

NEW ECOLOGY



Community-Based Sustainable Development



Helping
Neighbors Build
Community
Across
Massachusetts

CASE STUDY: TURNING CRISIS INTO ENERGY SAVINGS OPPORTUNITY

Atwood Acres

50 apartments; three stories; 26,000 SF; built in 1988
Owned and managed by [RCAP Solutions](#)

TOWNSEND, MA

The Massachusetts Green Retrofit Initiative (MAGRI) is a project of New Ecology, Inc. (NEI) and LISC Boston. Through MAGRI, NEI and LISC Boston serve as a one-stop-shop to provide holistic energy management services to property owners. This project has been funded by the Barr Foundation and a U.S. Department of Housing and Urban Development Energy Innovation Fund grant.

After nearly 25 years, the original heating and domestic hot water (DHW) boilers at Atwood Acres were failing. The property's owner, RCAP Solutions, contacted NEI seeking advice and enrolled the property in MAGRI. Combining building science expertise and familiarity with Massachusetts' low-income utility efficiency program, NEI and LISC Boston enabled the owner to react quickly and decisively, to replace the boilers with new high efficiency equipment, and to secure funding for an extensive lighting upgrade at the same time.

After RCAP Solutions enrolled in MAGRI, NEI performed an energy audit at Atwood Acres and helped the owner solicit and review bids from several contractors for new, high efficiency condensing heating and DHW equipment. NEI's involvement ensured that the chosen equipment would deliver improved performance and efficiency at the property and qualify for incentives from the utility efficiency program. After several months of operation NEI worked with the owner to optimize the heating and DHW equipment, which has resulted in consistently low gas usage over several heating seasons.

Though not part of RCAP Solutions' original request, NEI's audit also addressed the electrical equipment at Atwood



Photo by: RCAP Solutions

Acres and facilitated the property's participation in the utility efficiency program. NEI's on-the-ground partnership with RCAP Solutions was crucial as NEI staff monitored the lighting upgrades installed by the utility contractor, highlighted missed opportunities, and ensured that all potential upgrades were installed. Ultimately, the utility efficiency program incentivized replacement of the exterior, common-area, and residential lighting. New LED exit signs and a combination of LEDs and more efficient T-8s with electronic ballasts replaced the existing

MAGRI SERVICES	BUILDING UPGRADES	ANNUAL SAVINGS
Energy audit	High efficiency condensing boiler and hot water heater	Gas 28.6% \$4,973
Boiler optimization	High efficiency lighting	Electricity 21.3% \$4,181
Rebate coordination	Optimized mechanical equipment	

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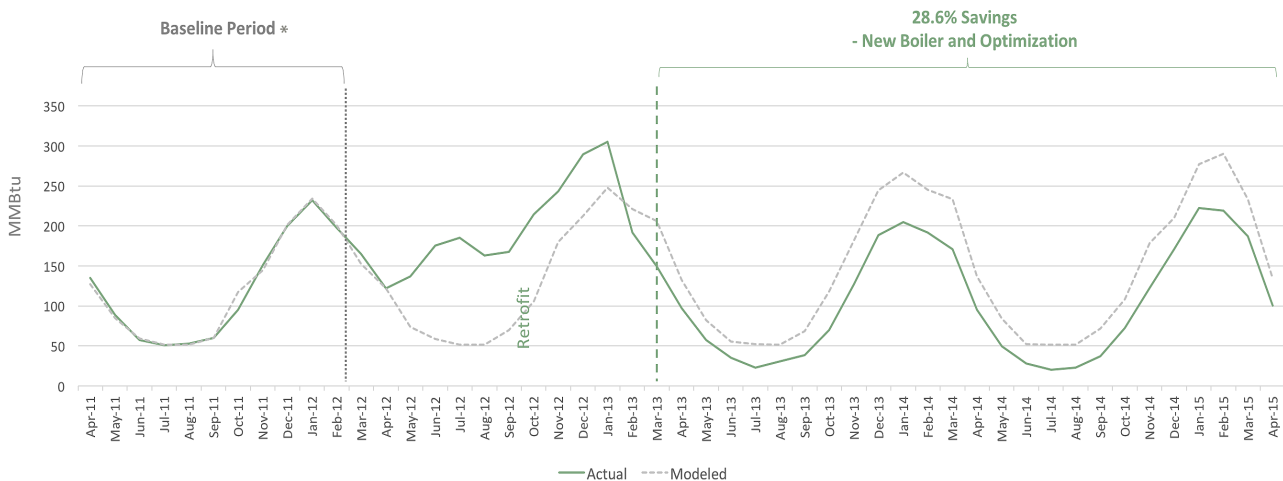
mixture of CFLs, T-8s, and T-12s with magnetic ballasts. Outside the building, metal halide pole-mounted parking lot and bollard lighting was all upgraded to LEDs.

As crucial as the right equipment, NEI and LISC Boston helped RCAP Solutions access funding to pay for these upgrades. Leveraging RCAP Solutions' investment of approximately \$41,000 from the property's reserves, the utility efficiency

program provided funding of almost \$73,000 toward the boilers and lighting upgrades to enable a comprehensive retrofit of the property.

After the upgrades, the property's gas and electricity consumption decreased 28.6 and 21.3 percent, respectively – saving the owner \$9,154 in avoided annual operating expenses.

HIGH EFFICIENCY BOILERS & OPTIMIZATION DELIVER CONSISTENT, LOW GAS USAGE



* Baseline period chosen for this analysis reflects typical building operation prior to the period in which the boilers were failing and performing erratically.

EFFICIENT LIGHTING DROPS ELECTRICITY USE 21.3%

