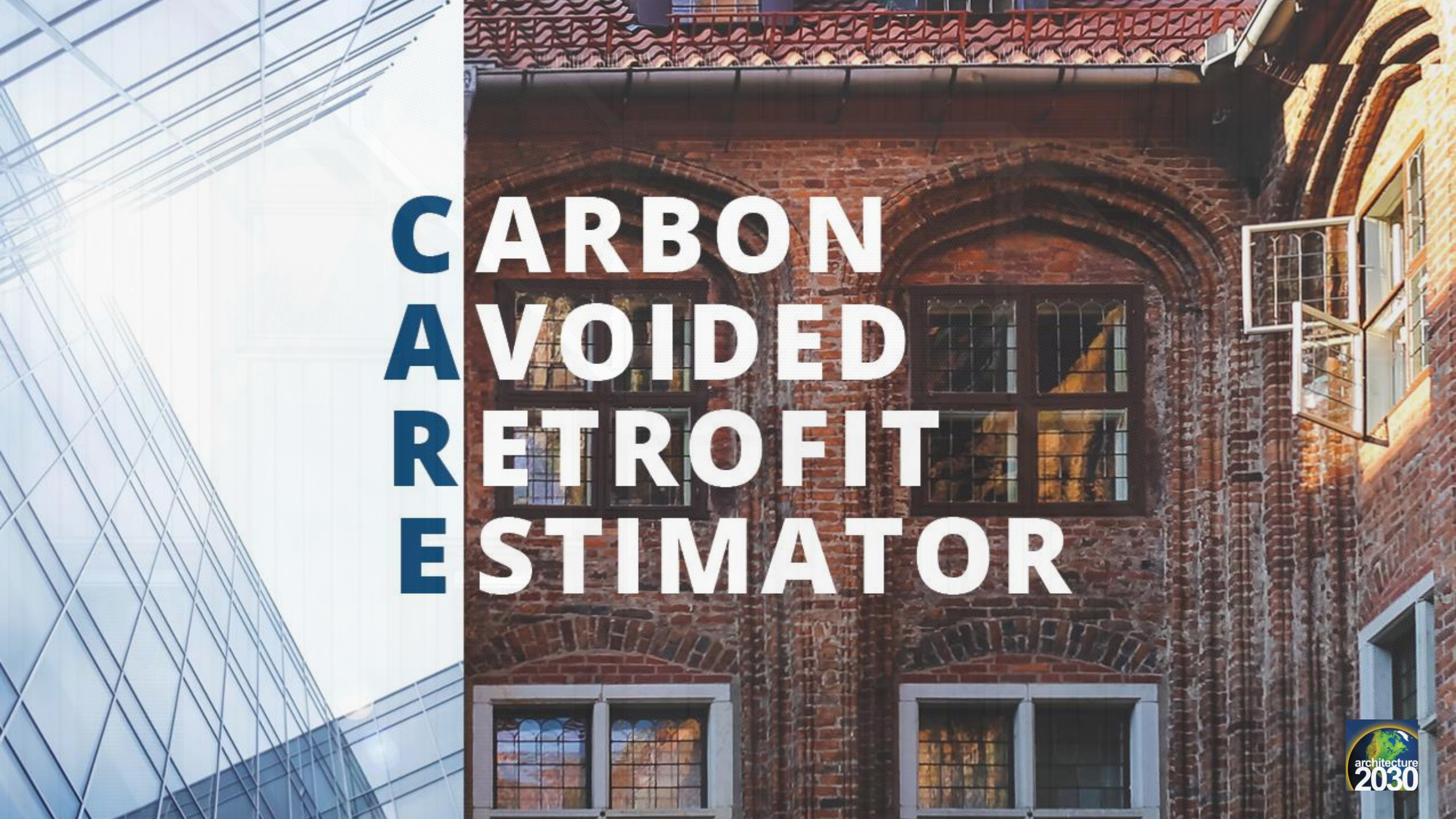
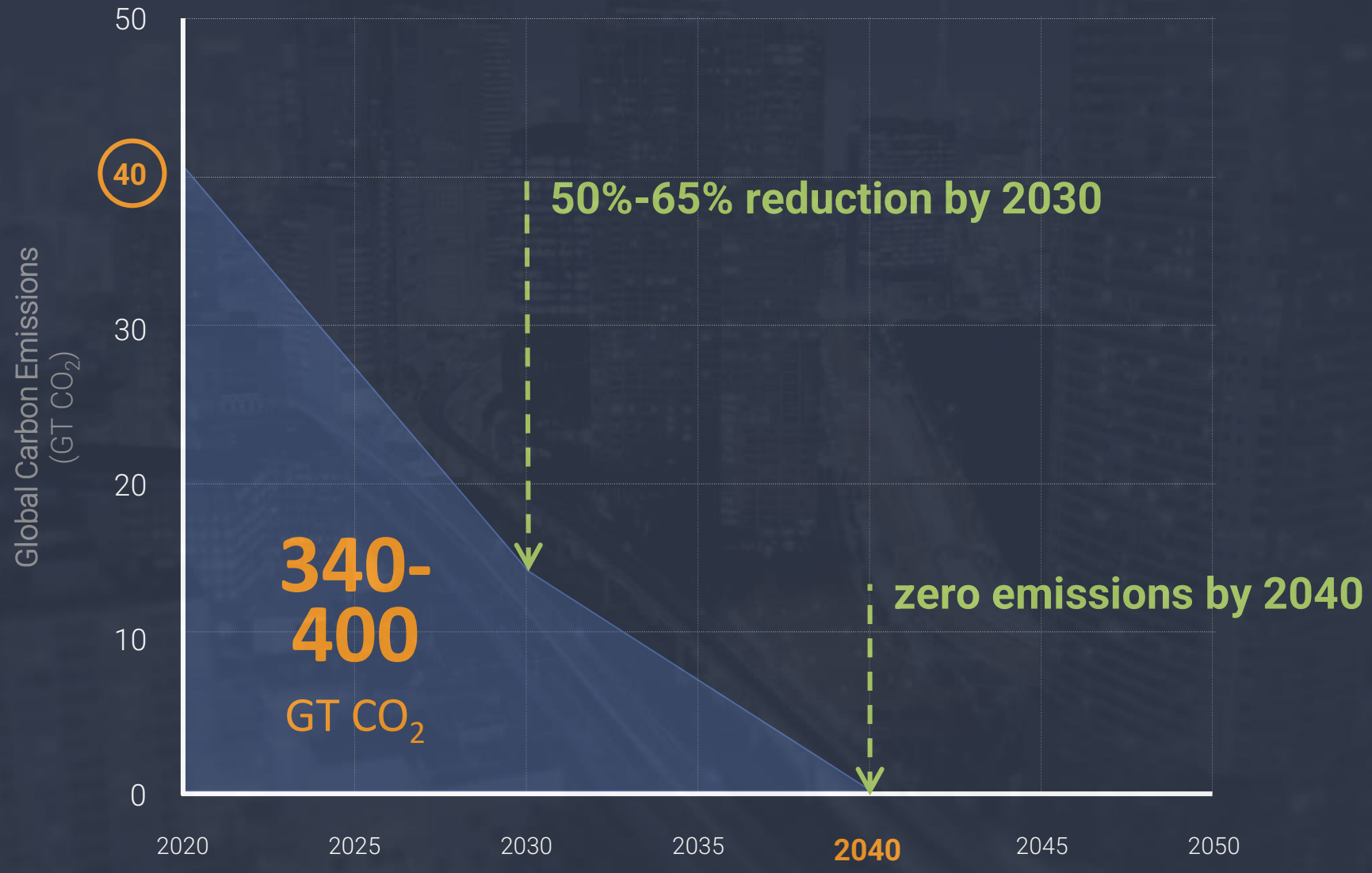

CARBON
AVOIDED
RETROFIT
ESTIMATOR
architecture
2030

the case for
BUILDING REUSE

GLOBAL CARBON BUDGET: 340-400 GT CO_2

BEST CHANCE OF MEETING 1.5°C

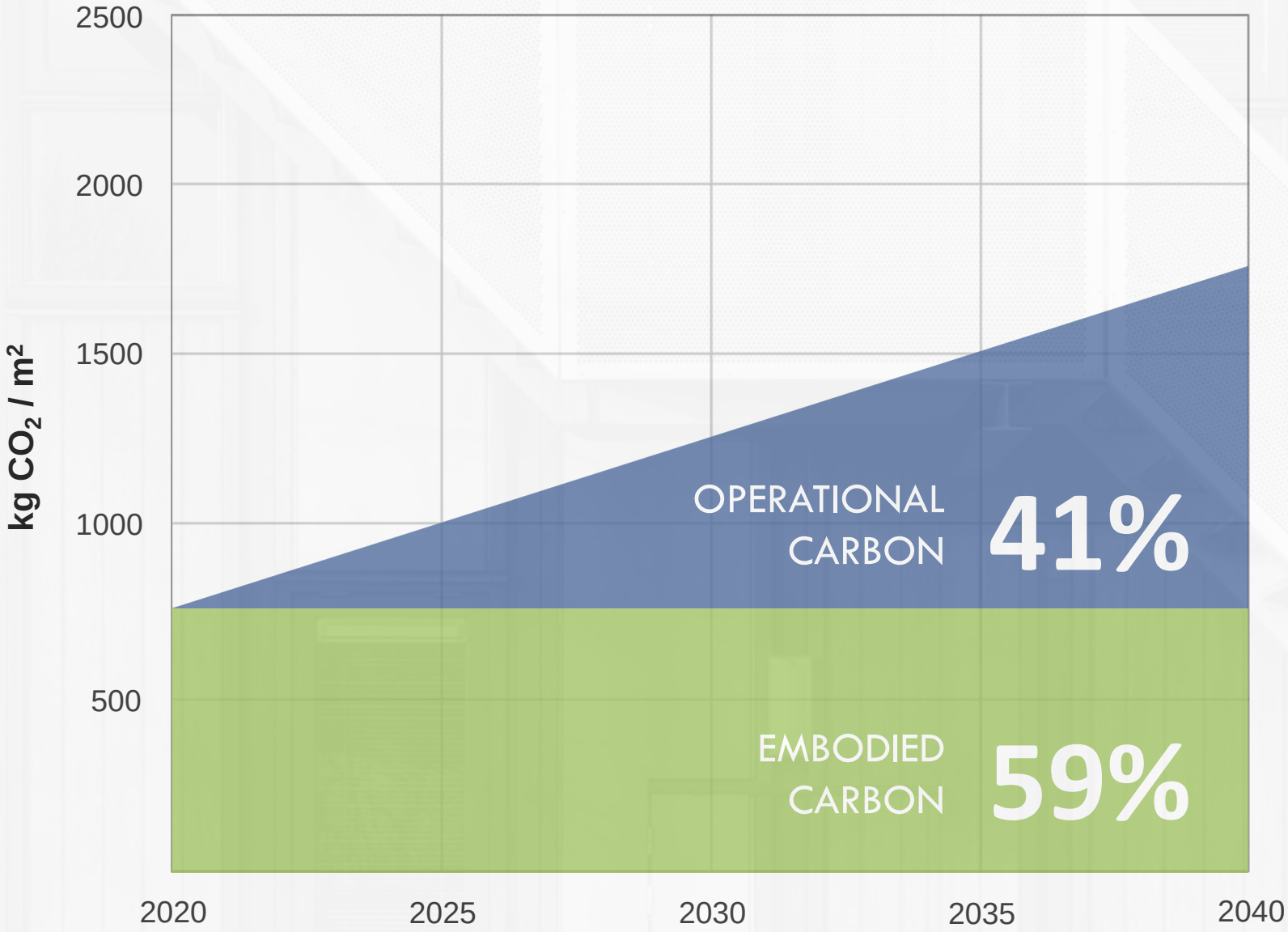
Intergovernmental Panel on Climate Change 6th Assessment Report



architecture 2030

The greenest building is one that's already built.

Carbon Footprint: Average New Building



Within urban environments, **existing buildings** are typically responsible for the majority of emissions.

New York City	71%	Mumbai	60%
Seoul	63%	Beijing	53%
Boston	73%	Copenhagen	76%
London	69%	Chicago	71%
Washington DC	76%	Shanghai	55%

Source: UN Habitat, Paulson Inst., city data, etc.

architecture 2030

In 2040, **2/3 of the global building stock** will be buildings that exist today.
Without upgrades, they will still be emitting GHGs.

Data Source: IEA Energy Technology Perspectives 2020, February 2021 Revised Edition

The greenest building is one that's already built.

The greenest building is one that's been retrofitted.

the CARE TOOL

CARBON AVOIDED: RETROFIT ESTIMATOR

caretool.org

The CARE Tool Team

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Architecture 2030

WHO CARES ABOUT CARE?

PROJECT SUPPORTERS

ONEder GRANT

National Trust for Historic Preservation®
Save the past. Enrich the future.

THE 1772 FOUNDATION

REUSE STAR

QUINN EVANS

Boston Preservation Alliance

API INTERNATIONAL

REUSE LEADER

Eskew Dumez Ripple

PROJECT COLLABORATORS

ZNCC
ZERO NET CARBON COLLABORATION FOR EXISTING & HISTORIC BUILDINGS

Climate Heritage Network

CLF Carbon Leadership Forum

epic.

FOUNDING PROJECT DEVELOPERS

Siegel & Strain Architects

GOODY CLANCY

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What it Does

Evaluates total carbon emissions and impact potential of existing building reuse compared to replacement new construction.

What it **Doesn't** Do

- Detailed energy modeling
- Whole Building LCA
- Allow user overrides of backend data (users *can* override default outputs)

Who it's For

- Public officials
- Planners
- Heritage officers
- Building owners
- Real estate developers
- Building industry professionals
- Educators

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CARE Tool Taxonomy

General Information	Existing Building	Building Reuse	New Building
Location - Climate	Building Characteristics and Use	Changes to Size and Use	Size and Use
Grid Emissions	Current Energy Use (EUI)	Targeted EUI (Operational Carbon)	Targeted EUI (Operational Carbon)
		Reuse Scope (Embodied Carbon)	Building Type (Embodied Carbon)
		Structural	Wood
		Envelope	Hybrid Wood + Concrete/Steel
		Interiors	Concrete/Steel
		MEP	
		Addition	

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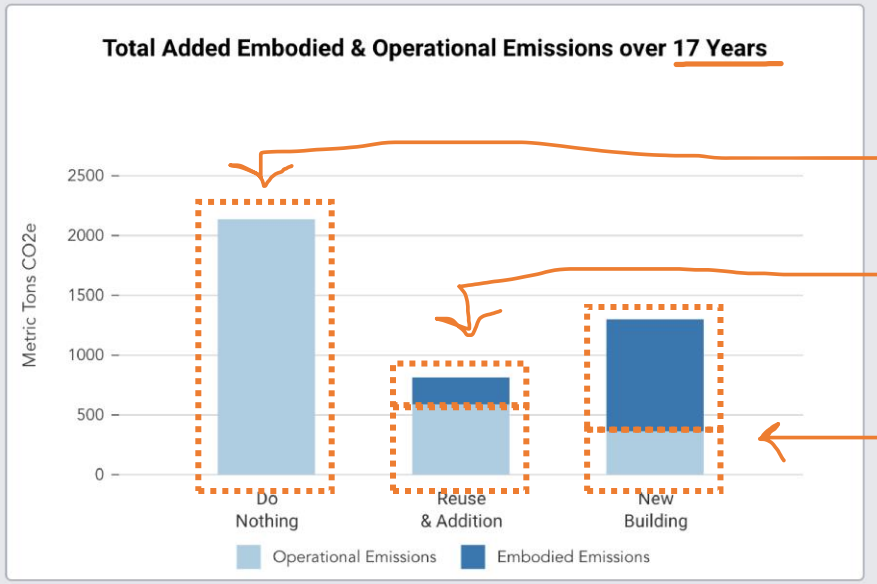
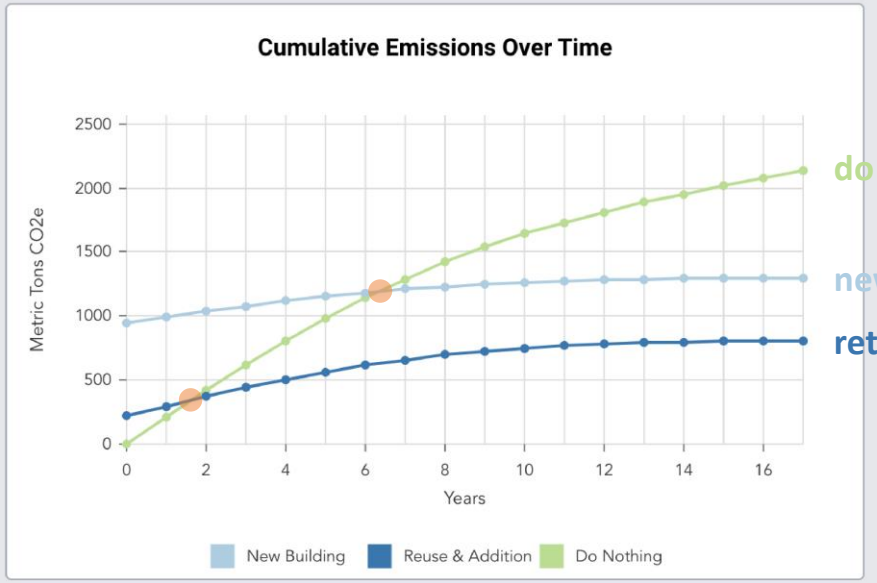
RESULTS



do nothing

retrofitted building:
operational emissions
embodied emissions

new building:
operational emissions
embodied emissions



do nothing

new building

retrofitted building

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