



HOW WE WORK.

SUSTAINABLE MINDSET

Our pledge is to lead regenerative and innovative design for a brighter, cleaner future. Henderson's sustainability mission is to establish a regenerative mindset within our operations and design practice to realize solutions that restore, renew, and replenish sources of energy and materials while benefiting employees, clients, communities, and global ecological systems.

At Henderson, our culture of continuous improvement has helped us identify that a business-as-usual approach to our built environment is not sustainable. Societal demand for ecological resources and services has exceeded what the planet can regenerate and is exemplified in the excess carbon dioxide and other greenhouse gasses in our atmosphere. Breaking away from the status quo requires us to recognize what is unique about each project and how to work from its potential and use design as a platform to restore, generate surpluses, and eliminate waste. This regenerative design approach fundamentally shifts design thinking beyond the property line to a whole systems approach that reframes our design challenges to include the health of communities and local ecological systems – our life support systems.

CURRENT INITIATIVES

CARBON NEGATIVE BUILDINGS

Our sustainability strategic plan is to deliver carbon negative buildings where building products and operations yield net negative CO₂ emissions whether through net positive renewable energy production, carbon sequestration or carbon capture and storage.

The Basics

Our process is built on maintaining a focus on quality and the foundations of good design. Whether designing a net positive energy project or a carbon neutral facility, our design process starts with site analysis followed by the fundamentals: load reduction, passive system integration, efficiency, energy recovery, and optimization between architectural and engineered systems.

Building Electrification

A zero emissions future rests on delivering buildings with all-electric heating, cooling, cooking, and water heating systems. This is the starting line for carbon negative buildings.

Sustainable Refrigerant Systems

Refrigerants are a key to unlocking significant greenhouse gas reductions. Our work in alternative, low global warming potential (GWP) refrigerant systems that use CO₂ and ammonia alongside leakage control and recovery practices are contributing to substantial global emissions reductions.



NET ZERO CARBON BUILDING DESIGN APPROACH

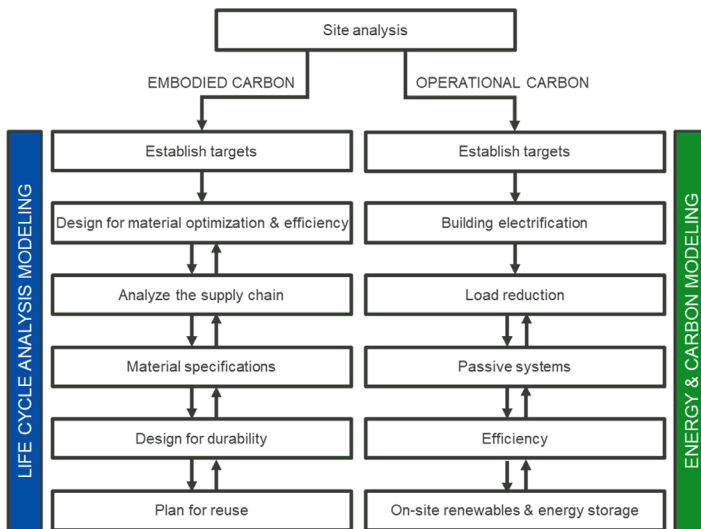


Illustration © Henderson Engineers

Grid Integrated Buildings

Driving down energy costs and carbon emissions can simultaneously be achieved by optimizing the interplay of building efficiency, energy storage, renewable energy generation, and controls that respond to when the electrical grid is delivering low-carbon intensity electricity.

Microgrids

Being able to keep the power on when the grid fails is fundamental when addressing resiliency in the built environment. Microgrids offer self-sufficient energy systems that are local, independent, intelligent, and support decarbonization goals when combined with renewable energy production and storage.

Lifecycle Carbon Analysis

Net zero carbon buildings are achieved by addressing both embodied carbon and operational carbon. Our net zero carbon building design approach begins with a careful site analysis followed by six key steps within the design process.

REGENERATIVE WATER SYSTEMS

Our goal is to design water systems that mimic natural ecological systems by creating a continuous cycle of water use and treatment that eliminates the idea of waste.

Water Efficiency, Reuse, and Quality

The foundation of good water system design is built on efficiency, reuse, and delivering high-quality water for occupants and building systems whether optimizing cooling tower design, designing a rainwater catchment system, or planning for water treatment and reuse.

Lifecycle Carbon of Water

Water and energy are innately linked, meaning water has its own carbon footprint. Our design process includes tools that translate water use to lifecycle carbon emissions to support net zero carbon initiatives.

HEALTH POSITIVE INDOOR ENVIRONMENTS

Spending time indoors should not mean compromising physical or mental health. Our design process focuses on paying attention to the health impacts of materials installed as well as modeling building characteristics to optimize natural daylighting, views, acoustics, and the delivery of clean air to support occupant wellness.

ZERO WASTE

Regenerative design eliminates the concept of waste so we're engaged in examining how everything we design and install can be recycled, reused, or disassembled to enter asset reuse chains and a circular economy.

BRIAN ALESSI

AIA, LEED AP BD+C, CPHC

Sustainability Director



Brian is a key member of our technical leadership team as we continue to align our offerings with what's best for our planet. A 20-year veteran of sustainable design, he is responsible for leading our efforts to create building systems that are healthy, sustainable, and resilient. His knack for coming up with innovative sustainable solutions is invaluable to our environmentally conscious clients who count on him for guidance on their path to net zero. He champions our efforts industrywide as a member of the Los Angeles chapters of the American Institute of Architects (AIA) and the U.S. Green Building Council (USGBC-LA). With his keen eye on projects, Henderson is well-positioned to build a better tomorrow.