

Resilience+ means creating a sustainable waterfront using clean energy.

A sustainable waterfront supports new and proven sustainability practices, while advancing New York City's broader climate goals.



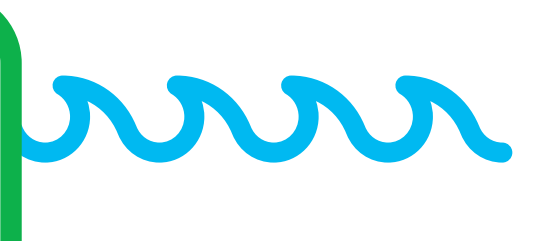
Mitigation



Adaptation

FiDi and Seaport

Climate
Resilience
Plan



Learn more
fidiseaportclimate.nyc



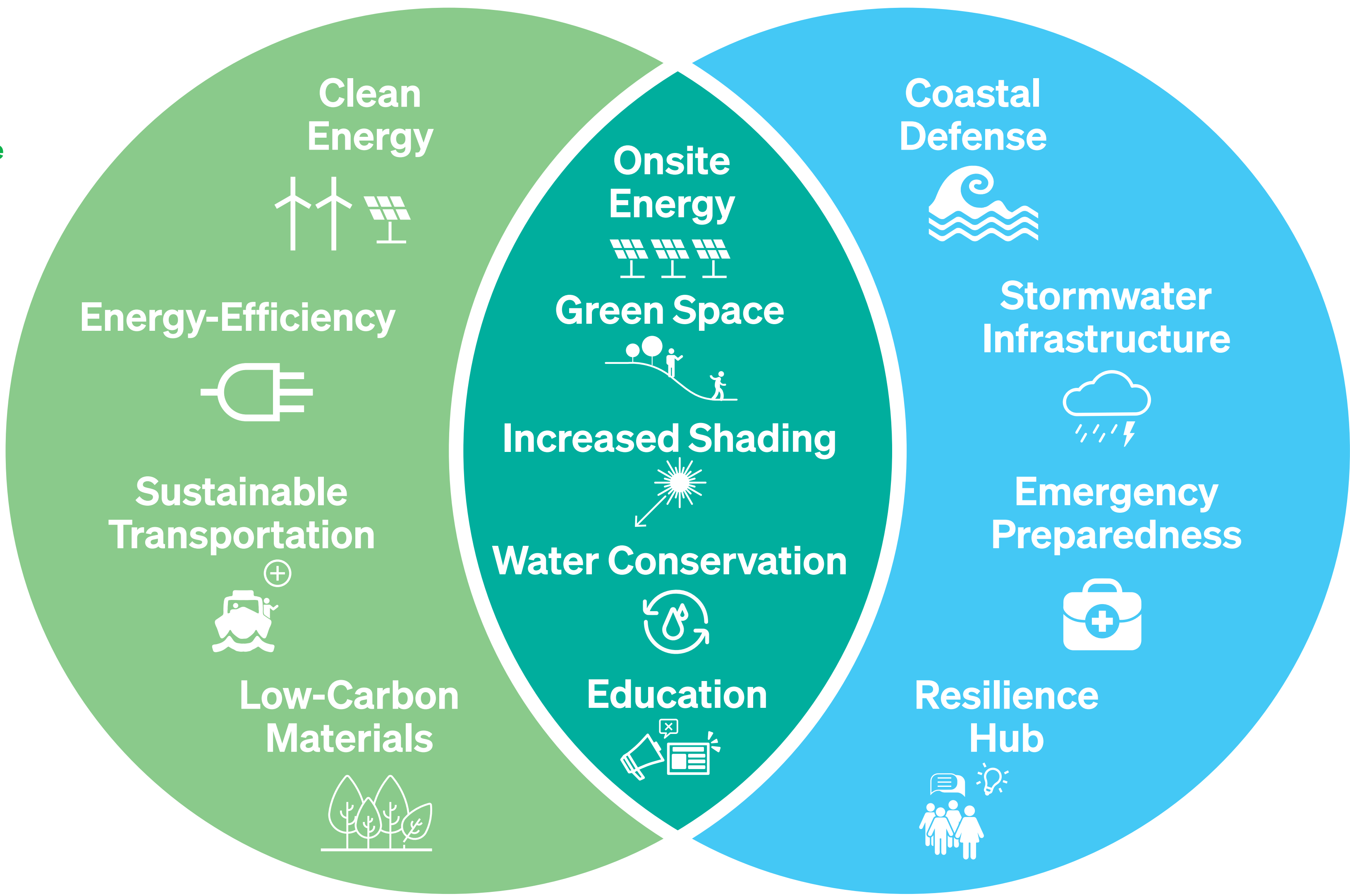
What is a sustainable waterfront?

Our work to protect Lower Manhattan must not contribute to the harmful emissions driving climate change – the very thing we are protecting against.

How we’re aligning climate mitigation and climate adaptation

Mitigation

Taking steps to reduce the impact we have on the climate in the first place

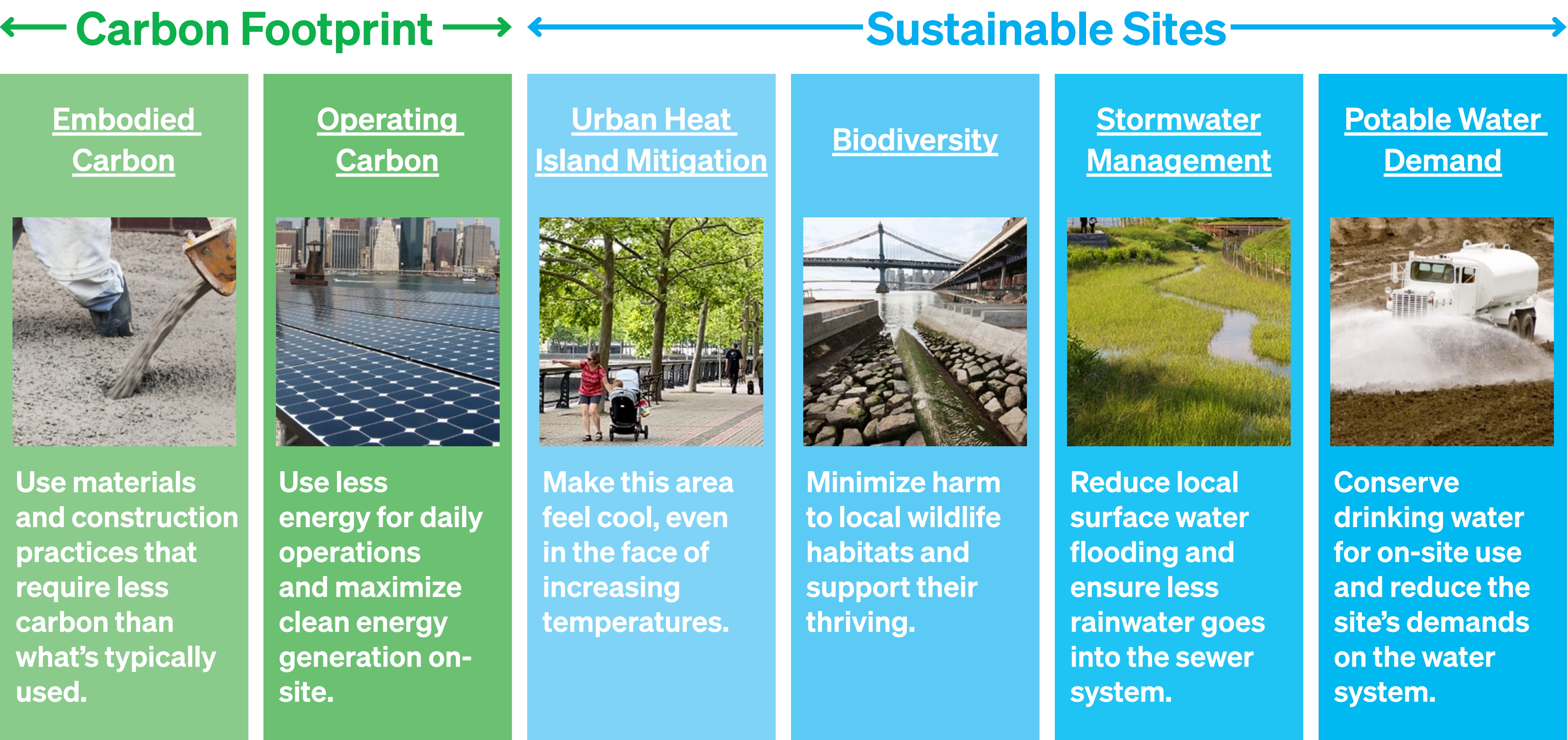


Adaptation

Making our city and waterfront more resilient to the changing climate

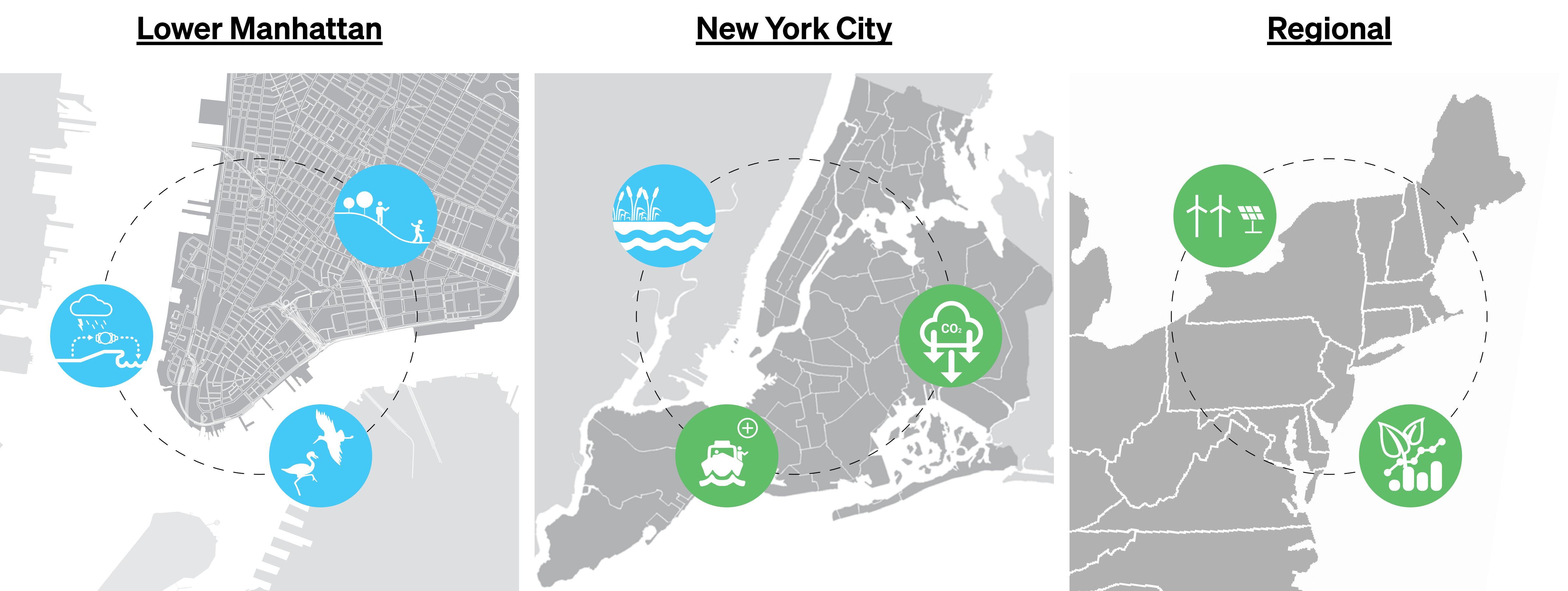
We will do this through minimizing carbon emissions during construction and throughout its ongoing use; utilizing green energy sources; and creating healthy spaces that support natural ecosystems.

Our framework for a sustainable waterfront



We are thinking about sustainability at different scales, considering local, citywide, and regional impacts.

Scales of Impact



What is our carbon footprint, and how can we reduce it?

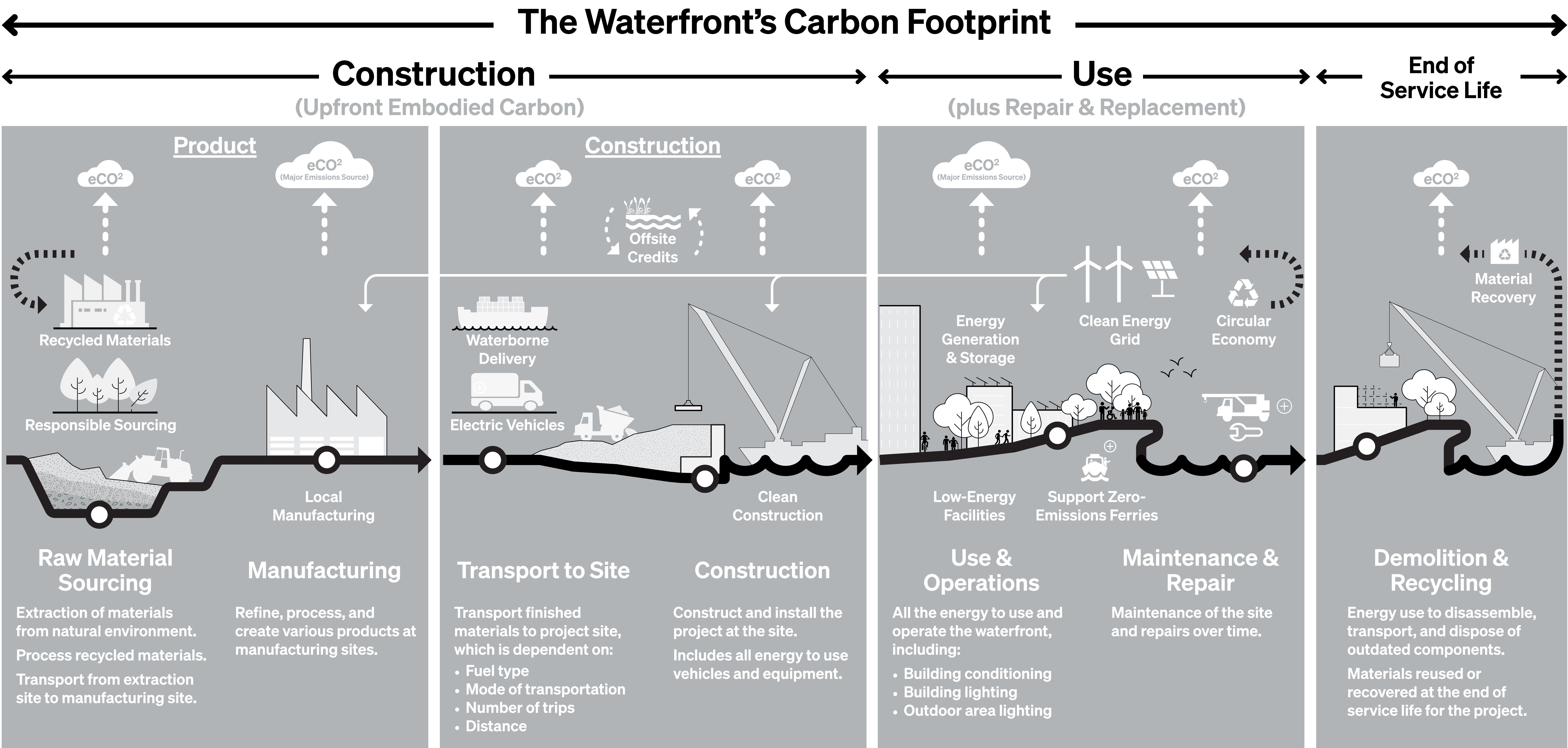


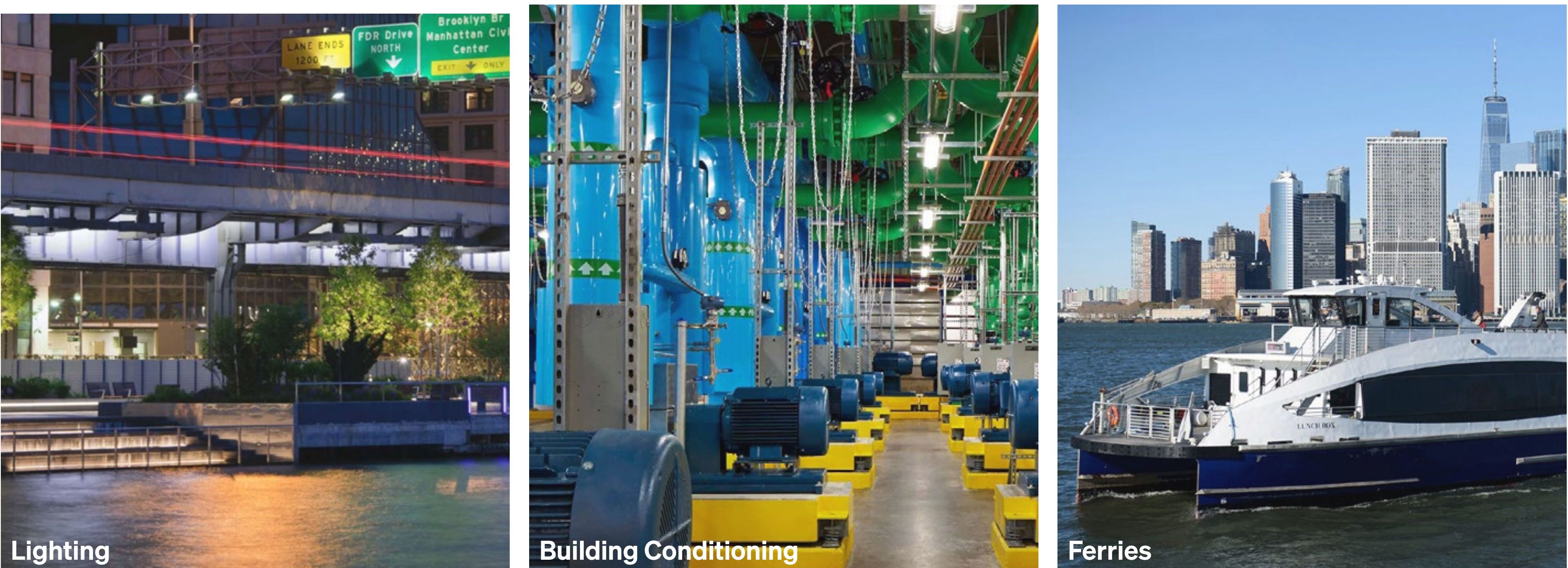
Illustration of Project Carbon Cycle

Embodied carbon comes from the energy required to construct this project – building the shoreline extension, setting up utilities, creating new ferry terminal, etc.



Key Sources of Embodied Carbon from Construction of the Waterfront

Operating carbon comes from the energy required for the daily use of the waterfront once it's been constructed: cooling and heating buildings, lighting within the facilities and across the site, etc.




Key Sources of Operating Carbon from the Use of the Waterfront



What tools are available to create a sustainable waterfront?


Embodied Carbon

Material Selection




- Use low-carbon materials
- Use materials efficiently
- Use locally sourced materials

Construction Techniques



- Use low-carbon equipment
- Use recycled materials


Design Approach



- Design infrastructure and buildings to minimize carbon use


Operating Carbon

Reduce Demand




- Design energy-efficient buildings
- Design new utilities to be efficient
- Leverage public transit

Clean Energy



- Generate electricity onsite
- Generate thermal energy onsite
- Utilize clean energy for transportation

Store & Exchange




- Store energy onsite

Embodied & Operational Carbon Toolkit Overview


Urban Heat Island Mitigation

Reduce Heat Gain




- Maximize shade
- Minimize amount of heat generated onsite

Reduce Heat Absorption



- Maximize green space
- Use materials and finishes that don't absorb the sun's heat


Cool the Microclimate



- Take advantage of natural breeze
- Include elements like water features that help cool the outdoor area


Biodiversity

Improve Habitat Quality



- Incorporate on-land and in-water animal and plant habitats
- Support stewardship and educational opportunities

Reduce Disruption




- Minimize light pollution and sensory disruption
- Minimize chemical pollution

Urban Heat Island Mitigation & Biodiversity Toolkit Overview


Stormwater Management

Building Grey Infrastructure



- Construct pump station
- Construct new pipes to convey rainwater


Building Green Infrastructure



- Construct green & blue roofs
- Include bioswales and rain gardens
- Utilize rain barrels and cisterns


Potable Water Demand

Reduce Demand



- Use materials and construction methods that minimize water use
- Use efficient plumbing
- Design landscaping with low-water plants

Recycle



- Utilize rainwater harvesting
- Incorporate greywater systems

Potable Water and Stormwater Management Toolkit Overview

What else should we consider to make the most sustainable waterfront?

FiDi and Seaport

Climate Resilience Plan

Learn more at fidiseaportclimate.nyc