

Mat01

Environmental impacts from construction products - Building life cycle assessment (LCA)

Objective:

“To reduce the burden on the environment from construction products by recognising and encouraging measures to optimise construction product consumption efficiency and the selection of products with a low environmental impact (including embodied carbon), over the life cycle of the building.”

Actions:

- i. Undertake an LCA assessment before the end of **RIBA Stage 2** and before planning is submitted
- ii. Ensure that the LCA assessment aligns with **LCC (Man02)** assessments (if being undertaken)
- iii. Undertake a further LCA assessment before the end of **RIBA Stage 4**
- iv. Obtain third party verification of the LCA assessments

i. LCA assessments

The LCA assessments must be undertaken at **two different points** during the design stages:

- i. Before the end of **RIBA Stage 2** and **BEFORE** the development is **submitted for planning** approval
- ii. Before the end of **RIBA Stage 4**

There are also **2 types of software** which can be used to undertake the LCA assessment.

- i. The BREEAM simplified assessment tool
- ii. An approved, IMPACT compliant software

Depending on the software that is used, the number of credits you can achieve are limited.

- Using the **BREEAM simplified assessment tool alone**, allows up to **2 credits** to be achieved (depending on building type)
- Using the BREEAM simplified assessment tool at RIBA Stage 2 and an approved, IMPACT compliant software at RIBA Stage 4 allows up to **5 credits** to be achieved (including exemplary credits)
- Using an **approved, IMPACT compliant software** at both **RIBA Stages 2 and 4** allows up to a maximum of **10 credits** to be achieved (including exemplary credits)

Note: This document is intended as guidance only. Consult your BREEAM AP or Assessor to ensure compliance is achieved.

Option 1 – BREEAM simplified tool only

Tool	RIBA Stage 2	RIBA Stage 4	Maximum Credits
BREEAM simplified assessment tool		cannot use for Stage 4 assessment	Up to 2 credits
Approved, IMPACT complaint software	-	-	

Note: This document is intended as guidance only. Consult your BREEAM AP or Assessor to ensure compliance is achieved.

Option 2 – Both BREEAM simplified assessment tool and an approved, IMPACT compliant software

Tool	RIBA Stage 2	RIBA Stage 4	Maximum Credits
BREEAM simplified assessment tool		-	Up to 5 credits (including exemplary)
Approved, IMPACT compliant software	-		

Note: This document is intended as guidance only. Consult your BREEAM AP or Assessor to ensure compliance is achieved.

Option 3 – Approved, IMPACT compliant software only

Tool	RIBA Stage 2	RIBA Stage 4	Maximum Credits
BREEAM simplified assessment tool	-	-	
Approved, IMPACT compliant software			Up to 10 credits (including exemplary)

Note: This document is intended as guidance only. Consult your BREEAM AP or Assessor to ensure compliance is achieved.

Is your development being assessed under office, industrial or retail?

Office, industrial and retail assessments **must** be compared against the **BREEAM benchmark** at either **Stage 4 only** (limits to max. 3 credits), **or both Stages 2 and 4** (up to 10 credits).

No credits can be achieved in office, industrial or retail assessments if the comparison against the baseline is not carried out, or is only carried out at Stage 2.

NOTE: Mat01 is a relatively complex issue within BREEAM NC2018. Please consult your AP or Assessor for detailed guidance on how to achieve credits within this section.

If you are targeting a BREEAM 'Excellent' rating, SRE recommends that you carry out the LCA using the approved, IMPACT compliant software during RIBA Stage 2 and before you submit for planning approval. Materials credits are of a high value in NC2018 and achieving 10 credits is worth 10% of your percentage rating.

ii. LCA and LCC

If you are undertaking both the Mat01 LCA and Man02 LCC assessments, you can achieve an additional credit in Mat01 if the two assessment types align at both RIBA Stages 2 and 4 (depending on Mat01 tools/software used). You must produce an **options appraisal summary document** which integrates the findings of each and submit this as evidence.

iv. Third party verification

If a member of the project team undertakes the LCA assessments, they must be verified by a third party at both RIBA Stages, who must produce a report describing how they have checked the work accurately represents the designs and meets the BREEAM criteria.

If a third party undertakes the LCA assessments, they must also produce the report to achieve this exemplary credit.

Materials 01 checklist

Item	Completed
RIBA Stage 2 LCA	<input type="checkbox"/>
LCA assessments align with the LCC assessment - summary report (Stage 2)	<input type="checkbox"/>
Obtain third party verification of assessments (Stage 2)	<input type="checkbox"/>
RIBA Stage 4 LCA	<input type="checkbox"/>
LCA assessments align with the LCC assessment - summary report (Stage 4)	<input type="checkbox"/>
Obtain third party verification of assessments (Stage 4)	<input type="checkbox"/>

Note: This document is intended as guidance only. Consult your BREEAM AP or Assessor to ensure compliance is achieved.