

Accountable Carbon Estimating

Alex Jones

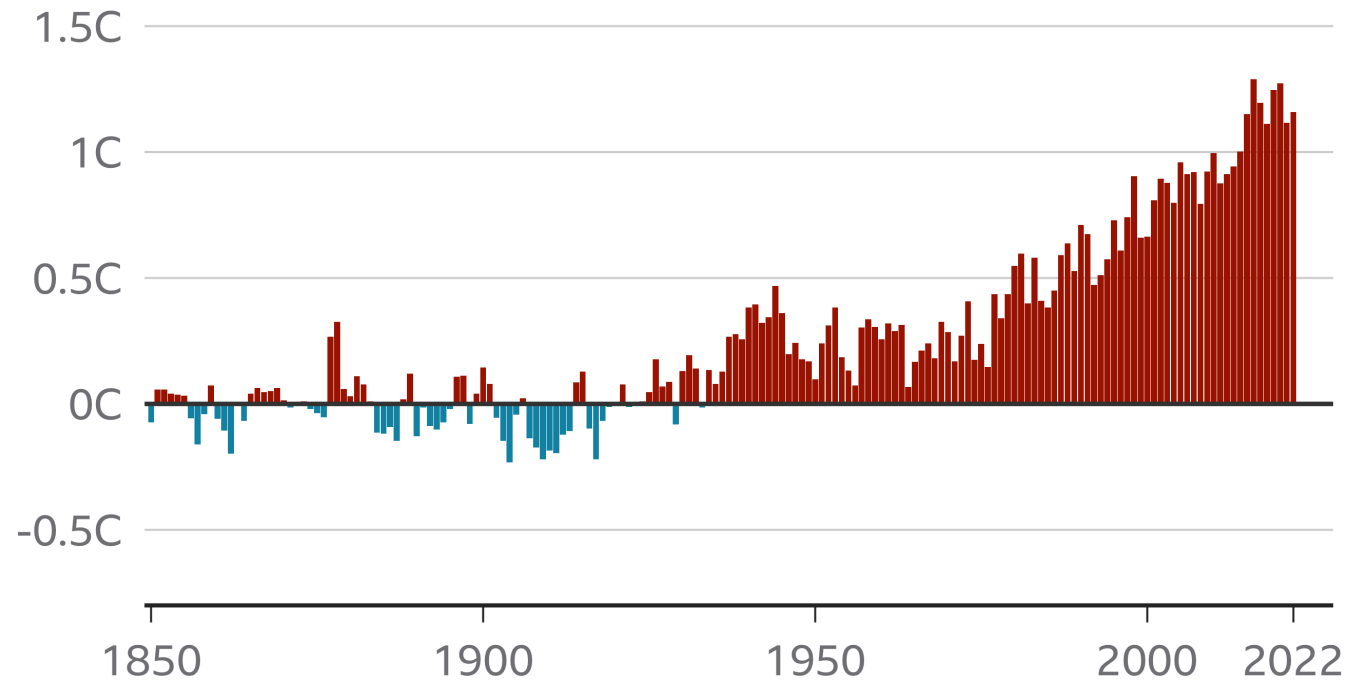


Estimating is Evolving
...It has to

Net Zero Challenge in Construction

The world has been getting warmer

Change in annual average global temperature from pre-industrial levels (1850-1900) in degrees C

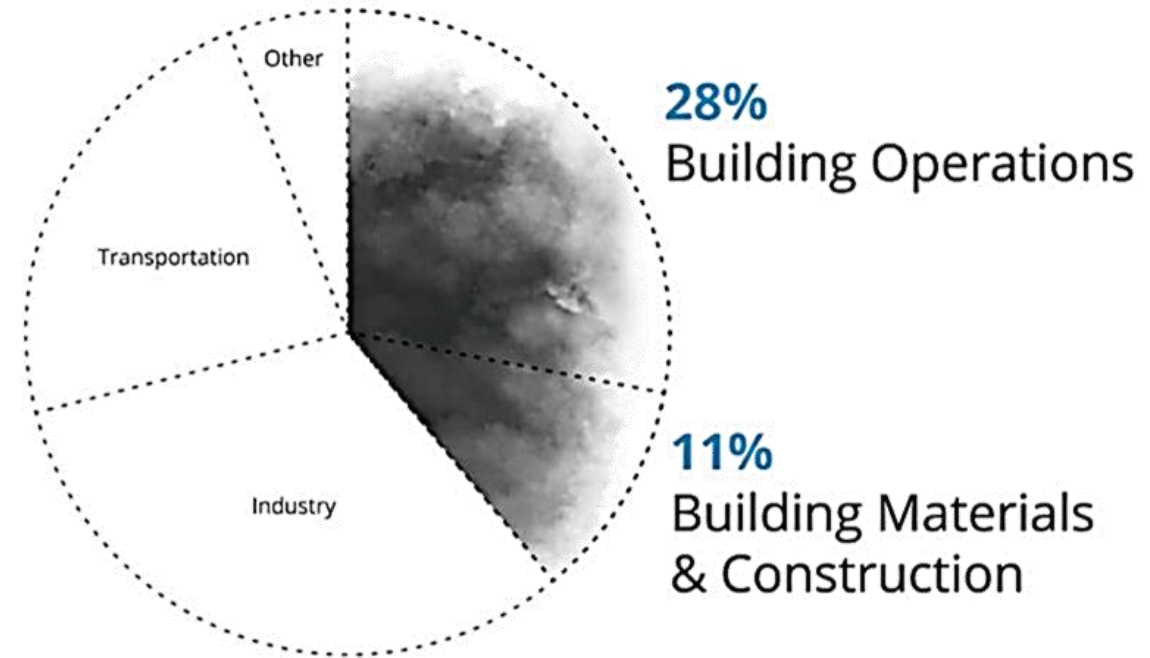


Note: Average calculated from HadCRUT5, NOAA GlobalTemp, GISTEMP, ERA5, JRA-55 and Berkeley Earth climate datasets

Source: Met Office

BBC

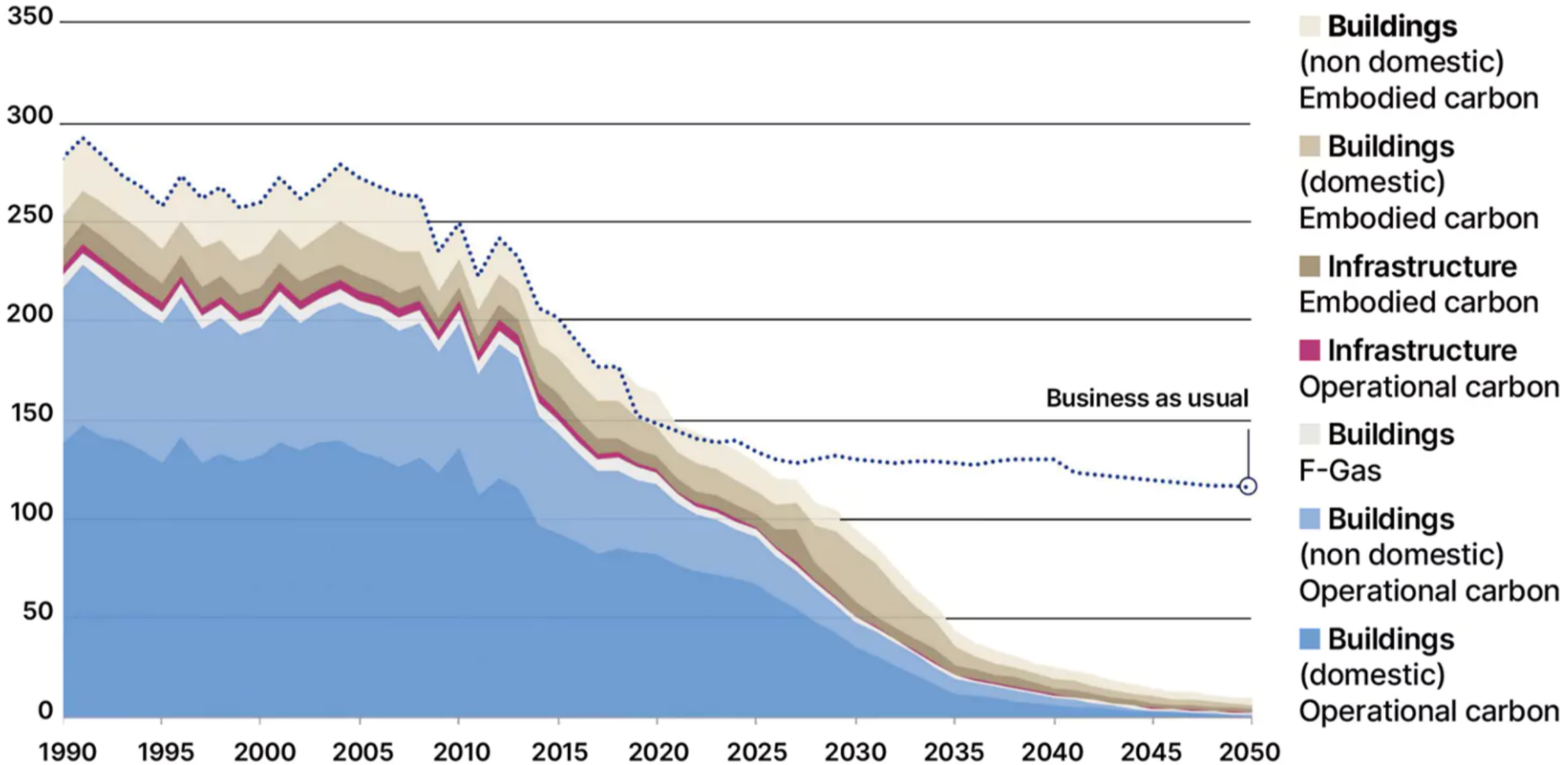
Annual Global CO₂ Emissions



© Architecture 2030. All Rights Reserved.
Data Sources: Global ABC Global Status Report 2018, EIA

UK built environment greenhouse gas emissions 1990-2050 (projected)

MtCO₂e



Net Zero Challenge in Construction

THE PATH TO **DECARBONIZATION**

THE 3 SCOPES OF CARBON EMISSIONS



An iceberg floating in the ocean. The tip of the iceberg is above the water surface, and the much larger base is submerged below. The sky is blue with some clouds, and the water is a deep blue. The text 'Scopes 1&2' is written in black above the water line, and '85%' is written in white on the submerged part of the iceberg. The text 'Scope 3' is written in white below the water line.

Scopes 1&2

85%

Scope 3

SUSTAINABLE FINANCE AND INVESTMENT

Financing net-zero: Can banks and investors help prevent climate catastrophe?

Jun 16, 2022



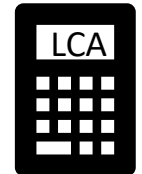




Values
Morals
LIABILITY
Honest
Ethics
Job
CARE
BUSINESS
Honesty
Accountable
CORE VALUES
PRIDE
OWNERSHIP
VIRTUOUS
ACTIONS
TRUST
Integrity
Trustworthiness
Accountability
ESPONSIBILITY
ACTIONS
Honorable
Diligence
ETHICAL
RESPONSIBLE
Blameworthiness
TRUST
Reliable
Commitment
Governance
STABILITY
MORAL
Function
Responsibility



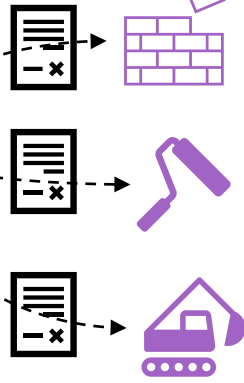
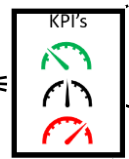
GIFA = 10,000m²



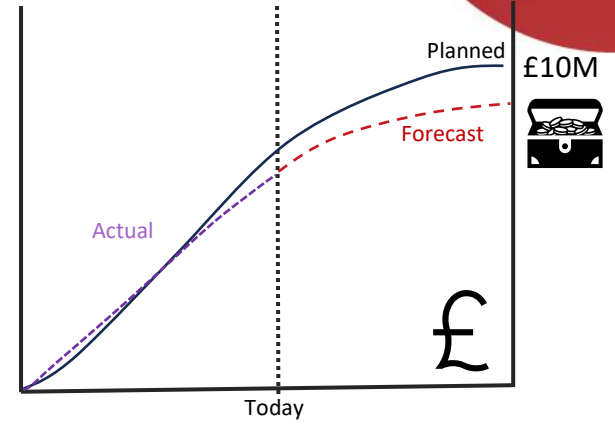
£10M
400kg CO₂e/m²
= 4000t



Contractor A



Cost £



Carbon Fraud?

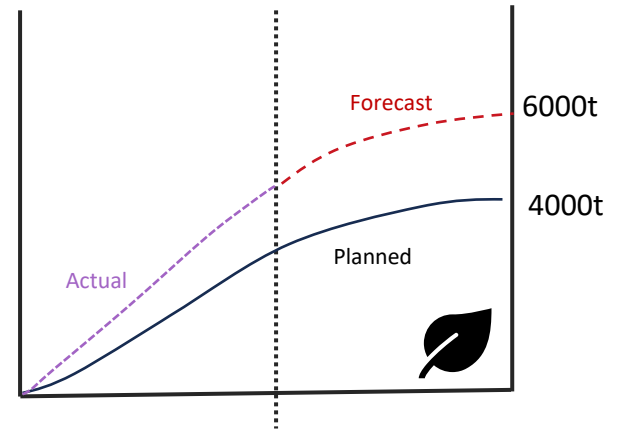


Contractor B

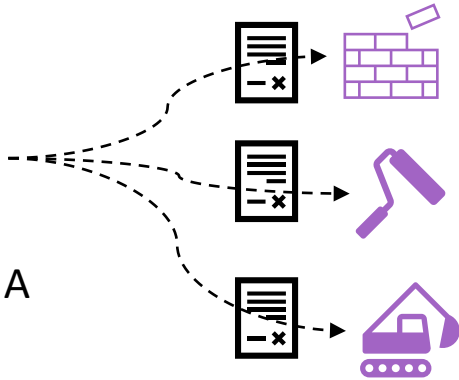
£9.5M
500kg CO₂e/m²
= 5000t



Co₂e



Contractor A



Sterling Home / Breakspear Road Bridge

Cost Plan

Search... Filter Select structure Drag a column header here to group by that column

Item Code	Title	Note	Quantity	Unit	Net Rate	Gross Rate	Net Total	Gross Total	Currency	CO ₂ Rate	A1-A3 CO ₂ Total	A4 CO ₂ Total	A5 CO ₂ Total	Total CO ₂
F74.4	Bridge Abutment; in Situ Wingwalls; Placing of concrete	Concreting	1,006.30	m3	£25.92	£28.83	£26,078.26	£29,009.46	GBP	4.02	4,045.33	0.00	0.00	4,045.33
G2.15	Bridge Deck; in Situ Concrete Deck Slab; Formwork permanent	Formwork	350.57	m2	£75.00	£82.50	£26,292.90	£28,922.79	GBP	746.00	50,832.94	0.00	0.00	50,832.94
G2.4.3	Bridge Deck; in Situ Concrete Deck Slab; Formwork stopends	Formwork	86.14	m2	£35.00	£38.50	£3,014.86	£3,316.34	GBP	78.00	6,718.83	0.00	0.00	6,718.83
G2.4.5	Bridge Abutment; in Situ Wingwalls; Formwork	Formwork	267.39	m2	£48.00	£52.80	£12,834.04	£14,118.33	GBP	78.00	20,856.62	0.00	0.00	20,856.62
G2.4.5	Bridge Abutment; in Situ Wingwalls; Reinforcement; 200 kg/m3	Rebar	838.59	m2	£48.00	£52.80	£40,252.22	£44,277.45	GBP	78.00	65,409.86	0.00	0.00	65,409.86
G5.2.5	Bridge Abutment; in Situ Walls; Reinforcement; 200 kg/m3	Rebar	64.17	t	£976.50	£1,088.48	£25,727.63	£28,619.42	GBP	1,795.50	44,848.51	0.00	2,300.45	47,208.96
G5.2.5	Bridge Abutment; in Situ Walls; Reinforcement; 200 kg/m3	Rebar	201.26	t	£976.50	£1,088.48	£196,932.91	£219,068.17	GBP	1,795.50	343,294.21	0.00	18,068.12	361,362.33
G8.11	Bridge Deck; in Situ Concrete Deck Slab; Surface finishing	Concreting	350.57	m2	£3.04	£3.39	£1,067.14	£1,187.09	GBP	0.92	323.93	0.00	0.00	323.93
G8.2.3	Bridge Abutment; in Situ Walls; Surface finishing	Concreting	267.39	m2	£3.04	£3.39	£813.94	£905.43	GBP	0.92	247.07	0.00	0.00	247.07
G8.2.3	Bridge Abutment; in Situ Walls; Surface finishing	Concreting	838.59	m2	£3.04	£3.39	£2,552.66	£2,839.58	GBP	0.92	774.86	0.00	0.00	774.86
P14.1	Abutment; Contiguous Piles; 750 mm diameter; Number of piles	Piling	129.00	Nr	£200.00	£222.48	£25,800.00	£28,699.92	GBP	0.00	0.00	0.00	0.00	0.00
P14.2	Abutment; Contiguous Piles; 750 mm diameter; Concrete length	Piling	1,612.50	m	£45.00	£50.06	£72,562.50	£80,718.53	GBP	0.00	0.00	0.00	0.00	0.00
P14.3	Abutment; Contiguous Piles; 750 mm diameter; Bore depth	Piling	1,612.50	m	£10.00	£11.12	£16,125.00	£17,937.45	GBP	280.00	451,500.00	0.00	0.00	451,500.00
Items: 31							Σ: £927,513.10	Σ: £1,016,924.51						

Item details build up

Bridge Abutment; in Situ Walls; Reinforcement; 200 kg/m3

Code	Title	Type	Resource Rate	Quantity	Unit	Total Cost	Resource Type	Tons/UoM	Total Weight	Distance to Site 1 Way	Embodied CO ₂ Rate	Sequestration CO ₂ Rate	Total CO ₂ A1-A3	Total CO ₂ A4	Total CO ₂ A5
L4B.30.01.06...	Steel fixer	Labour	£14.80	64.17	hr	£949.78		0.10	6.417 T	50.00	0.00	0.00	0.00	2,380.00	0.00
MAT02.04.02...	High yield steel bars B5 44x9; various...	Material	£650.00	67.38	t	£43,799.16	Steel	100	67.383 T	50.00	1,710.00	0.00	109,464.22	0.00	5,761.27
Items: 2					Σ: £44,748.95								Σ: kgCO ₂ e 109,464...	Σ: kgCO ₂ e 2,380...	Σ: kgCO ₂ e 5,761.27

Cost breakdown

Carbon breakdown

Search... Filter Select structure Drag a column header here to group by that column + Add Items Edit

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G.2.1.5	Bridge Deck; In Situ Concrete Deck Slab; Formwork permanent	Formwork	350.57	m2	£75.00	£82.50	£26,292.90	£28,922.19	GBP	145.00	50,832.94	0.00	0.00	50,832.94	
G.2.4.3	Bridge Deck; In Situ Concrete Deck Slab; Formwork stopends	Formwork	86.14	m2	£35.00	£38.50	£3,014.86	£3,316.34	GBP	78.00	6,718.83	0.00	0.00	6,718.83	
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G.5.2.5	Bridge Deck; In Situ Concrete Deck Slab; Reinforcement; 300 kg/m3	Rebar	26.29	t	£978.50	£1,088.48	£25,727.63	£28,619.42	GBP	1,795.50	44,848.51	0.00	2,360.45	47,208.96	
<input checked="" type="checkbox"/>	G.5.2.5	Bridge Abutment; In Situ Walls; Reinforcement; 200 kg/m3	Rebar	64.17	t	£697.30	£775.68	£44,748.95	£49,778.73	GBP	1,832.59	109,464.22	2,380.00	5,761.27	117,605.49
G.5.2.5	Bridge Abutment; In Situ Wingwalls; Reinforcement; 200 kg/m3	Rebar	201.26	t	£978.50	£1,088.48	£196,932.91	£219,068.17	GBP	1,795.50	343,294.21	0.00	18,068.12	361,362.33	
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Item details build up

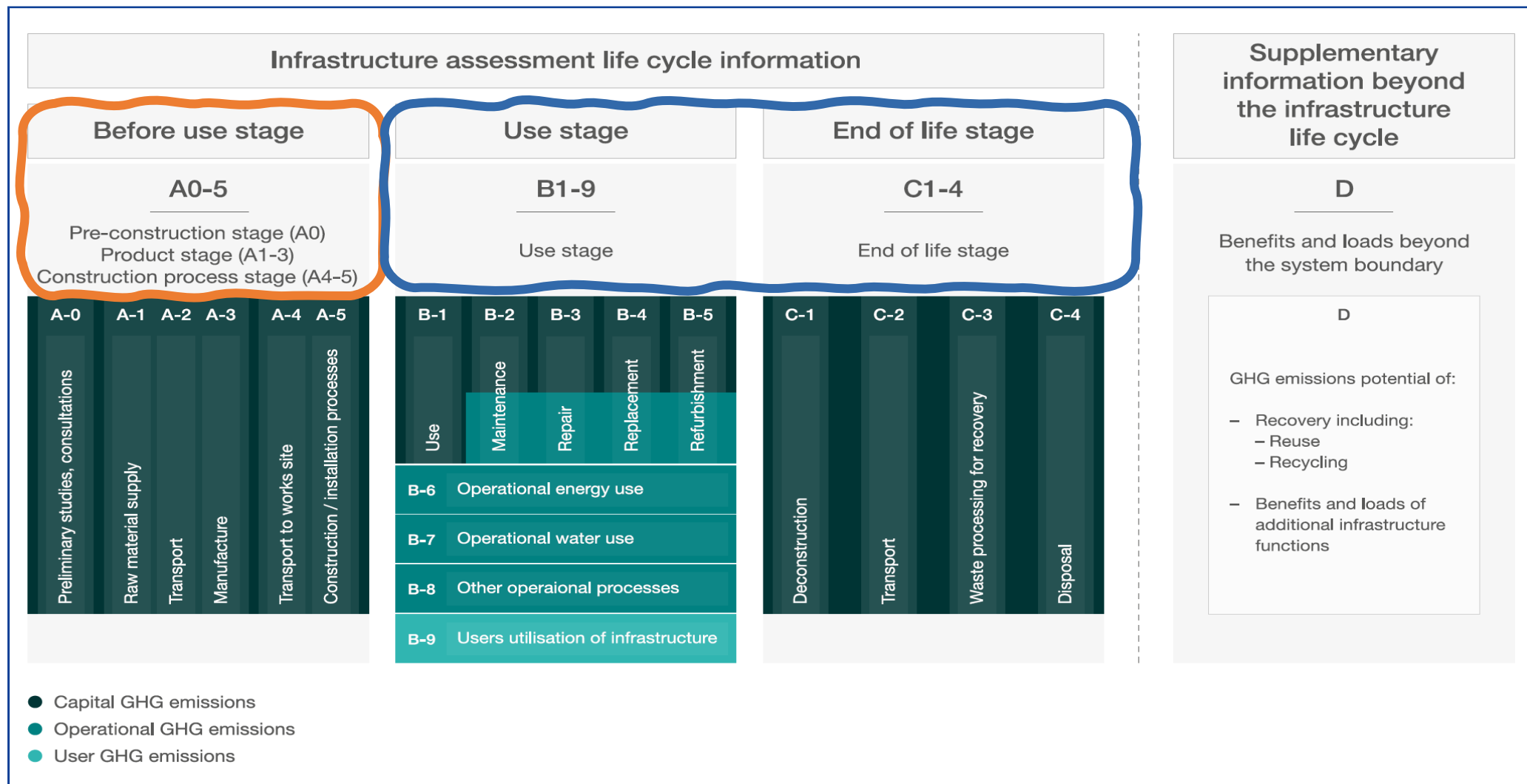
Cost breakdown

Carbon breakdown

Bridge Abutment; In Situ Walls; Reinforcement; 200 kg/m3

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MAT.02.04.02...	High yield steel bars BS 4449; various ...	Material	£650.00	67.38	t	£43,799.16	Steel	1.00	67.383 T	50.00	1,710.00	0.00	109,464.22	0.00	5,761.27
Items: 2						Σ: £44,748.95							Σ: kgCO ₂ e 109,46...	Σ: kgCO ₂ e 2,380...	Σ: kgCO ₂ e 5,761.27

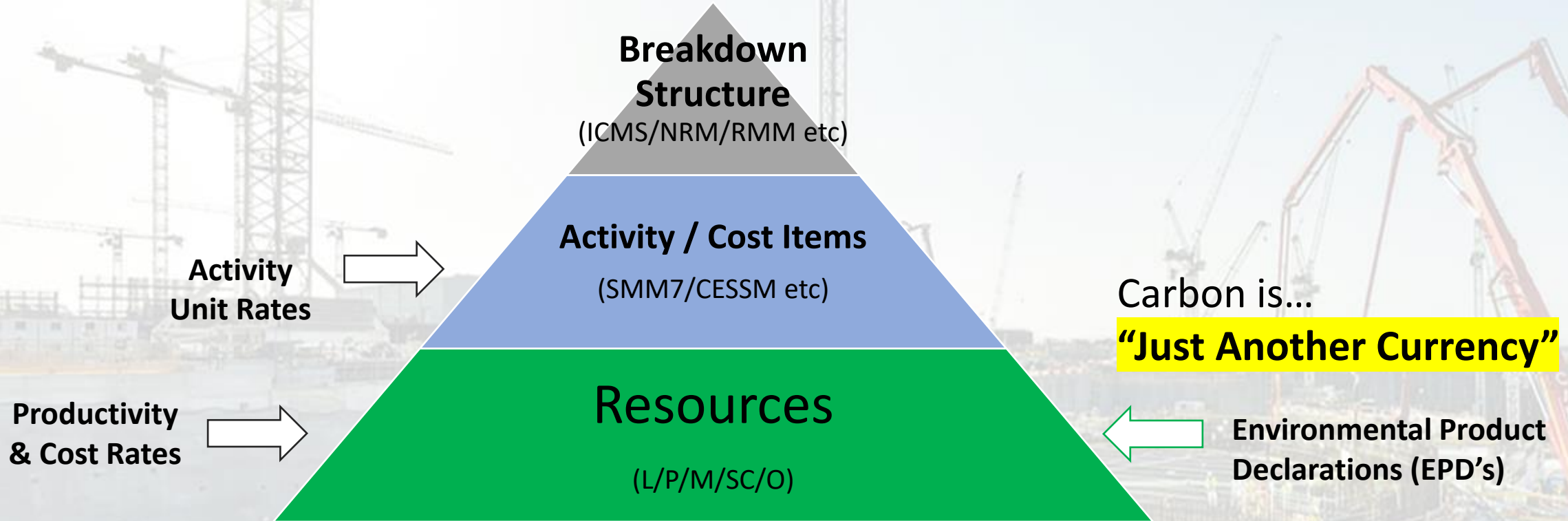
Devil is in the Detail



- Capital GHG emissions
- Operational GHG emissions
- User GHG emissions



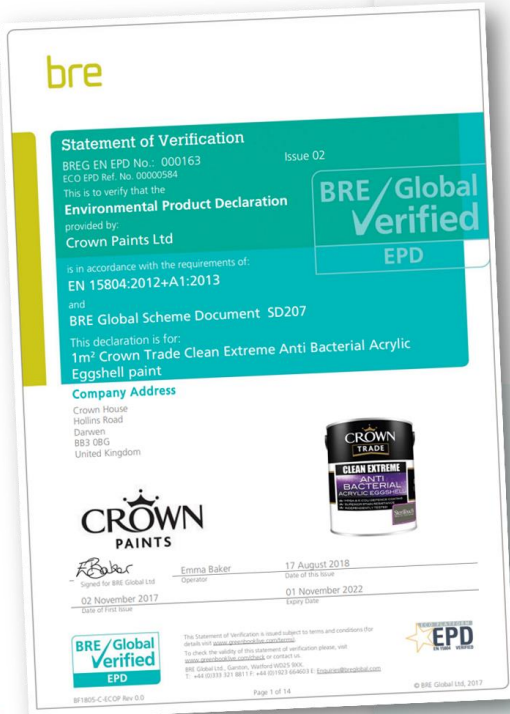
Data Sources & Tools



BCIS

 **BECD**
Built Environment Carbon Database

Data Sources & Tools



CROWN PAINTS PROFESSIONAL Search Crown Paints Professional...

BRANDS PRODUCTS COLOUR SECT

Crown Trade Clean Extreme Anti Bacterial Acrylic Eggshell

Water Based

- ✓ Independently tested to ISO 11998 Class 1 scrub rating
- ✓ MRSA & E.coli defence coating
- ✓ SteriTouch® Silver Ion Technology
- ✓ New and aged stains easily cleaned away
- ✓ Superior stain resistance

Clean Extreme Anti Bacterial Acrylic Eggshell offers a dual purpose solution that is stain resistant and defends against bacteria such as MRSA and E.coli, using independently tested SteriTouch® Silver Ion Technology, suitable for interior walls and woodwork.

[Add to specification](#) [Add to project](#)

[Find a stockist](#)

Technical Details

Suitable for	Interior
Substrates	Walls & Ceilings
Application	Brush / Roller / Spray
Properties	Anti-Bacterial / Scrubbable
Finish	Eggshell / Opaque
Recoat time	4 Hours
Spreading rate	Up to 14m ² /litre
Touch dry	1-2 Hours
Pack size	5L

LCA Results

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts			GWP	ODP	AP	EP	POCP	ADPE	ADPF
			kg CO ₂ equiv.	kg CFC 11 equiv.	kg SO ₂ equiv.	kg (PO ₄) ³⁻ equiv.	kg C ₂ H ₄ equiv.	kg Sb equiv.	MJ, net calorific value.
Product stage	Raw material supply	A1	0.152	1.95E-08	0.00166	0.000293	0.000115	0.00118	2.38
	Transport	A2	0.00449	7.94E-10	2.52E-05	4.98E-06	7.65E-07	3.18E-05	0.0676
	Manufacturing	A3	0.00403	3.55E-10	1.40E-05	3.58E-06	6.70E-07	2.96E-05	0.0466
	Total (of product stage)	A1-3	—	—	—	—	—	—	—
process stage	Transport	A4	0.0073	1.34E-09	3.42E-05	6.69E-06	1.24E-06	5.31E-05	0.113
	Construction	A5	0.00713	2.36E-10	2.58E-05	5.65E-06	9.30E-05	2.09E-06	0.15
Use stage	Use	B1	MND	MND	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	MND	MND	MND	MND	MND	MND	MND
	Transport	C2	0.000571	1.05E-10	2.62E-06	5.12E-07	9.66E-08	4.17E-06	0.00882
	Waste processing	C3	MND	MND	MND	MND	MND	MND	MND
	Disposal	C4	0.00662	2.19E-10	5.52E-06	1.29E-06	1.30E-06	8.51E-06	0.0205
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	MND	MND	MND	MND	MND	MND	MND

GWP = Global Warming Potential;
 ODP = Ozone Depletion Potential;
 AP = Acidification Potential for Soil and Water;
 EP = Eutrophication Potential;

POCP = Formation potential of tropospheric Ozone;
 ADPE = Abiotic Depletion Potential – Elements;
 ADPF = Abiotic Depletion Potential – Fossil Fuels;

Data Sources & Tools

ENVIRONMENTAL PRODUCT DECLARATION

as per /ISO 14025/ and /EN 15804/

Owner of the Declaration	British Ready-Mixed Concrete Association
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-RMC-20180095-CBG1-EN
Issue date	24/08/2018
Valid to	23/08/2023

UK manufactured generic ready-mixed concrete
Produced by members of the British Ready-Mixed Concrete Association (BRMCA)
part of the Mineral Products Association (MPA)

www.ibu-epd.com / <https://epd-online.com>



LCA: Results

In Table 1 "Description of the system boundary", all declared modules are indicated with an "X"; Module D which is not declared is indicated with "MND". Indicator values are declared to three valid digits.

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE NOT DECLARED)

PRODUCT STAGE	CONSTRUCTION PROCESS STAGE		USE STAGE										END OF LIFE STAGE			BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
	Raw material supply	Transport	Manufacturing	transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MND

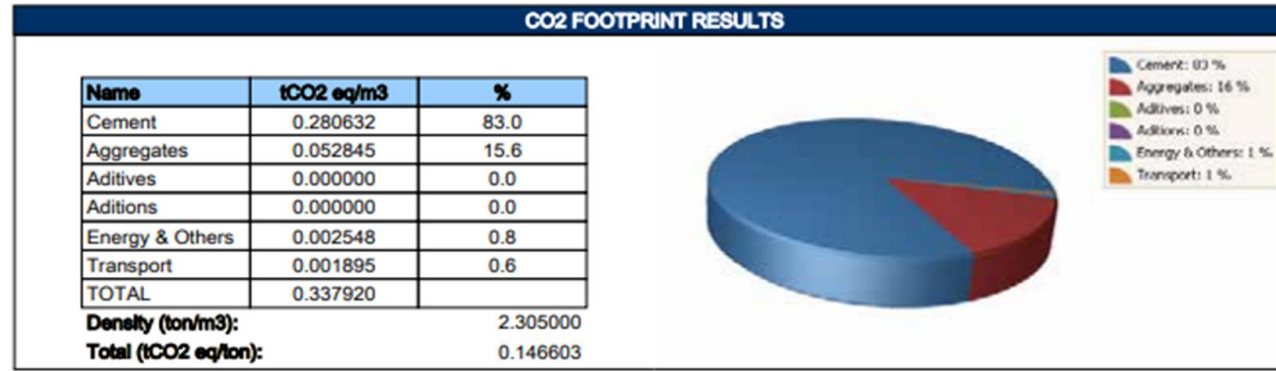
RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: 1m3 Generic Ready-mixed Concrete

Parameter	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4
GWP	[kg CO ₂ -Eq.]	246.00	2.01	0.19	19.90	0.00	0.00	0.00	0.00	0.00	0.00	-0.84	8.27	-18.90	1.98
ODP	[kg CFC-11-Eq.]	4.69E-6	2.37E-8	3.89E-10	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	9.73E-13	6.01E-12	3.90E-12
AP	[kg SO ₂ -Eq.]	3.98E-1	8.39E-3	1.28E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.45E-2	3.85E-2	2.27E-2
EP	[kg (PO ₄) ³⁻ -Eq.]	4.90E-2	2.02E-3	3.07E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	8.29E-3	9.21E-3	3.09E-3
POCP	[kg ethene-Eq.]	1.18E-1	-3.20E-3	1.39E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	-1.32E-2	4.16E-3	1.79E-3
ADPE	[kg Sb-Eq.]	4.54E-4	3.26E-8	3.36E-7	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.34E-7	1.01E-5	1.38E-6
ADPF	[MJ]	1.52E+3	2.76E+1	3.57E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.14E+2	1.07E+2	4.97E+1

Caption: GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources

Greener Alternatives..

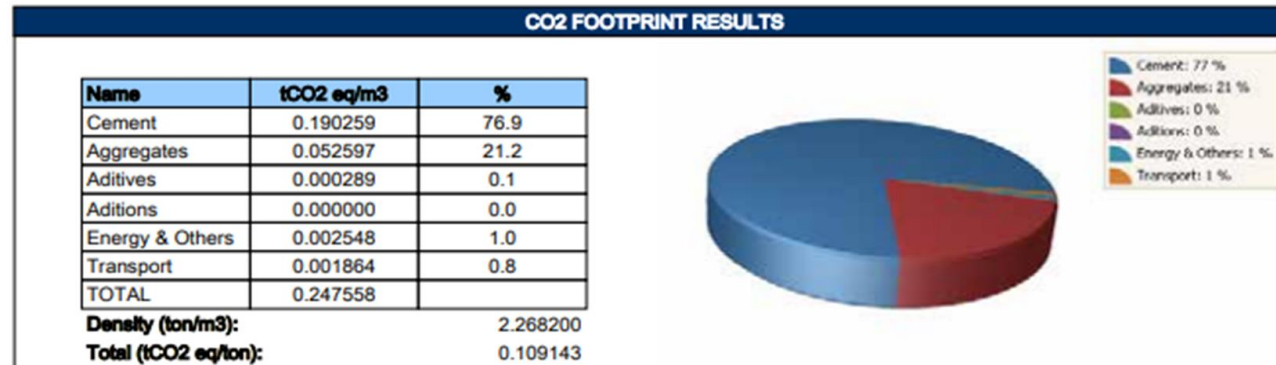
Mix Type A



0.338 tCO₂ eq/m³

£105.00/m³

Mix Type B



0.248 tCO₂ eq/m³

£146.00/m³

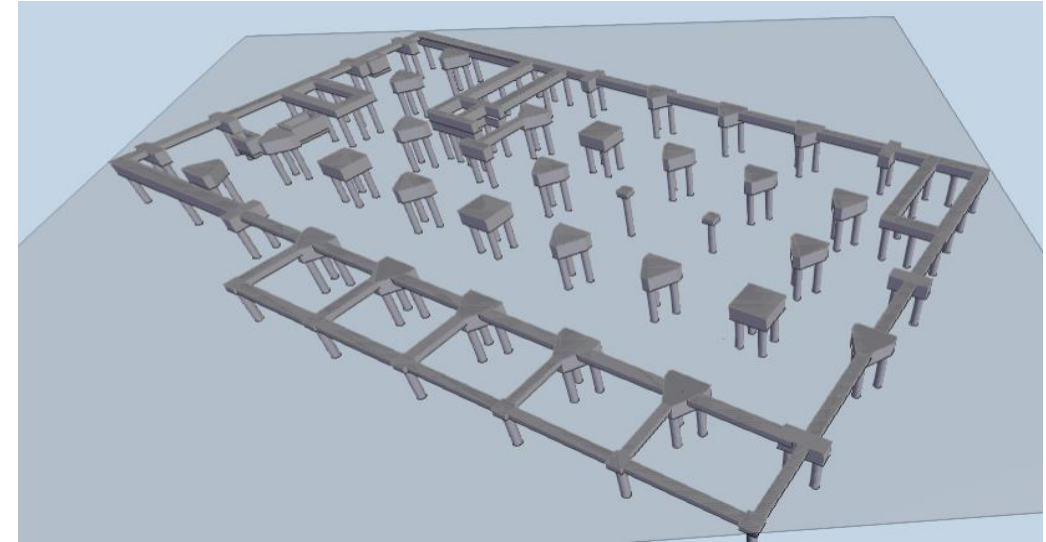
Figure 2: Difference between standard concrete mix and alternative concrete mix – achieved through early engagement with value chain



Example...

No.	Description	Date
1	Revision 1	Date 1

CODE	SUBFAMILY DESCRIPTION
STATUS	PURPOSE OF ISSUE
PROJECT	BHR Test
TITLE	Elevation
CLIENT	The 5D Community
DESIGNED BY	CHECKED BY
AUTHOR	CHECKER
SCALE	PROJECT NUMBER
1:200	000009
DRAWING NUMBER	REV
A006	1



Search... Filter Select structure Drag a column header here to group by that column + Add Items Edit

Item Code	Title	Note	Quantity	Unit	Net Rate	Gross Rate	Net Total	Gross Total	Currency	CO ₂ Rate	A1-A3 CO ₂ Total	A4 CO ₂ Total	A5 CO ₂ Total	Total CO ₂	
F.74.4	Bridge Abutment; In Situ Wingwalls; Placing of concrete	Concreting	1006.30	m3	£25.92	£28.83	£26,078.26	£29,009.46	GBP	4.02	4,045.33	0.00	0.00	4,045.33	
G.2.1.5	Bridge Deck; In Situ Concrete Deck Slab; Formwork permanent	Formwork	350.57	m2	£75.00	£82.50	£26,292.90	£28,922.19	GBP	145.00	50,832.94	0.00	0.00	50,832.94	
G.2.4.3	Bridge Deck; In Situ Concrete Deck Slab; Formwork stopends	Formwork	86.14	m2	£35.00	£38.50	£3,014.86	£3,316.34	GBP	78.00	6,718.83	0.00	0.00	6,718.83	
G.2.4.5	Bridge Abutment; In Situ Walls; Formwork	Formwork	267.39	m2	£48.00	£52.80	£12,834.84	£14,118.33	GBP	78.00	20,856.62	0.00	0.00	20,856.62	
G.2.4.5	Bridge Abutment; In Situ Wingwalls; Formwork	Formwork	838.59	m2	£48.00	£52.80	£40,252.22	£44,277.45	GBP	78.00	65,409.86	0.00	0.00	65,409.86	
G.5.2.5	Bridge Abutment; In Situ Concrete Deck Slab; Reinforcement; 300 kg/m3	Rebar	26.29	t	£978.50	£1,088.48	£25,727.63	£28,619.42	GBP	1,795.50	44,848.51	0.00	2,360.45	47,208.96	
<input checked="" type="checkbox"/>	G.5.2.5	Bridge Abutment; In Situ Walls; Reinforcement; 200 kg/m3	Rebar	64.17	t	£697.30	£775.68	£44,748.95	£49,778.73	GBP	1,832.59	109,464.22	2,380.00	5,761.27	117,605.49
G.5.2.5	Bridge Abutment; In Situ Wingwalls; Reinforcement; 200 kg/m3	Rebar	201.26	t	£978.50	£1,088.48	£196,932.91	£219,068.17	GBP	1,795.50	343,294.21	0.00	18,068.12	361,362.33	
G.8.1.1	Bridge Deck; In Situ Concrete Deck Slab; Surface finishing	Concreting	350.57	m2	£3.04	£3.39	£1,067.14	£1,187.09	GBP	0.92	323.93	0.00	0.00	323.93	
G.8.2.3	Bridge Abutment; In Situ Walls; Surface finishing	Concreting	267.39	m2	£3.04	£3.39	£813.94	£905.43	GBP	0.92	247.07	0.00	0.00	247.07	
G.8.2.3	Bridge Abutment; In Situ Wingwalls; Surface finishing	Concreting	838.59	m2	£3.04	£3.39	£2,552.66	£2,839.58	GBP	0.92	774.86	0.00	0.00	774.86	
P.14.1	Abutment; Contiguous Piles; 750 mm diameter; Number of piles	Piling	129.00	Nr	£200.00	£222.48	£25,800.00	£28,699.92	GBP	0.00	0.00	0.00	0.00	0.00	
P.14.2	Abutment; Contiguous Piles; 750 mm diameter; Concrete length	Piling	1,612.50	m	£45.00	£50.06	£72,562.50	£80,718.53	GBP	0.00	0.00	0.00	0.00	0.00	
P.14.3	Abutment; Contiguous Piles; 750 mm diameter; Bore depth	Piling	1,612.50	m	£10.00	£11.12	£16,125.00	£17,937.45	GBP	280.00	451,500.00	0.00	0.00	451,500.00	
Items: 31							Σ: £927,513.10	Σ: £1,016,924.51						Σ: kgCO ₂ e 1,721,...	

Item details build up

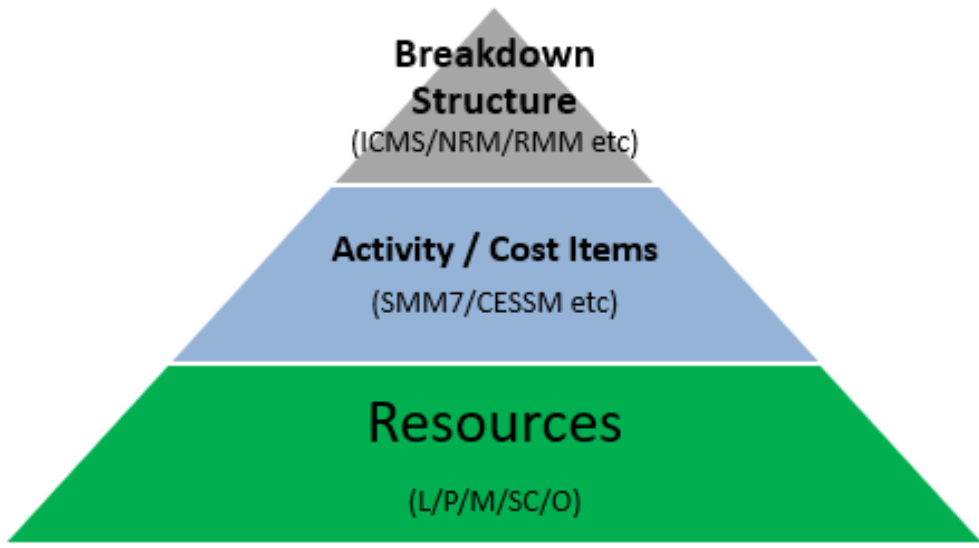
Cost breakdown

Carbon breakdown

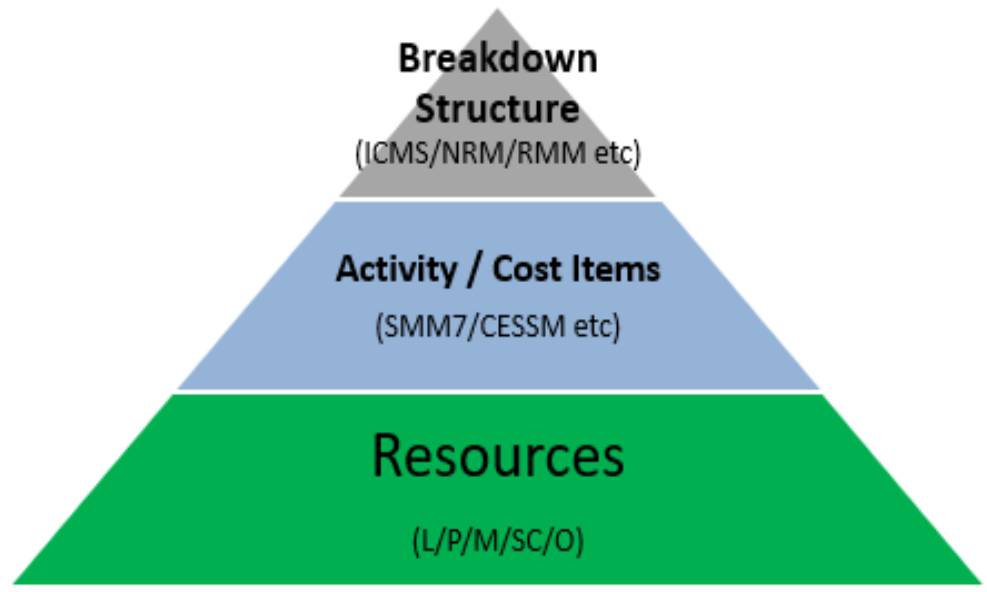
Bridge Abutment; In Situ Walls; Reinforcement; 200 kg/m3

Code	Title	Type	Resource Rate	Quantity	Unit	Total Cost	Resource Type	Tons/UoM	Total Weight	Distance to Site 1 Way	Embodied CO ₂ Rate	Sequestration CO ₂ Rate	Total CO ₂ A1-A3	Total CO ₂ A4	Total CO ₂ A5
LAB.30.01.06...	Steel fixer	Labour	£14.80	64.17	hr	£949.78		0.10	6.417 T	50.00	0.00	0.00	0.00	2,380.00	0.00
MAT.02.04.02...	High yield steel bars BS 4449; various ...	Material	£650.00	67.38	t	£43,799.16	Steel	1.00	67.383 T	50.00	1,710.00	0.00	109,464.22	0.00	5,761.27
Items: 2						Σ: £44,748.95							Σ: kgCO ₂ e 109,46...	Σ: kgCO ₂ e 2,380...	Σ: kgCO ₂ e 5,761.27

Example..



COST MINDSET



CARBON MINDSET

Search...

Show Filters

Drag a column header here to group by that column

Synchronise EPD

Edit

<input type="checkbox"/>	Code	Title	stance to Site 1 Way	Total CO ₂ A1-A3	Total CO ₂	Total CO ₂	Total CO ₂ A1-A5	EPD Code	EPD Data
<input checked="" type="checkbox"/>	MAT.02.02.02.030	Concrete c40: 14mm aggregate_(CEMEX Mix Type A)	50.00	51,714.00	55.00	0.00	51,769.00		
	MAT.02.04.02.050	High yield steel bars BS 4449; 16mm; 1.579kg/m, HELIX Piles	50.00	42,220.11	2.50	2,228.25	44,450.86		
	MAT.03.03.04.005	Facing bricks; pc £250 per 1000	10.00	43,136.60	0.00	0.00	43,136.60		
	MAT.22.01.01.045	Passenger lifts; Traction; Machine Room Less; Standard Finish...	50.00	19,825.96	0.00	0.00	19,825.96		
	MAT.22.01.02.020	Goods Lifts; Hydraulic; Twin Opening; Heavy Duty Finish with ...	50.00	18,876.50	0.00	0.00	18,876.50		
	MAT.03.02.01.000	Cement mortar (1:3)	50.00	17,217.29	0.00	0.00	17,217.29		
	MAT.03.03.04.000	Facing bricks; pc £250 per 1000	50.00	16,519.90	0.00	0.00	16,519.90		
	MAT.15.05.05.010	20mm dense graded bitumen macadam	50.00	10,605.75	0.00	0.00	10,605.75		
	MAT.15.04.01.015	50mm precast concrete paving BS 368; 600 x 900mm	50.00	7,692.83	0.00	0.00	7,692.83		
Items: 42									

What?

How Much?

Cost Items - Concrete c40: 14mm aggregate_(CEMEX Mix Type A)

Item Code	Title	Note	Currency	Unit	Quantity	Net Rate
D.20.20.10.012	Reinforced concrete piles, provision of all plant including bringing to site and removal on completio...	Piling	GBP	Item	153.00	£81.78
Items: 1						

Where?

Breakspear Road...

Home / Breakspear Road Bridge

Assign Cost Items

Work Packages

pil



+ Add Work Packages ▾

Code	Title	Category	Status	Allow
07PAC	Piling			£0.00
07PAC.010	Piling Works - Package			£0.00
P.14.1	Abutment; Contiguous Piles; 750 mm diam...			×
P.14.2	Abutment; Contiguous Piles; 900 mm dia...			×
P.14.3	Abutment; Contiguous Piles; 750 mm diam...			×
Q.2.1.1	Abutment; Contiguous Piles; Reinforceme...			×
Q.7	Abutment; Contiguous Piles; Obstructions			×
Q.8.1	Abutment; Contiguous Piles; Working pile; ...			×
Q.8.4	Abutment; Contiguous Piles; Testing non-...			×
07PAC.015	Bored Piling - Package			£0.00
07PAC.020	Cast Insitu Piling - Package			£0.00
07PAC.025	CFA Piling - Package			£0.00
07PAC.030	Driven Piling - Package			£0.00
07PAC.035	Precast Piling - Package			£0.00
07PAC.040	Steel Piling - Package			£0.00
07PAC.045	Steel Sheet Piling - Package			£0.00

Items: 7

Piling Works - Package

Quotes

Compare all quotes

Send to Bidder

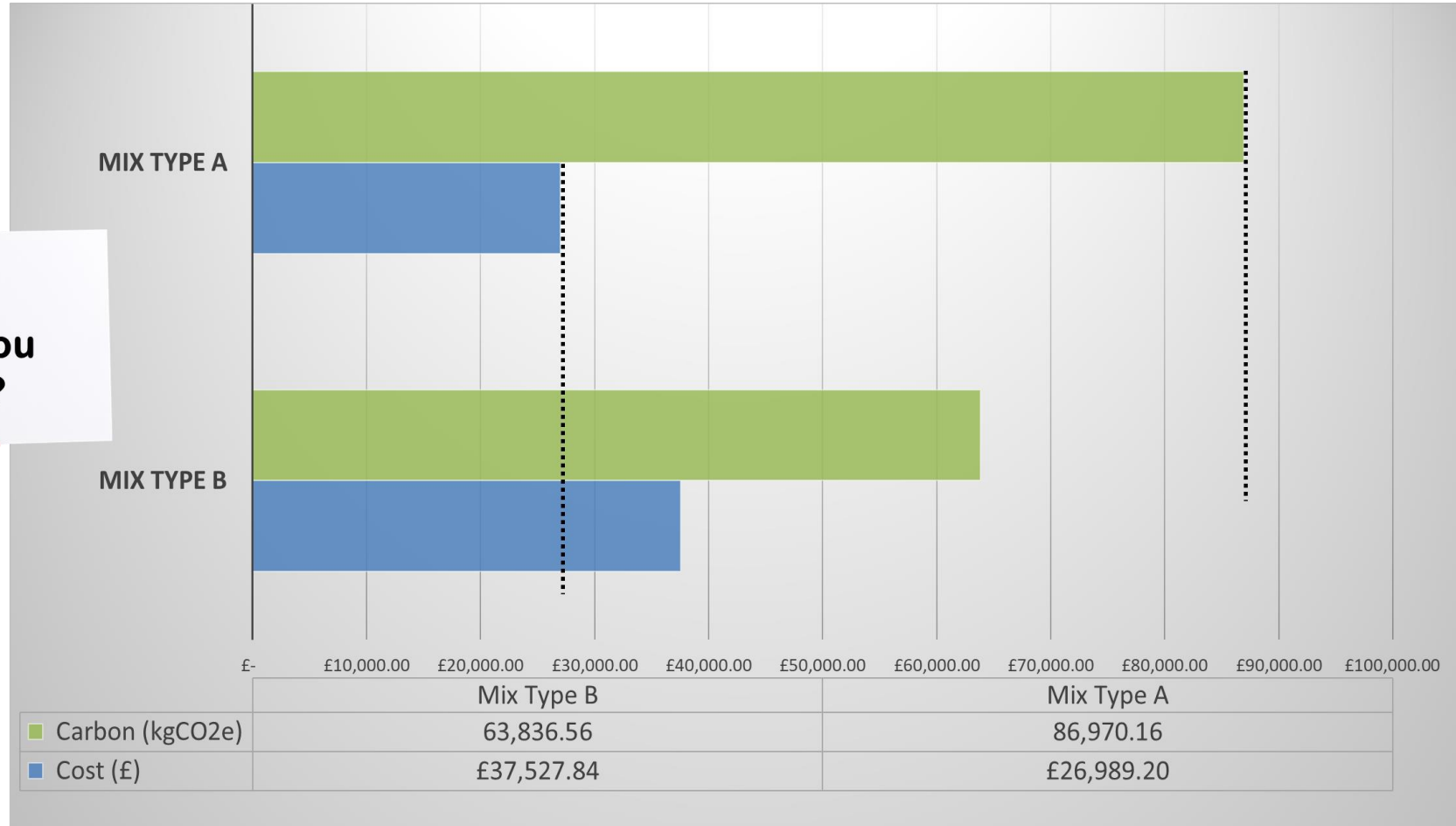
Name	Sent	Status	Submitted Price
Groundworks Subc...	25/04/2023	Received	£2,060,388.00
Civils Subcontractor	25/04/2023	Received	£947,157.00

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