NEW ECOLOGY
Community-Based Sustainable Development

LISC Boston
Helping Neighbors Build Community Across Massachusetts

CASE STUDY:
OPPORTUNITIES APLENTY - EVEN IN EFFICIENT BUILDINGS

1460 House

43 apartments; four stories; 43,000 SF; built in 2008
Owned by Viet-AID
Managed by Trinity Management Company

BOSTON, 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.

1460 House was built in 2008 with an eye toward energy efficiency. The property earned an ENERGY STAR label, a HERS Score of 53, and was LEED Silver certifiable. The building envelope was well insulated and air-sealed; condensing boilers generated heat efficiently; the lighting and appliances were high-efficiency or ENERGY STAR labeled; and the roof supported two separate solar photovoltaic systems to offset the common area and tenant electricity loads.

However, only a few years after initial occupancy, NEI, which was monitoring the building's utility use in WegoWise, an online energy benchmarking tool, noticed that the electricity use was significantly higher than comparable buildings. Over the next several years, NEI and Viet-AID struggled to identify the resources that would enable full investigation of the issue. That changed in 2012 when the pair secured a grant from the City of Boston and Viet-AID enrolled the property in MAGRI.

With the grant, NEI parsed the building's historic electricity use, conducted a site visit, and installed data loggers on all major electrical equipment, such as common area lighting and cooling systems, the elevator, the energy recovery ventilator, and the heating and domestic hot water (DHW) pumps. The analysis enabled NEI to pinpoint common area

Photo by: Viet AID

lighting as the greatest opportunity for improvement through replacement of the original lighting, highly-efficient only a few years ago, with newer technologies that were not available when the building was designed.

NEI's assessment also revealed that the building's DHW recirculation pump operated continuously, circulating 180°F water 24 hours a day, 7 days a week, which wasted electricity and gas when there was no demand for DHW. During the course of its study, NEI secured the donation of a demand-

MAGRI SERVICES	BUILDING UPGRADES	ANNUAL ELECTRICITY SAVINGS
Data analysis Upgrade scope development Owner's representative Rebate advocacy and coordination	High efficiency LED lighting with occupancy sensors Demand controlled DHW recirculation pump	**38.9%** **$5,936**

New Ecology, Inc. 15 Court Square, Suite 420 Boston, MA 02108 www.newecology.org 617.557.1700
LISC Boston 95 Berkeley Street, Suite 301 Boston, MA 02116 www.bostonlisc.org 617.338.0411

1460 House

controlled DHW recirculation pump from Enovative Kontrol Systems and installed it. The new pump now operates only when there is a need for DHW and thereby reduces both gas and electricity use.

Upon completion of the study, NEI and LISC Boston forwarded the report to Massachusetts' low-income utility efficiency program and applied for funding to pay for the needed upgrades on Viet-AID's behalf. Unfortunately, the program had insufficient funding to support the work in 2013, so LISC Boston sought funding from several other sources and advocated for the property's inclusion in the utility efficiency program as soon as funding became available. In early 2014, 1460 House was accepted for enrollment in the utility efficiency program, and leveraged $66,259 in rebates to pay for installation of new LED lighting technology, much of it with occupancy sensors, in the common areas.

The combined lighting and pump upgrade resulted in a 38.9 percent decrease in Viet-AID's electricity consumption at the property, which reduces the annual operating expenses by $5,936.

ADVANCES IN LIGHTING TECHNOLOGY CREATE REAL SAVINGS