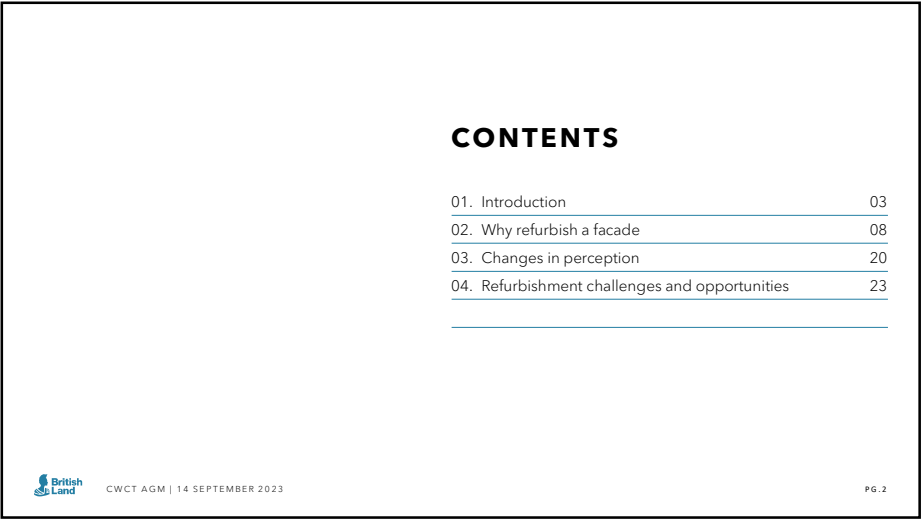
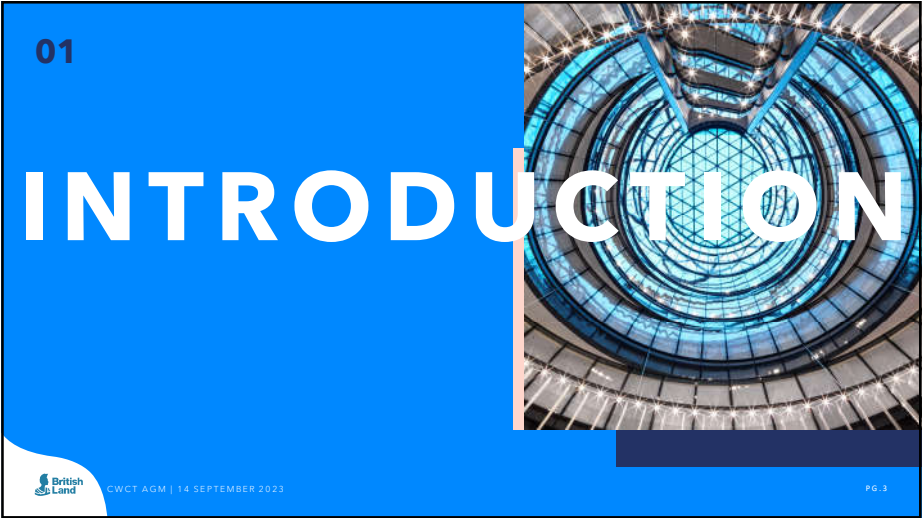


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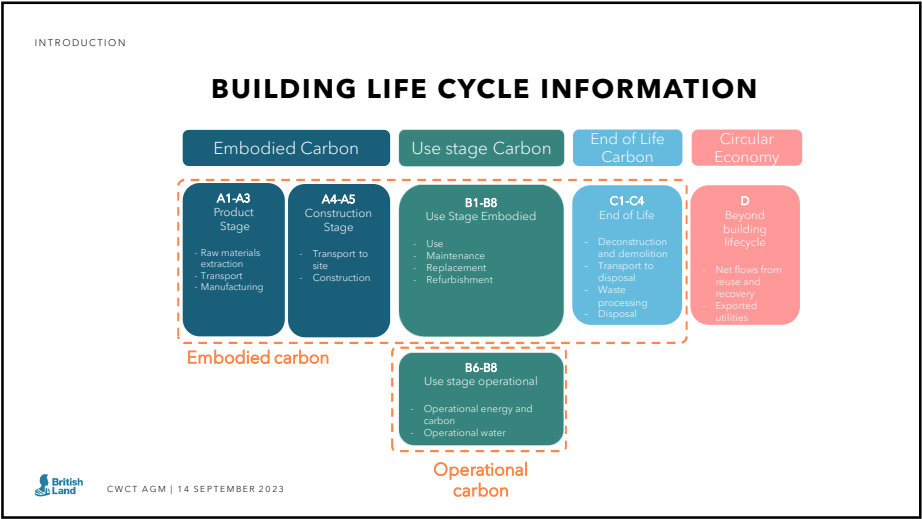
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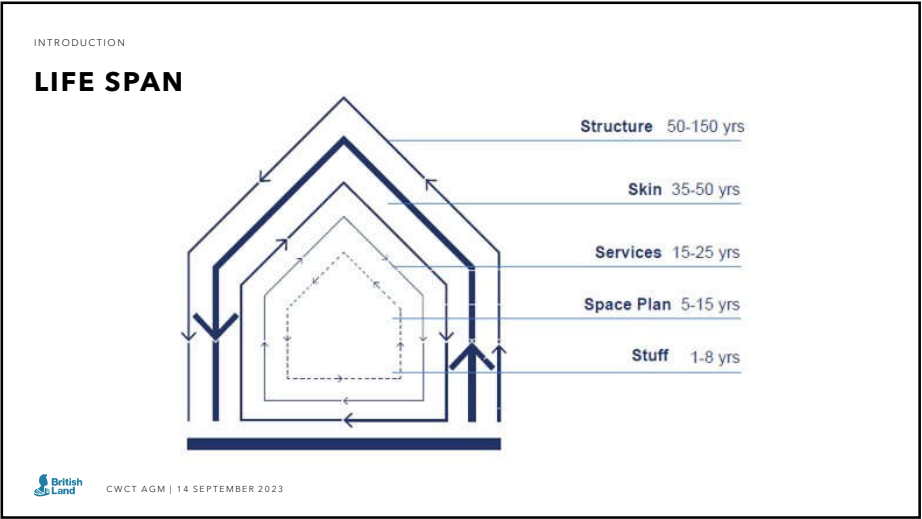
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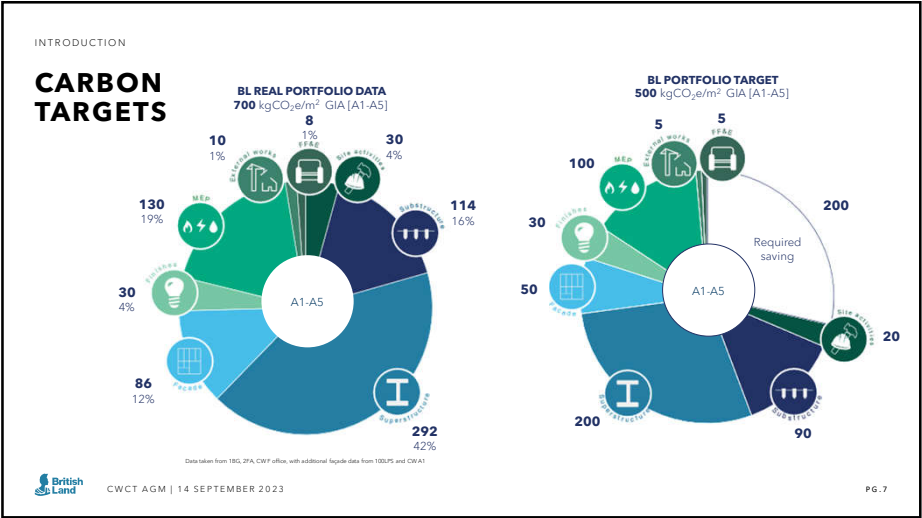
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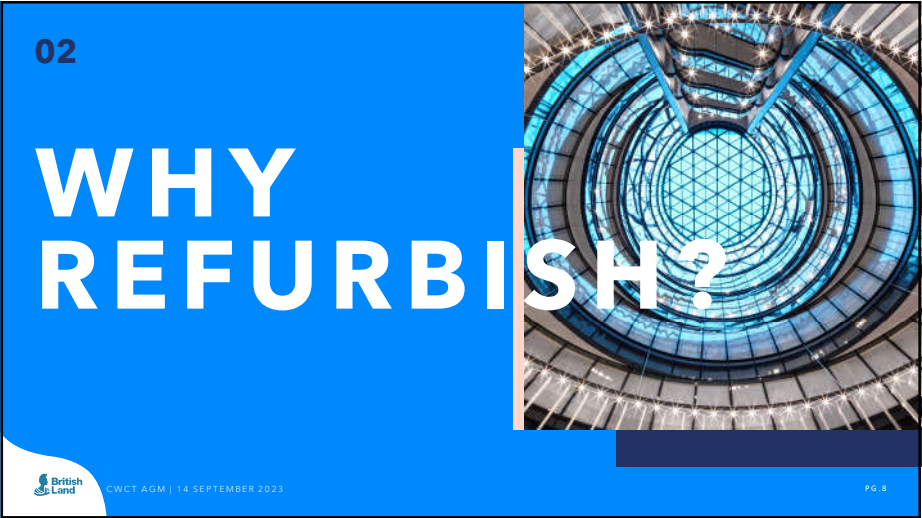
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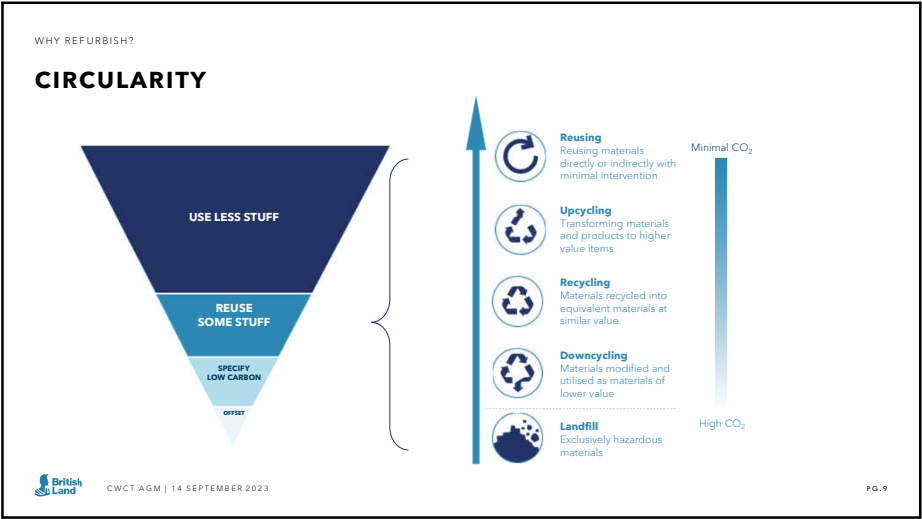
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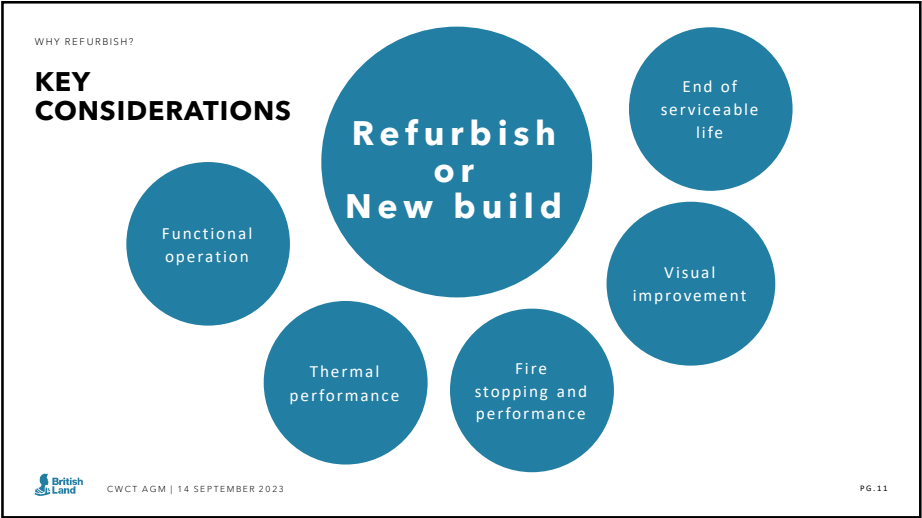
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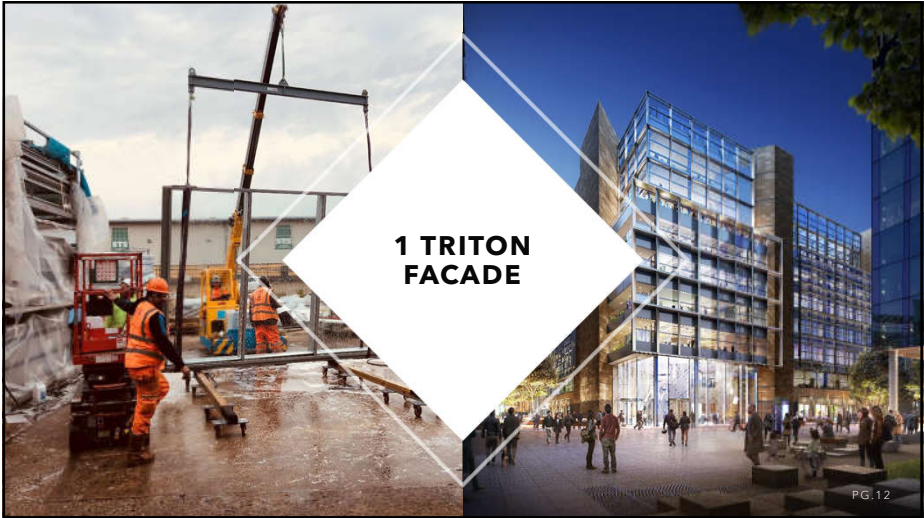
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WHY REFURBISH?

**1. TRITON SQUARE, 1998**  
DESIGNED FOR TRADING  
BACK OFFICE AFTER 12 MONTHS.  
CORNER CORE ARRANGEMENT.  
OPPORTUNITY FOR DRAMATIC  
IMPROVEMENT AT THE GROUND  
PLANE.

FRENCH LIME STONE  
VAL DU NOIR

CONSISTENCY OF  
PROPORTION

SCHIEDEL/MAJAC  
METAL, DOUBLE GLAZED  
HIGH PERFORMANCE  
TWIN SKIN

MATERIAL QUALITY & INTEGRITY  
CLARITY OF INTENT

DARK GREY FRENCH  
GRANITE, RETAINED AND  
REUSED



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WHY REFURBISH?




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WHY REFURBISH?

**OUTCOME**

- BREEAM Outstanding
- 54% reduction in embodied carbon
- 40,000 tonnes a carbon saved
- 50% additional net office area



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WHY REFURBISH?

**NEW CLADDING REASONING**

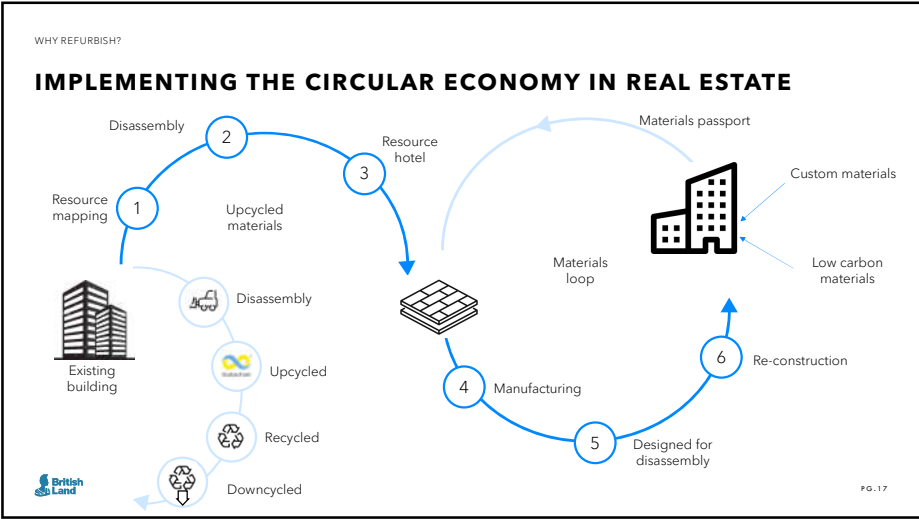
Sometimes no matter how hard you thrash it; it just won't work.....

- Beyond economic repair (Cost/Time/Carbon)
- Unacceptable aesthetics that detracts from value
- Performance criteria is too low
- Inflexible for new use or layout.
  - Office to Residential
  - Building extension or infill



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WHY REFURBISH?

### HOW WE ARE REDUCING EMBODIED CARBON IN DEVELOPMENTS

1. Re-use & recycle	2. Low carbon materials	3. Offset residual
We prioritise the re-use of existing structures and materials	We pilot low carbon materials and techniques	We use certified nature-based carbon credits to offset residual carbon
 1 Triton Square	 Canada Water	 100 Liverpool Street

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PG. 19

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03

# CHANGES IN PERCEPTION

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PG. 20

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CHANGES IN PERCEPTION

**'STANDARD' APPROACH**

- Not compatible with a new build or extension
- Cladding assumed to have limited design life
- Perception of increased cost and programme to retain or refurbish
- Greater risk in removal and refurbishment
- Lack of as-built details, fabrication data or specification



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PG. 21

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CHANGES IN PERCEPTION

**REFURBISHMENT CONSIDERATIONS**

- Presumption in favour of refurbishment. 'why wouldn't you?'
- Embodied carbon retention
- Refurbishment of the building services (de-gas, ASHP, smart air supply, mixed mode) should include a review of the facade performance.
- Future proofing for openable windows or louvre?
- Can part or all the cladding be repurposed within the building?
- Programme and cost benefits of retention



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04

**CHALLENGES & OPPORTUNITIES**



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PG. 23


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CHALLENGES & OPPORTUNITIES

**REFURBISHMENT CHALLENGES**

- Ease of disassembly and reassembly, internal and external access requirements
- Risk of damage
- Performance limitations
- Visual limitations and aesthetic appearance, the marriage of new and old
- Robustness and ease of modification - solar shading / openable vents
- Complexity of finding replacements or spare parts
- Listing or heritage interest



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PG. 24


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CHALLENGES & OPPORTUNITIES

**REFURBISHMENT OPPORTUNITIES**

- Embodied carbon saving
- Potential cost savings
- Potential programme savings
- May be done in-situ with tenants in occupation or phased
- Additional area or amenity space provision
- Diversity within the local contracting market to undertake the work





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PG. 25

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