

Materials credits within BREEAM – LCA, the Green Guide and timber

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Research, innovation, consultancy, testing, certification, training

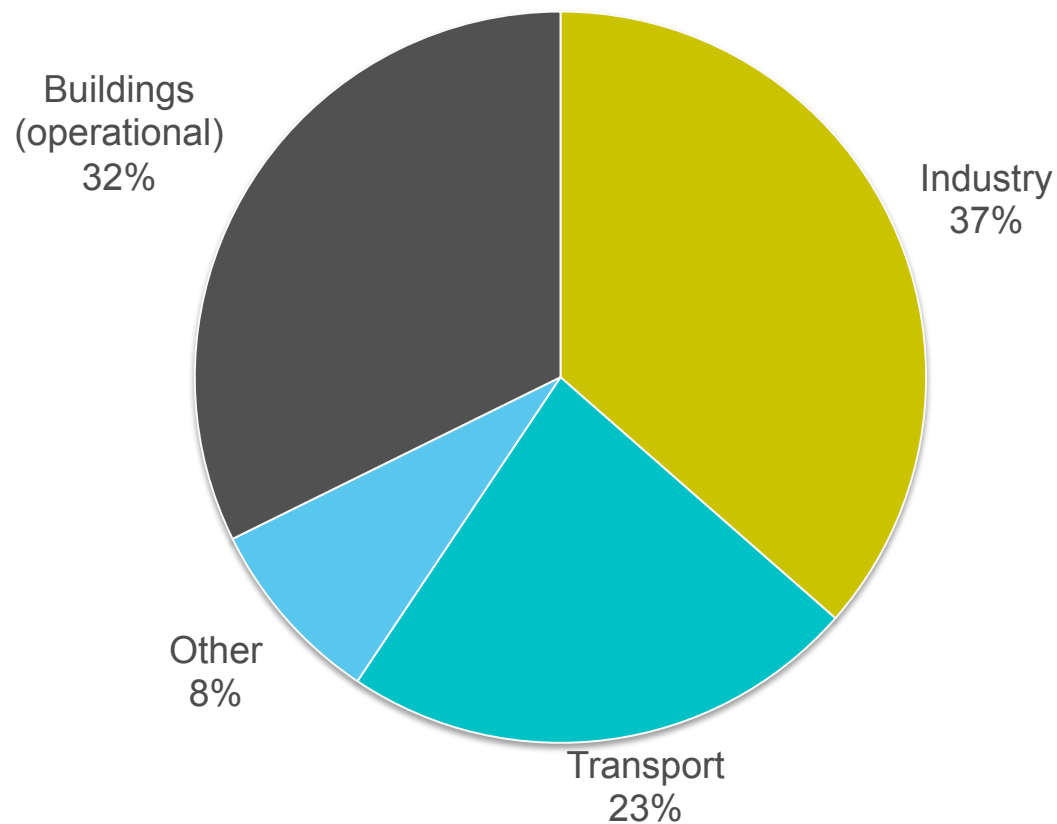


Working in the built environment, but also transport, manufacturing, electronics, agriculture...

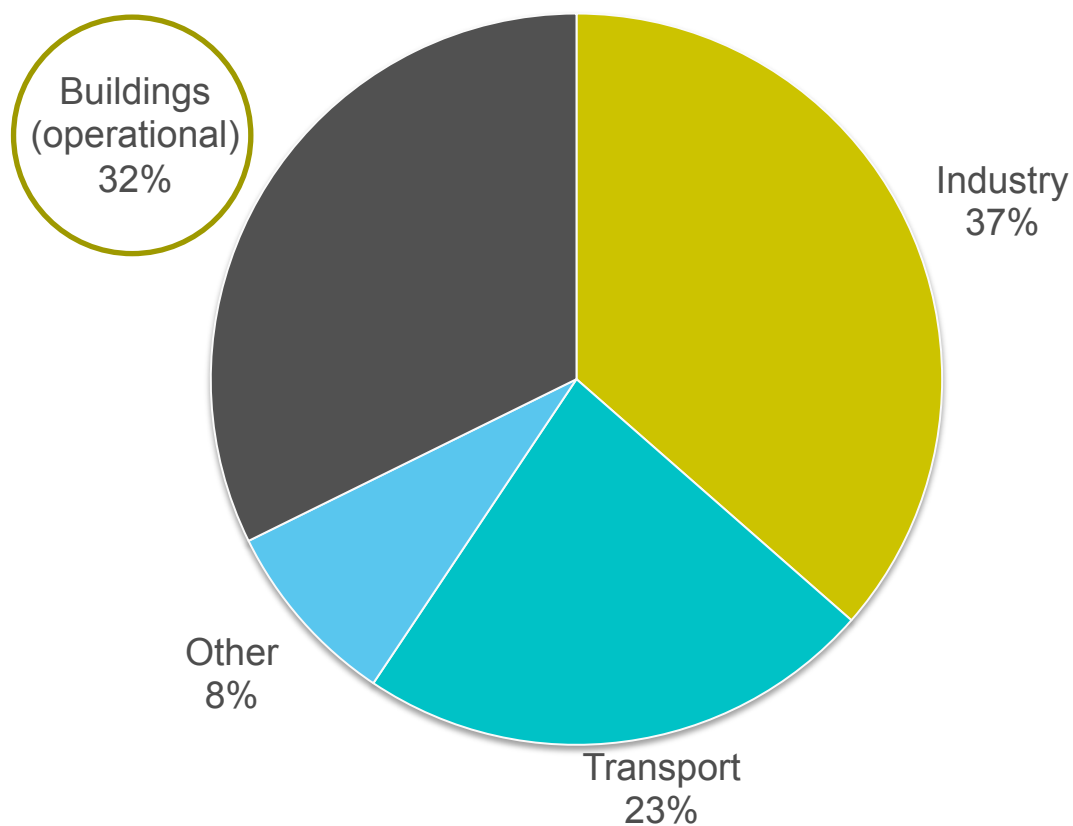
A teal-colored rectangular area that serves as the background for the title. On the right side of this area, a large white number '1' is positioned, partially overlapping the teal background and extending into a light blue gradient area below.

Building level assesment
BREEAM

Scale: global emissions energy & processes 28 GtCO_{2e}



Scale: global emissions energy & processes 28 GtCO_{2e}

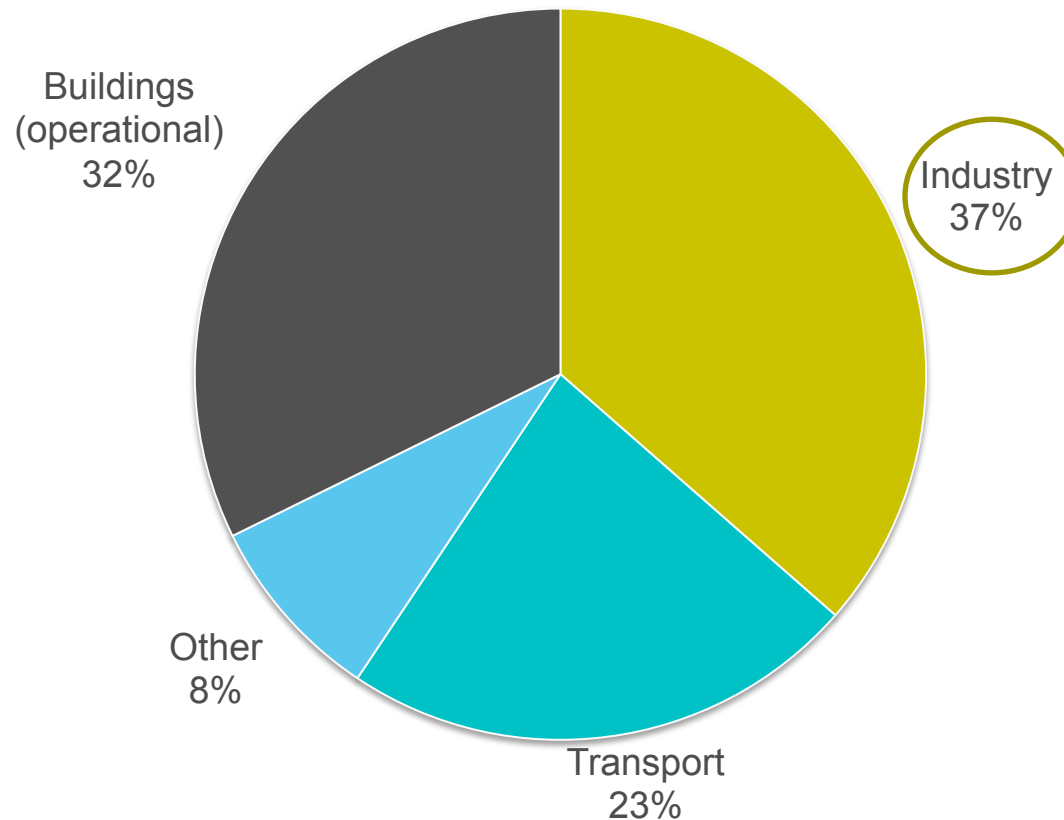


BREEAM – Building level assessment methodology

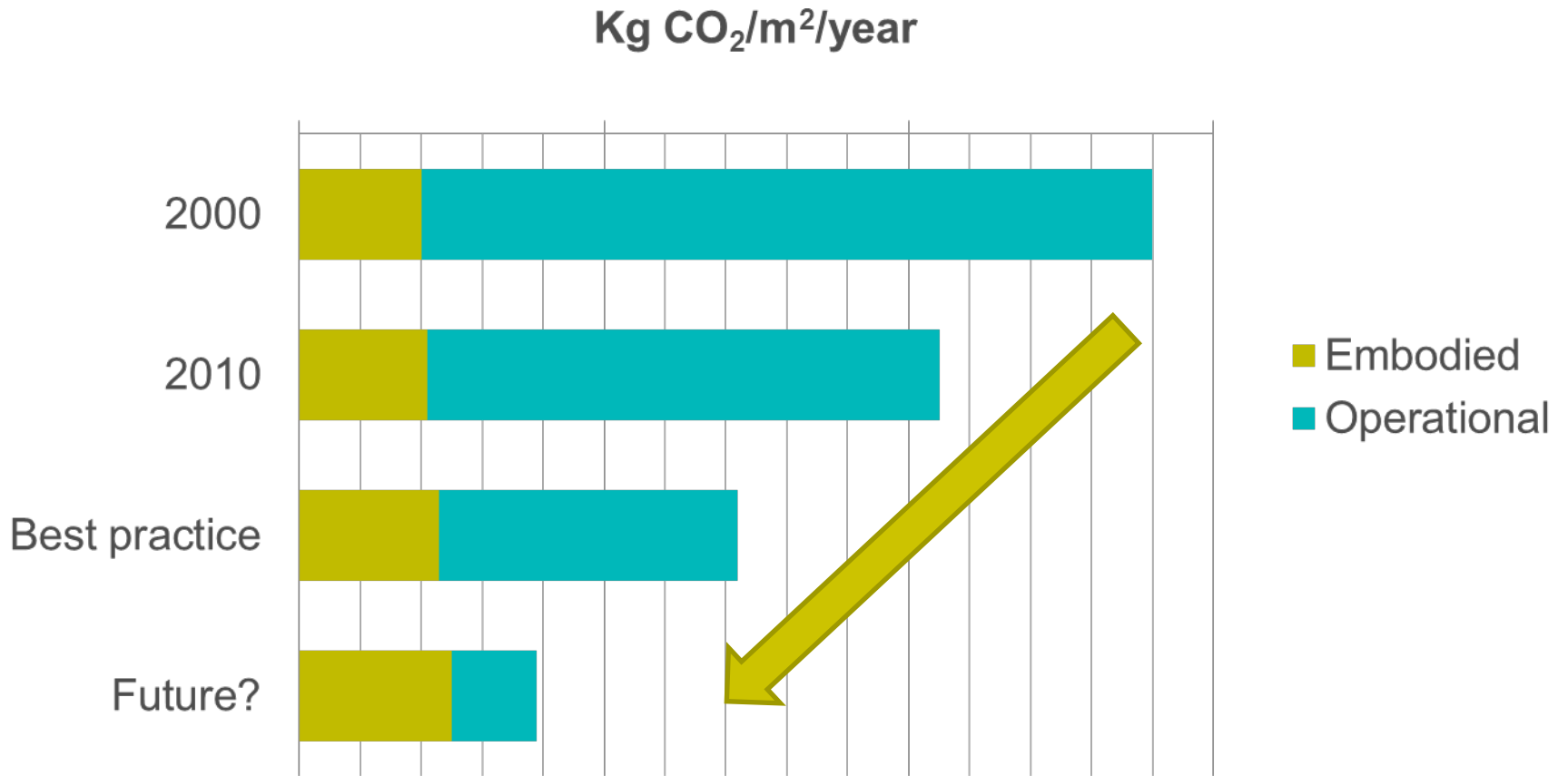
- The world’s **longest** established and **most widely** used environmental assessment method for buildings and large scale developments
- **Over 450,000 building assessments certified and over 1,900,000 registered for assessment**
- Network of **4,000** independent certified assessors that certify Developments



Scale: global emissions energy & processes 28 GtCO_{2e}



The growing importance of embodied impact

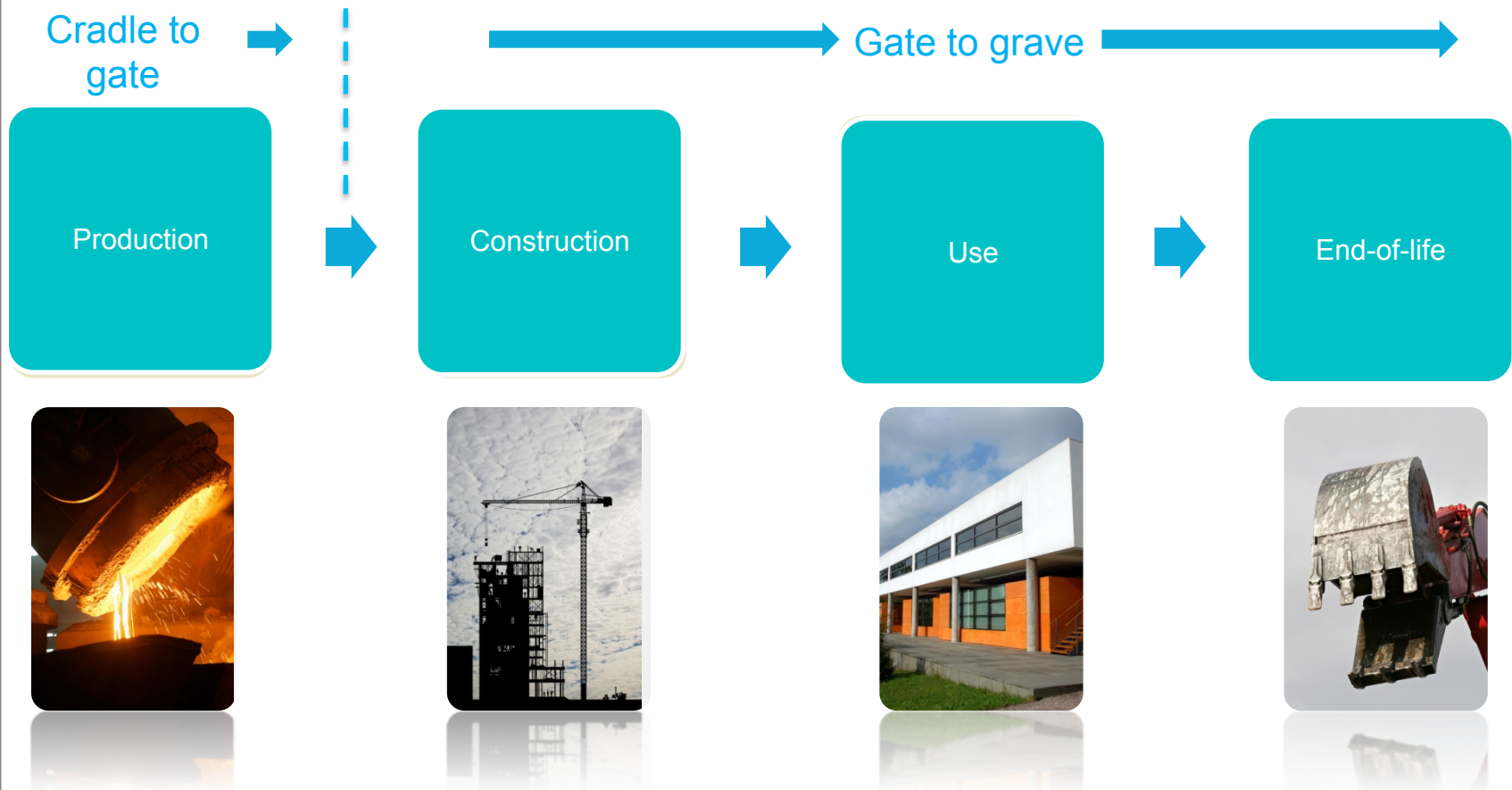


Life Cycle Assessment (LCA)

A BRE approach



Life Cycle Assessment



BRE's Environmental Profile Methodologies

- Measurement of the **environmental performance** of a material, product or system over a set time period.
 - Extraction of raw materials & transport (“cradle to gate”)
 - Production (“gate to gate”)
 - Transport, installation and end of life (“gate to grave”)
- Achieved using Life Cycle Assessment (LCA)
- Compliant with ISO14025, ISO14044 and EN15804
- Outcome is 3rd party Environmental Product Declaration (EPD)



Advantages of EPD

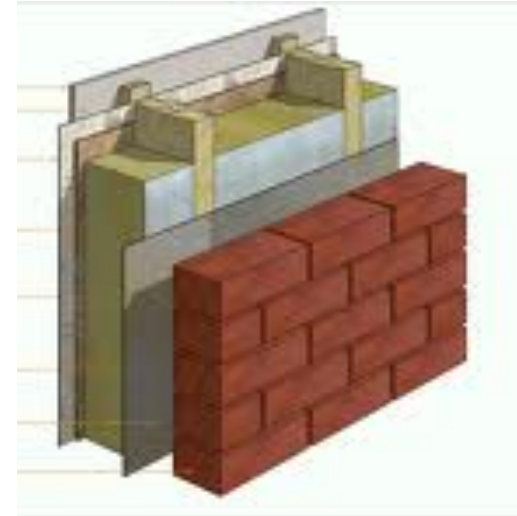
- Reduce manufacturing cost by improving energy, water and materials use efficiency
- Better understanding of supply chain
- Market differentiation – manufacturers or sector specific
- Gain credits/ comply with the requirements of BREEAM, LEED, clients or major events

Building Level Assessment – a BRE approach

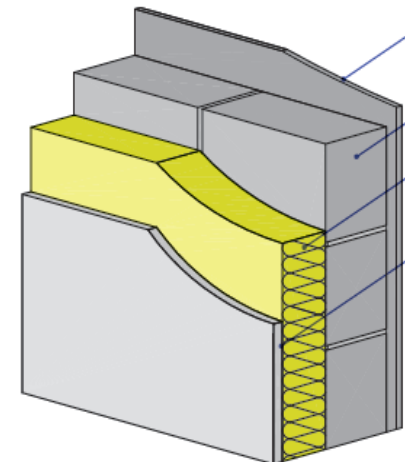
The Green Guide to Specification &
IMPACT



Comparison at building element level using a functional unit



Timber versus blocks



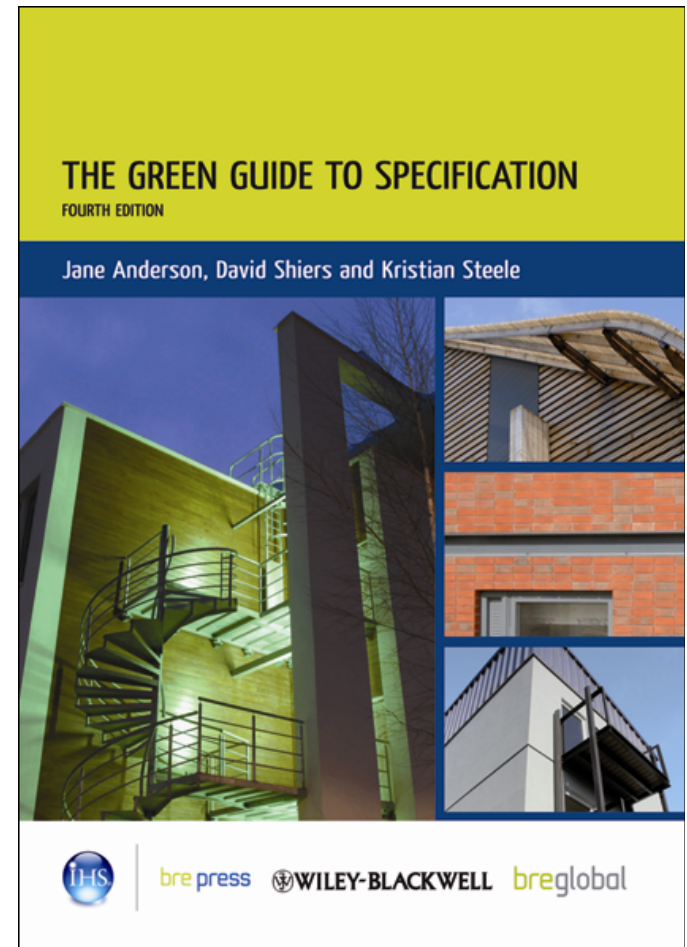
Cradle to gate
Impact per tonne

Cradle to grave
Impact per m²

The Green Guide to Specification

- www.thegreenguide.org.uk
- 1500+ generic specifications each with summary Ratings
- Ratings A+ to E
- 13 impact category ratings and Ecopoints
- kgCO_{2eq} per m²
- Six building types
- UK specific

- Online & Paper publication
- FREE access online
- On-going development



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Green Guide 2008 ratings

Building type >

Domestic

Please select an element

[Upper Floor
Construction](#)

[Ground Floor
Construction](#)

[Internal Wall](#)

[Domestic
Windows](#)

[External Wall
Construction](#)

[Insulation](#)

[Separating Wall](#)

[Separating Floor](#)

[Roof Construction](#)

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Functional unit for floor finishes for Offices and Domestic (multi-residential)

1m² of floor finish or covering as fitted to a level surface, with underlay, backing, adhesive and/or grout, etc. as appropriate. To include regular cleaning and maintenance, and any repair, refurbishment or replacement over the 60 year study period based on typical practice in these sectors.

Functional unit for floor finishes for retail with frequent fitout

1m² of floor finish or covering as fitted to a level surface, with underlay, backing, adhesive and/or grout, etc. as appropriate. To include regular cleaning and maintenance, and any repair, refurbishment or replacement over the 60 year study period based on aesthetics.

Functional unit for floor finishes for healthcare, education, retail (infrequent fitout) and courts

1m² of floor finish or covering as fitted to a level surface, with underlay, backing, adhesive and/or grout, etc. as appropriate. To include regular cleaning and maintenance, and any repair, refurbishment or replacement over the 60 year study period based on durability.

The structural floor deck beneath the floor finish is assessed separately in "Upper floors" or "Ground floors" and is not included here. Raised access flooring has not been included within the Green Guide Online.

[read more...](#)

Please select the element type of Floor Finishes ratings you wish to review:

[Hard Floor
Finishes](#)

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Finishes](#)

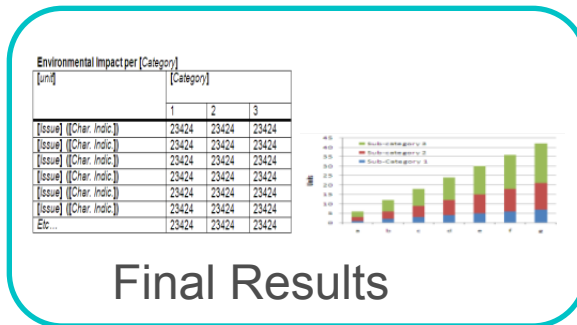
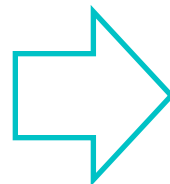
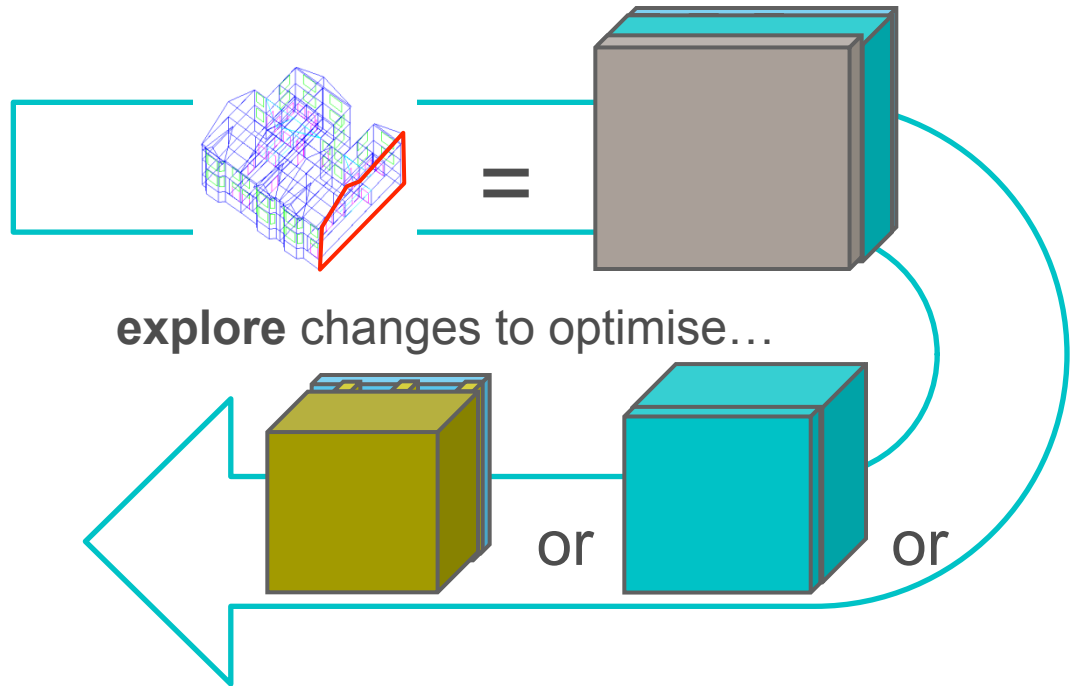
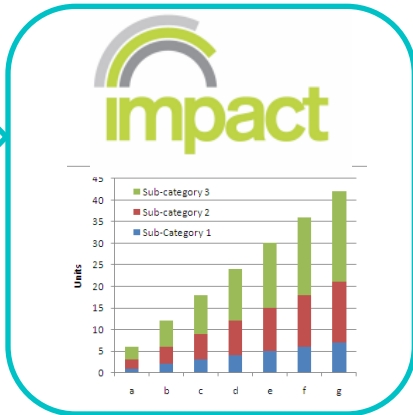
	Element number	Summary rating
<u>14mm Engineered Oak Flooring, 9.29 kg/m2 with adhesive</u>	<u>1321580002</u>	A+
<u>20mm Engineered Oak Flooring, 13.3 kg/m2 with adhesive</u>	<u>1321580001</u>	A+
<u>Ceramic floor tiles.</u>	<u>821580001</u>	B
<u>Ceramic mosaic tiles.</u>	<u>821580011</u>	A+
<u>Imported Chinese granite floor tiles.</u>	<u>821580015</u>	A
<u>Imported Italian Marble tiles.</u>	<u>821580004</u>	C
<u>in situ cement based terrazzo.</u>	<u>821580012</u>	B
<u>Porcelain Floor Tile (40% recycled content), 11mm thick, ISO13006 Type B1A</u>	<u>1021580001</u>	A
<u>Porcelain Floor Tile, 4mm thick, ISO13006 Type B1A</u>	<u>1021580002</u>	A
<u>Printed laminate flooring (8mm) on acoustic underlay.</u>	<u>821580016</u>	B
<u>Quarry tiles.</u>	<u>821580005</u>	A
<u>Resin based terrazzo/agglomerated stone/composite tiles (10% resin content).</u>	<u>821580018</u>	D
<u>Resin based terrazzo/agglomerated stone/composite tiles (2% resin content).</u>	<u>821580008</u>	B
<u>Solid hardwood flooring (14mm) with underlay.</u>	<u>821580003</u>	A+
<u>Solid hardwood flooring (22mm) on underlay.</u>	<u>821580002</u>	A+
<u>Timber veneered laminate flooring (8mm) on acoustic underlay.</u>	<u>821580019</u>	A+
<u>UK produced limestone floor tiles.</u>	<u>821580009</u>	A
<u>UK produced Slate floor tiles.</u>	<u>821580010</u>	E

Element	14mm Engineered Oak Flooring, 9.29 kg/m ² with adhesive
Element Number	1321580002
Summary Rating	A+
Climate Change	A+
Water Extraction	A+
Mineral Resource Extraction	A+
Stratospheric Ozone Depletion	A+
Human Toxicity	A+
Ecotoxicity to Freshwater	A
Nuclear Waste (higher level)	A+
Ecotoxicity to Land	B
Waste Disposal	A+
Fossil Fuel Depletion	A+
Eutrophication	A+
Photochemical Ozone Creation	A+
Acidification	A+
Kg of CO ₂ eq. (60 years)	-1.8



IMPACT – allows design decisions – BIM/LCA

Initial results



BREEAM – Materials Specification

- Assessment covers main building elements
- Credits awarded using **Green Guide ratings** for the total combined rating score for assessed elements
- Calculate using a Calculator Tool
- Additional credits for using products with **EPD**
- Additional credits for using tools such as **IMPACT**

Green Guide Rating	Credits
A+	3
A	2
B	1
C	0.5
D	0.25
E	0



Thank You

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