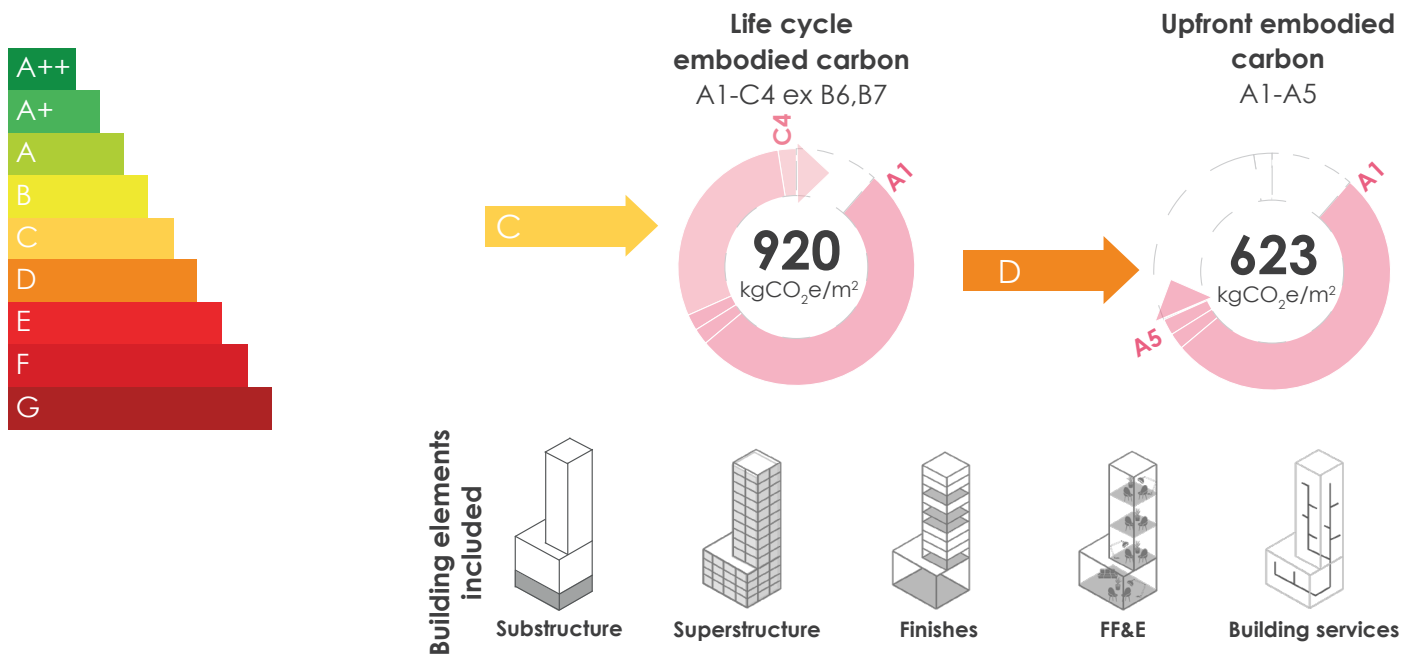


81-103 Kings Road by Benoy, KJ Tait Eng., Eng. HRW, Gardiner & Theobald



Project overview
Demolition of existing office and retail building. Proposed building is a mixed used development of retail units on the ground floor and offices on the upper floors. The proposal is for a 4s storey development with district wings that look onto the below retail courtyard. This makes the building ideal for mixed mode ventilation.

Project sector
Mixed Use (Office/Retail)

Assessment date
2020 (at RIBA Stage 2)

RIBA work stage
2

GIA (m²)
17,177 m²

Year of project completion
N/A

Analysis
OneClick LCA

Database(s) used
Ecoinvent, GABi, FDES, BRE

Type of building
New build

Ref. study period
60 years

Location
UK

Data notes
4 Storeys
Concrete frame



Image c. Bennetts Associates, BAM & Cundall

Assessment objective

We were instructed to complete the assessment by the GLA as the Publication London Plan was a material consideration for referable schemes. Although there is no target to meet for the London Plan, the Design Team felt it would be good to target module A1-A3 figures in line with the GLA aspirational benchmarks.

Key lessons learned

Key lessons learned is that we need to have the embodied carbon specialist on board from the start of the process. As the new building is to replace the existing building on site there may have been further opportunities to save carbon through use of less materials.

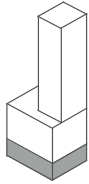
That being said, there has been good lessons learned on the sort of materials that we should be specifying such as replacement cement concrete, CLT (Cross Laminated Timber) floor slabs and recycled steel.

Key barriers and challenges

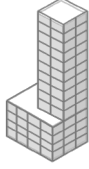
Key challenge was starting the assessment later than what we would have liked. This resulted in the mass of materials being generally fixed. Main barrier appears to be availability of systems data, and estimating aspects such as pipework using previous projects as a baseline.

It is accepted that, the more WLCs (Whole Life Carbon) completed, the more systems information will be gathered.

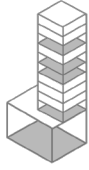
Building elements embodied carbon (A1-A5)



Substructure
145 kg CO₂e/m² (A1-A5)



Superstructure
393 kg CO₂e/m² (A1-A5)



Finishes
N/A kg CO₂e/m² (A1-A5)



FF&E
0.9 kg CO₂e/m² (A1-A5)



Building services
83 kg CO₂e/m² (A1-A5)

Success stories

From the baseline scheme, we managed to save approximately 100kgCO₂e. Data for the baseline scheme was taken from RICS WLC (Whole Life Carbon) guide.

Together with this, we managed to save 134kgCO₂e by making the building mixed mode which contributed to lowering the B6 module figure.

Design decision justification

For example, was a particular foundation solution sought, were savings found from using a specific frame or MEP system.

Design benchmarks

We aimed to better the GLA Aspirational benchmarks for an office development.

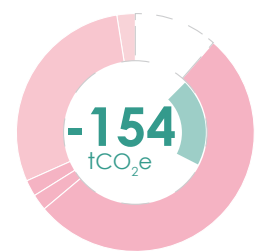
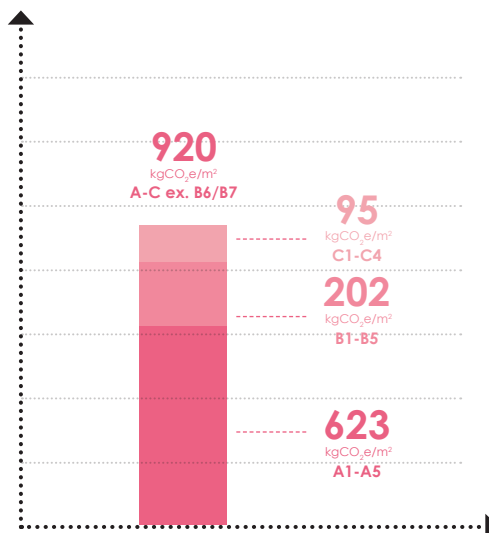
Offsetting incentive

There is an objective in line with planning obligations for the development to be Net Zero in operation.

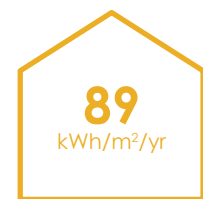
Savings from Part L were 53% therefore the offset payment for the scheme was calculated at £192,747.

Client: Kings Road Properties Ltd
Architect: Benoy
Structures: Engineers HRW
Quantity surveyor: Gardiner & Theobald
M&E/sustainability: KJ Tait Engineers

WLC reporting summary



Module D



B6 Operational energy

Operational energy estimation method:
PHPP at design stage