

# LISC's Guide to Green + Healthy Multi-Family Affordable Housing

## Resources for Owners, Developers and Managers

### Our goal

These tools and resources will help affordable housing owners, developers and property managers pursue cost effective practices to track energy and water use, undertake energy and water saving projects, and implement health driven property management and rehab strategies to reduce asthma and obesity risks.

### Approach

LISC recommends the following strategies for the health approach to existing buildings:

- Energy and water benchmarking and conservation measures during the time of rehabilitation and ongoing property maintenance;
- Safe and green pest control, which reduces exposure to toxic pesticides, seals holes to prevent pests from entering, and, in doing so, conserves heat;
- Smoke free housing, which reduces resident exposure to secondhand tobacco smoke, reduces fire risk, and decreases the cost of preparing units for new renters;
- Active design, which increases resident physical activity through low-cost modifications and add-ons to buildings and surroundings; and
- Green cleaning, which reduces exposure to harmful chemicals through the use of cost-effective, safe and environmentally friendly cleaning products.

### Key Steps to Support Green and Healthy Property Management

1. **Partner with key stakeholders and technical assistance providers to advance green and healthy housing priorities.** For example, LISC NYC partnered with city health and housing departments, building science experts, hospitals, vendors and property management companies. In Boston, LISC worked with property management firms, as well as [New Ecology](#) to support benchmarking and energy audits.
2. **Benchmark properties for energy and water use to identify high users and opportunities for rehab or improved management.** Benchmarking tracks energy and water use at the building level. LISC NYC worked with [WegoWise](#), an online tool that supports benchmarking in affordable multifamily housing. WegoWise has documented that owners who actively benchmark and prioritize energy and water efficiency see savings of at least 4%.<sup>i</sup> Other benchmarking tools include [EPA's Portfolio Manager](#) and BrightPower's [EnergyScoreCards](#). See WegoWise's Getting Started with Benchmarking [slides](#), [guide](#), and [primer](#). LISC supported eight owners in Richmond, Detroit and the Twin Cities to start benchmarking and provided support to help them use the data to inform portfolio priorities.
3. **Conduct building assessments in properties with upcoming renovation, high energy or water use, or deteriorated housing conditions to identify buildings for green and healthy upgrades.** These buildings will be good candidates for approach. Building assessments can include energy audits or building inspections. Benchmarking results, capital needs assessments, and annual inspection results can help to identify buildings that could benefit most by upgrades. LISC NYC has a [site visit protocol](#) to assist in such building assessments. Such audits can reorient renovation priorities. Our

support of an energy audit with a Detroit owner resulted in a revised retrofit scope to focus work on cost-effective energy upgrades.

#### **4. Complete Green + Healthy Asset Management Plan (GHAMP) to inform portfolio-wide approaches.**

The plan prompts owners to document current conditions and target goals. It relies on benchmarking data and building inspection results to report energy and water use and property management practices that can improve health (smoke free housing, green cleaning, Integrated Pest Management, active design, low toxicity materials). The plan prompts owners to identify future energy, water and health related targets and projects. LISC has developed two tools to help owners develop a GHAMP.

- [Green + Healthy Dashboard](#): This one page spreadsheet helps owners document current usage and practices around energy, water, and healthy property management. Future targets and new practices can be recorded. See sample below.

Sample Green + Healthy Dashboard

Development	Building Address / Name	Benchmarking energy and water now	Heating Energy (BTU/SF/HDD - average last 12 months)	Heating Energy Goal (BTU/SF/HDD)	Meets Heating Energy Goal?	Water Use (Gallons/BR/Day - average last 12 months)	Water Use Goal	Meets Water Use Goal?
Dixwell Park	12, 14, 18, 20 Dixwell St	E, W	19.8	7	N	68.3	65	N

Development	Building Address / Name	Smoke Free? (Y/N)	Green Cleaning? (Y/N)	IPM? (Y/N)	VOC standards? (Y/N)	Active Design (Y/N)	Other health (Y/N)	Relevant Utility Program (applied Y/N)	Date of Last Energy Audit	Date of Last CNA	Est. Date of Next Renovation / Refi
Dixwell Park	12, 14, 18, 20 Dixwell St	N	Y	Y	N	Y	lead	Eversource Y	9/23/09	3/14/12	Fall 2017

- [Green + Healthy Template](#): This template provides a framework to help owners develop a portfolio-wide plan that addresses energy, water and health practices or conditions. The format builds upon the Green + Healthy Dashboard to prompt owners to describe upcoming priorities and projects. Excerpts are provided below.

## Examples of interventions

### Heating Energy Goal:

Increase to 75% by 2019 the number of gas heated residential properties that use less than 7 BTU per square foot per heating degree day (HDD). All new construction will achieve a minimum of 3 BTU/SF/HDD.

Potential actions to realize the goal:

- Define heating energy (BTU/SF/HDD) for all buildings in portfolio (see Green + Healthy Dashboard).
- Define factors that contribute to the energy consumption of each building.
- For buildings not meeting the target, identify 1) opportunities to improve performance (i.e., planned refinance/renovation, robust operating budget, utility funding), and 2) timeline for action.
- Define a schedule to audit each building and/or protocols to respond when data indicates attention is warranted to address energy consumption.

### Smoke Free Housing Goal:

50% of buildings will be smoke free by 2019.

Potential actions to realize the goal:

- Define current % of building that are smoke free (see Green + Healthy Dashboard).
- Set schedule to move target number of buildings to smoke free status by 2019.
- Explore support with local health agency or advocates.

**5. Prepare retrofit financing by leveraging utility, housing finance and incentive program to support green and healthy retrofit work.** Many states, cities, green loan programs and foundations offer funding to support green upgrades. Owners may also tap replacement reserves to fund upgrades. Examples are listed from NYC and Boston sites.

- [Massachusetts LEAN Program](#) for multi-family affordable housing
- [NYC Green Preservation Funding](#)
- [Fannie Mae Green Rewards Loan Program](#)

**6. Complete renovations and modify property management practices.** LISC's [Green + Healthy Property Management Guide](#) provides advice on how owners can work with property managers to:

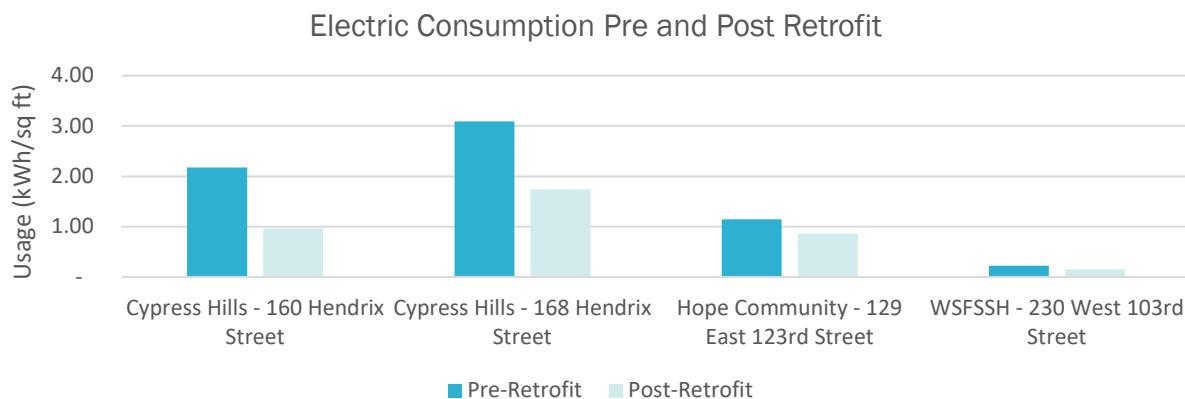
- Assess energy and water use
- Undertake energy and water saving measures

- Create healthier environments: Smoke free housing, green cleaning, Integrated Pest Management, active design and green and healthy office practices
- Adopt green laundry practices
- Reduce waste and recycle
- Adopt green office practices and product selection
- Improve unit turnover and inspection

## Evaluation Framework and Tools

LISC's green and healthy approach tracks changes in energy and water use after renovation or modified maintenance practices. Ongoing monitoring of energy and water consumption makes it easy to see changes. LISC used [WegoWise](#), an online tool, to track changes. Evaluation reports prepared using benchmarking data are available ([NYC Two Shades of Green evaluation](#); [Boston Green Retrofit Initiative Savings Analysis Report](#); [Independent Review of Green Retrofit Initiative Savings](#)). The NYC Two Shades of Green evaluation framework also documented changes in building conditions linked to health risks, with a focus on asthma.

Examples of outputs created with benchmarking results are shown below.




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<sup>i</sup> WegoWise, Property Utility Benchmarking Report