	Euston Tower						Key
Planning application reference number (if applicable)	Find disclotes and a second						Data automatically calculate Cells that require information
Use Class Brief description of the projec	E, including lab-enabled spaces  Existing building, maintaining the below ground foundary	tions, substructure and existing elevator core and provide new	slabs to have lab-enabled (level 03 to 13) and office	space (level 14 to 29).			N/A
GIA (m²	77542						J
sment details							
Authors (organisation or individuals	Rafaella Klaus, Sweco UK 14th November 2023						
Date of assessmen  Operational modelling methodology for Module B6 results	TM54						
	[This cell should only be filled in if the reference study p	eriod, i.e. the assumed building life expectancy, exceeds or is l , applicants may, if they choose to, submit an additional assess e modules' table, see below].	ess than 60 years. Applicants should state the reference of the modules B, C and D for the actual reference.	rence study period in this cell. rence study period by copying			
Software tool used	One Click LCA						
Types of EPDs and carbon database used	Gabi, Ecolnvent						
ase confirm if 95% of the cost allocated to each building element category has been accounted for in the assessment?	Yes						
Explanation of mechanisms which have been adopted to quality assure the submission	Internal QA from Sweco Head of Buildings Whole Life (design team, third party review of feasibility studies, find	carbon Matthew Mapp, review of all quantities with QS Gardiner dings of which informed some of the approaches in the WLCA					
Please confirm whether you have submitted this assessment to the Built Environment Carbon	I have submitted this assessment to the BECD						
tabase (https://www.becd.co.uk/) or if you give permission for the GLA to do this on your behalf by checking one of the following boxes	I give permission for the GLA to submit this assessme	nt to the BECD on my behalf					
ated WLC emissions					1 		
This forms the WLC baseline for the development. The green cells will automatically populate	from the tables below						
	Module A1-A5 (excluding sequestered carbon)	Modules B-C (excl B6 & B7)	Modules A-C (excl B6 & B7; including sequestered carbon)	Module B1-B5	Module B6-B7	Module C1-C4	Module D
TOTAL kg CO <sub>2</sub> e	55,146,062 kg CO2e	43,524,388 kg CO2e	97,837,978 kg CO2e	39,054,461 kg CO2e	126,527,289 kg CO2e	4,469,927 kg CO2e	-18,030,870 kg CO2e
TOTAL kg CO <sub>2</sub> e/m² GIA	711	561	1262	504	1632	58	-233
Please select most appropriate benchmark from drop-down menu		Offices					
WI C Benchmark	<950	<450	-1400				

WLC Benchman	rk <950	<450	<1400		
Aspirational WLC Benchman	rk <600	<370	<970		
Comparison with WLC benchmarks (see Appendix 2 of the guidance	(a) further reduce this towards the GLA's 'aspirational' perf	all fall below the GLAWLCA Guidance targets in terms of upfror ormance benchmark position. The targets are not directly comp b. This is why there is a disparity between the reported value an	arable because of the lab-enabled requirement for	articular is significantly below the GLAWLC benchmark. O some of the floors; this increases the emissions associa	pportunities have been presented with led with MEP equipment in particular, v
Retention of existing buildings and structures					
Confirmation that options for retaining existing buildings and structures have been fully explore before considering substantial demolitic	The carbon figures presented on this document repres application submission. Please refer to this document	ent the 'partial retention and extension (retain the core)' option r and the Sustainability and Cricular Economy Statements for fur	epresented within the feasibility studies that have but ther details on this key point.	een prepared for the planning	
Carbon emissions associated with pre-construction demolition (kgCO $_2$	e) 22kgCO <sub>z</sub> e/m²				
Estimate of the percentage of the new build development which will be made up of existing elemen	20%				
Summary of <u>key actions</u> to reduce whole life-cycle carbon emissions that have informed this		Actions included in WLC assessment results reported	WLC reduction (kg CO <sub>2</sub> e/m <sup>2</sup> GIA)		
assessment, including the WLC reductions	Steel Reuse Xcarb structural steel	-20 -95			
	Xcarb rebar Reused RAF for landlord areas (excluding WC's)	-20 -13			
		Further potential opportunities		WLC reduction potential (kg CO <sub>2</sub> e/m² GIA)	
	Foundation Optimisation - Pile Caps + Piles instead of High recycled content in substructures elements	Raft + Piles	T	-10 -8	
	Steel Design Optimisation (omit 10%)			-6 -5	
	Optimize Column Grid - Reduce to a 9x6 Grid instead of	f9x12		-6	
	Sacrifice demountable floor plate			-4	
Specify further opportunities to reduce the development's whole life-cycle carbon emissions.	Residual Moment Connection - Residual Moment Con	nections would allow to reduce steel weights		-1	
including the WLC reduction potential	Review of the Floor to Ceiling Height - Cable Trays und	er the beam implies no rectangular openings into beams		-1	
including the WEG reduction potential	Columns - CFT instead of S460			-1	
	Xcarb Steel for Steel Truss and bolt on podium structur	0		-6	
	Etexplasterboard - ceilings and internal walls			-4	
	Reuse of existing building concrete (ribbed slabs)			-2	
	High recycled content in Precast slabs			-13	
		al75 hillet)	-10		
	Extrusions made with high recycled content (Hydro Circ				
	Use SGG ORAE low carbon glass  RAF - RMG600+ for WC'S and CAT A areas	41.001100		-4	

MATERIAL QUANTITY AND END OF LIFE SCEN.  Building element category  0.1 Demolition: Toxic/Hazardous 0.2 Major Demolition Works 0.3 Temporary Support to Adjace 0.4 Specialist Ground Works 1 Substructure  2.1 Superstructure: Frame	Note/example 6/Contaminated Material Treatment	Material type  Breakdown of material type in each category [Insert more lines if needed] e.g. Concrete e.g. Reinforcement	Material quantity (kg) 65000 kg	Assumptions made with respect to maintenance, repair and replacement cycles (Module B)	Material 'end of life' scenarios	(Module C)	Benefits and loads beyond the statement of the statement	Fatimeted accordable
0.1 Demolition: ToxicHazardous 0.2 Major Demolition Works 0.3 Temporary Support to Adjace 0.4 Specialist Ground Works 1 Substructure	si/Contaminated Material Treatment	Breakdown of material type in each category [Insert more lines if needed] e.g. Concrete e.g. Reinforcement		maintenance, repair and replacement cycles	Material 'end of life' scenarios	(Module C)	Estimated reusable materials (kg)	
O.2 Major Demolition Works  O.3 Temporary Support to Adjace  O.4 Specialist Ground Works  1 Substructure	si/Contaminated Material Treatment	[Insert more lines if needed] e.g. Concrete e.g. Reinforcement	65000 kg					
0.2 Major Demolition Works 0.3 Temporary Support to Adjace 0.4 Specialist Ground Works 1 Substructure	si/Contaminated Material Treatment	e.g. Reinforcement		For all primary building systems (structure, substructure, envelope, MEP services, internal	Declare 'end of life' scenario as per p Economy Statement, and used in the W	project's Circular VLC assessment to	0 kg	25 kg
Major Demolition Works     Temporary Support to Adjace     Specialist Ground Works     Substructure		e.g. Formwork	5000 kg 250 kg	finishes) including assumed material/product lifespans and annual maintenance/repair %	produce Module C resu	ults	2 kg 0 kg	8 kg 0 kg
0.3 Temporary Support to Adjace 0.4 Specialist Ground Works 1 Substructure	ent Structures	None - Category not required  TBC - no quantified material detail - based on benchmarks	0 kg		n/a		0 kg	0 kg
1 Substructure		TBC - no quantfiied material detail - based on benchmarks	0 kg		n/a		0 kg	0 kg
2.1 Superstructure: Frame		None - Category not required  Excavation	0 kg 18,824,960 kg	n/a	n/a Benefitical use of excavated materials		0 kg	0 kg
2.1 Superstructure: Frame		Steel EPS	214,864 kg 17,013 kg	60 years	Steel recycling  Plastic based material incineration		15,040 kg	199,824 kg 0 kg
2.1 Superstructure: Frame		Concrete - C32/40 Rebar	18,452,928 kg 1,655,582 kg	60 years	Concrete crushed to aggregate Steel recycling		0 kg	17,991,605 kg 1,622,470 kg
2.1 Superstructure: Frame		Waterproof Membrane	752 kg	60 years	Plastic based material incineration		0 kg	0 kg
		Structural Steel  Intumes cent Paint	8,961,275 kg 129,837 kg	60 years	Steel recycling Intert material - landfilling		627,289 kg 0 kg	8,333,986 kg 0 kg
2.2 Superstructure: Upper Floors	S	Concrete - C32/40	27,560,880 kg 1,435,210 kg	60 years	Concrete crushed to aggregate  Steel recycling		0 kg	26,871,858 kg 1,406,506 kg
		Mortar	701,730 kg	60 years	Cement/mortar use in a backfill		0 kg	666,644 kg
2.3 Superstructure: Roof		Concrete - C32/40  Rebar	1,156,248 kg 72,720 kg	60 years	Concrete crushed to aggregate Steel recycling		0 kg	1,127,342 kg 71,266 kg
		Waterproof Membrane Gravel	7,362 kg 264,000 kg	30 years	Plastic based material incineration  Do nothing		0 kg	0 kg
		Precast concrete paving Steel Pedestals	272,600 kg 19,932 kg	30 years 30 years	Rebar separated (2 %), concrete to aggregate		0 kg 997 kg	258,970 kg 18,536 kg
		XPS Insulation	25,263 kg	30 years	Steel recycling  Plastic based material incineration		0 kg	0 kg
2.4 Superstructure: Stairs and R	amps	Concrete - C32/40  Rebar	74,231 kg 4,567 kg	60 years	Concrete crushed to aggregate  Steel recycling		0 kg	72,375 kg 4,476 kg
		Steel Stair Steel handrail	221,781 kg 15,315 kg	60 years 30 years	Steel recycling		15,525 kg 1,072 kg	206,256 kg 14,243 kg
		Wood handrail	5,294 kg	30 years	Steel recycling Wood incineration		0 kg	0 kg
2.5 Superstructure: External Wal	is	Steel Studwork Plasterboard	21,178 kg 431,036 kg	30 years 30 years	Steel recycling  Gypsum recycling		1,059 kg 0 kg	19,695 kg 73,276 kg
2.6 Superstructure: Windows an	id External Doors	BMU (cable, eletric motor  Aluminium & Glass Door	17,842 kg 3,789 kg	60 years 30 years	Metal-containing product recycling (90 % metal) Glass Recycling / Aluminium Recycling		0 kg	16,058 kg 3,600 kg
Departmentals, willing an		Aluminium Frame	638,311 kg	60 years	Aluminium recycling		0 kg	612,779 kg
		Revolving Door GRC	10,920 kg 1,779,508 kg	30 years 60 years	Glass Recycling / Aluminium Recycling Concrete crushed to aggregate		0 kg	10,374 kg 1,717,225 kg
		Laminated Glass  Aluminium sheet	821,595 kg 97,186 kg	30 years 60 years	Glass recycling  Aluminium recycling		0 kg	501,173 kg 93,299 kg
		Rockwool	329,848 kg	60 years	Landfilling (for inert materials)		0 kg	0 kg
2.7 Superstructure: Internal Wall	is and Partitions	Galvanised Steel  Cement Mortar	81,058 kg 126,876 kg	60 years	Steel recycling  Cement/mortar use in a backfill		4,053 kg 0 kg	75,384 kg 120,533 kg
		Steel Studwork  Precast Blockwork	216,075 kg 1,242,167 kg	30 years 60 years	Steel recycling  Concrete crushed to		10,804 kg 0 kg	200,950 kg 1,211,113 kg
		Plasterboard	1,801,237 kg	30 years	aggregate  Gypsum recycling		0 kg	306,210 kg
		Steel handrail Insulation	2,895 kg 109,792 kg	30 years	Steel recycling  Landfilling (for inert materials)		145 kg 0 kg	2,693 kg 0 kg
2.8 Superstructure: Internal Door	rs	Aluminium and Glass partitioning  Aluminium Doors	47,038 kg 919 kg	30 years 30 years	Glass Recycling / Aluminium Recycling Glass Recycling / Aluminium Recycling		0 kg	44,686 kg 873 kg
		Timber Doors	102,991 kg	30 years	Wood incineration		0 kg	0 kg
3 Finishes		Epoxy Paint  Adhesive	6,739 kg 182,275 kg	10 years	Intert material - landfilling Intert material - landfilling		0 kg	0 kg
		Carpet Ceramic Tile	30,766 kg 178,468 kg	10 years	Plastic-based material incineration  Brick/stone crushed to		0 kg	0 kg 169,545 kg
		Dust Sealant	36 kg	10 years	aggregate Intert material - landfilling		0 kg	0 kg
		Paint (general)  EPS	12,265 kg 12,055 kg	10 years 60 years	Intert material - landfilling  Plastic based material incineration		0 kg	0 kg
		RAF HDPE	711,800 kg 1,336 kg	30 years 10 years	Steel recycling, plastic-based material incineration & chiphoard incineration Plastic based material		0 kg	676,210 kg
		Screed	441,734 kg	30 years	incineration  Cement/mortar use in a backfill		0 kg	419,647 kg
		Plasterboard Steel Studwork	265,992 kg 33,110 kg	20 years 20 years	Gypsum recycling Steel recycling		0 kg 1,656 kg	45,219 kg 30,792 kg
4 Fittings, furnishings & equip	ment (FFE)	Natural Stone  Lockers	155,876 kg 8,852 kg	20 years 30 years	Brick/stone crushed to aggregate  Various - constituent material dependant.		0 kg	148,082 kg 0 kg
		Galvanised Steel - Bike racks	30,960 kg	20 years	Steel recycling  Metal-containing product		1,548 kg	28,793 kg
5 Services (MEP)		Tumstile AHU	7,749 kg 186,851 kg	30 years 20 years (CIBSE Guide M)	Metal-containing product recycling (90 % metal)  Metal-containing product recycling		0 kg	6,974 kg 74,740 kg
		ASHP Cast Iron Pipes	42,755 kg 25,787 kg	15 years (CIBSE Guide M) 35 years (CIBSE Guide M)	Metal-containing product recycling Steel recycling		0 kg	29,929 kg 23,208 kg
		Chillers	39,239 kg	15 years (CIBSE Guide M)	Metal-containing product recycling (90 % metal)  Metal-containing product		0 kg	35,315 kg
		Circulating Pump  Copper Pipe	291 kg 5,755 kg	20 years (CIBSE Guide M) 45 years (CIBSE Guide M)	Metal-containing product recycling (90 % metal)  Copper recycling		0 kg	262 kg 5,180 kg
		Diffusers Drainage	10,618 kg 9,266 kg	25 years (CIBSE Guide M) 60 years	Aluminium recycling  Various - constituent material		0 kg	4,247 kg 0 kg
		Electricity Cabling	151,721 kg	35 years (CIBSE Guide M)	dependant.  Metal-containing product recycling  Various - constituent material		0 kg	75,860 kg
		Transformer  Water tanks (Cat 1, Cat 5 etc.)	19,709 kg 5,572 kg	30 years (CIBSE Guide M)  35 years (CIBSE Guide M)	dependant.  Plastic based material incineration		0 kg	0 kg
		Glass Wool Insulation  HDPE Pipe	36,491 kg 5,330 kg	30 years (CIBSE Guide M) 25 years (CIBSE Guide M)	Landfilling - inert Plastic based material		0 kg	0 kg 0 kg
		LED Lighting	45,155 kg	20 years (CIBSE Guide M)	incineration  Landfilling (for inert materials)  Metal-containing product		0 kg	20,320 kg
		Lifts  Rock wool Insulation	247,142 kg 15,716 kg	20 years (CIBSE Guide M)  30 years (CIBSE Guide M)	recycling (90 % metal)  Landfilling - inert		0 kg	222,427 kg 0 kg
		Trench Heaters PV Panels	55,791 kg 8,844 kg	15 years (CIBSE Guide M) 25 years (CIBSE Guide M)	Various - constituent material dependant.  Metal-containing product recycling (90 % metal)		0 kg	0 kg 7,959 kg
		PVC Pipe	9,192 kg	35 years (CIBSE Guide M)	recycling (90 % metal)  Plastic based material incineration  Glass-containing product		0 kg	0 kg
		Shower Streen Shower Trays	5,660 kg 2,670 kg	25 years (CIBSE Guide M) 25 years (CIBSE Guide M)	recycling (80 % glass)  Landfilling (for inert materials)		0 kg	4,528 kg 0 kg
		Showers Stainless steel bars	364 kg 977 kg	25 years (CIBSE Guide M) 25 years (CIBSE Guide M)	Metal-containing product recycling (90 % metal)  Stainless steel recycling		0 kg	327 kg 929 kg
		Sprinkler System	11,519 kg	25 years (CIBSE Guide M)	Various - constituent material dependant.		0 kg	0 kg
		Steel Pipe	104,542 kg 96,174 kg	40 years (CIBSE Guide M) 30 years (CIBSE Guide M)	Steel recycling Steel recycling		0 kg	41,817 kg 86,557 kg
		Steel sinks Taps	173 kg 1,725 kg	25 years (CIBSE Guide M) 25 years (CIBSE Guide M)	Steel recycling  Metal-containing product recycling (90 % metal)		0 kg	164 kg 1,552 kg
		Cable tray Washbasins	44,040 kg 5,000 kg	40 years (CIBSE Guide M) 25 years (CIBSE Guide M)	Steel recycling		0 kg	41,838 kg 0 kg
		Washbasins  Electronic soap	5,000 kg 2,333 kg	25 years (CIBSE Guide M)  25 years (CIBSE Guide M)	Landfilling (for inert materials)  Metal-containing product recycling (90 % metal)		0 kg	0 kg 2,100 kg
		WCs Generator	13,464 kg 10,188 kg	25 years (CIBSE Guide M) 30 years (CIBSE Guide M)	Landfilling (for inert materials)  Metal-containing product recycling (90 % metal)		0 kg	0 kg 9,169 kg
6 Prefabricated Buildings and	Building Units	None - Category not required  TBC - no quantified material detail - based on	0 kg	n/a	n/a		0 kg	0 kg
7 Work to Existing Building 8 External works		TBC - no quantified material detail - based on benchmarks  TBC - no quantified material detail - based on benchmarks	0 kg	n/a n/a	n/a n/a		0 kg	0 kg
frigerants		Refrigerant name	Initial Charge(kg)	Annual leakage rate %	Refrigerant GWP (kgCO₂e/kg) End of Li	ife recovery rate s	6	
a Refrigerants Type 1 (if applic	table) - please see CIBSE TM65 for methodology	R513A	1,955 kg	2%	656.45	99%		
	cable) - please see CIBSE TM65 for methodology	R513A R-32	2,250 kg 315 kg	2% 6%	656.45 675	99%		
		TOTAL  Material intensity (kg/m2 GIA)	91,281,193 kg 1,177 kg/m2 GIA				679,187 kg 9 kg/m2 GIA	66,089,966 kg 852 kg/m2 GIA

GWP POTENTIAL FOR ALL LIFE-CYCLE MODULES (kgCO_e) (See Note 1 below if you entered a reference study period in cell C12) Building element category	Sequestered (or biogenic) carbon (negative value) (kgCO₂e)	Product stage (kgCO₂e)	Construction process sta	ge (kgCO₂e)	Use stage (kgCO <sub>2</sub> e)							End of Life (EoL) stage (kgCO₂e)				TOTAL Modules A-C	Benefits and loads system boundary
			Module A			Module B							Module C				
		[A1] to [A3]	[A4]	[A5]	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]	[C1]	[C2]	[C3]	[C4]		Module I
0.1 Demolition: Toxic/Hazardous/Contaminated Material Treatment												0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2
0.2 Major Demolition Works												1,705,902 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	1,705,902 kg CO2e	0 kg CO
0.3 Temporary Support to Adjacent Structures	0 kg CO2e	0 kg CO2e	0 kg CO2e	1,163,115 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	1,163,115 kg CO2e	0 kg CO
0.4 Specialist Ground Works	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2
0.5 Temporary Diversion Works	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO
1 Substructure	0 kg CO2e	3,558,534 kg CO2e	608,302 kg CO2e	171,196 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			21,232 kg CO2e	82,707 kg CO2e	47,199 kg CO2e	0 kg CO2e	4,489,169 kg CO2e	-422,615 kg
2.1 Superstructure: Frame	0 kg CO2e	5,566,266 kg CO2e	1,631,544 kg CO2e	285,135 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			33,212 kg CO2e	386,238 kg CO2e	21,921 kg CO2e	356 kg CO2e	7,924,672 kg CO2e	-2,130,046 kg
2.2 Superstructure: Upper Floors	0 kg CO2e	4,518,791 kg CO2e	2,572,441 kg CO2e	93,074 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			26,962 kg CO2e	66,137 kg CO2e	3,887 kg CO2e	0 kg CO2e	7,281,292 kg CO2e	-63,828 kg (
2.3 Superstructure: Roof	0 kg CO2e	369,100 kg CO2e	119,441 kg CO2e	15,393 kg CO2e	0 kg CO2e	12,839 kg CO2e	3,210 kg CO2e	224,352 kg CO2e	0 kg CO2e			2,202 kg CO2e	4,267 kg CO2e	74,621 kg CO2e	0 kg CO2e	825,424 kg CO2e	-117,632 kg
2.4 Superstructure: Stairs and Ramps	-7,427 kg CO2e	751,472 kg CO2e	43,312 kg CO2e	74,897 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	76,233 kg CO2e	0 kg CO2e			4,484 kg CO2e	9,885 kg CO2e	9,171 kg CO2e	0 kg CO2e	962,026 kg CO2e	-652,978 kg
2.5 Superstructure: External Walls	0 kg CO2e	12,634,728 kg CO2e	682,018 kg CO2e	25,532 kg CO2e	0 kg CO2e	389,843 kg CO2e	97,461 kg CO2e	3,992,746 kg CO2e	0 kg CO2e			75,387 kg CO2e	128,212 kg CO2e	3,326 kg CO2e	9 kg CO2e	18,029,261 kg CO2e	-207,706 kg
2.6 Superstructure: Windows and External Doors	0 kg CO2e	136,776 kg CO2e	2,702 kg CO2e	0 kg CO2e	0 kg CO2e	3,554 kg CO2e	888 kg CO2e	257,059 kg CO2e	0 kg CO2e			816 kg CO2e	648 kg CO2e	4 kg CO2e	9 kg CO2e	402,455 kg CO2e	-485 kg C0
2.7 Superstructure: Internal Walls and Partitions	0 kg CO2e	1,288,124 kg CO2e	125,687 kg CO2e	130,128 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	1,275,865 kg CO2e	0 kg CO2e			7,686 kg CO2e	54,150 kg CO2e	2,318 kg CO2e	445 kg CO2e	2,884,402 kg CO2e	-1,106,151 kg
2.8 Superstructure: Internal Doors	-177,424 kg CO2e	113,030 kg CO2e	3,953 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	118,758 kg CO2e	0 kg CO2e			674 kg CO2e	494 kg CO2e	205,256 kg CO2e	62 kg CO2e	264,803 kg CO2e	-20 kg CC
3 Finishes	-631,866 kg CO2e	1,955,565 kg CO2e	108,723 kg CO2e	180,616 kg CO2e	0 kg CO2e	57,196 kg CO2e	14,299 kg CO2e	4,248,305 kg CO2e	0 kg CO2e			11,668 kg CO2e	29,730 kg CO2e	828,078 kg CO2e	34 kg CO2e	6,802,347 kg CO2e	-2,669,690 kg
4 Fittings, furnishings & equipment	-11,986 kg CO2e	371,636 kg CO2e	11,504 kg CO2e	18,113 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	524,750 kg CO2e	0 kg CO2e			2,217 kg CO2e	2,478 kg CO2e	14,036 kg CO2e	5 kg CO2e	932,752 kg CO2e	-358,049 kg
5 Services (MEP)	-3 kg CO2e	11,784,959 kg CO2e	340,776 kg CO2e	119,289 kg CO2e	4,213,825 kg CO2e	311,979 kg CO2e	77,995 kg CO2e	22,421,361 kg CO2e	0 kg CO2e	58,259,707 kg CO2e 67,841,914 kg CO2e	425,669 kg CO2e	70,316 kg CO2e	70,556 kg CO2e	120,740 kg CO2e	1,013 kg CO2e	166,060,096 kg CO2e	-9,983,310 kg
6 Prefabricated Buildings and Building Units	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2
7 Work to Existing Building	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2
8 External works	-3,768 kg CO2e	1,136,790 kg CO2e	379,493 kg CO2e	37,844 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	731,944 kg CO2e	0 kg CO2e			6,783 kg CO2e	238,491 kg CO2e	93,614 kg CO2e	292 kg CO2e	2,621,483 kg CO2e	-318,361 kg
ner site construction impacts or overall construction stage [A5] carbon emissions not specific to individual building element catego	an ory			2,016,066 kg CO2e												2,016,066 kg CO2e	
TOTAL kg CC	-832,473 kg CO2e	44,185,768 kg CO2e	6,629,896 kg CO2e	4,330,398 kg CO2e	4,213,825 kg CO2e	775,410 kg CO2e	193,853 kg CO2e	33,871,374 kg CO2e	0 kg CO2e	126,101,621 kg CO2e	425,669 kg CO2e	1,969,541 kg CO2e	1,073,991 kg CO2e	1,424,171 kg CO2e	2,224 kg CO2e	224,365,267 kg CO2e	-18,030,870 k
TOTAL - kg CO <sub>2</sub> e/m² C	-11 kg CO2e/m2 GIA	570 kg CO2e/m2 GIA	86 kg CO2e/m2 GIA	56 kg CO2e/m2 GIA	54 kg CO2e/m2 GIA	10 kg CO2e/m2 GIA	2 kg CO2e/m2 GIA	437 kg CO2e/m2 GIA	0 kg CO2e/m2 GIA	1,626 kg CO2e/m2 GIA	5 kg CO2e/m2 GIA	25 kg CO2e/m2 GIA	14 kg CO2e/m2 GIA	18 kg CO2e/m2 GIA	0 kg CO2e/m2 GIA	2,893 kg CO2e/m2 GIA	-233 kg CO2e/