflecting the estimated compliance cost (£65k–£85k) as a capital deduction or adjusting the yield by 10–25 basis points to account for the transition risk, consistent with RICS 4th Edition Section 5.2 guidance on reflecting MEES risk in market rent and discount/capitalisation rates.

Module 2: Stranded Asset Timeline

This module projects the asset's regulatory and carbon pathway exposure over time, identifying the point at which the asset becomes non-compliant under both MEES regulation and the CRREM 1.5°C decarbonisation pathway for UK offices. This is the output not available from any standard EPC or desktop energy assessment.

Regulatory & Carbon Timeline

Exposure Point	Date	Trigger	Impact
MEES EPC B (>1,000 m²)	1 April 2031	Asset holds EPC C (score 68). EPC B requires score ≤50. Gap: 18 points.	Without upgrade or valid exemption, the asset becomes unlettable under MEES for new tenancies and renewals. Existing tenancies may also be affected.
CRREM 1.5°C stranding	c. 2035	Current carbon intensity (38.2 kgCO ₂ e/m²/yr) exceeds the CRREM 1.5°C UK office pathway from approximately 2035, even accounting for grid decarbonisation.	Asset flagged as “stranded” under CRREM methodology. May trigger exclusion from institutional investor portfolios applying CRREM-aligned screening.

Carbon Intensity Projection (No-Retrofit Baseline)

The table below projects the asset's carbon intensity forward under a no-retrofit scenario, assuming flat energy demand and declining UK grid electricity emission factors only. Total energy demand: 237 kWh/m²/yr (electricity: 150 kWh/m²/yr; gas: 87 kWh/m²/yr).

Year	Grid EF (kgCO ₂ e/kWh)	Carbon Intensity (kgCO ₂ e/m²/yr)	CRREM 1.5°C Pathway	Status
2024	0.149	38.3	35.7	ABOVE
2026	0.130	35.4	31.2	ABOVE
2028	0.112	32.7	27.1	ABOVE
2030	0.095	30.2	23.4	ABOVE
2033	0.072	26.7	18.5	ABOVE
2035	0.058	24.6	15.4	STRANDED
2040	0.032	20.7	9.8	STRANDED
2050	0.010	17.4	3.2	STRANDED

Grid emission factors: DESNZ UK grid average projections consistent with the Seventh Carbon Budget trajectory. Gas emission factor held constant at 0.183 kgCO₂e/kWh. CRREM pathway: 1.5°C Paris-aligned, UK office sector.

Key finding: Grid decarbonisation alone is insufficient to bring this asset within the CRREM 1.5°C pathway. The gas heating load (87 kWh/m²/yr at a constant emission factor of 0.183 kgCO₂e/kWh) creates a carbon floor of 15.9 kgCO₂e/m²/yr that cannot be eliminated without building-level intervention — either fuel switching (electrification of heating) or deep fabric retrofit to reduce gas demand. The MEES compliance deadline of 2031 arrives before the CRREM stranding point of c. 2035, making the regulatory risk the more immediate concern.

Module 3: Capex Assessment & ROI Modelling

This module estimates the capital expenditure required to upgrade the asset from its current EPC C (score 68) to EPC B (score ≤ 50), identifies the highest-ROI measures, and assesses compliance with the MEES seven-year payback test. Cost benchmarks are derived from analysis of 136 UK REIT sustainability reports and publicly available retrofit cost data.

Recommended Retrofit Measures

Measure	Est. Cost	EPC Points	Annual Saving	Payback	Priority
LED lighting upgrade	£18k–£22k	8–10	£5,200/yr	3.8 yrs	HIGH
BMS optimisation & controls	£15k–£20k	5–7	£3,800/yr	4.6 yrs	HIGH
Secondary glazing (rear)	£25k–£32k	4–6	£2,400/yr	11.9 yrs	MEDIUM
Draught-proofing & air tightness	£4k–£6k	2–3	£1,200/yr	4.2 yrs	HIGH
Roof insulation top-up	£3k–£5k	1–2	£800/yr	5.0 yrs	MEDIUM

Cost Summary & Payback Analysis

	Low Estimate	High Estimate	Mid-Point
Total capex (all measures)	£65,000	£85,000	£75,000
Annual energy cost saving	£13,400	£13,400	£13,400
Simple payback period	4.9 years	6.3 years	5.6 years
Seven-year payback test	PASSES	PASSES	PASSES
Projected EPC improvement	+20–28 points	+20–28 points	+20–28 points
Target EPC after retrofit	B (score 40–48)	B (score 40–48)	B (score 40–48)

Energy cost assumption: electricity at 28.6p/kWh, gas at 7.4p/kWh (BEIS non-domestic average, Q1 2026). Savings calculated on the basis of reduced consumption, not price inflation. Payback periods are simple (undiscounted). The seven-year payback test is the MEES cost-effectiveness criterion.

Valuation implication: The total estimated capex of £65k–£85k may be reflected as a capital deduction from the gross valuation, or alternatively incorporated through a yield adjustment. The retrofit programme should be timed to complete before 2031 to avoid lettability constraints. Where the valuer adopts a discounted cash flow approach, the capex should be modelled as an outflow in the year(s) of anticipated expenditure.

Module 4: Standardised KPI Dashboard

This module presents the globally recognised ESG key performance indicators specified in RICS Sustainability and ESG in Commercial Property Valuation, 4th Edition, Appendix A.

Energy & Carbon Performance

KPI	Value	Unit	Benchmark	Assessment
Total energy consumption	330,378	kWh/yr	—	—
Energy use intensity (EUI)	237	kWh/m²/yr	195–280	TYPICAL
Electricity consumption	209,100	kWh/yr	—	—
Gas consumption	121,278	kWh/yr	—	—
Scope 1 emissions (gas)	22.2	tCO ₂ e/yr	—	—
Scope 2 emissions (electricity)	31.2	tCO ₂ e/yr	—	—
Total operational carbon	53.3	tCO ₂ e/yr	—	—
Carbon intensity	38.2	kgCO ₂ e/m²/yr	25–45	TYPICAL
Renewable energy on-site	0	kWh/yr	—	NONE

Regulatory & Certification Status

KPI	Status	Detail
EPC rating	C (score 68)	Valid until March 2034
MEES compliance (current)	Compliant	Minimum EPC E requirement met
MEES compliance (2031)	At risk	EPC B required for buildings >1,000 m²
BREEAM rating	Not certified	No BREEAM assessment undertaken
GRESB participation	Not applicable	Single-asset, not fund-level
Display Energy Certificate	Not required	Non-public building

Physical Climate Risk

Risk Category	Exposure	Assessment Basis	Materiality
Fluvial flood risk	Low	EA Flood Zone 1 (Manchester city centre)	LOW
Surface water flood risk	Medium	Localised ponding risk identified in EA surface water maps	MEDIUM
Heat stress	Medium	Urban heat island effect; no mechanical cooling to some floors	MEDIUM
Subsidence	Low	Clay shrinkage risk — low to moderate for Manchester geology	LOW
Wind / storm damage	Low	No specific structural vulnerability identified	LOW

Limitations & Methodology

Scope of This Insert

This ESG Valuation Insert provides structured sustainability data and risk analysis to support a Red Book valuation. It does not constitute a building survey, a condition report, a Quantity Surveyor's cost estimate, a formal energy audit, or professional valuation advice. The insert is designed to be read alongside, and is supplementary to, the valuer's own professional assessment.

Capex Estimates

Cost estimates are benchmarked figures derived from the Plinthos 120-point Disclosure Quality Index framework, informed by analysis of 136 UK REIT sustainability reports and publicly available retrofit cost data. They are indicative only and are not a substitute for a formal Quantity Surveyor's specification and tender. Actual costs will depend on site conditions, procurement route, specification, and market conditions at the time of works. The RICS 4th Edition (Section 3) permits technology solutions providing cost information to substitute for formal QS estimates where proportionate, provided limitations are stated.

EPC Projections

Projected EPC improvements are estimates based on the Standard Assessment Procedure (SAP) / Simplified Building Energy Model (SBEM) methodology. Actual EPC outcomes following retrofit will depend on the specification of works and the assessor's modelling assumptions. A post-works EPC assessment should be commissioned to confirm the achieved rating.

CRREM Alignment

CRREM pathway data is drawn from CRREM v2.0, 1.5°C Paris-aligned scenario, UK office sector. Forward projection assumes flat energy demand (no retrofit) and declining grid electricity emission factors consistent with the Seventh Carbon Budget trajectory. The projection does not account for climate change impacts on heating or cooling demand, changes in occupancy patterns, or future grid emission factor revisions.

Regulatory Uncertainty

The proposed MEES EPC B requirement for buildings above 1,000 m² by 2031 is based on the Government's interim response (Written Statement HCWS126, 18 June 2026). Secondary legislation is required to bring this into force. The final scope, timeline, exemption criteria, and enforcement mechanisms may differ from the current published position.

Methodology

This insert was prepared using the Plinthos ESG Valuation Insert platform, which combines AI-assisted analysis with human expert audit. The methodology is underpinned by the Plinthos 120-point Disclosure Quality Index (DQI) framework, derived from empirical analysis of 136 UK REIT sustainability reports. All outputs are reviewed and verified by a qualified professional before delivery.

Suggested limitation clause for Terms of Engagement: "The ESG Valuation Insert appended to this report has been prepared by Plinthos using benchmarked data and AI-assisted analysis, reviewed by a qualified professional. Cost estimates are indicative and derived from sector benchmarks, not a formal QS specification. The valuer has reviewed the insert and adopted its findings where consistent with their professional judgement. The insert does not constitute a building survey, energy audit, or independent valuation."

Appendix: Before & After Comparison

The following comparison illustrates the difference between a typical ESG paragraph in a current valuation report and the structured ESG Valuation Insert produced by Plinthos. This contrast demonstrates the compliance and analytical gap that the RICS 4th Edition is designed to address.

BEFORE: Typical ESG Paragraph in a Valuation Report

"We have had regard to the Energy Performance Certificate for the property, which shows a rating of C. We are not aware of any significant environmental risks that would materially affect the valuation. The current MEES regulations require a minimum EPC rating of E; the property is therefore compliant. We have not been instructed to carry out an environmental audit."

This two-sentence approach was common practice before the RICS 4th Edition. It has three critical gaps:

1. It notes the EPC rating but does not assess future MEES exposure — specifically, the 2031 EPC B requirement for buildings above 1,000 m².
2. It contains no quantified capex estimate for compliance, providing no basis for the valuer to make a defensible yield or capital adjustment.
3. It does not reference carbon intensity, CRREM pathways, or stranded asset risk — all of which are now expected under the RICS 4th Edition Appendix A KPIs.

AFTER: Plinthos ESG Valuation Insert

A structured, multi-module appendix providing:

- ✓ EPC & MEES Risk Classification — RAG-rated risk tier with explicit reference to the 2031 proposed threshold and valuation implications
- ✓ Stranded Asset Timeline — Forward carbon intensity projection against CRREM 1.5°C pathway, identifying the stranding year
- ✓ Capex Assessment & ROI Modelling — Itemised retrofit costs, energy savings, payback periods, phasing recommendation, and seven-year payback test
- ✓ Standardised KPI Dashboard — Energy intensity, carbon intensity, physical climate risk, and certification status per RICS Appendix A
- ✓ Limitation Clauses — Pre-drafted limitation wording for the valuer’s Terms of Engagement, covering scope, methodology, and data sources

This is what your clients receive.

Each Plinthos ESG Valuation Insert is generated using AI-assisted analysis, then reviewed and verified by a qualified professional before delivery.

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