

FCBS CARBON

Project Number:	HD21016
Project Name:	Bentons Farm
Building Name:	Plot A
Stage:	2
* Est. Year of project completion:	2023
* Sector:	Housing
* Sub-sector:	Single family house
* GIA (m2):	126.00
Assessment date:	20.10.21
Assessment completed by:	EEABS and DWW Design

* Required for sheet calculations

Stated environmental objectives:

What are the drivers and aims of the assessment?

DWW Design have used this tool to provide a design stage estimate of operational and embodied carbon. The driver behind the design decisions made is to ultimately to acheive a medium to high quality design when assessed against the benchmarks in the EFDC Sustainability Checklist for Minor developments. We would like to thank Feilden Clegg Bradley studios for sharing knowledge and allowing us to use this tool.

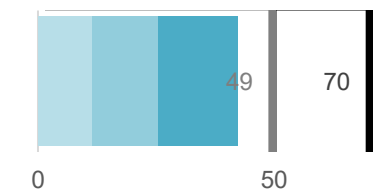
Notes: The tool is still at a Beta stage and the construction types chosen best represent the design choices however may not be 100% accurate. The tool is intended to be used as a design guide, and is therefore suitably accurate at planning stage. It is not a definite analysis of the entire building which can only be reliably produced at detailed design stage.

The adjustment factors in the embodied carbon section have been utilised as advised by the authors of the tool to account for varying factors in the design which are not accounted for in the construction types, such as the use of reclaimed bricks with lime mortar. Please contact DWW to discuss any of the assumptions made in further detail.

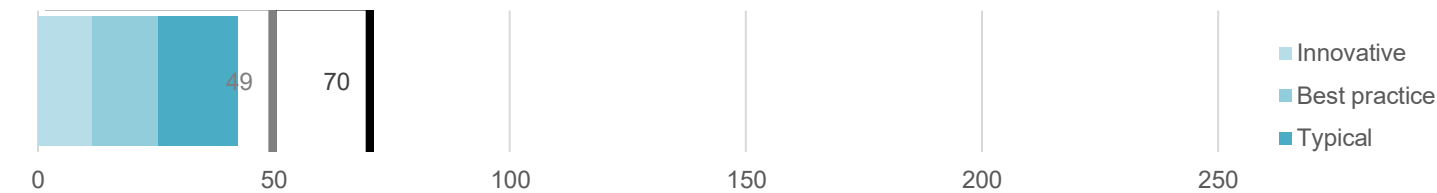
Project image

Building Details				
Supplied on 0. INPUT Project Details				
Building Name	Plot A			
Sector	Housing			
Sub-sector	Single family house			
GIA	126	m2		
Subsector Benchmarks				
	kWh/m2/yr			
	Typical	Best Practice	Innovative	Pioneering
Electrical energy	43	26	11	0
Non-electric energy	171	103	46	0
Total energy	214	128	58	0
User inputs required				
Calculation methodology:	Design SAP 2012			
Regulated energy use - electrical				
Space heating	20.0	kWh/m2/yr		
Hot water	8.6	kWh/m2/yr		
Cooling	0.0	kWh/m2/yr		
Fans and pumps	6.7	kWh/m2/yr		
Lighting	4.1	kWh/m2/yr		
Other	0.0	kWh/m2/yr		
Total	39.4	kWh/m2/yr		
Regulated energy use - non-electric				
Heating	0.0	kWh/m2/yr		
Hot water	0.0	kWh/m2/yr		
Other	0.0	kWh/m2/yr		
Total	0.0	kWh/m2/yr		
Anticipated unregulated energy use - electrical				
Computers	0.0	kWh/m2/yr		
Server rooms	0.0	kWh/m2/yr		
Appliances	30.1	kWh/m2/yr		
Other	0.0	kWh/m2/yr		
Total	30.1	kWh/m2/yr		
Anticipated unregulated energy use - non-electric				
Cooking	0.0	kWh/m2/yr		
Other	0.0	kWh/m2/yr		
Total	0.0	kWh/m2/yr		
Power generation				
Electrical	20.6	kWh/m2/yr		
Non-electric (solar thermal etc)	0.0	kWh/m2/yr		
Total	20.6	kWh/m2/yr		

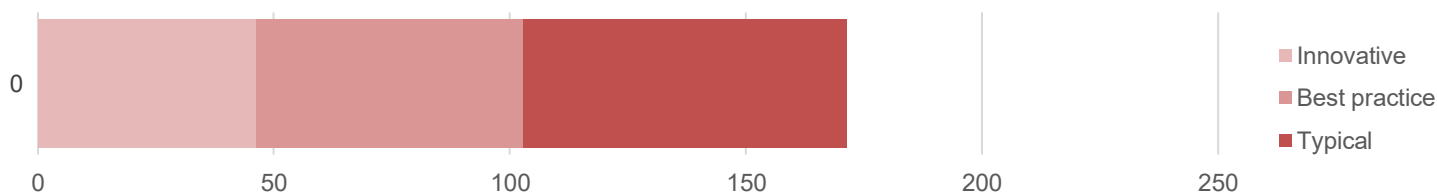
FCBS CARBON



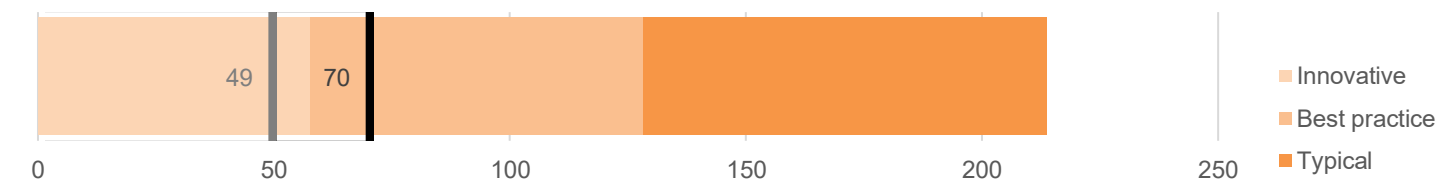
Electrical Energy Demand



Non-Electric Energy Demand

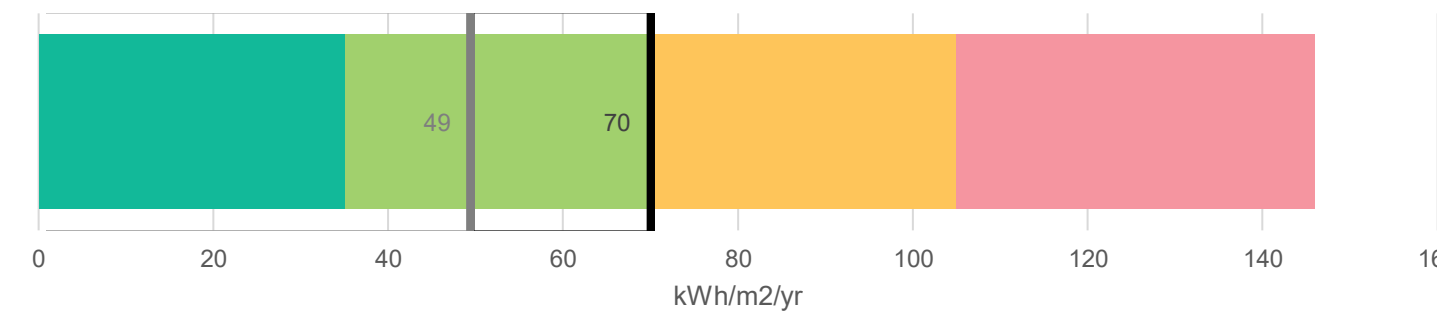


Total Energy Demand



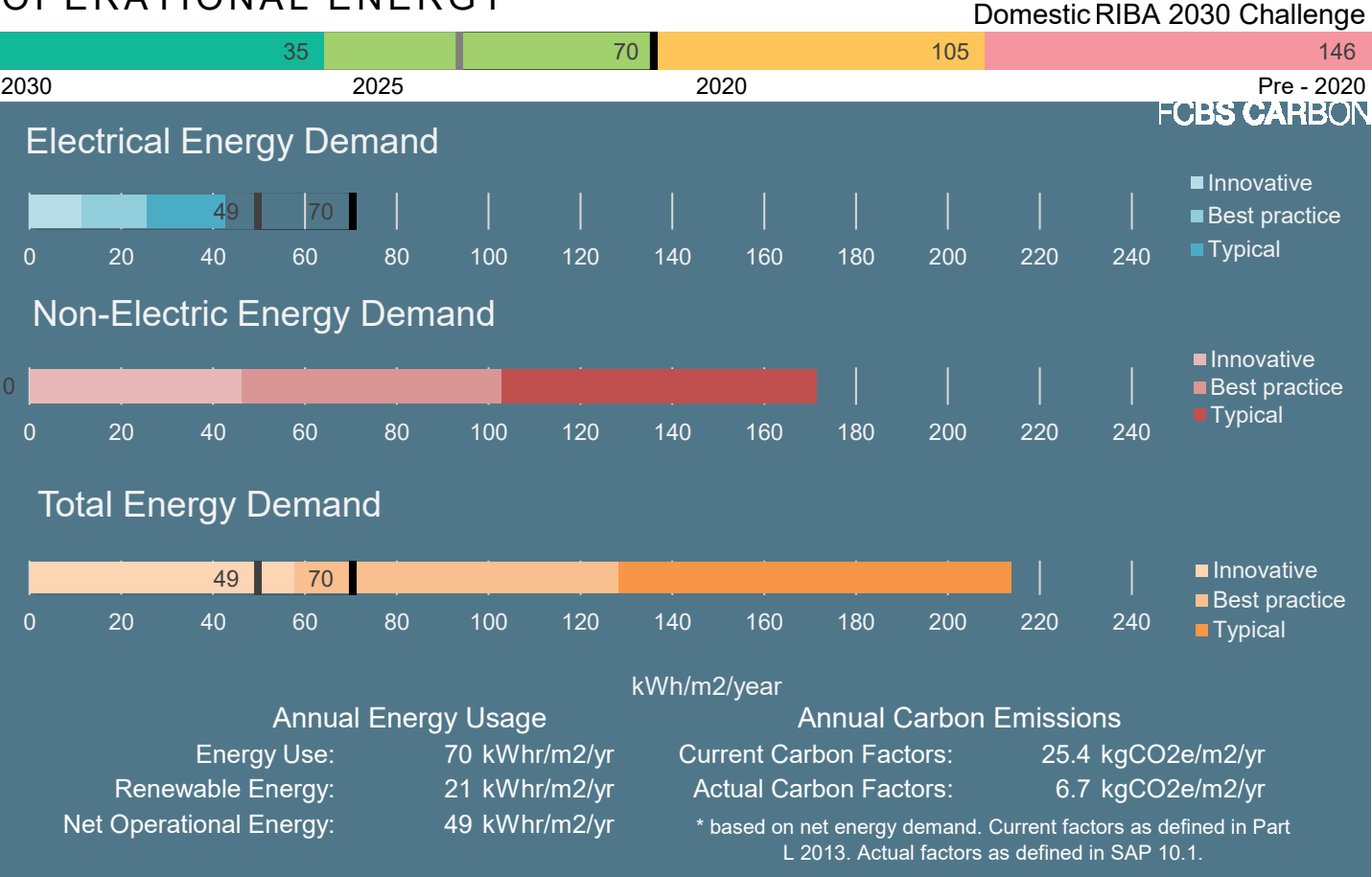
FCBS CARBON

RIBA 2030 Challenge

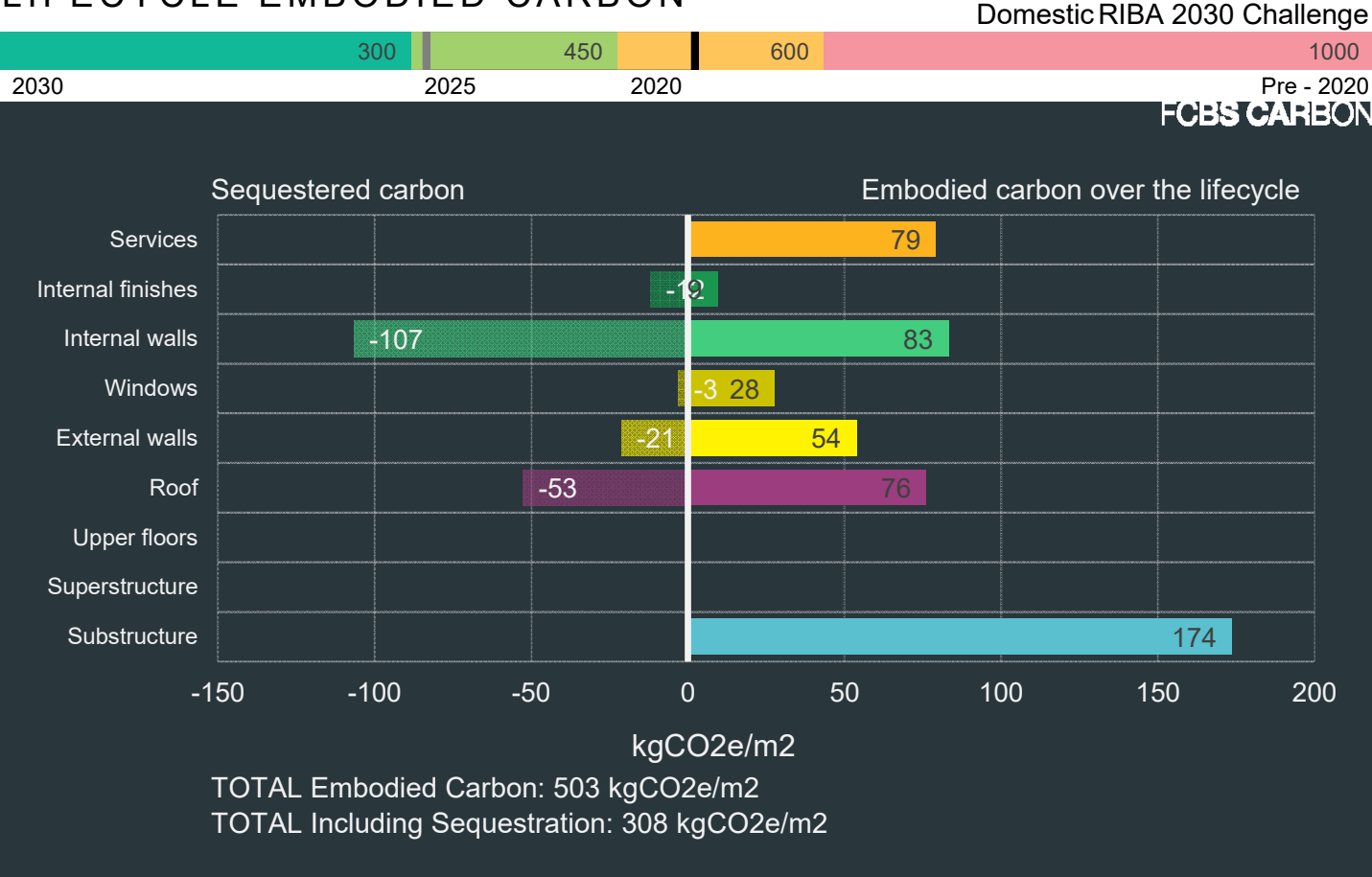


• Offset demand • Gross demand

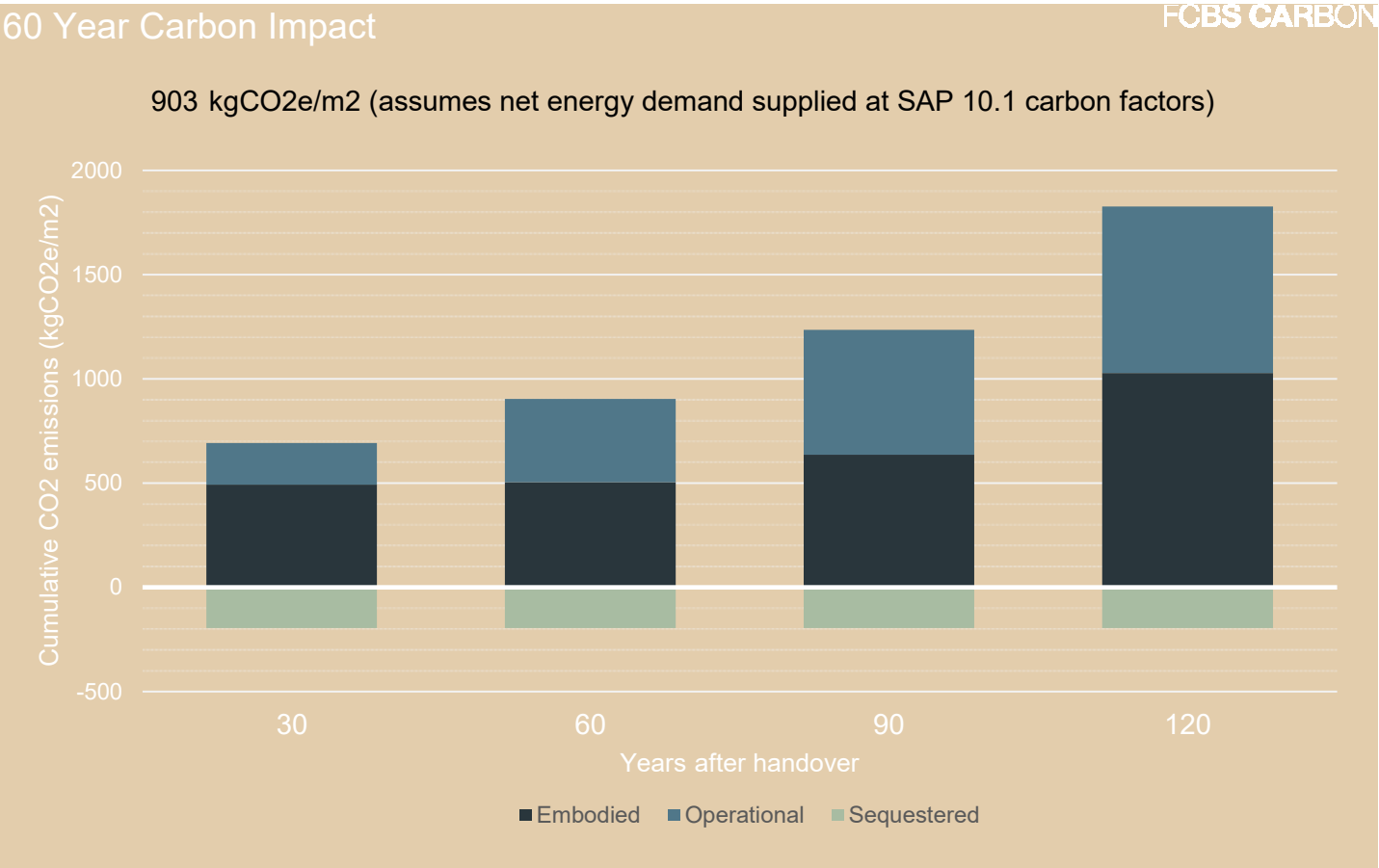
OPERATIONAL ENERGY



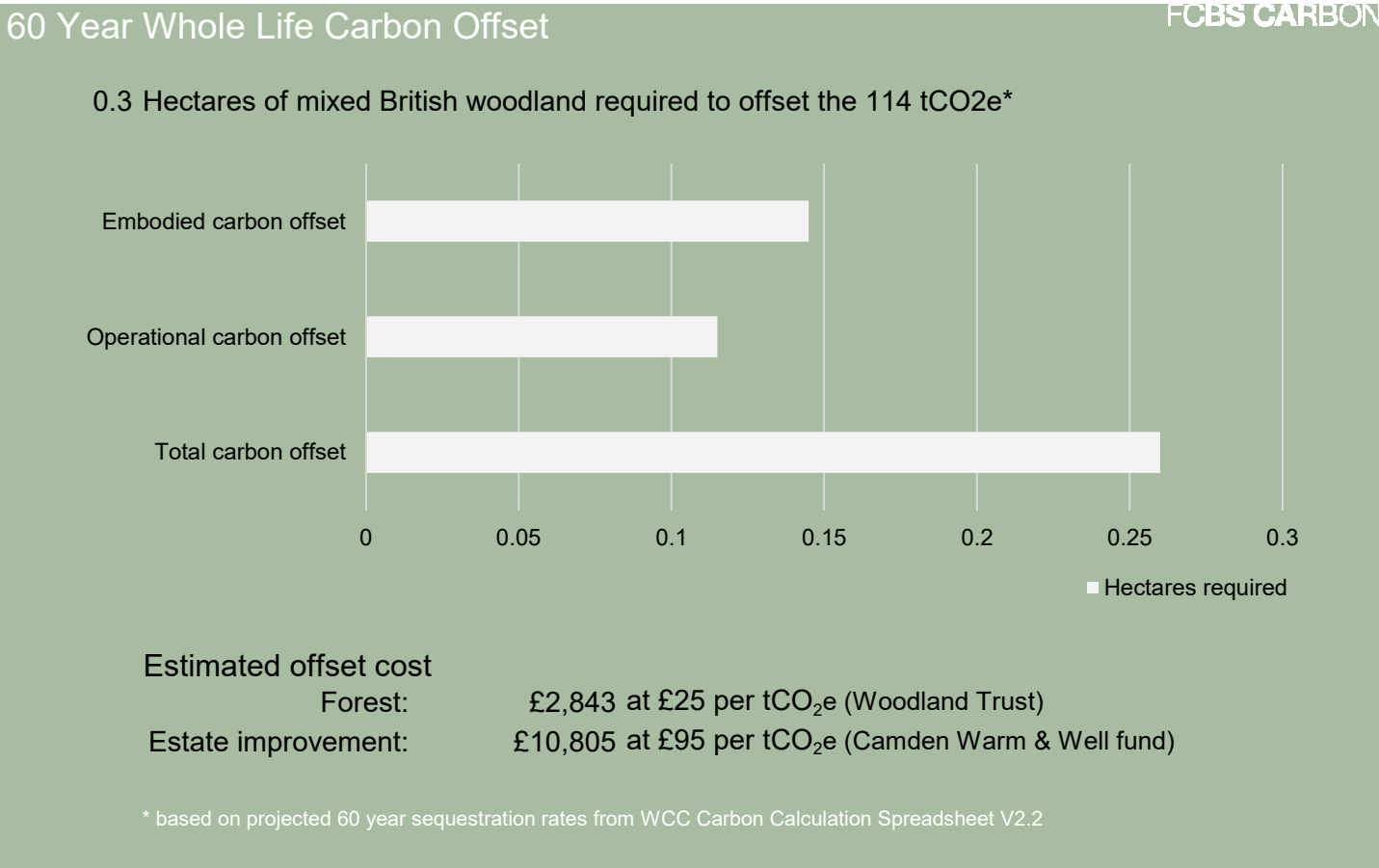
LIFECYCLE EMBODIED CARBON



WHOLE LIFE CARBON



OFFSET CARBON



FCBS CARBON

Project Number:	HD20016
Project Name:	Bentons Farm
Building Name:	Plot B
Stage:	1
* Est. Year of project completion:	2023
* Sector:	Housing
* Sub-sector:	Single family house
* GIA (m2):	122.00
Assessment date:	20.10.21
Assessment completed by:	EEABS and DWW Design

* Required for sheet calculations

Stated environmental objectives:

What are the drivers and aims of the assessment?

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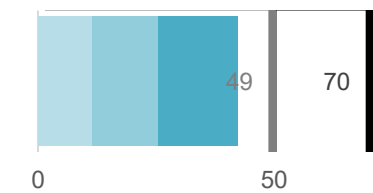
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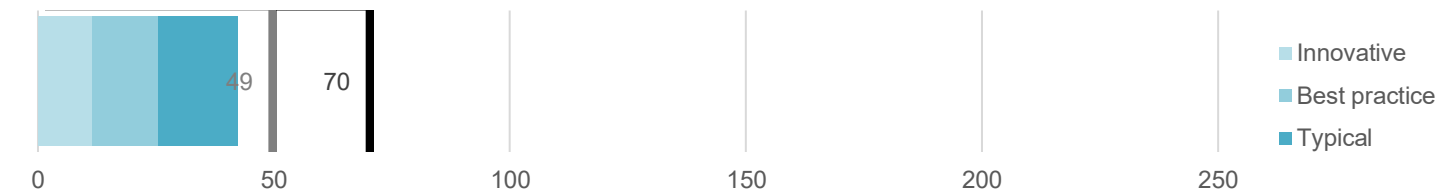
Project image

Building Details				
Supplied on 0. INPUT Project Details				
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Sub-sector	Single family house			
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Subsector Benchmarks				
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Total	0.0	kWh/m2/yr		
Anticipated unregulated energy use - electrical				
Computers	0.0	kWh/m2/yr		
Server rooms	0.0	kWh/m2/yr		
Appliances	30.1	kWh/m2/yr		
Other	0.0	kWh/m2/yr		
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Cooking	0.0	kWh/m2/yr		
Other	0.0	kWh/m2/yr		
Total	0.0	kWh/m2/yr		
Power generation				
Electrical	20.6	kWh/m2/yr		
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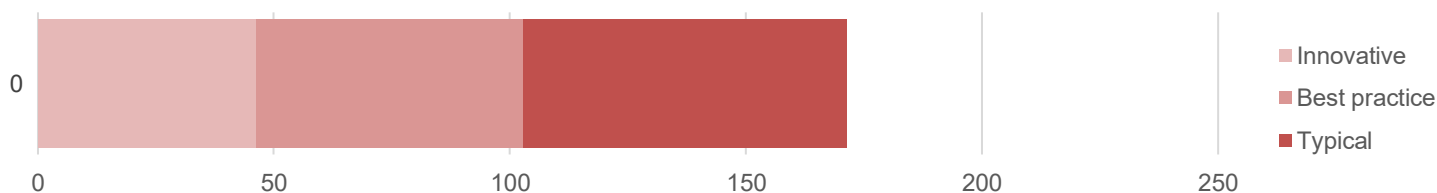
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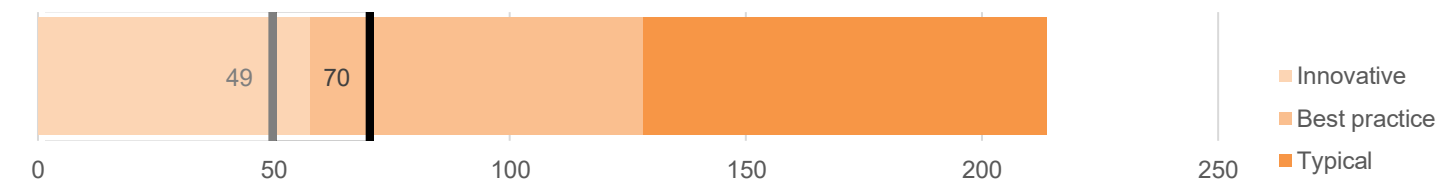
Electrical Energy Demand



Non-Electric Energy Demand



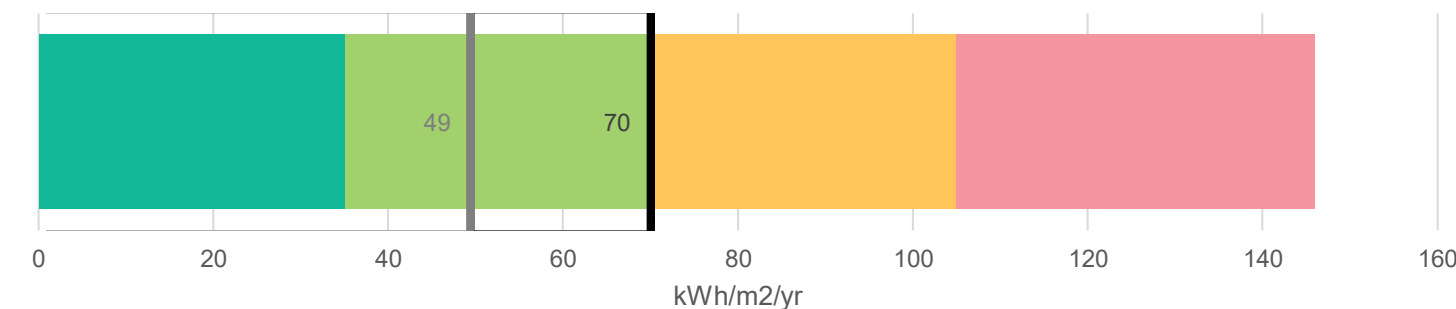
Total Energy Demand



kWh/m2/year

FCBS CARBON

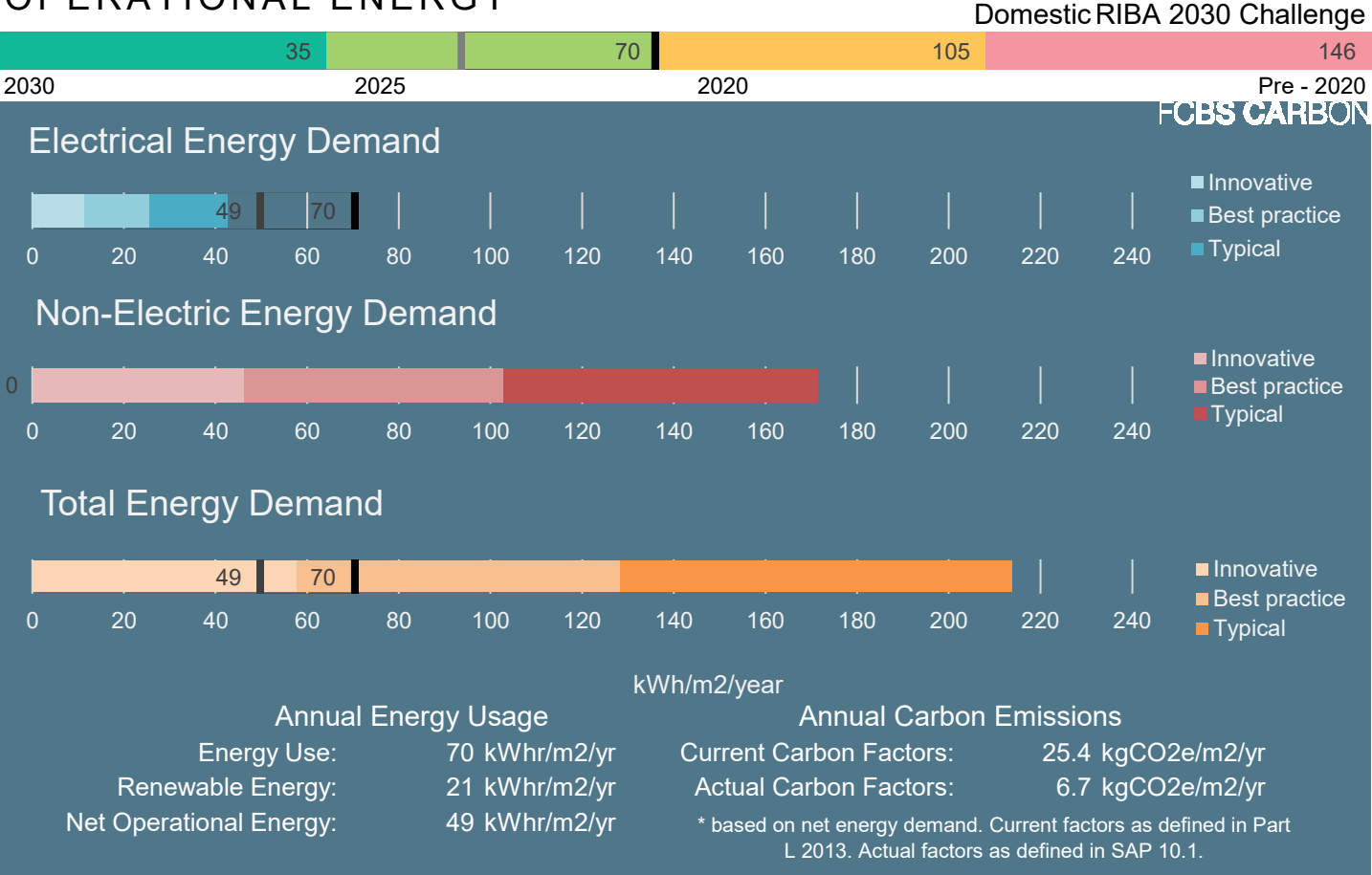
RIBA 2030 Challenge



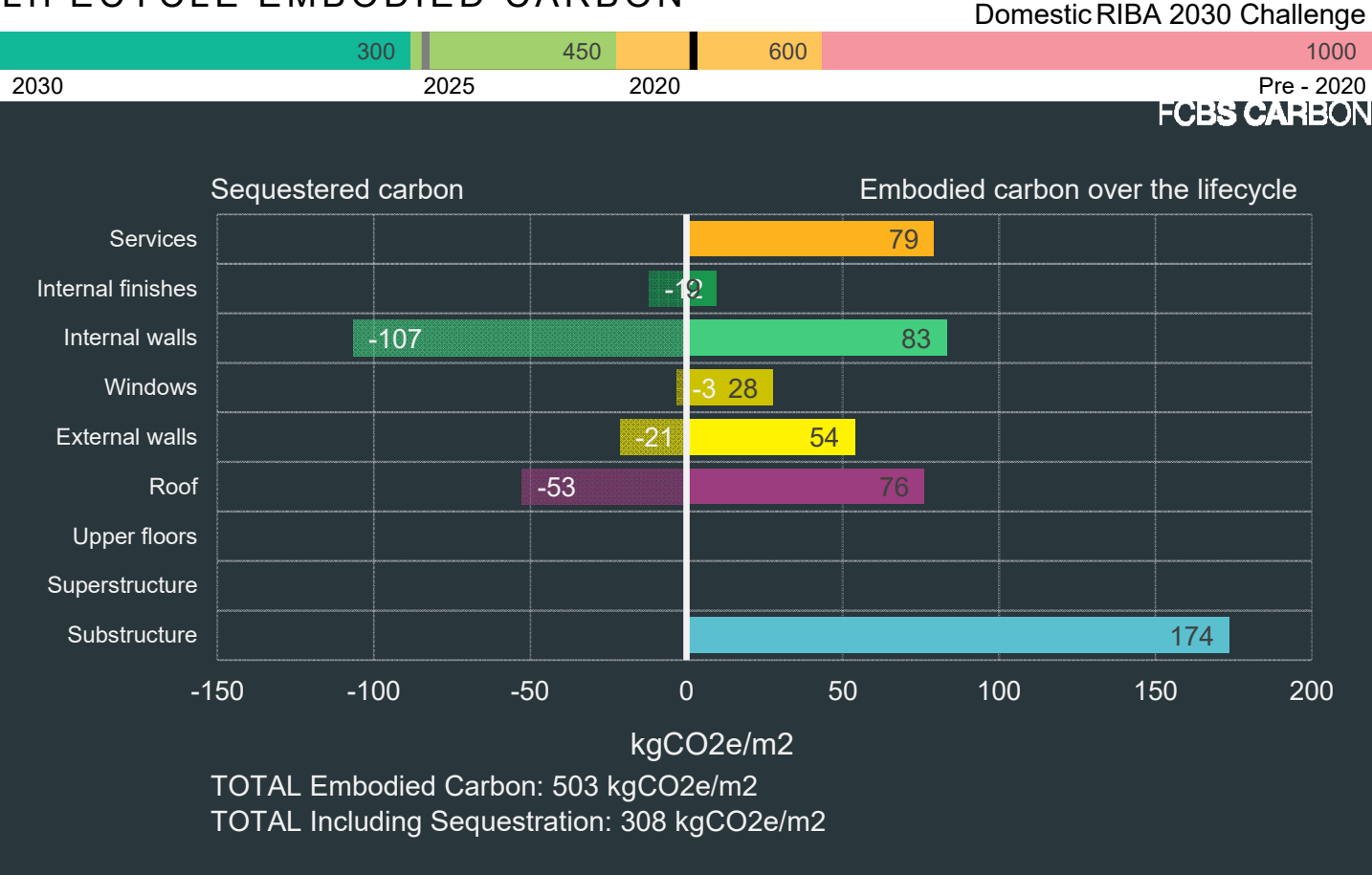
2030 2025 2020 Pre - 2020

• Offset demand • Gross demand

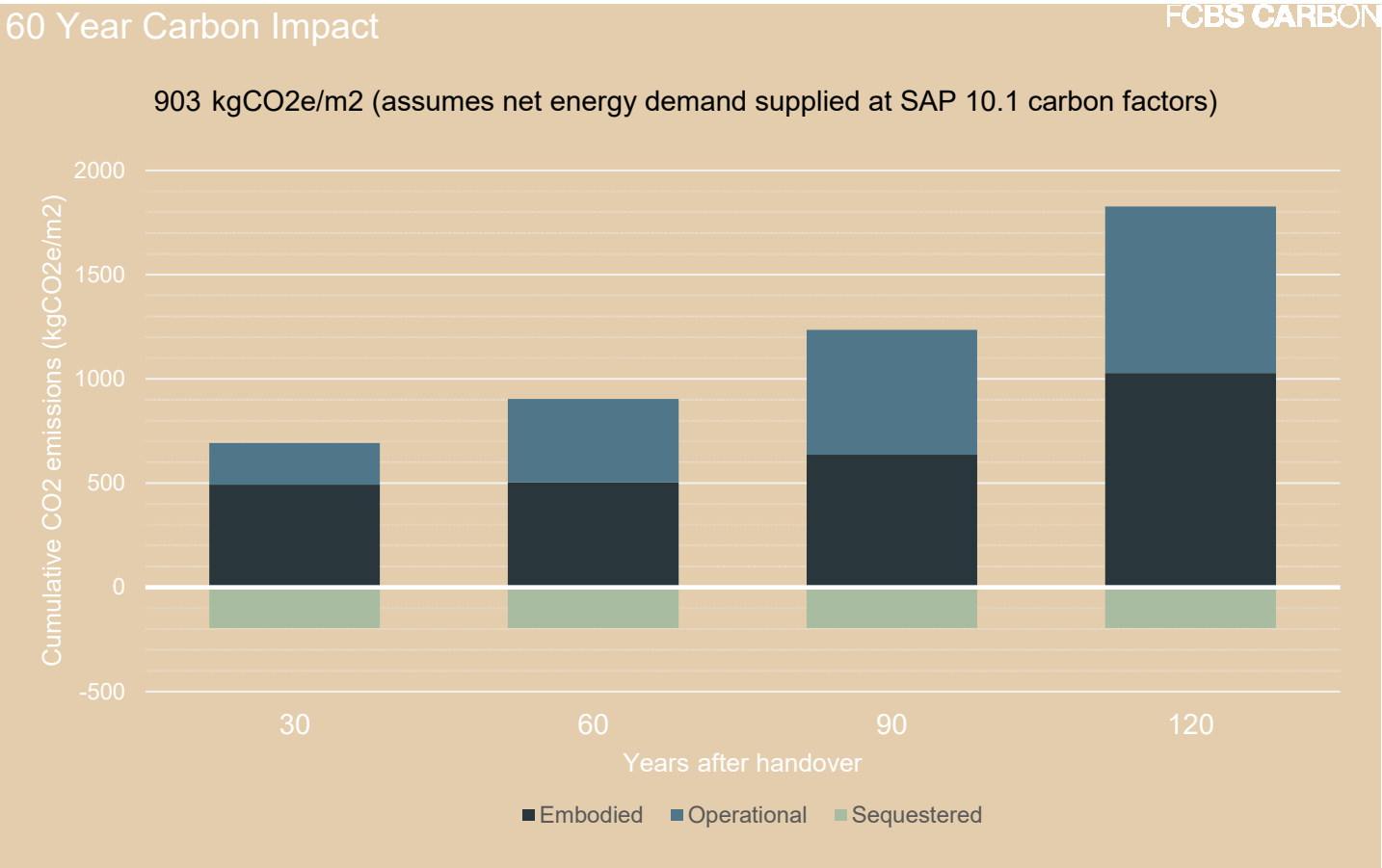
OPERATIONAL ENERGY



LIFECYCLE EMBODIED CARBON



WHOLE LIFE CARBON



OFFSET CARBON

