

# THE CARBON REPORT CARD

MODELED GLOBAL WARMING POTENTIAL ESTIMATES

LAST UPDATED MAY 2023



PROJECT INFORMATION	INPUTS	UNITS / DEFINITION
Project Name	HARKA ARCHITECTURE OFFICE	
Client		
Renovation/Remodel?	Yes	
Location & Size		
Address		
City		
State		
Zip Code		
Climate Zone	Marine	
Project Type		
Project Type	New construction	
Assumed Building Life:		60 years
Number of Stories		1
Estiamted Area		678 GSF
Site Area		SF

## Embodied Carbon Estimates

Baseline GWP per sf	20	kgCO2e/sf
Reduction Achieved	26%	
Modeled GWP per sf	14.9	kgCO2e/sf
Embodied Carbon impact of baseline	15,985	kgCO2e
Embodied Carbon impact of the retrofit	8,315	kgCO2e

### Emission Equivalents: Putting "carbon" into perspective

The Harka Office retrofit and installed solar system have contributed emissions into the atmosphere equivalent to...

The carbon dioxide absorbed by___ acres of forests sequestering CO2 for one year	91.7
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According to the EU's Emissions Trading System, you would need to purchase ___ dollars in carbon offsets.	\$ 4,878
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Driving ___ miles in a car	129,680
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The Harka Office has saved emissions from entering into the atmosphere equivalent to...

The carbon dioxide absorbed by___ acres of forests sequestering CO2 for one year	13
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According to the EU's Emissions Trading System, you would need to purchase ___ dollars in carbon offsets.	\$ 716
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## Operational Carbon Estimates

### Energy Use Intensity (EUI) - kBtus/sf/yr

HVAC System	Heat Pump / Mini Split
Baseline EUI	75.5 kBtu/sf/yr
Reduction Achieved	78%
Goal EUI	17 kBtu/sf/yr
Baseline carbon impact per year	6,100 kgCO2e/yr
Goal carbon impact per year	1,306 kgCO2e/yr
Estimated kwh saved per year	7,999 kwh/yr
Estimated carbon impact saved per year	4,197 kgCO2e/yr

### Emission Equivalents: Putting "carbon" into perspective

Each year will have estimated to contribute emissions into the atmosphere equivalent to...

The carbon dioxide absorbed by___ acres of forests sequestering CO2 for one year	2.3
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According to the EU's Emissions Trading System, you would need to purchase ___ dollars in carbon offsets.	\$ 121.92
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Driving ___ miles in a car	3241
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If we meet our operational carbon goal, each year you will save emissions from entering into the atmosphere equivalent to...

The carbon dioxide absorbed by___ acres of forests sequestering CO2 for one year	7.4
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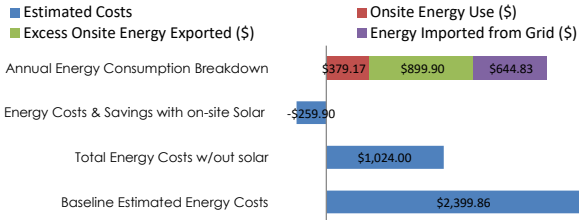
According to the EU's Emissions Trading System, you would need to purchase ___ dollars in carbon offsets.	\$ 391.73
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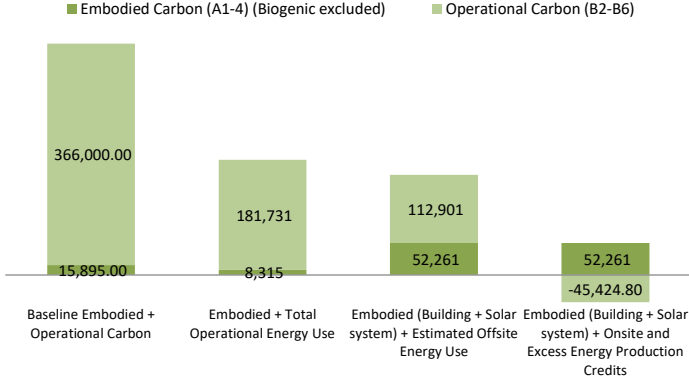
Approximate area(sf) of solar panels needed to be net zero	376
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### Annual Energy Use/Costs



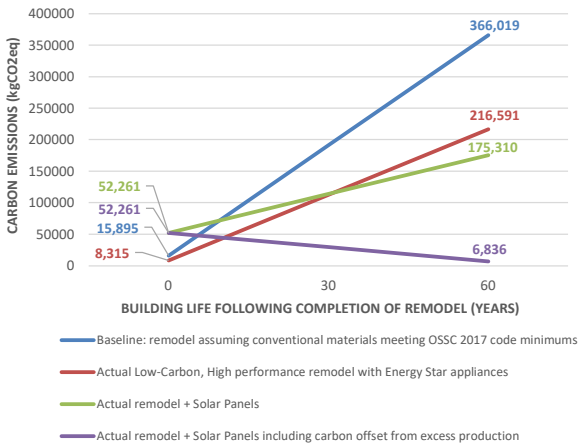
### Embodied + Operational Carbon (kgCO2eq)



## LIFE CYCLE ANALYSIS ESTIMATES

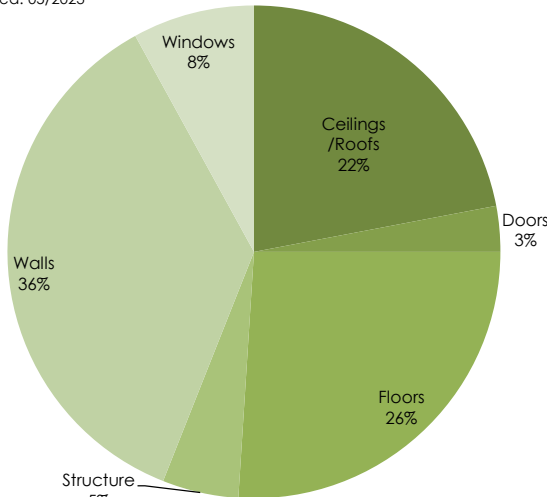
The graph above compares the embodied carbon emissions of LCA stages A1-A3 and carbon emissions of assumed operational energy from data compiled energy modeling. Baseline data assumed using data collected from CLF Benchmark Study V1. Last edited: 03/2024

### Embodied + Operational Carbon Over Building Life (kgCO2eq)



## ACCOUNTING CARBON EMISSIONS OVER THE BUILDING LIFE

The graph above shows the estimated carbon emissions of the Harka Office Building over its estimated building life from LCA stages A1-B6. Results were calculated using Tally and eQuest energy modeling. Last edited: 05/2023



## PRIMARY MATERIAL CATEGORIES CONTRIBUTING TO EMBODIED CARBON EMISSIONS

The graph above shows the main materials contributing to embodied carbon emissions of LCA stages A1-A3 for Harka Office Building Retrofit. Results were found using Tally Impact Estimator Last edited: 05/2023