

Low-Carbon Labs

Exploring low embodied carbon design choices for complex building typologies

Volume II : Data Overview

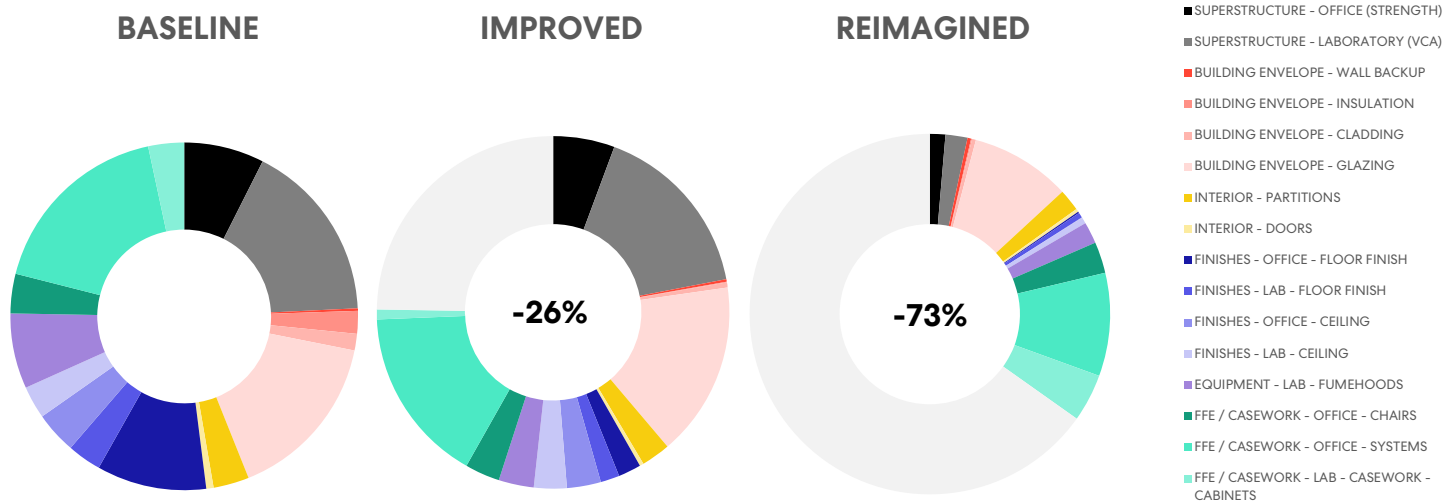


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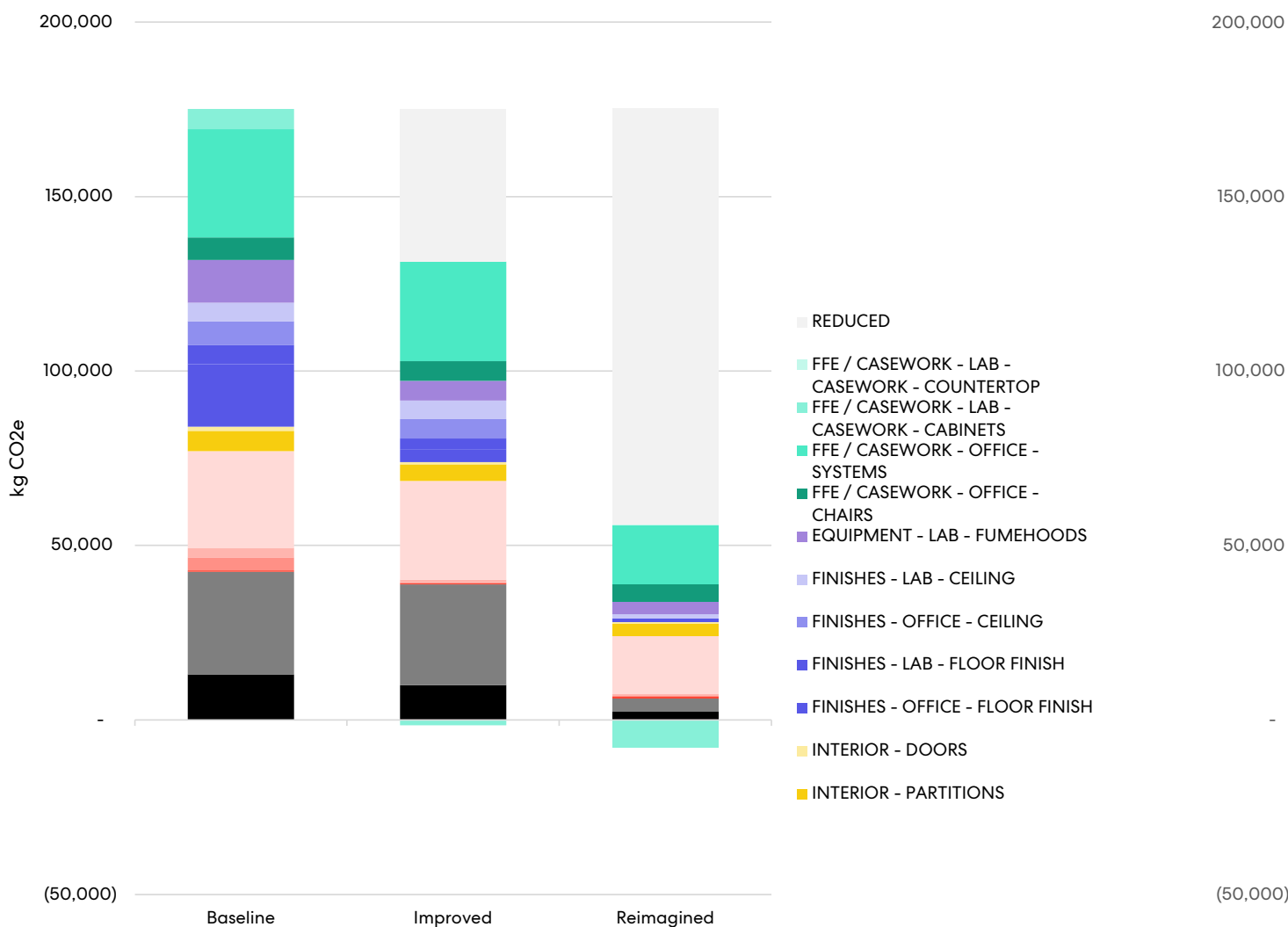
2020

SUMMARY

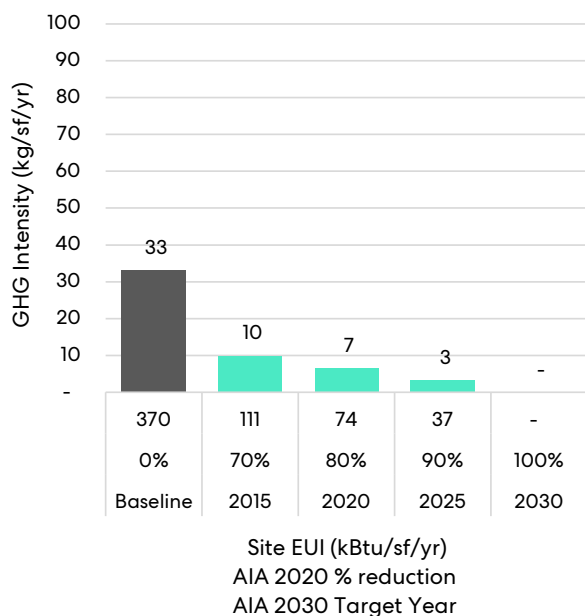
EMBODIED CARBON - SYSTEM SUMMARY				
LAST UPDATED: 10/15/2021		Baseline	Improved	Reimagined
BUILDING STRUCTURE				
-	Foundations	.	.	.
Multiple	FOUNDATIONS	CONCRETE	CONCRETE WITH CARBON CURE	??
	FOUNDATIONS	-	-	-
-	SUPERSTRUCTURE	.	.	.
-	SUPERSTRUCTURE - OFFICE (STRENGTH)	CONCRETE (22X33)	STEEL (22X33)	TIMBER (22X22)
Y	SUPERSTRUCTURE - OFFICE (STRENGTH)	13,068 kg CO2e	9,946 kg CO2e	2,541 kg CO2e
-	SUPERSTRUCTURE - LABORATORY (VCA)	CONCRETE (22X33)	STEEL (22X33)	TIMBER (22X22)
Y	SUPERSTRUCTURE - LABORATORY (VCA)	29,403 kg CO2e	28,919 kg CO2e	3,630 kg CO2e
ARCHITECTURE AND INTERIORS				
-	BUILDING ENVELOPE	.	.	.
-	WALL BACKUP	CMU + DRYWALL FINISH	METAL STUDS + DRYWALL FINISH	WOOD FRAMING + DRYWALL FINISH
Y	BUILDING ENVELOPE - WALL BACKUP	417 kg CO2e	399 kg CO2e	572 kg CO2e
07 00 00	INSULATION	XPS INSULATION	SPF INSULATION	MINERAL WOOL INSULATION
Y	BUILDING ENVELOPE - INSULATION	3,708 kg CO2e	97 kg CO2e	140 kg CO2e
-	CLADDING	TERRACOTTA CLADDING	METAL PANEL CLADDING	FIBER CEMENT CLADDING
Y	BUILDING ENVELOPE - CLADDING	2,712 kg CO2e	822 kg CO2e	629 kg CO2e
08 00 00	GLAZING	ALUMINUM STOREFRONT	ALUMINUM STOREFRONT	ALUMINUM STOREFRONT
Y	BUILDING ENVELOPE - GLAZING	27,718 kg CO2e	28,334 kg CO2e	16,528 kg CO2e
-	INTERIOR	.	.	.
-	PARTITIONS	CMU + DRYWALL FINISH	METAL STUDS + DRYWALL FINISH	WOOD FRAMING + DRYWALL FINISH
Y	INTERIOR - PARTITIONS	5,790 kg CO2e	4,738 kg CO2e	3,570 kg CO2e
08 00 00	DOORS	GLASS DOOR	STEEL DOOR	WOOD DOOR
Y	INTERIOR - DOORS	1,195 kg CO2e	650 kg CO2e	555 kg CO2e
09 00 00	FINISHES	.	.	.
09 00 00	OFFICE - FLOOR FINISH	CARPET BROADLOOM	CARPET TILE	CARPET TILE
Y	FINISHES - OFFICE - FLOOR FINISH	17,905 kg CO2e	3,673 kg CO2e	210 kg CO2e
09 00 00	LAB - FLOOR FINISH	EPOXY FLOORING	RUBBER FLOORING	LINOLEUM FLOORING
Y	FINISHES - LAB - FLOOR FINISH	5,543 kg CO2e	3,083 kg CO2e	856 kg CO2e
09 00 00	OFFICE - CEILING	DRYWALL CEILING SYSTEM	ACOUSTICAL CEILING SYSTEM	ACOUSTIC FINISH
Y	FINISHES - OFFICE - CEILING	6,799 kg CO2e	5,513 kg CO2e	61 kg CO2e
09 00 00	LAB - CEILING	ACOUSTICAL CEILING CLEANROOM	ACOUSTICAL CEILING SYSTEM	ACOUSTICAL CEILING
Y	FINISHES - LAB - CEILING	5,321 kg CO2e	5,321 kg CO2e	1,044 kg CO2e
11 00 00	EQUIPMENT	.	.	.
11 53 13	LAB - FUMEHOODS	Conventional 100 fpm	High Performance 60 fpm	Filter Fumehoods
Y	EQUIPMENT - LAB - FUMEHOODS	12,271 kg CO2e	5,684 kg CO2e	3,560 kg CO2e
12 00 00	FFE / CASEWORK	.	.	.
12 00 00	OFFICE - CHAIRS	TASK CHAIR	TASK CHAIR	TASK CHAIR
Y	FFE / CASEWORK - OFFICE - CHAIRS	6,468 kg CO2e	5,652 kg CO2e	5,118 kg CO2e
12 00 00	OFFICE - SYSTEMS	SPINE BASED WORKSTATION	PANEL BASED WORKSTATION	BENCHING
Y	FFE / CASEWORK - OFFICE - SYSTEMS	31,041 kg CO2e	28,596 kg CO2e	16,919 kg CO2e
12 35 53	LAB - CASEWORK - CABINETS	STEEL SHEET	BAMBOO	PLYWOOD
Y	FFE / CASEWORK - LAB - CASEWORK - CABINETS	5,811 kg CO2e	(1,565 kg CO2e)	(7,846 kg CO2e)
12 35 53	LAB - CASEWORK - COUNTERTOP	EPOXY COUNTER	STAINLESS STEEL SHEET	PHENOLIC PANEL
Y	FFE / CASEWORK - LAB - CASEWORK - COUNTERTOP	-	33 kg CO2e	23 kg CO2e
CARBON IMPACT OF CHOICES		175,169 kg CO2e	129,893 kg CO2e	48,109 kg CO2e
MODULE SIZE		1,936 sf	1,936 sf	1,936 sf
CARBON INTENSITY OF CHOICES		90.5 kg CO2e/sf	67.1 kg CO2e/sf	24.8 kg CO2e/sf
% REDUCTION		0%	-26%	-73%



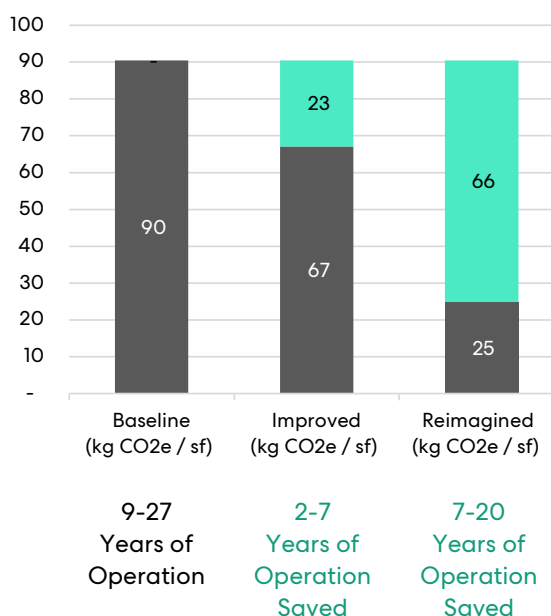
EMBODIED CARBON - SYSTEM SUMMARY



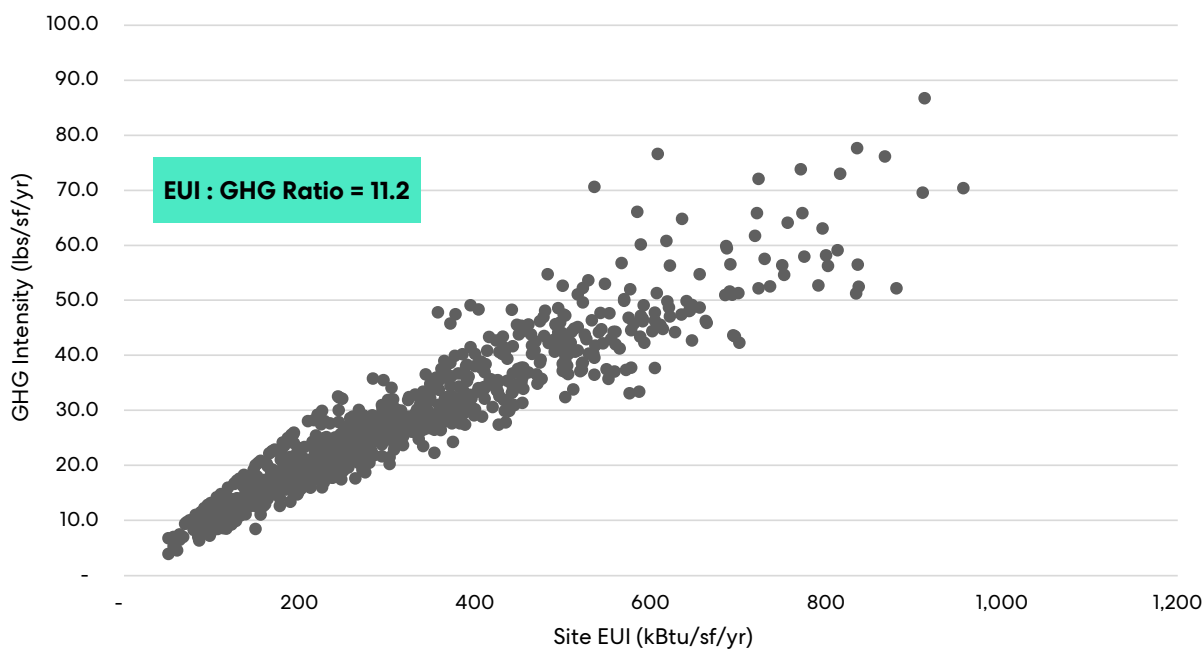
Operational Carbon Intensity Labs



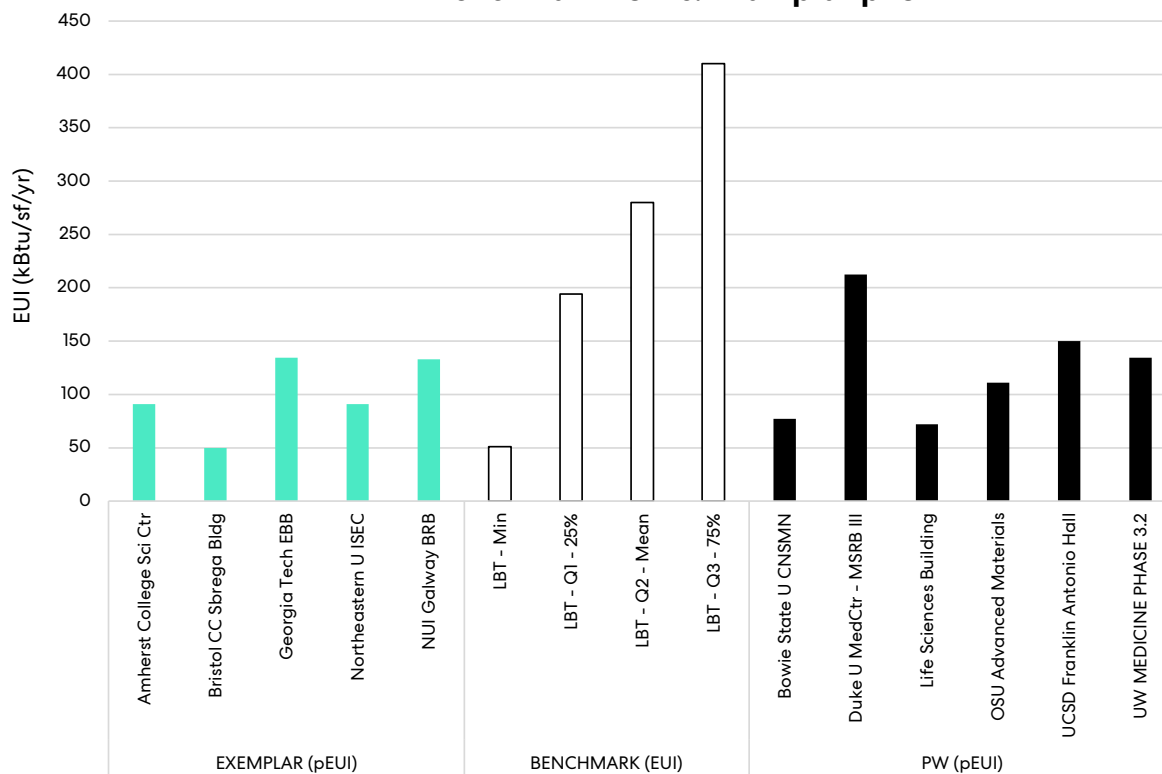
Embodied Carbon Intensity All Design Choices



I2SL LAB BENCHMARKING TOOL



Laboratory Building EUI Benchmark EUI vs. Exemplar pEUI



ASSUMPTIONS

Low Carbon Labs

Basic Assumptions

Last Updated: 9/29/2021

LCA Settings

Building Service Life 75 Years
Include Biogenic Carbon ? Yes Yes / No

Quantity Takeoff Settings

Revit Model Units ft² for LCA units conversion

Reference Module

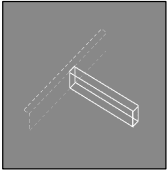
Grid X dimension 22 Feet
Grid Y dimension 88 Feet

Module Size 1,936 Square Feet
179.9 Square Meters

Floors 1

DETAIL

SUPERSTRUCTURE	Baseline	Improved	Reimagined	Alt 1
OFFICE (STRENGTH)	CONCRETE (22X33)	STEEL (22X33)	TIMBER (22X22)	
LeMessurier Scenario	Strength	Strength	Strength	Strength
LeMessurier Bay Studies	Concrete (22x33)	Steel (22x33)	Timber (22x22)	
Code	St C	St S	St T22	#N/A
LeMessurier LCA Scope	[A-D] Bio	[A-D] Bio	[A-D] Bio	[A-D] Bio
Embodied Carbon of Module (kg CO2e/sf)	18	13.7	3.5	#N/A
Total Quantity in Module (square feet)	726	726	726	726
Total Embodied Carbon (kg CO2e)	13,068	9,946	2,541	#N/A
LABORATORY (VCA)	CONCRETE (22X33)	STEEL (22X33)	TIMBER (22X22)	
LeMessurier Scenario	Laboratory (VC-A)	Laboratory (VC-A)	Laboratory (VC-A)	Strength
LeMessurier Bay Studies	Concrete (22x33)	Steel (22x33)	Timber (22x22)	
Code	2 C	2 S	2 T22	#N/A
LeMessurier LCA Scope	[A-D] Bio	[A-D] Bio	[A-D] Bio	[A-D] Bio
Embodied Carbon of Module (kg CO2e/sf)	24.3	23.9	3	#N/A
Total Quantity in Module (square feet)	1,210	1,210	1,210	1,210
Total Embodied Carbon (kg CO2e)	29,403	28,919	3,630	#N/A
Total Embodied Carbon (kg CO2e)	42,471 kg CO2e	38,865 kg CO2e	6,171 kg CO2e	#N/A

**Preliminary Results**

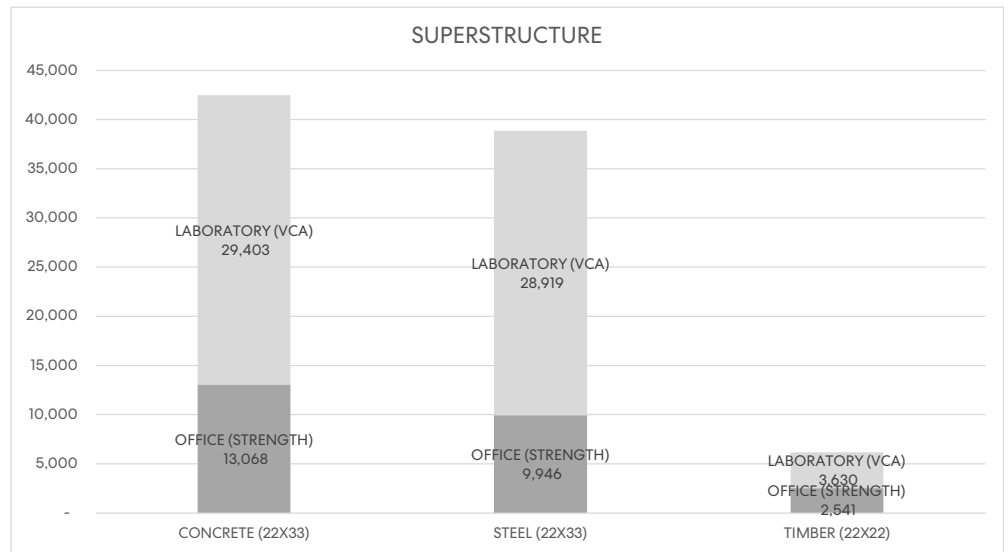
Superstructure embodied carbon results are preliminary. The results as reported here are part of an ongoing research collaboration between the LeMessurier and the authors of this Innovation Incubator project.

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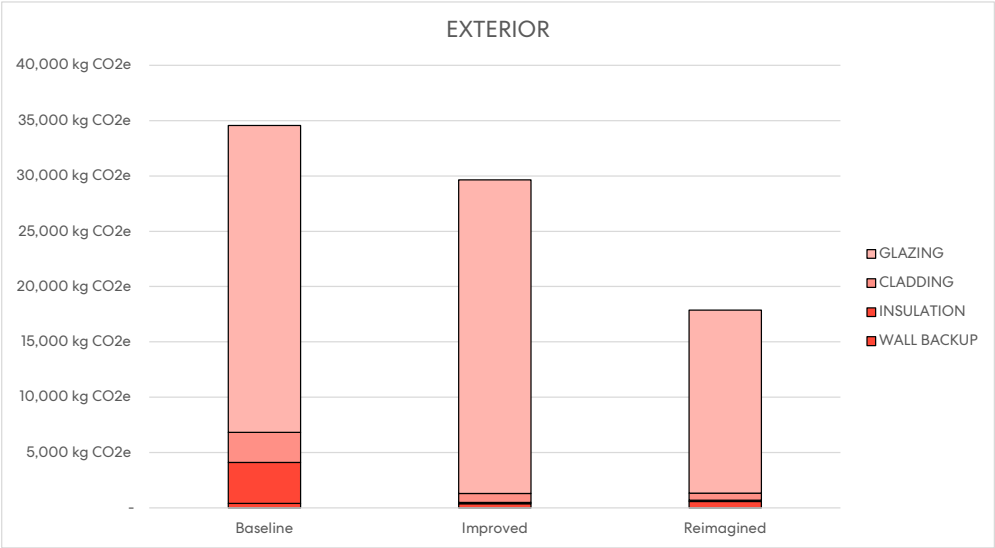
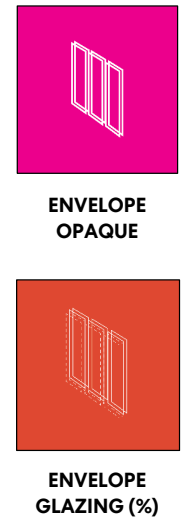


EXTERIOR	Baseline	Improved	Reimagined	Alt 1
WALL BACKUP	CMU + DRYWALL FINISH	METAL STUDS + DRYWALL	WOOD FRAMING + DRYWALL	NONE + NONE
WALL FRAMING	CMU	METAL STUDS	WOOD FRAMING	NONE
Category	PARTITIONS	PARTITIONS	PARTITIONS	PARTITIONS
EPD	CMU	Cold Formed Steel Framing Systems	Stora Enso LVL (Laminated Veneer Lumber)	None
PCR Name	Manufactured Concrete and Concrete Masonry Products (UN CPC 3755)	UL Part B: Designated Steel Construction Product EPD Requirements, v2.0 (August 26, 2020)	Standards EN 15804 and EN 16485 provide the core product category rules for the assessment. Standard EN 15942 provides the communication format for EPD. Biogenic carbon content of wood is calculated in line with EN 16449 standard.	0
EPD Declared Unit	1 cu yd	1 metric tonne	1 m³	-
EPD Scope	A1-A3	A1-A3	A1-A3	A1-A3
EPD GWP (kg CO2e)	294.0 kg CO2e	1,710.0 kg CO2e	155.3 kg CO2e	0.0 kg CO2e
Biogenic Carbon (BCRP)	-	-	- 804.0 kg CO2e	0.0 kg CO2e
Embodied Carbon (kg CO2e)	294.0 kg CO2e	1,710.0 kg CO2e	- 648.7 kg CO2e	0.0 kg CO2e
Adjustment to common units (m²)	0.001204	0.000014	0.000204	1.000000
Total Embodied Carbon (kg CO2e/m²)	0.35 kg CO2e	0.02 kg CO2e	- 0.13 kg CO2e	0.0 kg CO2e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	75 yrs	30 yrs	75 yrs	75 yrs
Replacements in building lifespan	-	1.5	-	-
Total Embodied Carbon (kg CO2e/m²)	0.35 kg CO2e	0.06 kg CO2e	- 0.13 kg CO2e	0.00 kg CO2e
INTERIOR FINISH	DRYWALL FINISH	DRYWALL FINISH	DRYWALL FINISH	NONE
Category	PARTITIONS	PARTITIONS	PARTITIONS	PARTITIONS
EPD	5/8" Gypsum Board	5/8" Gypsum Board	5/8" Gypsum Board	None
PCR Name	or Environmental Product Declaration	or Environmental Product Declaration	or Environmental Product Declaration	0
EPD Declared Unit	92.9 m²	92.9 m²	92.9 m²	-
EPD Scope	A1-A3	A1-A3	A1-A3	A1-A3
EPD GWP (kg CO2e)	503.9 kg CO2e	503.9 kg CO2e	503.9 kg CO2e	0.0 kg CO2e
Biogenic Carbon (BCRP)	-	-	-	0.0 kg CO2e
Embodied Carbon (kg CO2e)	503.9 kg CO2e	503.9 kg CO2e	503.9 kg CO2e	0.0 kg CO2e
Adjustment to common units (m²)	0.010764	0.010764	0.010764	1.000000
Total Embodied Carbon (kg CO2e/m²)	5.4 kg CO2e	5.4 kg CO2e	5.4 kg CO2e	0.0 kg CO2e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	30 yrs	30 yrs	30 yrs	75 yrs
Replacements in building lifespan	1.5	1.5	1.5	-
Total Embodied Carbon (kg CO2e/m²)	13.56 kg CO2e	13.56 kg CO2e	13.56 kg CO2e	0.00 kg CO2e
WALL FRAMING + INTERIOR FINISH	14 kg CO2e	14 kg CO2e	13 kg CO2e	0 kg CO2e
Total Quantity in Module (m²)	30 SM	29 SM	43 SM	-
Total Embodied Carbon (kg CO2e)	417 kg CO2e	399 kg CO2e	572 kg CO2e	-
INSULATION	XPS INSULATION	SPF INSULATION	MINERAL WOOL INSULATION	NONE
Category	INSULATION	INSULATION	INSULATION	INSULATION
EPD	FOAMULAR Extruded Polystyrene (XPS) Insulation	Spray Polyurethane Foam Insulation (HFC)	Rockwool Cavityrock	None
PCR Name	Envelope Thermal Insulation EPD (Environment, 2018) - Part B: Building and Requirements on the Back			0
EPD Declared Unit	1 m²	1 m²	1 m²	-
EPD Scope	A1-A3	A1-A3	A1-A3	A1-A3
EPD GWP (kg CO2e)	21.9 kg CO2e	3.3 kg CO2e	1.3 kg CO2e	0.0 kg CO2e
Biogenic Carbon (BCRP)	-	-	-	0.0 kg CO2e
Embodied Carbon (kg CO2e)	21.9 kg CO2e	3.3 kg CO2e	1.3 kg CO2e	0.0 kg CO2e
Adjustment to common units (m²)	1.000000	1.000000	1.000000	1.000000
Total Embodied Carbon (kg CO2e/m²)	21.9 kg CO2e	3.3 kg CO2e	1.3 kg CO2e	0.0 kg CO2e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	60 yrs	75 yrs	30 yrs	75 yrs
Replacements in building lifespan	0.3	-	1.5	-
Total Embodied Carbon (kg CO2e/m²)	27 kg CO2e	3 kg CO2e	3 kg CO2e	0 kg CO2e
Adjustment from EPD units (R5.68 to R20)	3.52	3.52	3.52	3.52
Total Embodied Carbon (kg CO2e/m²)	124 kg CO2e	15 kg CO2e	15 kg CO2e	0 kg CO2e
Total Quantity in Module (m²)	30 SM	29 SM	43 SM	-
Total Embodied Carbon (kg CO2e)	3,708 kg CO2e	97 kg CO2e	140 kg CO2e	-
CLADDING SUBFRAMING	NONE	ALUMINUM FRAMING	ALUMINUM FRAMING	NONE
Category	CLADDING	CLADDING	CLADDING	CLADDING
EPD	None	ALUMINUM SPECIALTY PRODUCTS	ALUMINUM SPECIALTY PRODUCTS	None
		AN INDUSTRY-AVERAGE ENVIRONMENTAL PROFILE	AN INDUSTRY-AVERAGE ENVIRONMENTAL PROFILE	

PCR Name	0	Institute Construction and Environment e.V. (IBU), 2014. PCR Guidance-Texts for Building-Related Products and Services. Part B: Requirements on the EPD for Metal Ceilings, Version 1.6, 2014. UL Environment Addendum-Product Category Rules for preparing an environmental product declaration (EPD) for PCR: IBU Product Category Rules, Part B: Requirements on the EPD for Metal Ceilings, October 2013, Version 1.2014	Institute Construction and Environment e.V. (IBU), 2014. PCR Guidance-Texts for Building-Related Products and Services. Part B: Requirements on the EPD for Metal Ceilings, Version 1.6, 2014. UL Environment Addendum-Product Category Rules for preparing an environmental product declaration (EPD) for PCR: IBU Product Category Rules, Part B: Requirements on the EPD for Metal Ceilings, October 2013, Version 1.2014	0
EPD Declared Unit	-	1 kg	1 kg	-
EPD Scope	A1-A3	A1-A3	A1-A3	A1-A3
EPD GWP (kg CO2e)	0.0 kg CO2e	9.5 kg CO2e	9.5 kg CO2e	0.0 kg CO2e
Biogenic Carbon (BCRP)	0.0 kg CO2e	-	-	0.0 kg CO2e
Embodied Carbon (kg CO2e)	0.0 kg CO2e	9.5 kg CO2e	9.5 kg CO2e	0.0 kg CO2e
Adjustment to common units (m²)	1.000000	0.009171	0.009171	1.000000
Total Embodied Carbon (kg CO2e/m²)	0.0 kg CO2e	0.1 kg CO2e	0.1 kg CO2e	0.0 kg CO2e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	75 yrs	75 yrs	75 yrs	75 yrs
Replacements in building lifespan	-	-	-	-
Total Embodied Carbon (kg CO2e/m²)	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e

CLADDING	TERRACOTTA CLADDING	METAL PANEL CLADDING	FIBER CEMENT CLADDING	NONE
Category	CLADDING	CLADDING	CLADDING	CLADDING
EPD	Terrart	Metal Composite Panel System	EQUITONE (Linea / Lunara) fibre cement sheets	None
PCR Name	PCR part B: Requirements relating to the EPD for ceramic panellings, 1.6, 07.2014, Institut Bauen und Umwelt e.V., 2014	UL Part B: Insulated Metal Panels, Metal Composite Panels, and Metal Cladding: Roof and Wall Panels, v2.0 October 23 2018	Fibre cement / Fibre concrete, 07.2014 (PCR checked and approved by the SVR)	0
EPD Declared Unit	1 m²	100 m²	1 m²	-
EPD Scope	A1-A3	A1-A3	A1-A3	A1-A3
EPD GWP (kg CO2e)	90.5 kg CO2e	2,800.0 kg CO2e	9.8 kg CO2e	0.0 kg CO2e
Biogenic Carbon (BCRP)	-	-	-	0.0 kg CO2e
Embodied Carbon (kg CO2e)	90.5 kg CO2e	2,800.0 kg CO2e	9.8 kg CO2e	0.0 kg CO2e
Adjustment to common units (m²)	1.000000	0.010000	1.000000	1.000000
Total Embodied Carbon (kg CO2e/1M2)	90.5 kg CO2e	28.0 kg CO2e	9.8 kg CO2e	0.0 kg CO2e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	75 yrs	75 yrs	50 yrs	75 yrs
Replacements in building lifespan	-	-	0.5	-
Total Embodied Carbon (kg CO2e/1M2)	91 kg CO2e	28 kg CO2e	15 kg CO2e	0 kg CO2e
CLADDING SUBFRAMING + CLADDING	91 kg CO2e	28 kg CO2e	15 kg CO2e	0 kg CO2e
Total Quantity in Module (m²)	30 SM	29 SM	43 SM	-
Total Embodied Carbon (kg CO2e)	2,712 kg CO2e	822 kg CO2e	629 kg CO2e	-

GLAZING	ALUMINUM STOREFRONT	ALUMINUM STOREFRONT	ALUMINUM STOREFRONT	NONE
Category	GLAZING	GLAZING	GLAZING	GLAZING
EPD	Traditional Curtain Wall	Traditional Curtain Wall	Traditional Curtain Wall	None
PCR Name	Gate Window Product Category	Gate Window Product Category	Gate Window Product Category	0
EPD Declared Unit	1 m²	1 m²	1 m²	-
EPD Scope	A1-A3	A1-A3	A1-A3	A1-A3
EPD GWP (kg CO2e)	353.6 kg CO2e	353.6 kg CO2e	353.6 kg CO2e	0.0 kg CO2e
Biogenic Carbon (BCRP)	-	-	-	0.0 kg CO2e
Embodied Carbon (kg CO2e)	353.6 kg CO2e	353.6 kg CO2e	353.6 kg CO2e	0.0 kg CO2e
Adjustment to common units (m²)	1.000000	1.000000	1.000000	1.000000
Total Embodied Carbon (kg CO2e/1M2)	353.6 kg CO2e	353.6 kg CO2e	353.6 kg CO2e	0.0 kg CO2e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	30 yrs	30 yrs	30 yrs	75 yrs
Replacements in building lifespan	1.5	1.5	1.5	-
Total Embodied Carbon (kg CO2e/1M2)	884 kg CO2e	884 kg CO2e	884 kg CO2e	0 kg CO2e
Total Quantity in Module (m²)	31 SM	32 SM	19 SM	-
Total Embodied Carbon (kg CO2e)	27,718 kg CO2e	28,334 kg CO2e	16,528 kg CO2e	-



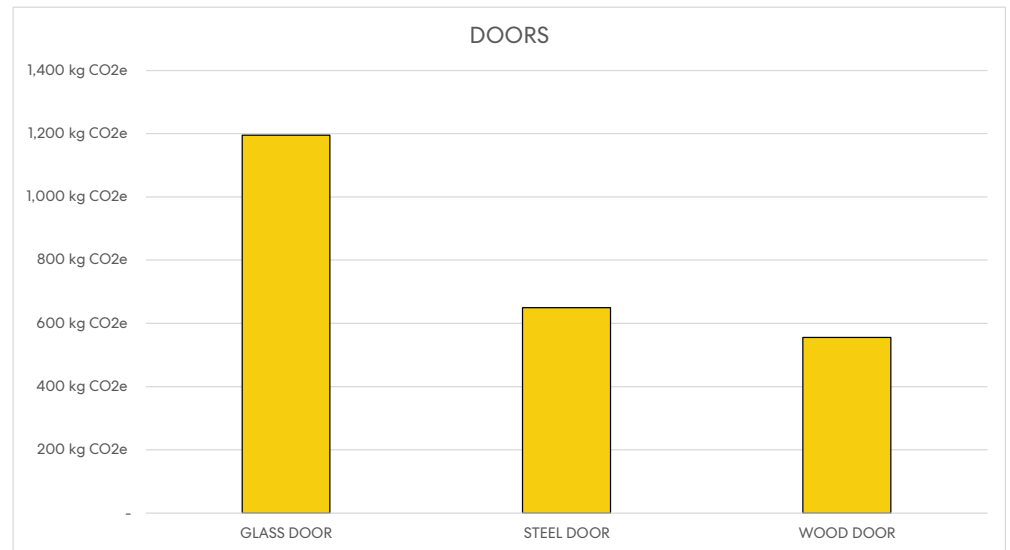
INTERIOR	Baseline	Improved	Reimagined	Alt 1
PARTITIONS	CMU + DRYWALL FINISH	METAL STUDS + DRYWALL	WOOD FRAMING + DRYWALL	NONE + NONE
WALL FRAMING				
Category	CMU	METAL STUDS	WOOD FRAMING	NONE
EPD	PARTITIONS CMU	PARTITIONS Cold Formed Steel Framing Systems	PARTITIONS Stora Enso LVL (Laminated Veneer Lumber)	PARTITIONS None
PCR Name	Manufactured Concrete and Concrete Masonry Products (UN CPC 3755)	UL Part B: Designated Steel Construction Product EPD Requirements, v2.0 (August 26, 2020)	Standards EN 15804 and EN 16485 provide the core product category rules for the assessment. Standard EN 15942 provides the communication format for EPD. Biogenic carbon content of wood is calculated in line with EN 16449 standard.	0
EPD Declared Unit	1 cu yd	1 metric tonne	1 m³	-
EPD Scope	A1-A3	A1-A3	A1-A3	A1-A3
EPD GWP (kg CO2e)	294.0 kg CO2e	1,710.0 kg CO2e	155.3 kg CO2e	0.0 kg CO2e
Biogenic Carbon (BCRP)	-	-	- 804.0 kg CO2e	0.0 kg CO2e
Embodied Carbon (kg CO2e)	294.0 kg CO2e	1,710.0 kg CO2e	- 648.7 kg CO2e	0.0 kg CO2e
Adjustment to common units (m²)	0.001204	0.000014	0.000204	1.000000
Total Embodied Carbon (kg CO2e/m²)	0.354 kg CO2e	0.0 kg CO2e	- 0.1 kg CO2e	0.0 kg CO2e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	75 yrs	30 yrs	75 yrs	75 yrs
Replacements in building lifespan	-	1.5	-	-
Total Embodied Carbon (kg CO2e)	0.354 kg CO2e	0 kg CO2e	- 0 kg CO2e	2E-50
Total Quantity in Module (m²)	119 SM	129 SM	130 SM	-
Total Embodied Carbon (kg CO2e)	42.01 kg CO2e	7.55 kg CO2e	17.29 kg CO2e	-
INTERIOR FINISH				
Category	DRYWALL FINISH	DRYWALL FINISH	DRYWALL FINISH	NONE
EPD	PARTITIONS	PARTITIONS	PARTITIONS	PARTITIONS
EPD Declared Unit	5/8" Gypsum Board	5/8" Gypsum Board	5/8" Gypsum Board	None
EPD Scope	92.9 m² A1-A3	92.9 m² A1-A3	92.9 m² A1-A3	- A1-A3
EPD GWP (kg CO2e)	503.9 kg CO2e	503.9 kg CO2e	503.9 kg CO2e	0.0 kg CO2e
Biogenic Carbon (BCRP)	-	-	-	0.0 kg CO2e
Embodied Carbon (kg CO2e)	503.9 kg CO2e	503.9 kg CO2e	503.9 kg CO2e	0.0 kg CO2e
Adjustment to common units (m²)	0.011	0.011	0.011	1.000
Total Embodied Carbon (kg CO2e/m²)	5.4 kg CO2e	5.4 kg CO2e	5.4 kg CO2e	0.0 kg CO2e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	30 yrs	30 yrs	30 yrs	75 yrs
Replacements in building lifespan	1.5	1.5	1.5	-
Total Embodied Carbon (kg CO2e/m²)	14 kg CO2e	14 kg CO2e	14 kg CO2e	0 kg CO2e
Total Quantity in Module (m²)	119 SM	129 SM	130 SM	-
Total Embodied Carbon (kg CO2e)	1,610 kg CO2e	1,752 kg CO2e	1,768 kg CO2e	-
GLAZING				
Category	INTERIOR GLAZING	INTERIOR GLAZING	INTERIOR GLAZING	NONE
EPD	GLAZING	GLAZING	GLAZING	GLAZING
EPD Declared Unit	DIRTT Solid Glass Interior Wall (Savannah)	DIRTT Solid Glass Interior Wall (Savannah)	DIRTT Solid Glass Interior Wall (Savannah)	None
PCR Name	Earthsure Product Category Rule 30162403:2014 for Interior Wall Systems Product Specific	Earthsure Product Category Rule 30162403:2014 for Interior Wall Systems Product Specific	Earthsure Product Category Rule 30162403:2014 for Interior Wall Systems Product Specific	0
EPD Type	1 m²	1 m²	1 m²	0
EPD Declared Unit	1 m²	1 m²	1 m²	-
EPD Scope	A1-A3	A1-A3	A1-A3	A1-A3
EPD GWP (kg CO2e)	81.0 kg CO2e	81.0 kg CO2e	81.0 kg CO2e	0.0 kg CO2e
Biogenic Carbon (BCRP)	-	-	-	0.0 kg CO2e
Embodied Carbon (kg CO2e)	81.0 kg CO2e	81.0 kg CO2e	81.0 kg CO2e	0.0 kg CO2e
Adjustment to common units (m²)	1.000	1.000	1.000	1.000
Total Embodied Carbon (kg CO2e/m²)	81.0 kg CO2e	81.0 kg CO2e	81.0 kg CO2e	0.0 kg CO2e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	30 yrs	30 yrs	30 yrs	75 yrs
Replacements in building lifespan	1.5	1.5	1.5	-
Total Embodied Carbon (kg CO2e/m²)	203 kg CO2e	203 kg CO2e	203 kg CO2e	0 kg CO2e
Total Quantity in Module (m²)	20 SM	15 SM	9 SM	-
Total Embodied Carbon (kg CO2e)	4,139 kg CO2e	2,979 kg CO2e	1,819 kg CO2e	-
Total Embodied Carbon (kg CO2e)	5,790 kg CO2e	4,738 kg CO2e	3,570 kg CO2e	-



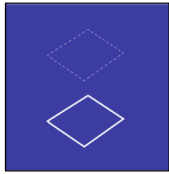
PARTITIONS



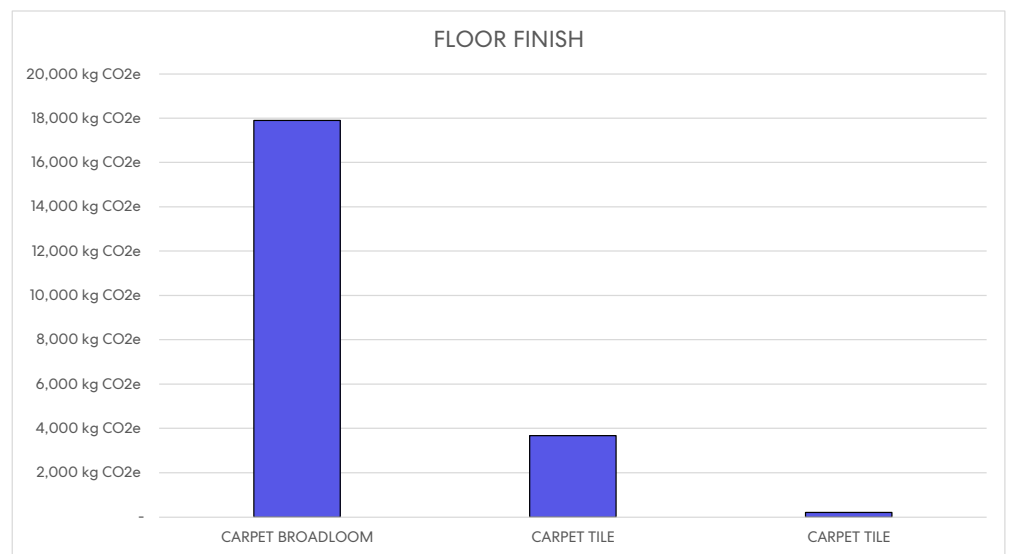
INTERIOR	Baseline	Improved	Reimagined	Alt 1
DOORS	GLASS DOOR	STEEL DOOR	WOOD DOOR	NONE
Category	DOORS	DOORS	DOORS	DOORS
EPD	Optima Aluminum Framed Doors	Assa Abloy Regent and Omega Doors	Eggers Industries - Architectural Wood Door Leaf	None
PCR Name	The CEN standard EN 15804 serves as the core PCR	Commercial Steel Doors and/or Frames 9005	PCR for preparing an EPD for interior architectural wood door leaves ASTM, 2015	0
EPD Type	Product Specific	Product Specific	Product Specific	0
EPD Declared Unit	1 Door	1 Door	1 Door	-
EPD Scope	A1-A3	A1-A3	A1-A3	A1-A3
Total Embodied Carbon (kg CO2e/unit)	239.0 kg CO2e	130.0 kg CO2e	111.0 kg CO2e	0.0 kg CO2e
Biogenic Carbon (BCRP)	-	-	-	0.0 kg CO2e
Total Embodied Carbon (kg CO2e/unit)	239.0 kg CO2e	130.0 kg CO2e	111.0 kg CO2e	0.0 kg CO2e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	30 yrs	30 yrs	30 yrs	75 yrs
Replacements in building lifespan	1.5	1.5	1.5	-
Total Embodied Carbon (kg CO2e/unit)	598 kg CO2e	325 kg CO2e	278 kg CO2e	0 kg CO2e
Total Quantity in Module (units)	2	2	2	-
Total Embodied Carbon (kg CO2e)	1,195 kg CO2e	650 kg CO2e	555 kg CO2e	-

**DOORS**

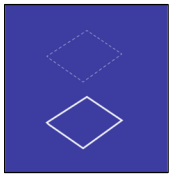
OFFICE	Baseline	Improved	Reimagined	Alt 1
FLOOR FINISH	CARPET BROADLOOM	CARPET TILE	CARPET TILE	NONE
Category	FLOOR FINISH	FLOOR FINISH	FLOOR FINISH	FLOOR FINISH
EPD	Mohawk Tufted Nylon Carpet on Weldlok Onguard Backing	Mohawk Ecoflex Matrix Modular Carpet Tiles	INTERFACE CQUEST BIOX	None
PCR Name	UL Product Category Rule (PCR) Guidance for Building-Related Products and Services Part B: Flooring EPD Requirements v.2.0 September 2018 Product Specific	UL Product Category Rule (PCR) Guidance for Building-Related Products and Services Part B: Flooring EPD Requirements v.2.0 September 2018 Product Specific	Part A: Life Cycle Assessment Calculation Rules and Report Requirements, Version 3.2, 2018 Part B: Flooring EPD Requirements, Version 2.0, 2018 Product Specific	0
EPD Type				0
EPD Declared Unit	1 m ²	1 m ²	1 m ²	-
EPD Scope	A1-A3	A1-A3	A1-A3	A1-A3
EPD GWP (kg CO ₂ e/m ²)	52.9 kg CO ₂ e	10.0 kg CO ₂ e	- 0.4 kg CO ₂ e	0.0 kg CO ₂ e
Biogenic Carbon (BCRP)	-	-	-	0.0 kg CO ₂ e
Embodied Carbon (kg CO ₂ e/m ²)	52.9 kg CO ₂ e	10.0 kg CO ₂ e	- 0.4 kg CO ₂ e	0.0 kg CO ₂ e
Adjustment to common units (m ²)	1.000	1.000	1.000	1.000
Embodied Carbon (kg CO ₂ e/m ²)	53.9 kg CO ₂ e	11.0 kg CO ₂ e	0.6 kg CO ₂ e	1.0 kg CO ₂ e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	15 yrs	15 yrs	15 yrs	75 yrs
Replacements in building lifespan	4.0	4.0	4.0	-
Total Embodied Carbon (kg CO ₂ e/m ²)	270 kg CO ₂ e	55 kg CO ₂ e	3 kg CO ₂ e	1 kg CO ₂ e
Total Quantity in Module (m ²)	66	67	66	-
Total Embodied Carbon (kg CO ₂ e)	7,905 kg CO ₂ e	3,673 kg CO ₂ e	210 kg CO ₂ e	-



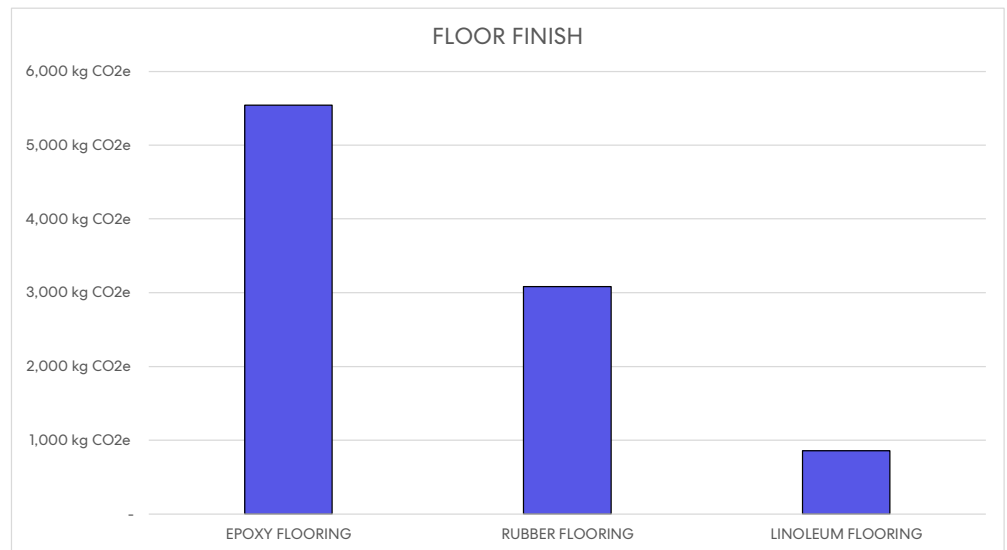
FLOORS



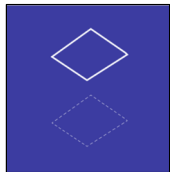
LAB	Baseline	Improved	Reimagined	Alt 1
FLOOR FINISH	EPOXY FLOORING	RUBBER FLOORING	LINOLEUM FLOORING	NONE
Category	FLOOR FINISH	FLOOR FINISH	FLOOR FINISH	FLOOR FINISH
EPD	Dur-A-Flex Epoxy Flooring	Noraplan Environcare Sentica (part of 913 line)	Forbo Marmoleum	None
PCR Name	Part A (IBU/UL v1.2), Part B (IBU) Requirements for floor coverings. UL Part B addendum	IBU Part B: Requirements on the EPD for Floor coverings, version 1.2 02-2018	EN 16810: 2017 Resilient, Textile and Laminate floor coverings - Environmental Product Declarations - Product Category Rules	0
EPD Type	Product Specific	Product Specific	Product Specific	0
EPD Declared Unit	1 m ²	1 m ²	1 m ³	-
EPD Scope	A1-A3	A1-A3	A1-A3	A1-A3
EPD GWP (kg CO ₂ e/m ²)	9.3 kg CO ₂ e	5.9 kg CO ₂ e	- 0.0 kg CO ₂ e	0.0 kg CO ₂ e
Biogenic Carbon (BCRP)	-	-	-	0.0 kg CO ₂ e
Embodied Carbon (kg CO ₂ e/m ²)	9.3 kg CO ₂ e	5.9 kg CO ₂ e	- 0.0 kg CO ₂ e	0.0 kg CO ₂ e
Adjustment to common units (m ²)	1.000	1.000	1.000	1.000
Embodied Carbon (kg CO ₂ e/m ²)	10.3 kg CO ₂ e	6.9 kg CO ₂ e	1.0 kg CO ₂ e	1.0 kg CO ₂ e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	25 yrs	30 yrs	15 yrs	75 yrs
Replacements in building lifespan	2.0	1.5	4.0	-
Total Embodied Carbon (kg CO ₂ e/m ²)	31 kg CO ₂ e	17 kg CO ₂ e	5 kg CO ₂ e	1 kg CO ₂ e
Total Quantity in Module (m ²)	179	180	179	-
Total Embodied Carbon (kg CO ₂ e)	5,543 kg CO ₂ e	3,083 kg CO ₂ e	856 kg CO ₂ e	-



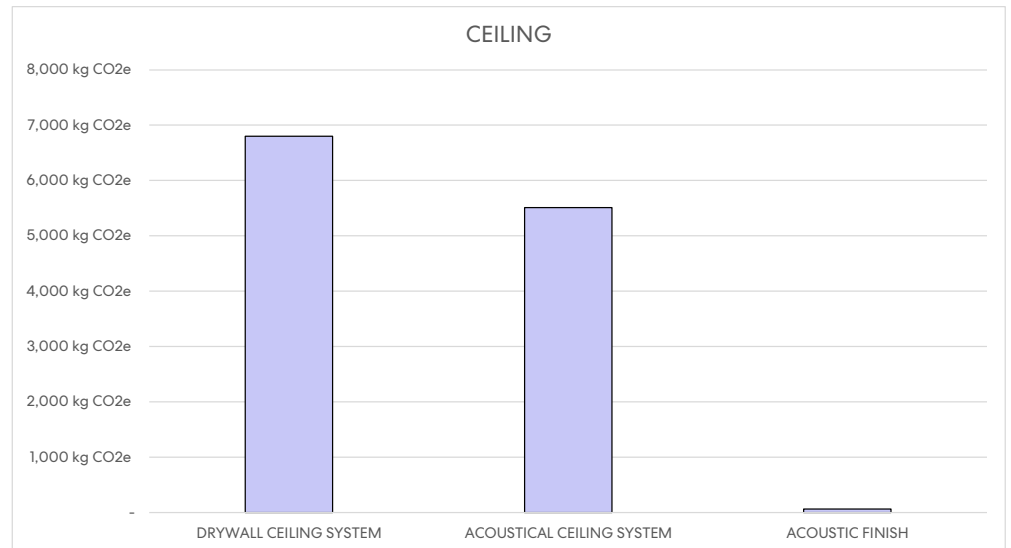
FLOORS



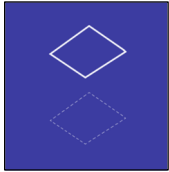
OFFICE	Baseline	Improved	Reimagined	Alt 1
CEILING	DRYWALL CEILING SYSTEM	ACOUSTICAL CEILING SYSTEM	ACOUSTIC FINISH	NONE
Category	CEILING	CEILING	CEILING	CEILING
EPD	USG Ensemble	Armstrong Ultima Ceiling	International Cellulose K-13	None
PCR Name	NSF International PCR for Gypsum Panel Products, v1.1 April 23 2020	PCR Guidance for Building Related Products and Services, From the range of Environmental Product Declarations of UL Environment: "Part B: Non-Metal Ceiling Panel EPD Requirements", October 2015v1.	Product Category Rules (PCR) Guidance for Building-Related Products and Services Part B: Building Envelope Thermal Insulation EPD Requirements	0
EPD Type	Product Specific	Product Specific	Product Specific	0
EPD Declared Unit	1,000 sf	1 m ²	1 m ²	-
EPD Scope	A1-A3	A1-D	A1-A3	A1-D
Total Embodied Carbon (kg CO ₂ e)	1,420.0 kg CO ₂ e	12.4 kg CO ₂ e	1.4 kg CO ₂ e	-
Biogenic Carbon (BCRP)	-	-	-	0.0 kg CO ₂ e
Total Embodied Carbon (kg CO ₂ e)	1,420.0 kg CO ₂ e	12.4 kg CO ₂ e	1.4 kg CO ₂ e	0.0 kg CO ₂ e
Adjustment to common units (m ²)	0.0107639	1.000	1.000	1.000
Total Embodied Carbon (kg CO ₂ e/m ²)	15.3 kg CO ₂ e	12.4 kg CO ₂ e	1.4 kg CO ₂ e	0.0 kg CO ₂ e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	30 yrs	30 yrs	75 yrs	75 yrs
Replacements in building lifespan	1.5	1.5	-	-
Total Embodied Carbon (kg CO ₂ e/m ²)	38 kg CO ₂ e	31 kg CO ₂ e	1 kg CO ₂ e	0 kg CO ₂ e
Total Quantity in Module (m ²)	178	178	45	-
Total Embodied Carbon (kg CO ₂ e)	6,799 kg CO ₂ e	5,513 kg CO ₂ e	61 kg CO ₂ e	-



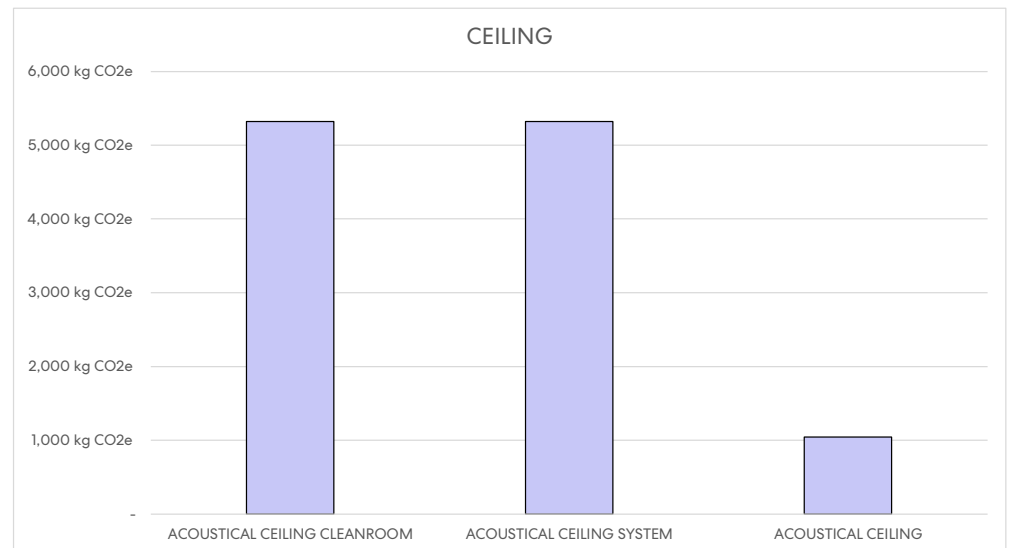
CEILINGS



LAB	Baseline	Improved	Reimagined	Alt 1
CEILING	ACOUSTICAL CEILING CLEANROOM	ACOUSTICAL CEILING SYSTEM	ACOUSTICAL CEILING	NONE
Category	CEILING	CEILING	CEILING	CEILING
EPD	Armstrong Clean Room FL Ceiling Panels	Armstrong Calla Ceiling Panels	Armstrong Optima Ceiling Panels	None
PCR Name	PCR Guidance for Building Related Products and Services, From the range of Environmental Product Declarations of UL Environment: "Part B: Non-Metal Ceiling Panel EPD Requirements". October 2015v1. Product Specific	PCR Guidance for Building Related Products and Services, From the range of Environmental Product Declarations of UL Environment: "Part B: Non-Metal Ceiling Panel EPD Requirements". October 2015v1. Product Specific	PCR Guidance for Building Related Products and Services, From the range of Environmental Product Declarations of UL Environment: "Part B: Non-Metal Ceiling Panel EPD Requirements". October 2015v1. Product Specific	0
EPD Type	1 m ²	1 m ²	1 m ²	0
EPD Declared Unit	A1-D	A1-D	A1-D	-
EPD Scope	A1-D	A1-D	A1-D	A1-D
Total Embodied Carbon (kg CO ₂ e/m ²)	11.0 kg CO ₂ e	11.0 kg CO ₂ e	8.4 kg CO ₂ e	-
Biogenic Carbon (BCRP)	-	-	-	0.0 kg CO ₂ e
Total Embodied Carbon (kg CO ₂ e/m ²)	10.9607	11.0 kg CO ₂ e	8.4 kg CO ₂ e	0.0 kg CO ₂ e
Adjustment to common units (m ²)	1.00000	1.000	1.000	1.000
Total Embodied Carbon (kg CO ₂ e/m ²)	12.0 kg CO ₂ e	12.0 kg CO ₂ e	9.4 kg CO ₂ e	1.0 kg CO ₂ e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	30 yrs	30 yrs	30 yrs	75 yrs
Replacements in building lifespan	1.5	1.5	1.5	-
Total Embodied Carbon (kg CO ₂ e/m ²)	30 kg CO ₂ e	30 kg CO ₂ e	23 kg CO ₂ e	1 kg CO ₂ e
Total Quantity in Module (m ²)	178	178	45	-
Total Embodied Carbon (kg CO ₂ e)	5,321 kg CO ₂ e	5,321 kg CO ₂ e	1,044 kg CO ₂ e	-



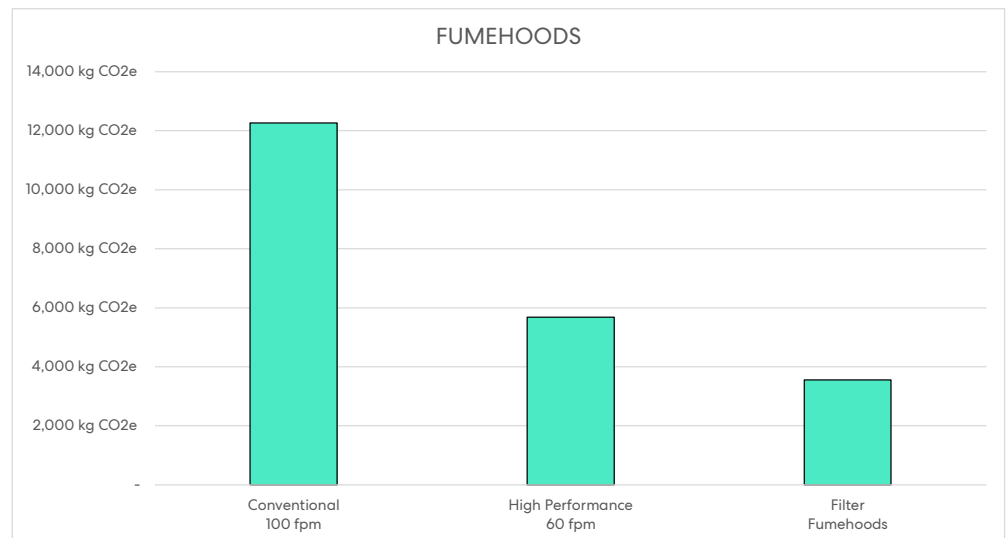
CEILINGS



LAB	Baseline	Improved	Reimagined	Alt 1
FUMEHOODS	Conventional 100 fpm	High Performance 60 fpm	Filter Fumehoods	
6' Hood Cabinet	166	166	166	
Supply + Exhaust AHUs - Alum	3,695	1,642	-	
Supply + Exhaust AHUs - Steel	298	132	-	
S.S. Exhaust Ductwork	203	90	-	
Supply Ductwork	547	243	-	
Embodied Carbon (kg CO2e/cabinet)	4,909 kg CO2e	2,274 kg CO2e	166 kg CO2e	
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	
Lifespan of Product / Replacement Cycle	30 yrs	30 yrs	30 yrs	
Replacements in building lifespan	1.5	1.5	1.5	-
Cabinet Embodied Carbon (kg CO2e/cabinet)	12,271 kg CO2e	5,684 kg CO2e	414 kg CO2e	-
Filters	-	-	210	
Embodied Carbon (kg CO2e/FILTER)	-	-	210 kg CO2e	
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	
Lifespan of Product / Replacement Cycle	-	-	5 yrs	
Replacements in building lifespan	-	-	14.0	-
Filter Embodied Carbon (kg CO2e/FILTER)	-	-	3,146 kg CO2e	-
Total Embodied Carbon (kg CO2e/hood)	12,271 kg CO2e	5,684 kg CO2e	3,560 kg CO2e	
Total Quantity in Module	1	1	1	
Total Embodied Carbon (kg CO2e)	12,271 kg CO2e	5,684 kg CO2e	3,560 kg CO2e	



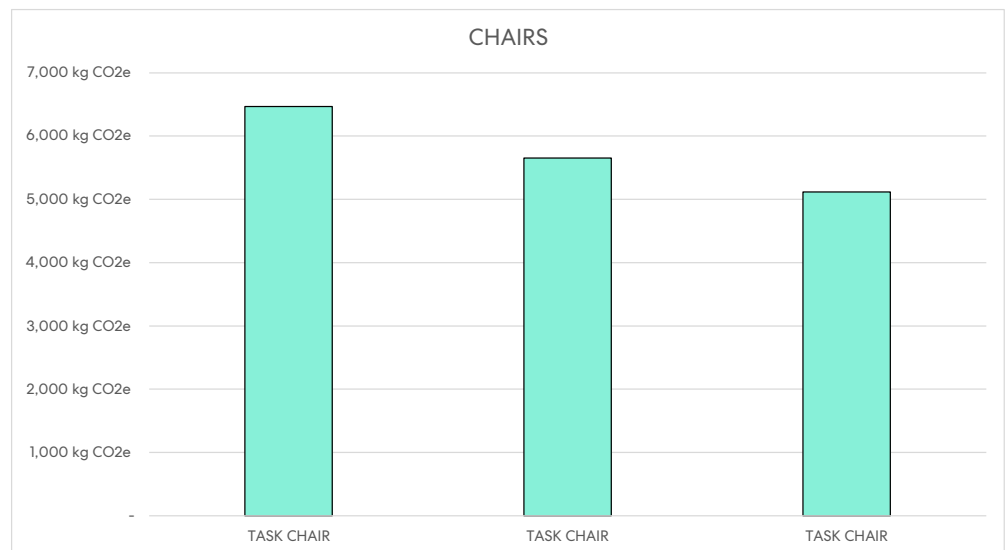
Analysis By:
BR+A Consulting Engineers
BOSTON
10 Guest Street
4th Floor
Boston, MA 02135
617.254.0016



OFFICE	Baseline	Improved	Reimagined	Alt 1
CHAIRS	TASK CHAIR	TASK CHAIR	TASK CHAIR	NONE
Category	CHAIRS	CHAIRS	CHAIRS	CHAIRS
EPD	<i>Knoll Olo Light Task Chair</i>	<i>Steelcase Think Chair</i>	<i>New Aeron Chair</i>	<i>None</i>
PCR Name	PCR 2012:01 Construction Products And Construction Services, Version 2.3, UN CPC 314 Product Specific	[Not specified]	Reference PCR: Product Category Rule for Environmental Product Declaration BIFMA PCR for Product Specific	0
EPD Type	1 Chair	Product Specific	1 Chair	0
EPD Declared Unit	1 Chair	1 Chair	1 Chair	-
EPD Scope	A1-A3	A1-A3	A1-A3	A1-A3
Total Embodied Carbon (kg CO2e/unit)	107.8 kg CO2e	94.2 kg CO2e	85.3 kg CO2e	0.0 kg CO2e
Biogenic Carbon (BCRP)	-	-	-	0.0 kg CO2e
Total Embodied Carbon (kg CO2e/unit)	107.8 kg CO2e	94.2 kg CO2e	85.3 kg CO2e	0.0 kg CO2e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	15 yrs	15 yrs	15 yrs	75 yrs
Replacements in building lifespan	4.0	4.0	4.0	-
Total Embodied Carbon (kg CO2e/unit)	539 kg CO2e	471 kg CO2e	427 kg CO2e	0 kg CO2e
Total Quantity in Module (unit)	12	12	12	-
Total Embodied Carbon (kg CO2e)	6,468 kg CO2e	5,652 kg CO2e	5,118 kg CO2e	-



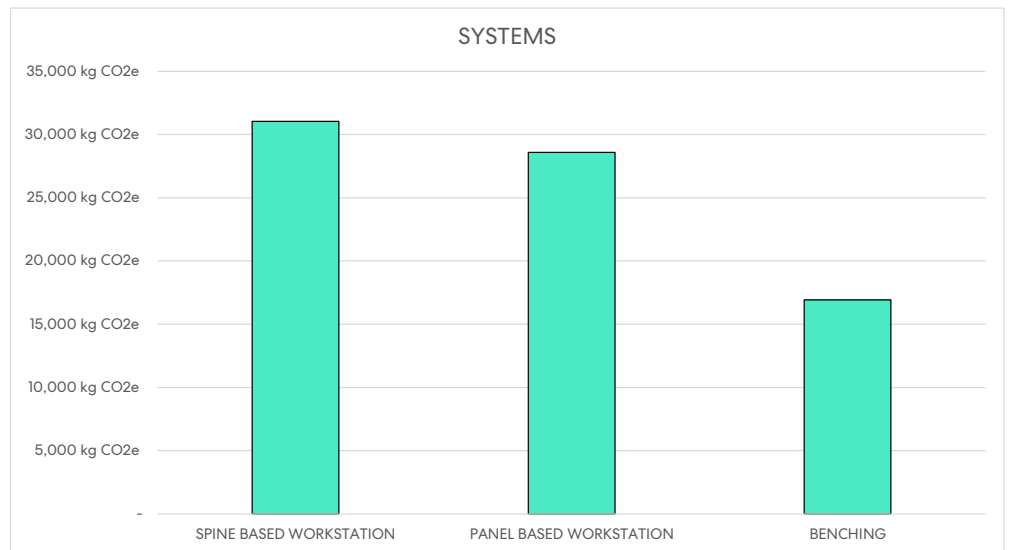
**OFFICE
SYSTEMS**



OFFICE	Baseline	Improved	Reimagined	Alt 1
SYSTEMS	SPINE BASED WORKSTATION	PANEL BASED WORKSTATION	BENCHING	NONE
Category	SYSTEMS	SYSTEMS	SYSTEMS	SYSTEMS
EPD	Knoll Currents	Knoll Dividends Horizon	Knoll Antenna Workspaces	None
PCR Name	NSF International-BIFMA PCR for Office Furniture Workspace	NSF International-BIFMA PCR for Office Furniture Workspace	NSF International-BIFMA PCR for Office Furniture Workspace	0
EPD Type	Products: UNCPC 3814	Products: UNCPC 3814	Products: UNCPC 3814	0
EPD Declared Unit	Product Specific	Product Specific	Product Specific	-
EPD Scope	1 m ²	1 m ²	1 m ²	A1-A3
	A1-A3	A1-A3	A1-A3	
Total Embodied Carbon (kg CO ₂ e/unit)	495.0 kg CO ₂ e	456.0 kg CO ₂ e	269.8 kg CO ₂ e	0.0 kg CO ₂ e
Biogenic Carbon (BCRP)	-	-	-	0.0 kg CO ₂ e
Total Embodied Carbon (kg CO ₂ e/unit)	495.0 kg CO ₂ e	456.0 kg CO ₂ e	269.8 kg CO ₂ e	0.0 kg CO ₂ e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	15 yrs	15 yrs	15 yrs	75 yrs
Replacements in building lifespan	4.0	4.0	4.0	-
Total Embodied Carbon (kg CO ₂ e/unit)	2,475 kg CO ₂ e	2,280 kg CO ₂ e	1,349 kg CO ₂ e	0 kg CO ₂ e
Total Quantity in Module (unit)	9	9	9	-
Total Surface Area of Workstations (m ²)	13	13	13	-
Total Embodied Carbon (kg CO ₂ e)	31,041 kg CO ₂ e	28,596 kg CO ₂ e	16,919 kg CO ₂ e	-



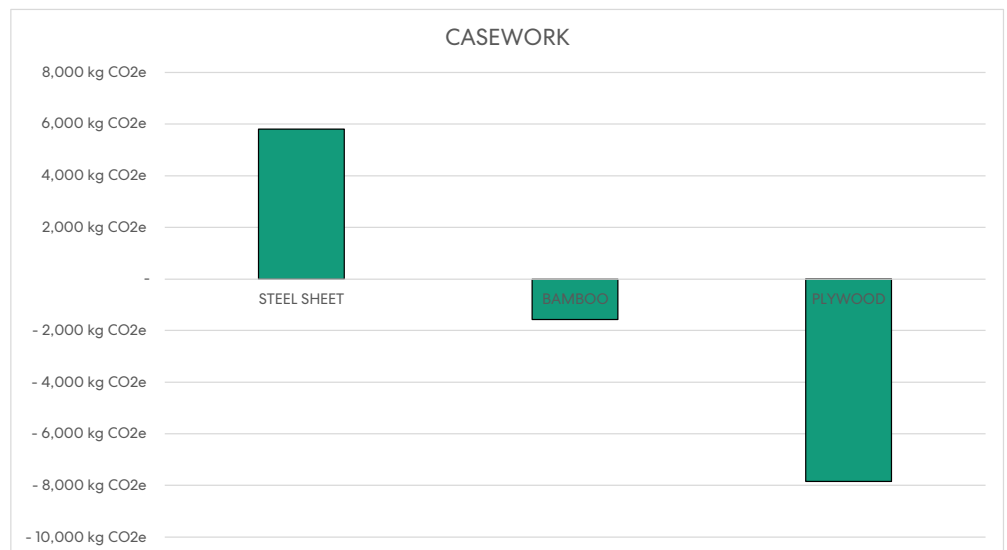
**OFFICE
SYSTEMS**



LAB	Baseline	Improved	Reimagined	Alt 1
CASEWORK	STEEL SHEET	BAMBOO	PLYWOOD	NONE
CABINETS	CABINETS	CABINETS	CABINETS	CABINETS
EPD	Cold Formed Steel Framing	Flat and Edge Grain Plyboo	North American Softwood Plywood	None
PCR Name	ISO 14044 and Product Category Rules (PCR) for Construction Products and Services.	ISO 14044 and Product Category Rules (PCR) for Construction Products and Services.	UL Environment: Product Category Rules for Building-Related Products and Services. Part A: Calculation Rules for the Life Cycle Assessment and requirements on the Project Report, v3.2 Part B: Structural and Architectural Wood Products EPD Requirements . v1.0 Industry Wide	0
EPD Type	Product Specific	Product Specific	Product Specific	0
EPD Declared Unit	1 metric tonne	1 kg	1 m³	-
EPD Scope	A1-A3 / kg	A1-A3 / kg	A1-A3 / kg	A1-A3 / kg
EPD GWP (kg CO2e/kg of product)	2.4 kg CO2e	3.6 kg CO2e	0.5 kg CO2e	-
Biogenic Carbon (BCRP/kg of product)	-	- 4.3 kg CO2e	- 4.4 kg CO2e	-
Embodied Carbon (kg CO2e/kg of product)	2.4 kg CO2e	- 0.7 kg CO2e	- 3.9 kg CO2e	-
Weight of Cabinet in lbs	75	73	65	130
Weight of Cabinet in kg	34.02	33.11	29.48	58.97
Embodied Carbon (kg CO2e/cabinet)	83 kg CO2e	- 23 kg CO2e	- 116 kg CO2e	-
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	30 yrs	30 yrs	30 yrs	75 yrs
Replacements in building lifespan	1.5	1.5	1.5	-
Total Embodied Carbon (kg CO2e/cabinet)	208 kg CO2e	- 58 kg CO2e	- 291 kg CO2e	-
Total Quantity in Module (project units)	28	27	27	-
Total Embodied Carbon (kg CO2e)	5,811 kg CO2e	1,565 kg CO2e	7,846 kg CO2e	-



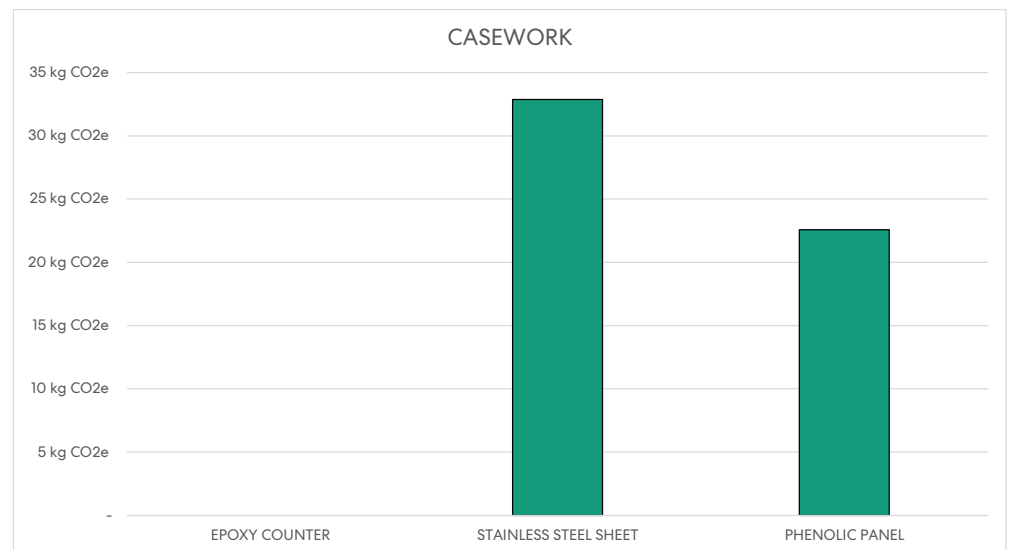
**LAB
CASEWORK**



LAB	Baseline	Improved	Reimagined	Alt 1
CASEWORK	EPOXY COUNTER	STAINLESS STEEL SHEET	PHENOLIC PANEL	NONE
COUNTERTOP	COUNTERTOP	COUNTERTOP	COUNTERTOP	COUNTERTOP
EPD	Durcon Greenstone	Cold Rolled Stainless Steel Outokumpu Oyj	Fundermax Max Panels	None
PCR Name	[No EPD Available]	Structural steels, 07.2014 (PCR checked and approved by the SVR)	Laminates, 10.2018 (PCR checked and approved by the SVR)	0
EPD Type	Product Specific	Product Specific	Product Specific	0
EPD Declared Unit	NA	1 metric tonne	1 m ²	-
EPD Scope	A1-A3 / kg	A1-A3 / kg	A1-A3 / kg	A1-A3
EPD GWP (kg CO ₂ e/kg of product)	-	3 kg CO ₂ e	2 kg CO ₂ e	0 kg CO ₂ e
Biogenic Carbon (BCRP/kg of product)	-	-	-	-
Embodied Carbon (kg CO ₂ e/kg of product)	-	3 kg CO ₂ e	2 kg CO ₂ e	0 kg CO ₂ e
Weight in Lbs/ft ²	11.0	4.0	5.3	-
Weight in kg/m ²	0.46	0.17	0.22	1.00
Embodied Carbon (kg CO ₂ e/m ²)	-	0.57 kg CO ₂ e	0.39 kg CO ₂ e	0.00 kg CO ₂ e
LCA Duration (building lifespan)	75 yrs	75 yrs	75 yrs	75 yrs
Lifespan of Product / Replacement Cycle	30 yrs	30 yrs	30 yrs	75 yrs
Replacements in building lifespan	1.5	1.5	1.5	-
Total Embodied Carbon (kg CO ₂ e/m ²)	-	1.43 kg CO ₂ e	0.98 kg CO ₂ e	0.00 kg CO ₂ e
Total Quantity in Module (m ²)	23.81	23.02	23.02	23.02
Total Embodied Carbon (kg CO ₂ e)		33 kg CO ₂ e	23 kg CO ₂ e	0 kg CO ₂ e

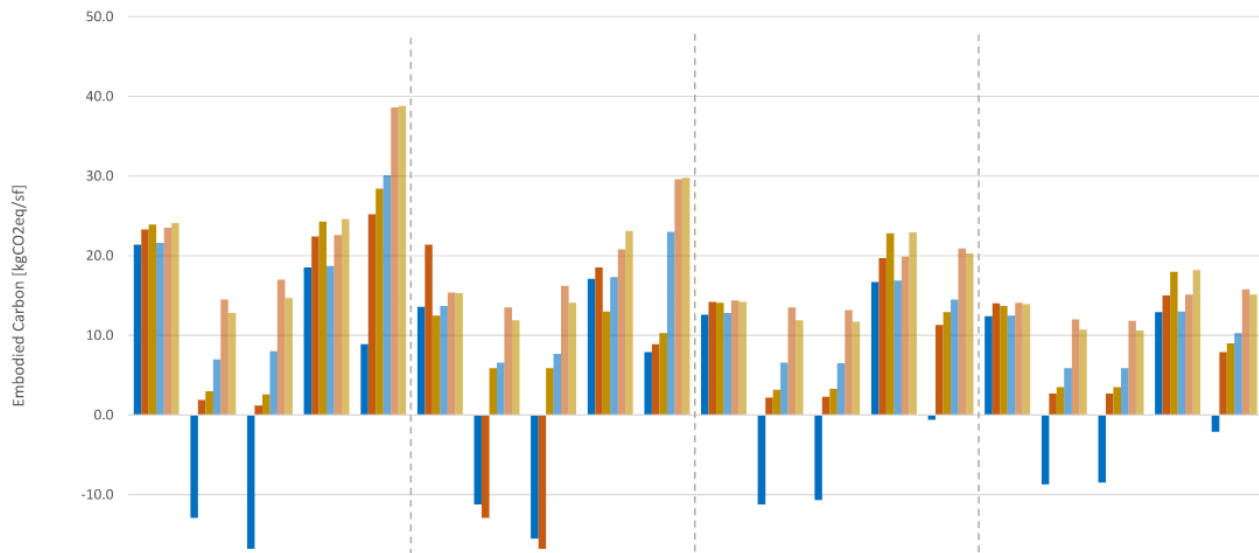


**LAB
BENCHTOP**



APPENDIX

Embodied carbon with and without biogenic carbon of steel, concrete, timber, and hybrid horizontal framing systems for varying vibration criteria of a 22'x33' [long beam/short girder]



LCA Category	2 S	2 T22	2 T	2 C	2 H	4 S	4 T22	4 T	4 C	4 H	8 S	8 T22	8 T	8 C	8 H	St S	St T22	St T	St C	St H
[A1-A3] Bio	21.40	-12.90	-16.80	18.50	8.90	13.60	-11.20	-15.50	17.10	7.90	12.60	-11.20	-10.70	16.70	-0.60	12.40	-8.70	-8.50	12.90	-2.10
[A-C] Bio	23.30	1.90	1.20	22.40	25.20	21.40	-12.90	-16.80	18.50	8.90	14.20	2.20	2.30	19.70	11.30	14.00	2.70	2.70	15.00	7.90
[A-D] Bio	23.90	3.00	2.60	24.30	28.40	12.50	5.90	5.90	13.00	10.30	14.10	3.20	3.30	22.80	12.90	13.70	3.50	3.50	18.00	9.00
[A1-A3] NoBio	21.60	7.00	8.00	18.70	30.10	13.70	6.60	7.70	17.30	23.00	12.80	6.60	6.50	16.90	14.50	12.50	5.90	5.90	13.00	10.30
[A-C] NoBio	23.50	14.50	17.00	22.60	38.60	15.40	13.50	16.20	20.80	29.60	14.40	13.50	13.20	19.90	20.90	14.10	12.00	11.80	15.10	15.80
[A-D] NoBio	24.10	12.80	14.70	24.60	38.80	15.30	11.90	14.10	23.10	29.80	14.20	11.90	11.70	22.90	20.30	13.90	10.70	10.60	18.20	15.10

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Preliminary Results

Superstructure embodied carbon results are preliminary. The results as reported here are part of an ongoing research collaboration between the LeMessurier and the authors of this Innovation Incubator project.

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CMU CONVERSION CALCULATION

Omni Calculator

<https://www.omnicalculator.com/construction/concrete-block-fill>

Volume of concrete in CMU at specified size	0.011518	cu yd
CMU Size	16	" wide x 8" tall x 8" thicknes
CMU units wide	0.7500	per 1 LF horizontal
CMU units tall	1.5000	per 1 LF vertical
Equivalent # CMU units	1.1250	per 1 ft ² of wall
Equivalent # CMU units	0.1045	per 1 m ² of wall
Approx CMU cu yd per unit m ² of wall area	0.00120381	cu yd / m ²

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METAL STUD CONVERSION CALCULATION

EPD Link

https://www.clarkdietrich.com/sites/default/files/imce/pdf/SupportTools/EPD_HP/101.1_Clark_western%20Dietrich_EP_D Cold-Formed%20Steel%20Framing%20Systems.pdf

EPD Units

1 metric ton (mT)

ClarkDietrich iProstud

<https://www.itools.clarkdietrich.com/iprostud.php>

Interior Metal Stud Framing

Example Product

https://www.itools.clarkdietrich.com/submittalpro/dyn_pdf/%7B%22pdf_type%22%3A%22individual_product%22%2C%22project_product_code%22%3A%22product%7Cprostud~product_code%7C362PDS125-15-50ksi~coating%7CG40EQ%22%7D/CD_362PDS125-15-50ksi.pdf

Unit Weight 0.348 lbs / 1 LF

Conversion Factor (Pound to Metric Ton) 0.000454

Interior Metal Stud Mass / LF 0.000158 mT / 1 LF

Exterior Metal Stud Framing

Example Product

https://www.itools.clarkdietrich.com/submittalpro/dyn_pdf/%7B%22pdf_type%22%3A%22individual_product%22%2C%22project_product_code%22%3A%22product%7Cstructural_stud~product_code%7C550S162-33~coating%7CCP60~punched%7Ctrue%22%7D/CD_550S162-33.pdf

Unit Weight 1.11 lbs / 1 LF

Conversion Factor (Pound to Metric Ton) 0.000454

Exterior Metal Stud Mass / LF 0.000503 mT / 1 LF

Approx stud length per unit SF of wall area

Wall Height 14' - 6" High

Stud Spacing 0' - 16" O.C.

Vertical Studs Length / SF 0.75

Horizontal Studs Length / SF 0.14

Subtotal 0.89

Allowance for opening framing 0.04

5%

Stud Framing / SF of wall area 0.93 LF / SF

Conversion Factor (SF to m²) 0.09290

Stud Framing / m² of wall area 0.08662 LF / m²

Approx stud mT per unit m² of wall area

Interior Walls 1.37E-05 mT / m²

Exterior Walls 4.36E-05 mT / m²

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LVL STUD CONVERSION CALCULATION

EPD Link	https://portal.environdec.com/api/api/v1/EPDLibrary/Files/e5b39f2f-7029-49f0-b427-4f3108dd95c6/Data				
EPD Units	1	m³			
Approx stud volume per unit SF of wall area					
Wall Height	14	'	-	6	" High
Stud Spacing	0	'	-	16	" O.C.
Vertical Studs Length / SF	0.75	LF	/	SF	
Horizontal Studs Length / SF	0.14	LF	/	SF	
Subtotal	0.89	LF	/	SF	
Allowance for opening framing	0.04			5%	
Stud Framing Linear Feet / ft² of wall area	0.93	LF	/	SF	
Stud Framing Linear Feet / m² of wall area	0.08662	LF	/	m²	
Exterior Stud Cross Section					
Stud Thickness	2.0	"			
Stud Depth	6.0	"			
Stud Cross Section	0.083	ft²			
Volume ft³ / m² of wall area	0.00721801	ft³	/	m²	
Exterior stud framing volume m³ / m² of wall area	0.0002044	m³	/	m²	

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ALUMINUM ZEE GIRT CONVERSION CALCULATION

NOTES

Depth of Zee	Dim A	4.5	"	Wall Cavity Depth
Face of Zee	Dim B	1.0	"	Attachment Surfaces
Gauge	(16 Ga.)	0.0630	"	Thickness
Cross Section	Area	0.4095	sq.in. /	LF
Conversion Factor (sq.in. to m ²)		0.00065		
	Cross Section	0.00026	m ² /	LF
Wall Height		14	' -	6" High
Zee Spacing		-	' -	16" O.C.
Vertical Zee Length / SF		0.75	LF /	sf
Conversion Factor (SF to m ²)		0.09290		
	Framing / m ² of wall area	8.07293	LF /	m ²
Weight / Mass		4.3	kg /	m ²
		0.00917	kg /	m ²

https://www.certainteed.com/resources/101.1_CISCA_EPD_Aluminum_Specialty_Products_20141217.pdf

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FUMEHOOD CALCULATIONS

Fumehood (100 fpm face velocity)							
Component	Count	Unit	Material	lbs	kg	kgCO2e/ kg	kgCO2e
Hood Cabinet (6')	1	6' Hood	Carbon-Steel	500	226.80	0.73	166
Supply + Exhaust AHUs - Alum	900	cfm	Aluminum	900	408.23	9.05	3,695
Supply + Exhaust AHUs - Steel	900	cfm	Carbon-Steel	900	408.23	0.73	298
S.S. Exhaust Ductwork			Stainless Stee	225	102.06	2	203
Supply Ductwork			Carbon-Steel	1653	749.82	1	547
Hood + Ductwork							3,909

Fumehood (60 fpm high performance)							
Component	Count	Unit	Material	lbs	kg	kgCO2e/ kg	kgCO2e
Hood Cabinet (6')	1	6' Hood	Carbon-Steel	500	226.80	0.73	166
Supply + Exhaust AHUs - Alum	400	cfm	Aluminum	400	181.44	9.05	1,642
Supply + Exhaust AHUs - Steel	400	cfm	Carbon-Steel	400	181.44	0.73	132
S.S. Exhaust Ductwork			Stainless Stee	100	45.36	1.99	90
Supply Ductwork			Carbon-Steel	735	333.25	1	243
Hood + Ductwork							2,274

Filter Hood (carbon adsorption filter technology)							
Component	Count	Unit	Material	lbs	kg	kgCO2e/ kg	kgCO2e
Hood Cabinet (6')	1	6' Hood	Carbon-Steel	500	226.80	0.73	166
Hood + Ductwork							166

Filter Embodied Carbon per 5 year life				units	US Tons CO2	kg Co2	Notes
Coconut Harvesting	zero (product of coconut food industry)				0.000	-	
Removing Husk	zero (waste product of coconut food industry)				0.000	-	
Transportation - local	Pounds of carbon (via truck), 160km			52.92	0.0004	0	105g/metricTon/km https://timeforchange.org/co2-emissions-shipping-goods
Activation Process	4 tons CO2/Ton Activated Carbon			52.92	0.106	96	
Transportation - ship	Asia to America (cargo ship), 22,500km			52.92	0.012	11	20g/metricTon/km https://sea-distances.org/
Transportation - Semi	From NY Port to Erlab (Semi truck), 400km			52.92	0.001	1	105g/metricTon/km https://timeforchange.org/co2-emissions-shipping-goods
Filter Manufacturing	1-1/5HP motor for conveyor/filler, 5 mins/filter			n/a	0.373	338	1.5Hp motor for 5 mins/filter
Transportation - local	to job site, Semi truck, 1,600km			104	0.009	8	105g/metricTon/km
Transportation - local	from job site to incinerator, 400km			104	0.002	2	105g/metricTon/km
Incineration	83kW (300kJ) produced per filter			n/a	-0.272	(247)	Ash, Water, Nitrogen, CO2 https://www.epa.gov/energy/greenhouse-gas-equivalencies-calcu
						Filters	210
Hood + Ductwork + Filters							375

LCA Data (OneClickLCA)	Global Warming Potential		
	kgCO2e/ kg	kgCO2e/ lb	kgCO2e/m3
Galvanized steel	2.52	5.54	19683
Stainless steel	1.99	4.39	34504
Aluminum	9.05	19.92	31639
Structural steel	2.34	5.14	18352
Carbon-Steel	0.73	1.61	5708
Cast iron		1.5	
Copper		7.3	
**GWP values are collected from oneclicklca.com			
***GWP values (galvaized steel, stainless steel, alimium,structural steel) are averaged based on 3 ratings; high recyled medium, and low recyled percentages.			
**Transportation is not added			
*Transportation method (Transportation distance approximate 370 mile)			
*Trailer combination, 40 ton capacity, 100% fill rate: 0.0559 kg CO2e / tonmile			

US Tons to Kg	907.185
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RESOURCES

Type	Name	Link
EPD Database	The International EPD System / Envirodec	https://www.envirodec.com/library
EPD Database	UL Spot	https://spot.ul.com/
EPD Database	The EPD Registry	https://www.theepdregistry.com/
EPD Database	SCS Global Services	https://www.scsglobalservices.com/certified-green-products-guide?program=192
Product DB	Sustainable Minds	https://www.transparencycatalog.com/
Reference	Principles for the Accounting of Biogenic Carbon in Product Carbon Footprint (PCF) Standards	https://www.bio.org/sites/default/files/legacy/bioorg/docs/Position_Carbon_Footprint_PCF.pdf
EPD Database	HPN Ecoguide	https://ecoguide.housingpartnership.net/ecoguide/certification/epd-certificate/
Reference	NIST - BEES	https://ws680.nist.gov/Bees2
EPD Database	ASTM PCR and EPD DB	https://www.astm.org/CERTIFICATION/EpdAndPCRs.html
EPD Database	NSF.org	http://info.nsf.org/Certified/Sustain/epd_search.asp
Calculation reference	Concrete Block Fill Calculator	https://www.omnicalculator.com/construction/concrete-block-fill#:~:text=The%20core%20volume%20of%20a,3%20or%200.006424%20m3.&text=From%20our%20calculations%20above%2C%20we,use%20to%20construct%20our%20wall.

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COMMUNICATIONS								
Product / Research Area	Company	Latest Communication	Type	Info Provided	Discussion	Contact	Contact Email	Contact 2
							Contact 2 Email	
Laboratory Structural Systems	LeMessurier	10/7/2021	Calls, Joint research.			Michael C. Gryniuk, P.E. Associate LeMessurier 1380 Soldiers Field Road Boston, MA 02135 T: 617-868-1200 x413	mrgryniuk@lemessurier.com	
Building / Fire Code Issues in Lab Buildings	Jensen Hughes		Calls, Joint research.			JEREMY LEBOWITZ, PE Practice Leader – Industrial Jensen Hughes +1 508-273-8482	jlebowitz@jensenhughes.com	
Laboratory Mechanical Systems	BR+A		Calls, Joint research.			JACOB KNOWLES Associate Principal Director of Sustainable Design BR+A CONSULTING ENGINEERS 617.925.8376 617.460.4694	jknowles@brplusa.com	TURAN KARAKUS Sustainable Design 617.925.8308 direct BR+A CONSULTING ENGINEERS
Epoxy Flooring, Paints	Sherwin Williams	8/13/2021	Call Email	Guidance on product options for high performance flooring. EPDs for flooring products.	Laboratory Flooring options. Epoxy or high performance coatings. EPD data available from SW.	Mike Starnier Business Development Manager The Sherwin-Williams Co. High Performance Flooring 484-624-2960	michael.starnier@sherwin.com	Mark T. Weiner CSI-HDA Specification Consultant The Sherwin Williams Company Office 401-245-8176 Mobile 617-438-1408
Laboratory Products and Materials	My Green Lab	8/19/2021	Call			James Connelly Chief Executive Officer Work: +1206-309-8961 Base: Spokane, Washington, USA Web: mygreenlab.org	James@mygreenlab.org	
Epoxy Flooring	Righter Group, Inc.	8/4/2021	Call	Tnemc does not have EPDs		Michael Woessner Coatings Consultant Righter Group, Inc. Cell: 978-497-0152	mwoessner@rightergroup.com	
Laboratory Casework	Mott	8/2/2021	Calls, Emails	Lab casework information. Weights of cabinets and countertop materials. Suggested EPDs for lab product raw materials.	Mott does not have EPDs. Mott President is the chair of SEFA board.	Chip Diefendorf Director of Business Development Mott Manufacturing Ltd. 1452 Hardy Road, Branford ON Canada N3T 5L8 C: 315.278.7477 QUALITY BY DESIGN www.mott.ca	chipd@mott.ca	
Concrete Block	Jandris Block	8/20/2021	Emails	Product data and EPDs.		Heidi Jandris 646-812-0860	heid@jandris.com	
Laboratory Casework	Kewaunee	8/23/2021	Email	No EPD or information available		Virginia Kowalick	virginiakowalick@kewaunee.com	
Laboratory Casework	Kewaunee	8/23/2021	Email	No EPD or information available		Rodney LaBelle	rodneylabelle@kewaunee.com	
Countertops	Fundermax	7/1/2021	Calls, Emails	EPD, Product information, suggestions for alternative products		Dawn Jacobs	Dawn.Jacobs@fundermax.biz	
Countertops	Durcon	7/29/2021	Calls, Emails	No EPD or information available.	Durcon was curious about the process for creating EPDs. They expressed concern about the cost of EPDs and about intellectual property protection.	Beto Garcia Architectural Specs Manager 204 Allison Drive, Taylor, TX 76784 512.595.8004 (office) 727.235.2073 (cell)	hgarcia@durcon.com	
Flooring	Interface	6/24/2021	Calls, Emails	Lab flooring options. Advice about seeking EPDS for products. Connections and advice for other MFRs.		Mikhail Davis Director, Technical Sustainability - Americas mikhail.davis@interface.com mobile +1 415-652-3099	mikhail.davis@interface.com	

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Spec Section	LCA Category	LCA Subcategory	Display Name	Product Name	Product Description	Environmental Product Declaration (EPD)	Product Literature	Reference Link	PCR Name	Type of EPD	Declared Unit Description	Unit Type	Declared Unit	Adjustment Factor to m²	Mass (kg)	Service Life (yrs)	A1-A3	A4	A5	B1	B2	B3	B4	C1	C2	C3	C4	D	A1-D	Biogenic Carbon	3	A1-A3 / kg	Biogenic Carbon / kg of product	Notes			
04 22 00	INTERIOR	PARTITIONS	CMU	CMU	Reddy Medium Weight CMU Block	https://www.rpblock.com/images/stock-images/interior/EPD-MediumWeight.pdf	https://www.rpblock.com/rpblock.html	https://www.rpblock.com/sustainability.html	Manufactured Concrete and Concrete Masonry Products (UN CPC 3765)	Product Specific	The ASTM PCR for concrete and concrete masonry products only covers the cradle-to-gate life-cycle stages. Therefore, the declared unit for this EPD is one (1) yd³ of concrete formed into manufactured concrete and concrete masonry products. The EPD may be presented additionally per one (1) yd³ of concrete. This EPD covers only the cradle-to-gate impacts of manufactured concrete and concrete masonry products using a declared unit, and the results cannot be used to compare between products.	Volume	1 cu yd	0.00020814	0.00	75	2.94E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E+00	-	-	-	-	-
04 22 00	INTERIOR	PARTITIONS	CMU	CMU 2	Manufactured concrete Block	https://info.pdf.org/certified/sustainability/interior/EPD0004.pdf	https://commercial.midwestblock.com/	https://commercial.midwestblock.com/	Manufactured Concrete and Concrete Masonry Products (UN CPC 3765)	Product Specific	The ASTM PCR for concrete and concrete masonry products only covers the cradle-to-gate life-cycle stages. Therefore, the declared unit for this EPD is one (1) m³ of concrete formed into manufactured concrete and concrete masonry products. The EPD may be presented additionally per one (1) yd³ of concrete.	Volume	1 cu yd	0.00020814		75															-	-	-	-	-		
05 40 00	INTERIOR	PARTITIONS	METAL STUDS	Partitions	CEMCO Structural Stud and Track, Viperstud and Viper-X interior framing, Plus Header, Sureboard, Sure-Span Floor Joist Framing System, CST, SLP-TIM, FAS Track 1000 Slotted Tracks, L60 Studwall CHN-STUD studs and track	https://camcsteel.com/app/uploads/2020/08/CEMCO-UL-EPD_Reviewed-May-2018-3-31-21-0_unlocked.pdf	https://camcsteel.com/products/2020/08/CEMCO-UL-EPD_Reviewed-May-2018-3-31-21-0_unlocked.pdf	https://camcsteel.com/products/2020/08/CEMCO-UL-EPD_Reviewed-May-2018-3-31-21-0_unlocked.pdf	KCS PCR for Designated Steel Construction Products v1 2015	Product Specific	The declared unit for an EPD is one metric ton of steel construction product.	Mass	1 metric tonne			30														-	-	-	-	-			
05 40 00	INTERIOR	PARTITIONS	METAL STUDS	Cold Formed Steel Framing Systems	ClarkDietrich Interior Framing, Exterior Framing, Interior Finishing, Floor Framing, Clips / Accessories	https://www.clarkdietrich.com/files/stock-images/interior/EPD-7001-ClarkWesternHSD-Dietrich-EPD-2018-3-31-21-0-unlocked.pdf	https://www.clarkdietrich.com/files/stock-images/interior/EPD-7001-ClarkWesternHSD-Dietrich-EPD-2018-3-31-21-0-unlocked.pdf	https://www.clarkdietrich.com/files/stock-images/interior/EPD-7001-ClarkWesternHSD-Dietrich-EPD-2018-3-31-21-0-unlocked.pdf	UL Part B: Designated Steel Construction Product EPD Requirements, v2.0 (August 26, 2020)	Product Specific	The declared unit of calculation is one metric ton of Cold-formed steel product (1000kg)	Mass	1 metric tonne	1.30723E-05		30	1.7E+03													-	-	-	-	-			
06 17 13	INTERIOR	PARTITIONS	WOOD STUDS	LVL	Roxebug Forest Products Laminated Veneer Lumber	https://www.roxebug.com/wp-content/uploads/2020/01/EPD-LVL.pdf	https://www.roxebug.com/wp-content/uploads/2020/01/EPD-LVL.pdf	https://www.roxebug.com/wp-content/uploads/2020/01/EPD-LVL.pdf	PFInnovations: 2015. Product Category Rules (PCR) for preparing Product Specific	Product Specific	The declared unit is 1 m³ of LVL.	Volume	1 m³	0.000204391		75	2.74E+02	0.00E+00	0.00E+00	0.00E+00				0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.00E+00	-9.88E+02	-	-	-	-	-		
06 17 13	EXTERIOR	PARTITIONS	WOOD FRAMING	Stone Engo LVL (Laminated Veneer Lumber)		https://www.stoneengo.com/wp-content/uploads/2020/01/EPD-LVL.pdf	https://www.stoneengo.com/wp-content/uploads/2020/01/EPD-LVL.pdf	https://www.stoneengo.com/wp-content/uploads/2020/01/EPD-LVL.pdf	Standards EN 15804 and EN 16485 provide the core product category rules for the assessment. Standard EN 15942 provides the communication format for EPD. Biogenic carbon content of wood is calculated in line with EN 16449 standard.	Product Specific	1 m³ of LVL with a moisture content of 9%	Volume	1 m³	0.000204391		75	1.55E+02	7.59E+01	6.88E+00											-6.04E+02	-	-	-	-	-		
06 17 19	SUPERSTRUCTURE	SLAB	CLT	Nordic X-Lam CLT	Nordic X-Lam	https://www.nordic.co.uk/data/files/data-sheet/EPD-Nordic-X-Lam.pdf	https://www.nordic.co.uk/data/files/data-sheet/EPD-Nordic-X-Lam.pdf	https://www.nordic.co.uk/data/files/data-sheet/EPD-Nordic-X-Lam.pdf	PCR: North American Structural and Architectural Wood Products V2: June 2016 (Interim Version).	Product Specific	1M2 of stone wool thermal insulation product with an RD=1 m2K/W (R = 5.48)	Area	1 m²	1		30	1.31E+00	4.25E-01	2.65E-01	0.00E+00			0.00E+00	6.29E-03	0.00E+00		-9.93E-02		-	-	-	-	-	-			
07 21 00	EXTERIOR	INSULATION	MINERAL WOOL INSULATION	Rockwool Cavityrock	Rockwool Mineral Wool Exterior Insulation	https://www.rockwool.com/sites/default/files/rockwool-documentation/epd/rockwool-mineral-wool-exterior-insulation-epd.pdf	https://www.rockwool.com/sites/default/files/rockwool-documentation/epd/rockwool-mineral-wool-exterior-insulation-epd.pdf	https://www.rockwool.com/sites/default/files/rockwool-documentation/epd/rockwool-mineral-wool-exterior-insulation-epd.pdf	ISO 2930:2017 and EN 16804:2012-04 serve as the core PCR along with Product Category Rules for Building-Related Products and Services; Part A (Standard 10010 version 3.1.4 edition, May 2, 2018) and Product Category Rule PCR: Guidance for Building-Related Products and Services; Part B: Building Thermal Insulation EPD Requirements UL 10010-1 (2nd edition, April 10, 2018). Sub-category PCR was reviewed by Thomas Gloria, PhD (Chair), Industrial Ecology Consultants; Christoph Koffler, PhD, thinkstep and Andre Dejanovic, Oak Ridge National Laboratory.	Product Specific	1 m2 of installed Neopor® Plus Graphite Polystyrene Type I insulation material with a thickness that gives an avg. thermal resistance (RS) of 1 m2K/W (5.68 ft2R/inch) with a building service life of 50 yrs. (packaging included)	Area	1 m²	1		75	1.74E+00	7.97E-02	6.21E-03	0.00E+00			2.24E-02								-6.66E+04	-	-	-	-	-	
07 21 00	EXTERIOR	INSULATION	XPS INSULATION	FOAMULAR Extruded Polystyrene (XPS) Insulation	XPS Insulation	https://www.thompsonspc.com/wp-content/uploads/2018/01/EPD-Foamular-Extruded-XPS.pdf	https://www.thompsonspc.com/wp-content/uploads/2018/01/EPD-Foamular-Extruded-XPS.pdf	https://www.thompsonspc.com/wp-content/uploads/2018/01/EPD-Foamular-Extruded-XPS.pdf	ISO 2930:2017 and EN 16804:2012-04 serve as the core PCR along with Product Category Rules for Building-Related Products and Services; Part A (Standard 10010 version 3.1.4 edition, May 2, 2018) and Product Category Rule PCR: Guidance for Building-Related Products and Services; Part B: Building Thermal Insulation EPD Requirements UL 10010-1 (2nd edition, April 10, 2018). Sub-category PCR was reviewed by Thomas Gloria, PhD (Chair), Industrial Ecology Consultants; Christoph Koffler, PhD, thinkstep and Andre Dejanovic, Oak Ridge National Laboratory.	Product Specific	1 m2 of installed Neopor® Plus Graphite Polystyrene Type I insulation material with a thickness that gives an avg. thermal resistance (RS) of 1 m2K/W (5.68 ft2R/inch) with a building service life of 50 yrs. (packaging included)	Area	1 m²	1		75	1.74E+00	7.97E-02	6.21E-03	0.00E+00			2.24E-02								-6.66E+04	-	-	-	-	-	
07 21 00	EXTERIOR	INSULATION	GPS INSULATION	Neopor Plus Graphite Polystyrene Insulation	GPS Insulation (TRAC)	https://www.neopor.com/us/files/epd/EPD-TRAC.pdf	https://www.neopor.com/us/files/epd/EPD-TRAC.pdf	https://www.neopor.com/us/files/epd/EPD-TRAC.pdf	ISO 2930:2017 and EN 16804:2012-04 serve as the core PCR along with Product Category Rules for Building-Related Products and Services; Part A (Standard 10010 version 3.1.4 edition, May 2, 2018) and Product Category Rule PCR: Guidance for Building-Related Products and Services; Part B: Building Thermal Insulation EPD Requirements UL 10010-1 (2nd edition, April 10, 2018). Sub-category PCR was reviewed by Thomas Gloria, PhD (Chair), Industrial Ecology Consultants; Christoph Koffler, PhD, thinkstep and Andre Dejanovic, Oak Ridge National Laboratory.	Product Specific	1 m2 of installed Neopor® Plus Graphite Polystyrene Type I insulation material with a thickness that gives an avg. thermal resistance (RS) of 1 m2K/W (5.68 ft2R/inch) with a building service life of 50 yrs. (packaging included)	Area	1 m²	1		75	1.74E+00	7.97E-02	6.21E-03	0.00E+00			2.24E-02								-6.66E+04	-	-	-	-	-	
07 21 29	EXTERIOR	INSULATION	SPF INSULATION	Spray Polyurethane Foam Insulation (HFC)	Industry Wide EPD - Closed Cell Insulation	https://www.astm.org/CERTIFICATION/DOCS/450-EPD-for-SPFA-EPD-20181029-1HFC.pdf	https://www.astm.org/CERTIFICATION/DOCS/450-EPD-for-SPFA-EPD-20181029-1HFC.pdf	https://www.astm.org/CERTIFICATION/DOCS/450-EPD-for-SPFA-EPD-20181029-1HFC.pdf	Part A: Product Category Rules for Building Related Products and Services (UL Environment, 2018)	Industry Wide	1 m² of installed insulation material with a thickness that gives an average thermal resistance RS=1 m2K/W (R = 5.678)	Area	1 m²	1		75	3.38E+00	1.22E-01	3.82E+00	7.73E+00			3.70E-03		6.20E+00	-1.77E-04		0.00E+00		-	-	-	-	-	-		
07 21 29	EXTERIOR	INSULATION	SPF INSULATION	Spray Polyurethane Foam Insulation (HFO)	Industry Wide EPD	https://www.astm.org/CERTIFICATION/DOCS/450-EPD-for-SPFA-EPD-20181029-1HFO.pdf	https://www.astm.org/CERTIFICATION/DOCS/450-EPD-for-SPFA-EPD-20181029-1HFO.pdf	https://www.astm.org/CERTIFICATION/DOCS/450-EPD-for-SPFA-EPD-20181029-1HFO.pdf	Part A: Product Category Rules for Building Related Products and Services (UL Environment, 2018)	Industry Wide	1 m² of installed insulation material with a thickness that gives an average thermal resistance RS=1 m2K/W (R = 5.678)	Area	1 m²	1		75	3.47E+00	1.22E-01	5.25E-01	0.00E+00			3.40E-03		4.17E-02	-1.77E-04		0.00E+00		-	-	-	-	-	-		
07 42 10	EXTERIOR	CLADDING	CLADDING SUBFRAMING	GreenGirt		https://portal.environment.com/gp/gp/ul/EPD/GreenGirt/EPD/EPD-20181029-1HFC.pdf	https://portal.environment.com/gp/gp/ul/EPD/GreenGirt/EPD/EPD-20181029-1HFC.pdf	https://portal.environment.com/gp/gp/ul/EPD/GreenGirt/EPD/EPD-20181029-1HFC.pdf	Construction products and construction services (2012) v2.3	Product Specific	One linear foot (1ft) of GREENGirt	Area	1 ft	0.09290304		75																					

Report
10/16/2021

Low Carbon Labs

Revit Quantity Data for all options and systems

LCA	1
Phase Created	New Construction
Type Comments	

Design Option	LCA Category	LCA Subcategory	LCA Spacetype	Type	#	VOLUME (m3)	AREA (m2)
Baseline	CASEWORK	COUNTERTOP	LAB		5	0	8
Baseline	CASEWORK	MOBILE BENCH	LAB		15	1	71
Baseline	CASEWORK	CABINETS	LAB		28	4	60
Baseline	DOORS		LAB		2	0	7
Baseline	EQUIPMENT	FUMEHOOD	LAB		1	2	16
Baseline	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Terracotta - Air	6	12	29
Baseline	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Terracotta - Concrete Masonry Units	6	12	29
Baseline	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Terracotta - Exterior Cladding Terracotta	6	12	29
Baseline	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Terracotta - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall	6	12	29
Baseline	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Terracotta - PW_ThermalProtection_RigidInsulation_Gray_Matte_Generic	6	12	29
Baseline	FURNITURE	CHAIRS	LAB		15	0	22
Baseline	FURNITURE	CHAIRS	OFFICE		12	0	24
Baseline	FURNITURE	SYSTEMS	OFFICE		9	0	26
Baseline	INTERIOR	FLOOR FINISH	LAB		1	0	112
Baseline	INTERIOR	FLOOR FINISH	OFFICE		1	2	66
Baseline	INTERIOR	PARTITIONS	LAB		15	44	356
Baseline	INTERIOR	CEILING	LAB		4	13	223
Baseline	INTERIOR	CEILING	OFFICE		2	14	133
Baseline	SUPERSTRUCTURE	COLUMN	LAB		6	3	
Baseline	SUPERSTRUCTURE	COLUMN	OFFICE		2	1	
Baseline	SUPERSTRUCTURE	SLAB	LAB		1	37	111
Baseline	SUPERSTRUCTURE	SLAB	OFFICE		1	14	69
Improved	CASEWORK	COUNTERTOP	LAB		4	0	7
Improved	CASEWORK	MOBILE BENCH	LAB		15	1	71
Improved	CASEWORK	CABINETS	LAB		27	3	56
Improved	DOORS		LAB		2	0	7
Improved	EQUIPMENT	FUMEHOOD	LAB		1	2	16
Improved	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Swisspearl - Air	6	11	29
Improved	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Swisspearl - Exterior Cladding Swisspearl	6	11	29
Improved	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Swisspearl - PW_Metal_Stud_Gray_Matte_Generic	6	11	29
Improved	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Swisspearl - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall	6	11	29
Improved	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Swisspearl - PW_ThermalProtection_RigidInsulation_Gray_Matte_Generic	6	11	29
Improved	FURNITURE	CHAIRS	LAB		15	0	22
Improved	FURNITURE	CHAIRS	OFFICE		12	0	24
Improved	FURNITURE	SYSTEMS	OFFICE		9	0	26
Improved	INTERIOR	FLOOR FINISH	LAB		1	0	113
Improved	INTERIOR	FLOOR FINISH	OFFICE		1	2	67
Improved	INTERIOR	PARTITIONS	LAB		15	48	388
Improved	INTERIOR	CEILING	LAB		4	13	223
Improved	INTERIOR	CEILING	OFFICE		2	14	133
Improved	SUPERSTRUCTURE	BEAM	LAB		6	1	
Improved	SUPERSTRUCTURE	BEAM	OFFICE		4	0	
Improved	SUPERSTRUCTURE	COLUMN	LAB		6	0	
Improved	SUPERSTRUCTURE	COLUMN	OFFICE		2	0	
Improved	SUPERSTRUCTURE	SLAB	OFFICE		1	30	180
Reimagined	CASEWORK	COUNTERTOP	LAB		4	0	7
Reimagined	CASEWORK	MOBILE BENCH	LAB		15	1	71
Reimagined	CASEWORK	CABINETS	LAB		27	3	56
Reimagined	DOORS		LAB		2	0	7
Reimagined	EQUIPMENT	FUMEHOOD	LAB		1	2	16
Reimagined	EQUIPMENT	OWNER EQUIPMENT	LAB		15	16	65
Reimagined	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Wood - Air	2	15	43
Reimagined	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Wood - Exterior Cladding Wood	2	15	43
Reimagined	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Wood - Laminated Veneer Lumber	2	15	43
Reimagined	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Wood - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall	2	15	43
Reimagined	EXTERIOR	OPAQUE	EXTERIOR	Exterior - Wood - PW_ThermalProtection_RigidInsulation_Gray_Matte_Generic	2	15	43
Reimagined	FURNITURE	CHAIRS	LAB		15	0	22
Reimagined	FURNITURE	CHAIRS	OFFICE		12	0	24
Reimagined	FURNITURE	SYSTEMS	OFFICE		9	0	26
Reimagined	INTERIOR	FLOOR FINISH	OFFICE		1	2	66
Reimagined	INTERIOR	PARTITIONS	LAB		15	48	391
Reimagined	SUPERSTRUCTURE	COLUMN	LAB		6	5	
Reimagined	SUPERSTRUCTURE	COLUMN	EXTERIOR	18" x 18"	4	4	

Low Carbon Labs												
Revit Quantity Data for all options and systems												
Design Option Category		Phase Created	Family	Type	Type Comments	LCA	LCA Category	LCA Subcategory	LCA Spacetype	LCA_VOLUME_M3	LCA_AREA_M2	LCA_AREA_COUNTER_M2
Baseline	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5		FH Mobile Combo Cabinet D- 18x28.5 metal	1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Baseline	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa		WIC1836 - 18"W x 36"H x 22"D metal	1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Baseline	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5		FH Mobile Combo Cabinet D- 18x28.5 metal	1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Baseline	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5		FH Mobile Combo Cabinet D- 18x28.5 metal	1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Baseline	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B,WSB36 metal			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Baseline	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5		FH Mobile Combo Cabinet D- 18x28.5 metal	1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Baseline	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa		WIC1836 - 18"W x 36"H x 22"D metal	1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Baseline	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5		FH Mobile Combo Cabinet D- 18x28.5 metal	1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Baseline	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa		WIC1836 - 18"W x 36"H x 22"D metal	1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Baseline	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5		FH Mobile Combo Cabinet D- 18x28.5 metal	1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Baseline	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa		WIC1836 - 18"W x 36"H x 22"D metal	1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Baseline	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa		WIC1836 - 18"W x 36"H x 22"D metal	1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Baseline	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa		WIC1836 - 18"W x 36"H x 22"D metal	1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Baseline	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa		WIC1836 - 18"W x 36"H x 22"D metal	1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Baseline	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5		FH Mobile Combo Cabinet D- 18x28.5 metal	1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Baseline	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5		FH Mobile Combo Cabinet D- 18x28.5 metal	1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Baseline	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5		FH Mobile Combo Cabinet D- 18x28.5 metal	1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Baseline	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B,WSB36 metal			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Baseline	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5		FH Mobile Combo Cabinet D- 18x28.5 metal	1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Baseline	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5		FH Mobile Combo Cabinet D- 18x28.5 metal	1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Baseline	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5		FH Mobile Combo Cabinet D- 18x28.5 metal	1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Baseline	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5		FH Mobile Combo Cabinet D- 18x28.5 metal	1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Baseline	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B,WSB36 metal			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Baseline	Casework	New Construction	123553 - COUNTERTOP - STRAIGHT		30" Deep x 36" High (Backsplash)	1	CASEWORK	COUNTERTOP	LAB	0.0194678	0.851610833	0.7896755
Baseline	Casework	New Construction	123553 - COUNTERTOP - STRAIGHT		30" Deep x 36" High (Backsplash)	1	CASEWORK	COUNTERTOP	LAB	0.0194678	0.851610833	0.7896755
Baseline	Casework	New Construction	123553 - COUNTERTOP - STRAIGHT		30" Deep x 36" High (Backsplash)	1	CASEWORK	COUNTERTOP	LAB	0.0778712	3.342572521	3.158702
Baseline	Casework	New Construction	123553 - COUNTERTOP - STRAIGHT		30" Deep x 36" High (Backsplash)	1	CASEWORK	COUNTERTOP	LAB	0.038474096	1.662247812	1.560630948
Baseline	Casework	New Construction	123553 - COUNTERTOP - STRAIGHT		30" Deep x 36" High (Backsplash)	1	CASEWORK	COUNTERTOP	LAB	0.0194678	0.851610833	0.7896755
Baseline	Casework	New Construction	123554_Lab Casework-Mobile Table		6'-0"	1	CASEWORK	MOBILE BENCH	LAB	0.058776205	2.798219005	
Baseline	Casework	New Construction	123554_Lab Casework-Mobile Table		6'-0"	1	CASEWORK	MOBILE BENCH	LAB	0.058776205	2.798219005	
Baseline	Casework	New Construction	123554_Lab Casework-Mobile Table		6'-0"	1	CASEWORK	MOBILE BENCH	LAB	0.058776205	2.798219005	
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	123553 - FH DISTINCTION - 6 FT		FH Distinction - 6 ft STAINLESS	1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Baseline	Casework	New Construction	1235									

Design Option	Category	Phase Created	Family	Type	Type Comments	LCA	LCA Category	LCA Subcategory	LCA Spacetype	LCA_VOLUME_M3	LCA_AREA_M2	LCA_AREA_COUNTER_M2
Baseline	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR		0	EQUIPMENT	OWNER EQUIPMEN' LAB		1.3167312	3.932248507	
Baseline	Specialty Equipment	New Construction	SE - Support - Vessels	Cylinder Generic 10x50		0	EQUIPMENT	OWNER EQUIPMEN' LAB		0.062472825	0.571017499	
Baseline	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR		0	EQUIPMENT	OWNER EQUIPMEN' LAB		1.3167312	3.932248507	
Baseline	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR		0	EQUIPMENT	OWNER EQUIPMEN' LAB		1.3167312	3.932248507	
Baseline	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR		0	EQUIPMENT	OWNER EQUIPMEN' LAB		1.3167312	3.932248507	
Baseline	Walls	New Construction	Basic Wall	Exterior - Terracotta - Air		1	EXTERIOR		EXTERIOR	6.083619903	15.328995	
Baseline	Walls	New Construction	Basic Wall	Exterior - Terracotta -		1	EXTERIOR		EXTERIOR	6.083619903	15.328995	
				PW_ThermalProtection_RigidInsulation_Gray_Matte	_Generic							
Baseline	Walls	New Construction	Basic Wall	Exterior - Terracotta -		1	EXTERIOR		EXTERIOR	5.807091726	14.6322225	
				PW_ThermalProtection_RigidInsulation_Gray_Matte	_Generic							
Baseline	Walls	New Construction	Basic Wall	Exterior - Terracotta - Concrete Masonry Units		1	EXTERIOR		EXTERIOR	5.807091726	14.6322225	
Baseline	Walls	New Construction	Basic Wall	Exterior - Terracotta -		1	EXTERIOR		EXTERIOR	5.807091726	14.6322225	
				PW_Plaster_GypsumBoard_Gray_Matte_GenericWa	ll							
Baseline	Walls	New Construction	Basic Wall	Exterior - Terracotta - Air		1	EXTERIOR		EXTERIOR	5.807091726	14.6322225	
				Exterior - Terracotta -								
Baseline	Walls	New Construction	Basic Wall	Exterior - Terracotta -		1	EXTERIOR		EXTERIOR	6.083619903	15.328995	
				PW_Plaster_GypsumBoard_Gray_Matte_GenericWa	ll							
Baseline	Walls	New Construction	Basic Wall	Exterior - Terracotta - Concrete Masonry Units		1	EXTERIOR		EXTERIOR	6.083619903	15.328995	
Baseline	Walls	New Construction	Curtain Wall	Kawneer - 1600 SSâ„¢ (Screw Spline) 2-1/2" x 7-1/2"		1	EXTERIOR	GLAZING	EXTERIOR		8.01288375	
Baseline	Walls	New Construction	Curtain Wall	Kawneer - 1600 SSâ„¢ (Screw Spline) 2-1/2" x 7-1/2"		1	EXTERIOR	GLAZING	EXTERIOR		8.01288375	
Baseline	Walls	New Construction	Curtain Wall	Kawneer - 1600 SSâ„¢ (Screw Spline) 2-1/2" x 7-1/2"		1	EXTERIOR	GLAZING	EXTERIOR		7.6644975	
Baseline	Walls	New Construction	Curtain Wall	Kawneer - 1600 SSâ„¢ (Screw Spline) 2-1/2" x 7-1/2"		1	EXTERIOR	GLAZING	EXTERIOR		7.6644975	
Baseline	Walls	New Construction	Basic Wall	Exterior - Terracotta - Exterior Cladding Terracotta		1	EXTERIOR	OPAQUE	EXTERIOR	6.083619903	15.328995	
Baseline	Walls	New Construction	Basic Wall	Exterior - Terracotta - Exterior Cladding Terracotta		1	EXTERIOR	OPAQUE	EXTERIOR	5.807091726	14.6322225	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms		1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Baseline	Furniture	New Construction	Coalesse_Kart_StoolOnCasters</									

Design Option Category		Phase Created	Family	Type	Type Comments	LCA	LCA Category	LCA Subcategory	LCA Spacetype	LCA_VOLUME_M3	LCA_AREA_M2	LCA_AREA_COUNTER_M2
Baseline	Ceilings	New Construction	Compound Ceiling	LAB CEILING - 1_ACT - PW_Ceiling_AcousticTile_White_LightGraySpeckles_24x24-Generic_APC2 (New)		1	INTERIOR		LAB	3.8254227	66.9366115	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Metal_Stud_Gray_Matte_Generic		1	INTERIOR		LAB	2.718341887	21.9537869	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR		LAB	3.774662284	30.48500655	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Metal_Stud_Gray_Matte_Generic		1	INTERIOR		LAB	0.991235483	8.005141833	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Metal_Stud_Gray_Matte_Generic		1	INTERIOR		LAB	3.774662284	30.48500655	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR		LAB	2.718341887	21.9537869	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR		LAB	0.991235483	8.005141833	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR		LAB	3.62280246	29.25859824	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR		LAB	3.590284785	28.99597791	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Metal_Stud_Gray_Matte_Generic		1	INTERIOR		LAB	3.590284785	28.99597791	
Baseline	Ceilings	New Construction	Compound Ceiling	WRITE UP - 1_GWB - PW_Plaster_GypsumBoard_Gray_Matte_GenericFor Ceilings		1	INTERIOR		OFFICE	7.171788808	66.43629014	
Baseline	Ceilings	New Construction	Compound Ceiling			1	INTERIOR	CEILING	LAB	3.8254227	66.9366115	
Baseline	Ceilings	New Construction	Compound Ceiling			1	INTERIOR	CEILING	LAB	2.547020362	44.56733956	
Baseline	Ceilings	New Construction	Compound Ceiling			1	INTERIOR	CEILING	OFFICE	7.171788808	66.43629014	
Baseline	Doors	New Construction	081113_Single HG with Leaf	Type F 96" x 84"		1	INTERIOR	DOORS	LAB	0.133150565	3.628196827	
Baseline	Doors	New Construction	081113_Single HG with Leaf	Type F 96" x 84"		1	INTERIOR	DOORS	LAB	0.133150565	3.628196827	
Baseline	Floors	New Construction	Floor	EPOXY COATING - FLOORING - EPOXY COATING		1	INTERIOR	FLOOR FINISH	LAB	0.356909667	112.41263	
Baseline	Floors	New Construction	Floor	WRITE UP - 1_BROADLOOM - WRITEUP - 1_BROADLOOM		1	INTERIOR	FLOOR FINISH	OFFICE	2.109349649	66.43629014	
Baseline	Walls	New Construction	Curtain Wall	GENERIC (Butt Glazed) 6"		1	INTERIOR	GLAZING	LAB		20.43866	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR	PARTITIONS	LAB	0.991235483	8.005141833	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR	PARTITIONS	LAB	3.62280246	29.25859824	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR	PARTITIONS	LAB	2.718341887	21.9537869	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR	PARTITIONS	LAB	3.590284785	28.99597791	
Baseline	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR	PARTITIONS	LAB	3.774662284	30.48500655	
Baseline	Structural Columns	New Construction	Concrete-Rectangular-Column	16 x 16		1	SUPERSTRUCTURE	COLUMN	LAB	0.536380496		
Baseline	Structural Columns	New Construction	Concrete-Rectangular-Column	16 x 16		1	SUPERSTRUCTURE	COLUMN	LAB	0.536380496		
Baseline	Structural Columns	New Construction	Concrete-Rectangular-Column	16 x 16		1	SUPERSTRUCTURE	COLUMN	LAB	0.536380496		
Baseline	Structural Columns	New Construction	Concrete-Rectangular-Column	16 x 16		1	SUPERSTRUCTURE	COLUMN	LAB	0.54862571		
Baseline	Structural Columns	New Construction	Concrete-Rectangular-Column	16 x 16		1	SUPERSTRUCTURE	COLUMN	LAB	0.536380496		
Baseline	Structural Columns	New Construction	Concrete-Rectangular-Column	16 x 16		1	SUPERSTRUCTURE	COLUMN	LAB	0.54862571		
Baseline	Structural Columns	New Construction	Concrete-Rectangular-Column	16 x 16		1	SUPERSTRUCTURE	COLUMN	OFFICE	0.552439793		
Baseline	Structural Columns	New Construction	Concrete-Rectangular-Column	16 x 16		1	SUPERSTRUCTURE	COLUMN	OFFICE	0.552439793		
Baseline	Floors	New Construction	Floor	Concrete 13" - Concrete_CastInPlace_Gray		1	SUPERSTRUCTURE	SLAB	LAB	36.72492316	111.2203748	
Baseline	Floors	New Construction	Floor	Concrete 8" - Concrete_CastInPlace_Gray		1	SUPERSTRUCTURE	SLAB	OFFICE	13.94759716	68.63983317	
Improved	Walls	New Construction	Basic Wall	Exterior - Swisspearl - Plywood	Sheathing	1		EXTERIOR			17.37555253	14.6322225
Improved	Walls	New Construction	Basic Wall	Exterior - Swisspearl - Plywood	Sheathing	1		EXTERIOR			17.37555253	14.6322225
Improved	Floors	New Construction	Floor	LW Concrete on Metal Deck - 6 1/2" - Concrete	Cast-in-Place gray	1		SUPERSTRUCTURE	SLAB		97.42427933	179.860208
Improved	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B,WSB36 wood				CASEWORK	CABINETS		0.108588701	4.125514166	
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	

Design Option Category		Phase Created	Family	Type	Type Comments	LCA	LCA Category	LCA Subcategory	LCA Spacetype	LCA_VOLUME_M3	LCA_AREA_M2	LCA_AREA_COUNTER_M2
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Improved	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa	WIC1836 - 18"W x 36"H x 22"D		1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Improved	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B,	WSB36 wood		1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Improved	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B,	WSB36 wood		1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Improved	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B,	WSB36 wood		1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Improved	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B,	WSB36 wood		1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Improved	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa	WIC1836 - 18"W x 36"H x 22"D		1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Improved	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa	WIC1836 - 18"W x 36"H x 22"D		1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Improved	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa	WIC1836 - 18"W x 36"H x 22"D		1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Improved	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa	WIC1836 - 18"W x 36"H x 22"D		1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Improved	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa	WIC1836 - 18"W x 36"H x 22"D		1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Improved	Casework	New Construction	123553_Casework-BaseCabinet-Wood-CombinationCa	WIC1836 - 18"W x 36"H x 22"D		1	CASEWORK	CABINETS	LAB	0.061181196	2.485341643	
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Improved	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Improved	Casework	New Construction	123553 - COUNTERTOP - STRAIGHT	30" Deep x 36" High (Backsplash)			CASEWORK	COUNTERTOP		0.0194678	0.851610833	0.7896755
Improved	Casework	New Construction	123553 - COUNTERTOP - STRAIGHT	30" Deep x 36" High (Backsplash)		1	CASEWORK	COUNTERTOP	LAB	0.038474096	1.662247812	1.560630948
Improved	Casework	New Construction	123553 - COUNTERTOP - STRAIGHT	30" Deep x 36" High (Backsplash)		1	CASEWORK	COUNTERTOP	LAB	0.0194678	0.851610833	0.7896755
Improved	Casework	New Construction	123553 - COUNTERTOP - STRAIGHT	30" Deep x 36" High (Backsplash)		1	CASEWORK	COUNTERTOP	LAB	0.0194678	0.851610833	0.7896755
Improved	Casework	New Construction	123553 - COUNTERTOP - STRAIGHT	30" Deep x 36" High (Backsplash)		1	CASEWORK	COUNTERTOP	LAB	0.0778712	3.342572521	3.158702
Improved	Casework	New Construction	123553 - FH DISTINCTION - 6 FT	FH Distinction - 6 ft STAINLESS		1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Improved	Casework	New Construction	123553 - FH DISTINCTION - 6 FT	FH Distinction - 6 ft STAINLESS		1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Improved	Casework	New Construction	123553 - FH DISTINCTION - 6 FT	FH Distinction - 6 ft STAINLESS		1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Improved	Casework	New Construction	123553 - FH DISTINCTION - 6 FT	FH Distinction - 6 ft STAINLESS		1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Improved	Casework	New Construction	123553 - FH DISTINCTION - 6 FT	FH Distinction - 6 ft STAINLESS		1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Improved	Casework	New Construction	123553 - FH DISTINCTION - 6 FT	FH Distinction - 6 ft STAINLESS		1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Improved	Casework	New Construction	123554_Lab Casework-Mobile Table	6'-0"		1	CASEWORK	MOBILE BENCH	LAB	0.058776205	2.798219005	
Improved	Casework	New Construction	123553 - FH DISTINCTION - 6 FT	FH Distinction - 6 ft STAINLESS		1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Improved	Casework	New Construction	123553 - FH DISTINCTION - 6 FT	FH Distinction - 6 ft STAINLESS		1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Improved	Casework	New Construction	123553 - FH DISTINCTION - 6 FT	FH Distinction - 6 ft STAINLESS		1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Improved	Casework	New Construction	123553 - FH DISTINCTION - 6 FT	FH Distinction - 6 ft STAINLESS		1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Improved	Casework	New Construction	123554_Lab Casework-Mobile Table	6'-0"		1	CASEWORK	MOBILE BENCH	LAB	0.058776205	2.798219005	
Improved	Casework	New Construction	123553 - FH DISTINCTION - 6 FT	FH Distinction - 6 ft STAINLESS		1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Improved	Casework	New Construction	123553 - FH DISTINCTION - 6 FT	FH Distinction - 6 ft STAINLESS		1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
Improved	Casework	New Construction	123554_Lab Casework-Mobile Table	6'-0"		1	CASEWORK	MOBILE BENCH	LAB	0.058776205	2.798219005	
Improved	Casework	New Construction	123553 - FH DISTINCTION - 6 FT	FH Distinction - 6 ft STAINLESS		1	CASEWORK	MOBILE BENCH	LAB	0.094244767	5.247662002	1.393545
115313 - FUME HOOD - VERTICAL SLIDING SASH (STAND ALONE)						1	EQUIPMENT	FUMEHOOD	LAB	1.822942956	15.76786965	
Improved	Specialty Equipment	New Construction	115313 - FUME HOOD - VERTICAL SLIDING SASH (STAND	01-REFRIGERATOR		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.3167312	3.932248507	
Improved	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.3167312	3.932248507	
Improved	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.3167312	3.932248507	
Improved	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.3167312	3.932248507	
Improved	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.3167312	3.932248507	
Improved	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.3167312	3.932248507	
M2055 - Shelving Storage Wire CRS w Adjustable Shelv						0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.112926445	6.562888053	
Improved	Specialty Equipment	New Construction	M2055 - Shelving Storage Wire CRS w Adjustable Shelv	Shelves		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.112926445	6.562888053	
M2055 - Shelving Storage Wire CRS w Adjustable Shelv						0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.112926445	6.562888053	
Improved	Specialty Equipment	New Construction	M2055 - Shelving Storage Wire CRS w Adjustable Shelv	Shelves		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.112926445	6.562888053	
Improved	Specialty Equipment	New Construction	SE - Support - Vessels	Cylinder Generic 10x50		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	0.062472825	0.571017499	
Improved	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.3167312	3.932248507	
Improved	Specialty Equipment	New Construction	SE - Support - Vessels	Cylinder Generic 10x50		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	0.062472825	0.571017499	
M2055 - Shelving Storage Wire CRS w Adjustable Shelv						0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.112926445	6.562888053	
Improved	Specialty Equipment	New Construction	M2055 - Shelving Storage Wire CRS w Adjustable Shelv	Shelves		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.112926445	6.562888053	
Improved	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.3167312	3.932248507	
M2055 - Shelving Storage Wire CRS w Adjustable Shelv						0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.112926445	6.562888053	
Improved	Specialty Equipment	New Construction	M2055 - Shelving Storage Wire CRS w Adjustable Shelv	Shelves		0	EQUIPMENT	OWNER EQUIPMEN`	LAB	1.112926445	6.562888053	

Design	Option	Category	Phase Created	Family	Type	Type Comments	LCA	LCA Category	LCA Subcategory	LCA Spacetype	LCA_VOLUME_M3	LCA_AREA_M2	LCA_AREA_COUNTER_M2
Improved		Walls	New Construction	Basic Wall	Exterior - Swisspearl - Air		1	EXTERIOR		EXTERIOR	5.296061976	14.6322225	
					Exterior - Swisspearl - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall		1	EXTERIOR		EXTERIOR	5.296061976	14.6322225	
Improved		Walls	New Construction	Basic Wall	Exterior - Swisspearl - PW_Metal_Stud_Gray_Matte_Generic		1	EXTERIOR		EXTERIOR	5.296061976	14.6322225	
					Exterior - Swisspearl - PW_ThermalProtection_RigidInsulation_Gray_Matte_Generic		1	EXTERIOR		EXTERIOR	5.296061976	14.6322225	
Improved		Walls	New Construction	Basic Wall	Exterior - Swisspearl - Air		1	EXTERIOR		EXTERIOR	5.296061976	14.6322225	
					Exterior - Swisspearl - PW_ThermalProtection_RigidInsulation_Gray_Matte_Generic		1	EXTERIOR		EXTERIOR	5.296061976	14.6322225	
Improved		Walls	New Construction	Basic Wall	Exterior - Swisspearl - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall		1	EXTERIOR		EXTERIOR	5.296061976	14.6322225	
					Exterior - Swisspearl - PW_Metal_Stud_Gray_Matte_Generic		1	EXTERIOR		EXTERIOR	5.296061976	14.6322225	
Improved		Walls	New Construction	Curtain Wall	Kawneer - 1600 SSö,(Screw Spline) 2-1/2" x 7-1/2"		1	EXTERIOR	GLAZING	EXTERIOR		8.01288375	
					Kawneer - 1600 SSö,(Screw Spline) 2-1/2" x 7-1/2"		1	EXTERIOR	GLAZING	EXTERIOR		8.01288375	
Improved		Walls	New Construction	Curtain Wall	Kawneer - 1600 SSö,(Screw Spline) 2-1/2" x 7-1/2"		1	EXTERIOR	GLAZING	EXTERIOR		8.01288375	
					Kawneer - 1600 SSö,(Screw Spline) 2-1/2" x 7-1/2"		1	EXTERIOR	GLAZING	EXTERIOR		8.01288375	
Improved		Walls	New Construction	Basic Wall	Exterior - Swisspearl - Exterior Cladding Swisspearl		1	EXTERIOR	OPAQUE	EXTERIOR	5.296061976	14.6322225	
					Exterior - Swisspearl - Exterior Cladding Swisspearl		1	EXTERIOR	OPAQUE	EXTERIOR	5.296061976	14.6322225	
Improved	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Improved	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Improved	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Improved	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Improved	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Improved	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Improved	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Improved	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms			1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	

Design Option Category		Phase Created	Family	Type	Type Comments	LCA	LCA Category	LCA Subcategory	LCA Spacetype	LCA_VOLUME_M3	LCA_AREA_M2	LCA_AREA_COUNTER_M2
Improved	Ceilings	New Construction	Compound Ceiling	LAB CEILING - 1_ACT - PW_Ceiling_AcousticTile_White_LightGraySpeckles_24x24-Generic_APC2 (New)		1	INTERIOR		LAB	2.547020362	44.56733956	
Improved	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Metal_Stud_Gray_Matte_Generic		1	INTERIOR		LAB	3.774662284	30.48500655	
Improved	Ceilings	New Construction	Compound Ceiling	LAB CEILING - 1_ACT - PW_Ceiling_AcousticTile_White_LightGraySpeckles_24x24-Generic_APC2 (New)		1	INTERIOR		LAB	3.8254227	66.9366115	
Improved	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Metal_Stud_Gray_Matte_Generic		1	INTERIOR		LAB	3.774662284	30.48500655	
Improved	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Metal_Stud_Gray_Matte_Generic		1	INTERIOR		LAB	1.83767818	14.84125425	
Improved	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR		LAB	3.774662284	30.48500655	
Improved	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR		LAB	1.83767818	14.84125425	
Improved	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Metal_Stud_Gray_Matte_Generic		1	INTERIOR		LAB	2.866001844	23.14627741	
Improved	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR		LAB	2.866001844	23.14627741	
Improved	Ceilings	New Construction	Compound Ceiling	WRITE UP - 1_GWB - PW_Plaster_GypsumBoard_Gray_Matte_GenericFor Ceilings		1	INTERIOR		OFFICE	7.171788808	66.43629014	
Improved	Ceilings	New Construction	Compound Ceiling			1	INTERIOR	CEILING	LAB	2.547020362	44.56733956	
Improved	Ceilings	New Construction	Compound Ceiling			1	INTERIOR	CEILING	LAB	3.8254227	66.9366115	
Improved	Ceilings	New Construction	Compound Ceiling			1	INTERIOR	CEILING	OFFICE	7.171788808	66.43629014	
Improved	Doors	New Construction	081113_Single HG with Leaf	Type F 96" x 84"		1	INTERIOR	DOORS	LAB	0.133150565	3.628196827	
Improved	Doors	New Construction	081113_Single HG with Leaf	Type F 96" x 84"		1	INTERIOR	DOORS	LAB	0.133150565	3.628196827	
Improved	Floors	New Construction	Floor	EPOXY COATING - FLOORING - EPOXY COATING		1	INTERIOR	FLOOR FINISH	LAB	0.357991211	112.7532743	
Improved	Floors	New Construction	Floor	WRITE UP - 1_BROADLOOM - WRITEUP - 1_BROADLOOM		1	INTERIOR	FLOOR FINISH	OFFICE	2.120165094	66.77693447	
Improved	Walls	New Construction	Curtain Wall	GENERIC (Butt Glazed) 6"		1	INTERIOR	GLAZING	LAB		14.70964167	
Improved	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR	PARTITIONS	LAB	2.866001844	23.14627741	
Improved	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR	PARTITIONS	LAB	3.740781541	30.21137818	
Improved	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR	PARTITIONS	LAB	1.83767818	14.84125425	
Improved	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR	PARTITIONS	LAB	3.774662284	30.48500655	
Improved	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll		1	INTERIOR	PARTITIONS	LAB	3.774662284	30.48500655	
Improved	Floors	New Construction	Floor	LW Concrete on Metal Deck - 6 1/2" - PW_Metal_AluminumDeck_DarkBronze_Anodized_ GrayShading_MRK		1	SUPERSTRUCTURE		OFFICE	29.69488427	179.860208	
Improved	Structural Framing	New Construction	W-Wide Flange	W24X84		1	SUPERSTRUCTURE	BEAM	LAB	0.10194353		
Improved	Structural Framing	New Construction	W-Wide Flange	W24X84		1	SUPERSTRUCTURE	BEAM	LAB	0.262914603		
Improved	Structural Framing	New Construction	W-Wide Flange	W24X84		1	SUPERSTRUCTURE	BEAM	LAB	0.25527225		
Improved	Structural Framing	New Construction	W-Wide Flange	W24X84		1	SUPERSTRUCTURE	BEAM	LAB	0.10194353		
Improved	Structural Framing	New Construction	W-Wide Flange	W24X84		1	SUPERSTRUCTURE	BEAM	LAB	0.10194353		
Improved	Structural Framing	New Construction	W-Wide Flange	W24X84		1	SUPERSTRUCTURE	BEAM	LAB	0.262914603		
Improved	Structural Framing	New Construction	W-Wide Flange	W16X31		1	SUPERSTRUCTURE	BEAM	OFFICE	0.057274591		
Improved	Structural Framing	New Construction	W-Wide Flange	W16X31		1	SUPERSTRUCTURE	BEAM	OFFICE	0.057274591		
Improved	Structural Framing	New Construction	W-Wide Flange	W18X40		1	SUPERSTRUCTURE	BEAM	OFFICE	0.05030804		
Improved	Structural Framing	New Construction	W-Wide Flange	W16X31		1	SUPERSTRUCTURE	BEAM	OFFICE	0.057274591		
Improved	Structural Columns	New Construction	W-Wide Flange-Column	W14X90		1	SUPERSTRUCTURE	COLUMN	LAB	0.074277887		
Improved	Structural Columns	New Construction	W-Wide Flange-Column	W14X90		1	SUPERSTRUCTURE	COLUMN	LAB	0.074277887		
Improved	Structural Columns	New Construction	W-Wide Flange-Column	W14X90		1	SUPERSTRUCTURE	COLUMN	LAB	0.074277887		
Improved	Structural Columns	New Construction	W-Wide Flange-Column	W14X90		1	SUPERSTRUCTURE	COLUMN	LAB	0.074277887		
Improved	Structural Columns	New Construction	W-Wide Flange-Column	W14X90		1	SUPERSTRUCTURE	COLUMN	LAB	0.074277887		

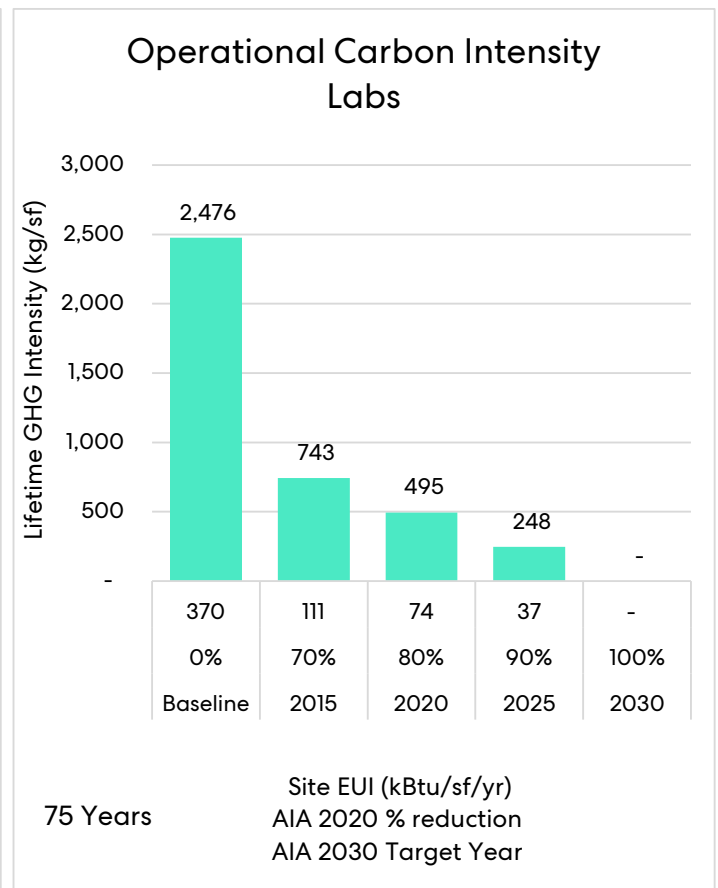
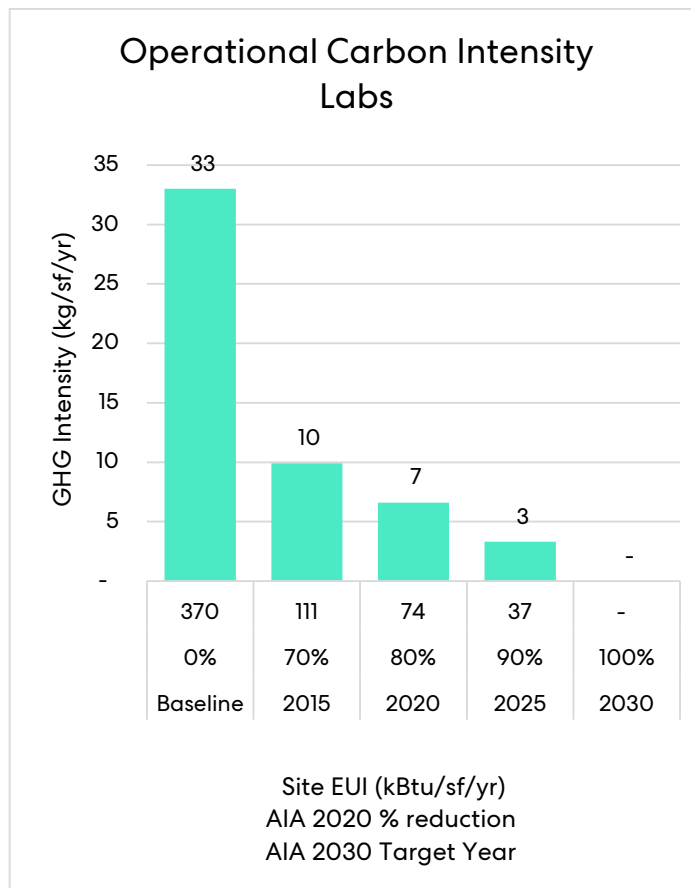
Design Option	Category	Phase Created	Family	Type	Type Comments	LCA	LCA Category	LCA Subcategory	LCA Spacetype	LCA_VOLUME_M3	LCA_AREA_M2	LCA_AREA_COUNTER_M2
Improved	Structural Columns	New Construction	W-Wide Flange-Column	W14X90		1	SUPERSTRUCTURE	COLUMN	LAB	0.074277887		
Improved	Structural Columns	New Construction	W-Wide Flange-Column	W14X90		1	SUPERSTRUCTURE	COLUMN	OFFICE	0.074277887		
Improved	Structural Columns	New Construction	W-Wide Flange-Column	W14X90		1	SUPERSTRUCTURE	COLUMN	OFFICE	0.074277887		
Reimagined	Floors	New Construction	Floor	CLT 7 PLY 9-5/8" - Softwood	Lumber			SUPERSTRUCTURE	SLAB		144.2628752	179.860208
Reimagined	Walls	New Construction	Basic Wall	Exterior - Wood - Plywood	Sheathing		1	EXTERIOR			26.89062012	22.64510625
Reimagined	Walls	New Construction	Basic Wall	Exterior - Wood - Plywood	Sheathing		1	EXTERIOR			23.71885364	19.974145
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood				CASEWORK	CABINETS		0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimagined	Casework	New Construction	123553 - CASEWORK - BASE CABINET - WOOD - SINK B/WSB36 wood			1	CASEWORK	CABINETS	LAB	0.108588701	4.125514166	
Reimagined	Casework	New Construction	123553 - FH MOBILE - COMBO CABINET D - 18X28.5	FH Mobile Combo Cabinet D- 18x28.5 wood		1	CASEWORK	CABINETS	LAB	0.168799694	1.293698096	
Reimag												

Design Option Category	Phase Created	Family	Type	Type Comments	LCA	LCA Category	LCA Subcategory	LCA Spacetype	LCA_VOLUME_M3	LCA_AREA_M2	LCA_AREA_COUNTER_M2
Reimagined	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR	0	EQUIPMENT	OWNER EQUIPMEN` LAB		1.3167312	3.932248507	
Reimagined	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR	0	EQUIPMENT	OWNER EQUIPMEN` LAB		1.3167312	3.932248507	
Reimagined	Specialty Equipment	New Construction	M2055 - Shelving Storage Wire CRS w Adjustable Shelv	M2055 - Shelving Storage Wire CRS w Adjustable Shelves	0	EQUIPMENT	OWNER EQUIPMEN` LAB		1.112926445	6.562888053	
				M2055 - Shelving Storage Wire CRS w Adjustable Shelves	0	EQUIPMENT	OWNER EQUIPMEN` LAB		1.112926445	6.562888053	
Reimagined	Specialty Equipment	New Construction	M2055 - Shelving Storage Wire CRS w Adjustable Shelv	01-REFRIGERATOR	0	EQUIPMENT	OWNER EQUIPMEN` LAB		1.3167312	3.932248507	
Reimagined	Specialty Equipment	New Construction	Lab Equipment Matrix	01-REFRIGERATOR	0	EQUIPMENT	OWNER EQUIPMEN` LAB		1.3167312	3.932248507	
Reimagined	Walls	New Construction	Basic Wall	Exterior - Wood - Laminated Veneer Lumber	1	EXTERIOR		EXTERIOR	7.229497807	19.974145	
Reimagined	Walls	New Construction	Basic Wall	Exterior - Wood - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll	1	EXTERIOR		EXTERIOR	7.229497807	19.974145	
				Exterior - Wood - Air	1	EXTERIOR		EXTERIOR	7.229497807	19.974145	
Reimagined	Walls	New Construction	Basic Wall	Exterior - Wood - PW_ThermalProtection_RigidInsulation_Gray_Matte _Generic	1	EXTERIOR		EXTERIOR	7.229497807	19.974145	
				Exterior - Wood - Air	1	EXTERIOR		EXTERIOR	8.196251057	22.64510625	
Reimagined	Walls	New Construction	Basic Wall	Exterior - Wood - PW_Plaster_GypsumBoard_Gray_Matte_GenericWa ll	1	EXTERIOR		EXTERIOR	8.196251057	22.64510625	
				Exterior - Wood - Laminated Veneer Lumber	1	EXTERIOR		EXTERIOR	8.196251057	22.64510625	
Reimagined	Walls	New Construction	Basic Wall	Exterior - Wood - PW_ThermalProtection_RigidInsulation_Gray_Matte _Generic	1	EXTERIOR		EXTERIOR	8.196251057	22.64510625	
				Kawneer - 1600 SSâ„† (Screw Spline) 2-1/2" x 7-1/2"	1	EXTERIOR	GLAZING	EXTERIOR		5.3419225	
Reimagined	Walls	New Construction	Curtain Wall	Kawneer - 1600 SSâ„† (Screw Spline) 2-1/2" x 7-1/2"	1	EXTERIOR	GLAZING	EXTERIOR		5.3419225	
Reimagined	Walls	New Construction	Curtain Wall	Kawneer - 1600 SSâ„† (Screw Spline) 2-1/2" x 7-1/2"	1	EXTERIOR	GLAZING	EXTERIOR		4.006441875	
Reimagined	Walls	New Construction	Curtain Wall	Kawneer - 1600 SSâ„† (Screw Spline) 2-1/2" x 7-1/2"	1	EXTERIOR	GLAZING	EXTERIOR		4.006441875	
Reimagined	Walls	New Construction	Basic Wall	Exterior - Wood - Exterior Cladding Wood	1	EXTERIOR	OPAQUE	EXTERIOR	7.229497807	19.974145	
Reimagined	Walls	New Construction	Basic Wall	Exterior - Wood - Exterior Cladding Wood	1	EXTERIOR	OPAQUE	EXTERIOR	8.196251057	22.64510625	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.013428797	1.458204617	
Reimagined	Furniture	New Construction	Coalesse_Kart_StoolOnCasters	Non-Upholstered wo/Arms	1	FURNITURE	CHAIRS	LAB	0.		

Design Option Category		Phase Created	Family	Type	Type Comments	LCA	LCA Category	LCA Subcategory	LCA Spacetype	LCA_VOLUME_M3	LCA_AREA_M2	LCA_AREA_COUNTER_M2
Reimagined	Ceilings	New Construction	Compound Ceiling	LAB CEILING - 1_ACT - PW_Ceiling_AcousticTile_White_LightGraySpeckles_24x24-Generic_APC2 (New)			INTERIOR			2.547020362	44.56733956	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Metal_Stud_Gray_Matte_Generic		1	INTERIOR		LAB	2.417858154	19.52704931	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Metal_Stud_Gray_Matte_Generic		1	INTERIOR		LAB	2.726252242	22.01767032	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall		1	INTERIOR		LAB	3.598347112	29.06108864	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall		1	INTERIOR		LAB	2.417858154	19.52704931	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall		1	INTERIOR		LAB	3.774662284	30.48500655	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Metal_Stud_Gray_Matte_Generic		1	INTERIOR		LAB	3.774662284	30.48500655	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Metal_Stud_Gray_Matte_Generic		1	INTERIOR		LAB	3.598347112	29.06108864	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Metal_Stud_Gray_Matte_Generic		1	INTERIOR		LAB	3.630937808	29.32429869	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall		1	INTERIOR		LAB	3.630937808	29.32429869	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall		1	INTERIOR		LAB	2.726252242	22.01767032	
Reimagined	Ceilings	New Construction	Compound Ceiling				INTERIOR	CEILING		2.547020362	44.56733956	
Reimagined	Doors	New Construction	081113_Single HG with Leaf	Type F 96" x 84"		1	INTERIOR	DOORS	LAB	0.133150565	3.628196827	
Reimagined	Doors	New Construction	081113_Single HG with Leaf	Type F 96" x 84"		1	INTERIOR	DOORS	LAB	0.133150565	3.628196827	
Reimagined	Floors	New Construction	Floor	EPOXY COATING - FLOORING - EPOXY COATING			INTERIOR	FLOOR FINISH		0.356909667	112.41263	
Reimagined	Floors	New Construction	Floor	WRITE UP - 2_CARPET TILE - WRITEUP_2-CARPET TILE		1	INTERIOR	FLOOR FINISH	OFFICE	2.109349649	66.43629014	
Reimagined	Walls	New Construction	Curtain Wall	GENERIC (Butt Glazed) 6"		1	INTERIOR	GLAZING	LAB		4.490311667	
Reimagined	Walls	New Construction	Curtain Wall	GENERIC (Butt Glazed) 6"		1	INTERIOR	GLAZING	LAB		4.490311667	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall		1	INTERIOR	PARTITIONS	LAB	2.726252242	22.01767032	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall		1	INTERIOR	PARTITIONS	LAB	3.630937808	29.32429869	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall		1	INTERIOR	PARTITIONS	LAB	3.774662284	30.48500655	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall		1	INTERIOR	PARTITIONS	LAB	3.598347112	29.06108864	
Reimagined	Walls	New Construction	Basic Wall	Interior Wall - Tally - PW_Plaster_GypsumBoard_Gray_Matte_GenericWall		1	INTERIOR	PARTITIONS	LAB	2.417858154	19.52704931	
Reimagined	Structural Framing	New Construction	Glulam-Western Species	4'-4" x 1'-1 5/8"			SUPERSTRUCTURE	BEAM		3.065096956		
Reimagined	Structural Framing	New Construction	Glulam-Western Species	4'-4" x 1'-1 5/8"			SUPERSTRUCTURE	BEAM		4.439456244		
Reimagined	Structural Framing	New Construction	Glulam-Western Species	4'-4" x 1'-1 5/8"			SUPERSTRUCTURE	BEAM		3.065096956		
Reimagined	Structural Framing	New Construction	Glulam-Western Species	11.5" x 27.5"			SUPERSTRUCTURE	BEAM		1.362971322		
Reimagined	Structural Framing	New Construction	Glulam-Western Species	4'-4" x 1'-1 5/8"			SUPERSTRUCTURE	BEAM		2.744364746		
Reimagined	Structural Framing	New Construction	Glulam-Western Species	4'-4" x 1'-1 5/8"			SUPERSTRUCTURE	BEAM		2.744364746		
Reimagined	Structural Framing	New Construction	Glulam-Western Species	4'-4" x 1'-1 5/8"			SUPERSTRUCTURE	BEAM		2.744364746		
Reimagined	Structural Framing	New Construction	Glulam-Western Species	4'-4" x 1'-1 5/8"			SUPERSTRUCTURE	BEAM		2.919969259		
Reimagined	Structural Framing	New Construction	Glulam-Western Species	4'-4" x 1'-1 5/8"			SUPERSTRUCTURE	BEAM		2.89529755		
Reimagined	Structural Framing	New Construction	Glulam-Western Species	4'-4" x 1'-1 5/8"			SUPERSTRUCTURE	BEAM		4.439456244		
Reimagined	Structural Framing	New Construction	Glulam-Western Species	4'-4" x 1'-1 5/8"			SUPERSTRUCTURE	BEAM		4.439456244		
Reimagined	Structural Framing	New Construction	Glulam-Western Species	11.5" x 27.5"			SUPERSTRUCTURE	BEAM		1.987126678		
Reimagined	Structural Framing	New Construction	Glulam-Western Species	11.5" x 27.5"			SUPERSTRUCTURE	BEAM		1.987126678		
Reimagined	Structural Framing	New Construction	Glulam-Western Species	11.5" x 27.5"			SUPERSTRUCTURE	BEAM		1.987126678		
Reimagined	Structural Columns	New Construction	Parallel Strand Lumber	18" x 18"		1	SUPERSTRUCTURE	COLUMN	EXTERIOR	0.8893245		
Reimagined	Structural Columns	New Construction	Parallel Strand Lumber	18" x 18"		1	SUPERSTRUCTURE	COLUMN	EXTERIOR	0.8893245		
Reimagined	Structural Columns	New Construction	Parallel Strand Lumber	18" x 18"		1	SUPERSTRUCTURE	COLUMN	EXTERIOR	0.8893245		

Design Option Category		Phase Created	Family	Type	Type Comments	LCA	LCA Category	LCA Subcategory	LCA Spacetype	LCA_VOLUME_M3	LCA_AREA_M2	LCA_AREA_COUNTER_M2
Reimagined	Structural Columns	New Construction	Parallel Strand Lumber	18" x 18"		1	SUPERSTRUCTURE	COLUMN	EXTERIOR	0.8893245		
Reimagined	Structural Columns	New Construction	Parallel Strand Lumber	18" x 18"		1	SUPERSTRUCTURE	COLUMN	LAB	0.8893245		
Reimagined	Structural Columns	New Construction	Parallel Strand Lumber	18" x 18"		1	SUPERSTRUCTURE	COLUMN	LAB	0.8893245		
Reimagined	Structural Columns	New Construction	Parallel Strand Lumber	18" x 18"		1	SUPERSTRUCTURE	COLUMN	LAB	0.8893245		
Reimagined	Structural Columns	New Construction	Parallel Strand Lumber	18" x 18"		1	SUPERSTRUCTURE	COLUMN	LAB	0.8893245		
Reimagined	Structural Columns	New Construction	Parallel Strand Lumber	18" x 18"		1	SUPERSTRUCTURE	COLUMN	LAB	0.8893245		
Reimagined	Structural Columns	New Construction	Parallel Strand Lumber	18" x 18"		1	SUPERSTRUCTURE	COLUMN	LAB	0.8893245		
Reimagined	Floors	New Construction	Floor	Concrete 2" - Concrete_CastInPlace_Gray			SUPERSTRUCTURE	SLAB		9.136887467	179.860208	

AIA 2030 Target Year	AIA 2020 % reduction	Site EUI (kBtu/sf/yr)	Lifetime EUI (kBtu/sf)	GHG Intensity (kg/sf/yr)	Lifetime GHG Intensity (kg/sf)
Baseline	0%	370	27,750	33	2,476
2015	70%	111	8,325	10	743
2020	80%	74	5,550	7	495
2025	90%	37	2,775	3	248
2030	100%	-	-	-	-

AIA 2030 Design Data ExchangeDDx Support Page: <https://transform.aia.org/confluence/pages/viewpage.action?pageId=81756799>US National Avg EUI Laboratories **370** kBtu/sf/yr**Energy Star Portfolio Manager**Emissions Factors <https://portfoliomanager.energystar.gov/pdf/reference/Emissions.pdf?dee6-4951>Indirect GHG Factors - US Electricity **0.1182** kg CO₂e / kBtu**I2SL Lab Benchmarking tool (LBT)**Analysis <https://lbt.i2sl.org/buildings/charts>Avg GHG/EUI **0.1935** kg CO₂e / kBtu**I2SL LAB BENCHMARKING TOOL**

