

EXISTING BUILDING DECARBONIZATION SERVICES



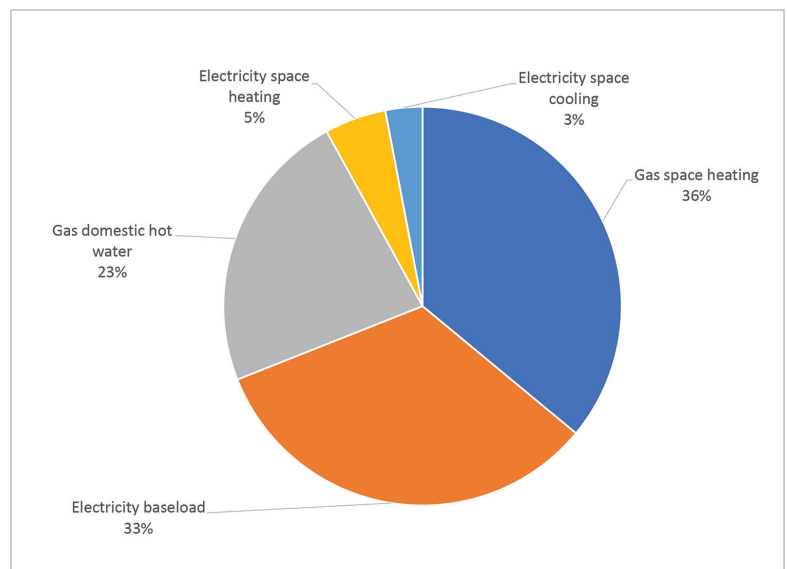
Reducing local carbon emissions associated with existing buildings is critical to slowing climate change. Adoption of policies and local regulations that require building owners to act is steadily accelerating across the country. To help building owners navigate this new, complex territory, New Ecology offers a suite of services that can help benchmark building energy performance, assess for opportunities, estimate savings and cost, predict compliance with regulations, and develop a plan for effectively reducing carbon emissions. New Ecology pursues this work in the context of improving building performance, resiliency, and addressing resident health and comfort.

What if my building is required to meet a Performance Standard?

The first step in any existing building evaluation is to understand the current energy performance. Using historical utility data, New Ecology will benchmark your buildings' energy consumption, cost, and carbon emissions, and will use the analysis to help you understand whether you are compliant with current and future building performance standards.

What if my building is not compliant, or will soon be non-compliant, with performance thresholds or goals?

There are two approaches we use to develop a plan to improve the performance of your building so that it complies with local benchmarking ordinances. If your building has substantial needs, and you anticipate a significant investment of resources in the near future (i.e., a refinance/rehabilitation project), a Deep Energy Retrofit is a good fit. Otherwise, Zero Over Time approach can achieve the same results with smaller, periodic investments.



Analysis built upon historical energy use is the first step to assess compliance with benchmarking ordinances and to accurately predict the impact of decarbonization strategies.

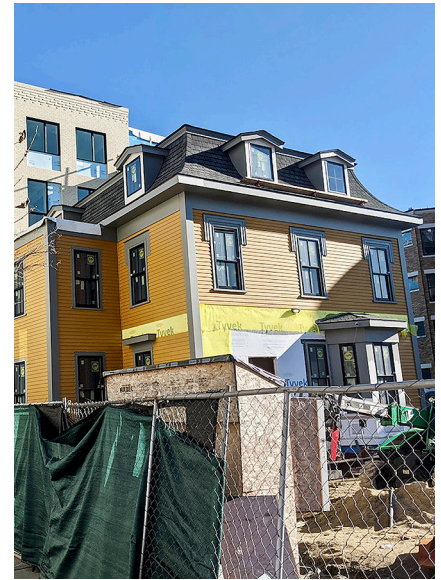
Many existing buildings WILL NOT be compliant and will require energy and carbon reduction interventions to avoid associated penalties and fines.

Deep Energy Retrofit

A Deep Energy Retrofit (DER) leverages the investments made during a building refinance and rehabilitation process to achieve significant energy load reduction, carbon emissions mitigation, improved resiliency, and occupant health and comfort.

New Ecology can lead your building's DER process by:

- Providing early-stage performance benchmarking, building auditing, energy modeling, and targeted DER scope recommendations in coordination with the conceptual design process.
- Identifying finance, incentive, and subsidy opportunities to reduce the incremental cost to integrate DER measures into the building rehabilitation.
- Supporting the integrated design and construction process with plan and specification reviews, utility incentive coordination, funding applications, construction inspections and testing, and certification assistance.



The Treehouse at Easthampton Meadow

Treehouse is an intentional, intergenerational community integrating family housing for households who have adopted children out of the foster system with households aged 55+ who agree to mentor the children. New Ecology worked with the project team to develop a data-driven deep energy retrofit scope of work for the property. Considering energy conservation and electrification packages, the team utilized its expertise to streamline the number of different scenarios that required pricing and energy calculations.

NORTHAMPTON, MA - BEACON COMMUNITIES, LLC



PROJECTED SAVINGS

- 50% energy use reduction
- 24% carbon emissions reduction*
- 21% water use reduction

*Carbon emission calculated using the National Renewable Energy Laboratory (NREL) Cambium's data (Electric) 2022 NREL Cambium Dataset - LRMER; NEWE Grid - Mid-case w/ 95% Decarbonization by 2050 Combustion + Precombustion.

Zero Over Time

A Zero Over Time (ZOT) plan provides a roadmap for short- and long-term improvements to significantly reduce a building's carbon emissions, improve performance and comfort, and minimize capital and operating cost implications. It provides the information necessary for building owners and operators to ensure that regular decision making around property upgrades and improvements are in alignment with emissions goals and regulations.

New Ecology supports the ZOT process by:

- Providing early-stage performance benchmarking and building auditing to understand the existing conditions and performance of the building.
- Identifying and quantifying appropriate energy conservation and carbon emissions mitigation measures for implementation.
- Developing a plan that aligns implementation of recommended measures with End of Useful Life (EUL) events identified in the property's Capital Needs Assessment (CNA).
- Supporting measure implementation over time through Basis of Design (BOD) and Request for Proposal (RFP) generation, proposal analysis and comparison, incentive coordination, contractor management and oversight, construction phase inspections and testing, and operator training.

Nonantum Village Apartments

Nonantum is an affordable senior apartment building with a distant refinancing. The owner asked New Ecology to work with their design/build team to develop a financially feasible building decarbonization plan that improved energy efficiency and maintained affordability. The plan aligned targeted upgrades, to fully transition the building off fossil fuel, with near-term capital improvements to be accomplished over the next 10 years.



PROJECTED SAVINGS

IMMEDIATE CAPITAL UPGRADE

- 40% energy use reduction
- 36% carbon emissions reduction*

FULL ZOT DECARBONIZATION PLAN

- 66% energy use reduction
- 74% carbon emissions reduction

*Carbon emission calculated using the National Renewable Energy Laboratory (NREL) Cambium's data (Electric) 2022 NREL Cambium Dataset - LRMER; NEWEC Grid - Mid-case w/ 98% Decarbonization by 2050 Combustion + Precombustion.

Energy Efficiency Work ALWAYS Decarbonizes

Even if you are not being compelled by a benchmarking ordinance, it is wise to have an eye towards decarbonizing your buildings at every opportunity. Gone are the days of replacing equipment, like-with-like. Savvy owners are looking forward to the many resources becoming available to help their efforts, and are learning from each project so they are better prepared for the next.

Whether a property is just getting started on greening initiatives, looking to develop new tools and tactics to streamline sustainability initiatives and asset management, or developing ambitious plan to achieve portfolio-wide energy performance goals, decarbonization should be at the center.

New Ecology can support your efforts by:

- Benchmarking energy and water use to understand how consumption and cost are affected by the physical attributes of the building envelope, systems and the behavior of tenants and staff.
- Identifying utility performance targets to create utility management and monitoring tools, to identify buildings or systems ripe for improvement.
- Working with maintenance and management staff to tailor processes that fit within existing structures and capabilities.

Carrington Way Apartments

Carrington Way is an affordable, 165-unit multifamily apartment complex with aged and outdated building and system upgrades. New Ecology provided project management, including: scoping and bidding management, contractor submittals, technical assistance, construction support and oversight, and post-construction on-site staff training. The subsidies for energy and water efficiency upgrades, which greatly lowered operating costs, fostered the ability to extend affordability and retain HUD status for another 20 years.



PROJECTED SAVINGS

- 57% energy use reduction
- 47% carbon emissions reduction*
- 42% water use reduction

*Carbon emission calculated using the National Renewable Energy Laboratory (NREL) Cambium's data (Electric) 2022 NREL Cambium Dataset - LRMER; NEWEC Grid - Mid-case w/ 95% Decarbonization by 2050 Combustion + Precombustion.