



# Affordable Healthy Housing – Living in a Material World

NH&RA Asset Management Conference

June 4, 2019

Emily Jones, LISC Boston

Dorchester Bay Economic Development Corporation's Dudley Terrace  
(Photo Credit: Sparhawk Group)





# LISC Boston's Green Retrofit Initiative

- (2010-2012) Build owner demand
  - New utility program created: LEAN Low-Income Multi-Family
  - 11 Boston nonprofits enrolled
- (2012-2015) Achieve deeper savings
  - Goal: achieve 20%+ savings
  - Actual: 29% electric, 23% gas
  - HUD Energy Innovation Fund award
  - Statewide engagement
- (2014-2016) Convene stakeholders, inform policy
  - Green Asset Management Plans: 20 owners, 29,000 units
  - Policy focus on connecting utilities and housing finance agencies
- (2016-present) Drive demand for efficient, clean energy, healthy and resilient homes
  - Provide comprehensive energy audits and resiliency assessments for properties nearing rehab
  - Drive sustainability across housing finance agency portfolios

# Comprehensive Energy Audit Program Goals

- Energy Audits – Getting all parties to discuss deep energy efficiency and clean energy savings opportunities
- Clean Energy Tech Optimization – How do we ensure renewables installed and maintained correctly to achieve savings?
- Inform program and policy design for more state and municipal level resources and assistance



Allston Brighton Community Development Corporation's Green Retrofit Project with Cliff Geissler and Dariela Maga (Photo Credit: Dariela Maga).

# Audit Program Findings/Recommendations

- State housing agencies and lenders should mandate comprehensive energy audits/IPNAs
- Build auditing field through guidance, bid review, and quality control
- Encourage early and close coordination between utility program and rehab projects to ensure commitment to fund all available energy savings
- Owners need clean energy roadmap, prequalified vendors, and predictable programs to make informed decisions
- Overcome obstacles that exist for permanent lenders to underwrite anticipated savings





# Comprehensive Energy Audit Program (current)

- Eligible properties: Approaching rehab/recapitalization and/or pursuing adaptive reuse
- 50% match for ASHRAE Level II audit and kickoff design meeting
- Includes healthy housing and resiliency lens
- Benchmarking through 1 year post-rehab
- Seven building science firms
- Can support 60 projects over 2-3 years



2Life Communities' Coleman House (Photo Credit: Sparhawk Group).

## Next Steps to Advance Solar + Resiliency

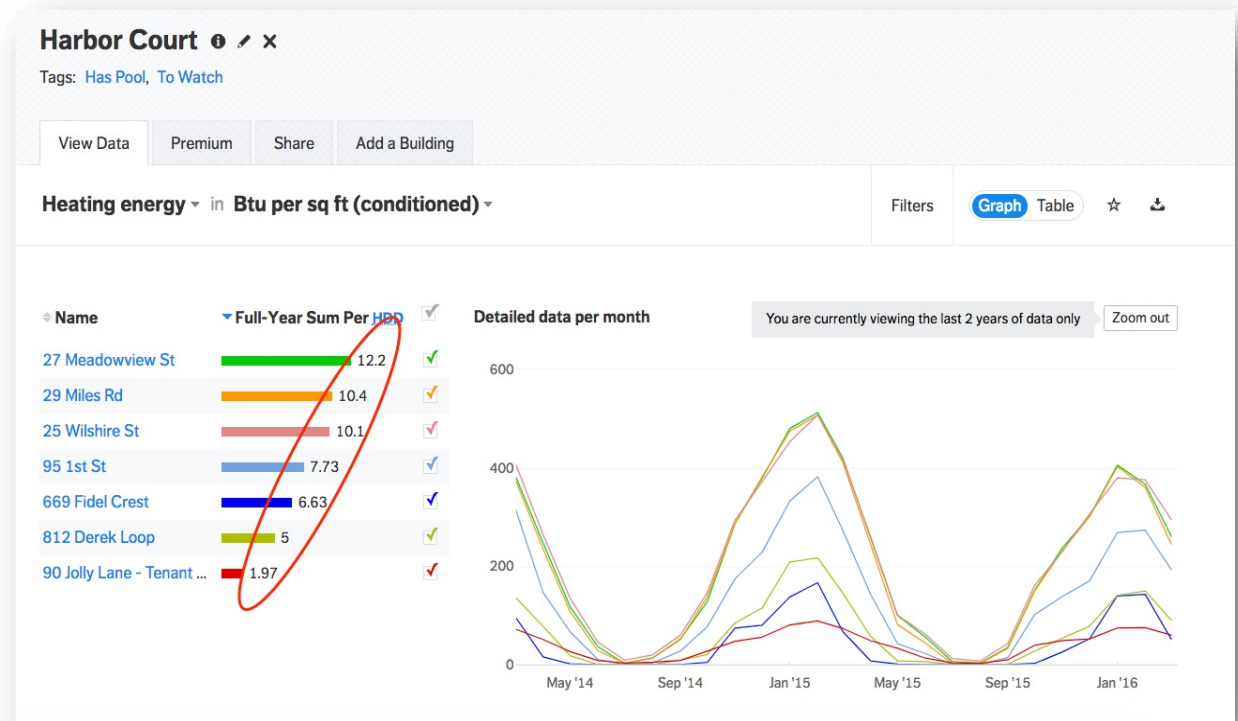
- Evaluate energy savings opportunities including community shared solar
- Help owners access MassCEC's solar PV system advisory services
- Create affordable housing inventory and overlay floodplains and heat map to identify vulnerability
- Drive funding for resiliency assessments and emergency management plans



Madison Park Development Corporation's Haynes House Solar Thermal System  
(Photo Credit: New Ecology).

# “Greening” Housing Finance Agency Portfolios

- Create benchmarking (WegoWise) master account and train staff on use
- Ensure properties approaching rehab/recapitalization receive comprehensive energy audits and resiliency assessments (if vulnerable)
- Maximize utility energy efficiency program usage for properties in between capital cycles
- Ensure owners and managers have green + healthy resource toolkit



Heating Energy Intensity (btu/square foot/heating degree day) for a sample set of properties in WegoWise.



## Green + Healthy Portal

- LISC has assembled resources into a comprehensive online portal ([lisc.org/our-resources/resource/green-healthy-affordable-housing](https://lisc.org/our-resources/resource/green-healthy-affordable-housing))
- Each guide is catered to specific audiences to help them drive energy, water, and healthy housing related goals across their properties





# Green + Healthy Property Management Tools

- Green + Healthy Property Management Guide
- Green + Healthy Asset Management Plan (GHAMP!) Template and Dashboard
- Green Cleaning Toolkit
- Green + Healthy Case Studies (integrated pest management, smoke-free housing, etc.)
- All available at [lisc.org/boston/our-work/green-retrofit-initiative/](https://lisc.org/boston/our-work/green-retrofit-initiative/)



Photo Credit:  
Darlene DeVita Photography

## Green + Healthy Property Management

A Guide for Multifamily Affordable Housing

Local Initiatives Support Corporation

Prepared with support from Tohn Environmental Strategies  
Originally published 2013, Revised 2018

LISC

LISC

# GHAMP! Template

## 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.



# GHAMP! Dashboard

Performance Targets			Color Key													
Heating Energy Intensity (BTU/SF/HDD)	5		Green	Green = at or below the target												
Total Gas Use (kBtu/SF) - sum of last 12 months	40		White	White = above the target and below 110% of the target												
Common Area Electricity (kWh/Common Area SF) - sum of last 12 mos	1.2		Yellow	Yellow = above 110% of the target and below 120% of the target												
Water Use (Gallons / Bedroom / Day) - 12 month average	50		Red	Red = above 120% of the target												
Development	Address	Heating Energy Intensity (BTU/SF/HDD)	Total Gas Use (kBtu/SF)	Electric Use (kWh/Common Area SF)	Water Use (Gal/BR/Day)	Most Recent Energy Audit (year)	Most Recent CNA (year)	Next Rehab / Refi (year)	Utility Efficiency Program Status	Utility Program Priority	Smoke Free? (Y/N)	IPM? (Y/N)	Green Cleaning? (Y/N)	Low VOC used? (Y/N)	Notes	Last Updated
Shady Acres	123 Main Street	7.67	45.4	0.9	49.2	2007	2013	2020	Work Completed	Heating boilers	Y	Y	Y	N		7/1/2018
Shady Acres	125 Main Street	4.63	43.6	2.1	55.0	2007	2013	2020	Applied	Common area lighting	Y	Y	Y	N		7/1/2018
Shady Acres	127 Main Street	7.46	47.2	1.1	96.3	2007	2013	2020	Work In-progress	Heating boilers and water use	Y	Y	Y	N		7/1/2018
Huntington Glen	456 State Ave	5.25	48.3	1.3	56.0	2016	2014	2022	Not Applied	DHW	N	Y	Y	N		1/31/2018
Huntington Glen	458 State Ave	6.36	62.4	1.4	72.0	2016	2014	2022	Not Applied	All systems	N	Y	Y	N		1/31/2018

# Green Cleaning Toolkit, Smoke-Free + IPM Case Studies



*Multifamily property owners and managers recognize that the way buildings are operated can create a healthier living environment, reduce cost and achieve environmental benefits.*

Green cleaning products offer an opportunity to improve health conditions for residents and staff and benefit the environment. Switching to green cleaning products and employing more effective cleaning practices and procurement systems can also save owners money.

## Why switch to green cleaning products?

### Green products are healthier for staff and residents

• **Maintenance Staff Benefit:** Janitors can experience more work related asthma than other occupations.<sup>1,2</sup> Many traditional products include Volatile Organic Compounds (VOCs), which can trigger breathing problems. Some workers find that their hands sting or their skin can be irritated when working with traditional cleaning products.

This toolkit is part of Two Shades of Green (TSG), an initiative that integrates green, healthy and cost effective measures into affordable housing rehabilitation and property maintenance. The aim is to reduce asthma triggers, improve the health and wellness of residents and building staff, and help reduce energy and water usage and lower maintenance costs. TSG is a partnership between LISC New York City, NYC Department of Health and Mental Hygiene, NYC Smoke, Egress and Community Development Corporation partners.

TSG provides targeted technical support to help nonprofit affordable housing owners and property managers implement energy efficiency, water conservation, safe and green pest management, smoke free housing, non-toxic cleaning and active design strategies.

“Providing healthy environments and promoting wellness is central to our mission.”

*Lynne Sales, Director of Resident Services, Peabody Properties*



“Our internal learning process was a critical step in the transition to smoke-free.”

*Mary Cortbell, Senior VP Asset Management, Beacon Communities*





## Policy: QAP Recommendations

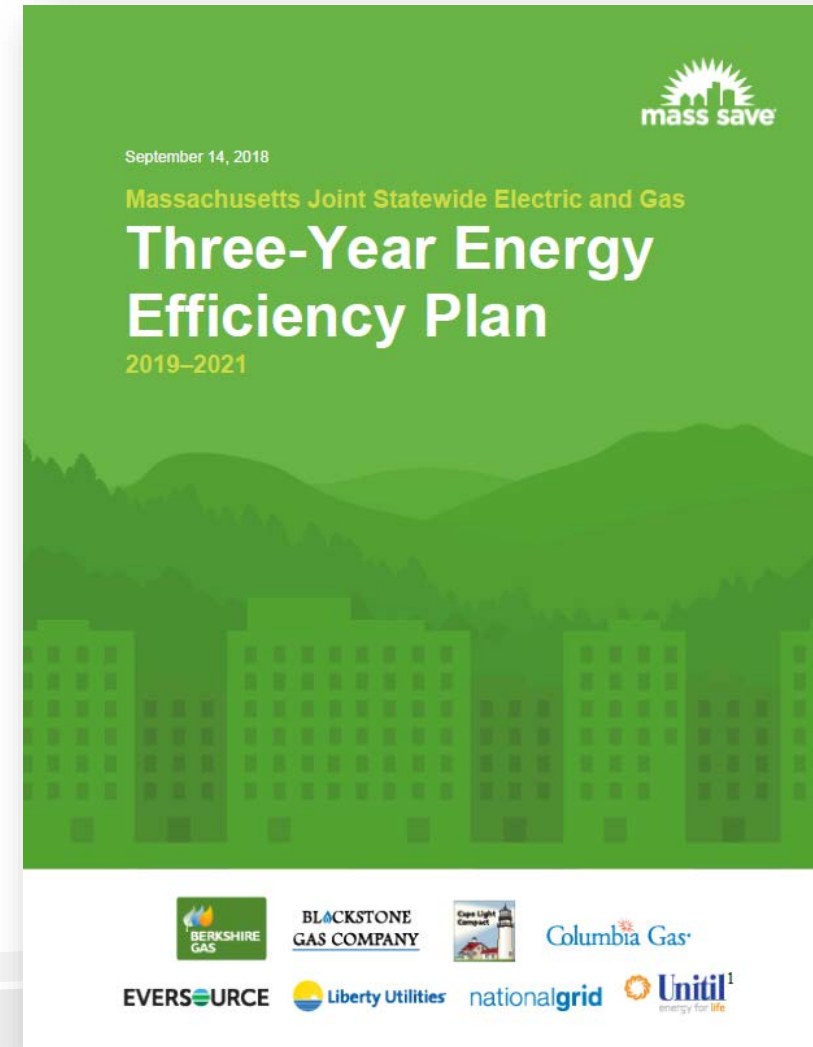
1. Require application to applicable energy efficiency program(s)
2. Benchmark energy and water usage
3. Comprehensive energy audits for projects nearing rehab/refinancing
4. Utilize integrated pest management
5. Require smoke-free housing
6. Provide bonus points for Passive House new construction projects



GreatBridge Attleboro's Bliss School Apartments Solar PV System (Photo Credit: Sparhawk Group).

# Policy: Statewide Energy Efficiency Program Plans

- Passive House Training
- Passive House Incentive Program and Green Design Charrettes for Passive House New Construction Projects
- Inclusion of Low Income and Commercial Energy Storage Programs





# Public Events and Peer Learning Group

- Passive House Forum (January 2018)
- Resilience in Affordable Housing Forum (May 10<sup>th</sup>)
- Upcoming Events: Innovative Financing Strategies Forum (June 10<sup>th</sup>), Benchmarking, Clean Energy Programs, Passive House Lessons, Solar + Storage, Healthy Materials
- Energy Peer Group: Focus on Resiliency, Solar + Storage, Underwriting, Benchmarking, Green Certification Programs, Healthy Housing, Maintenance Staff Training for High-Performance Building Systems, etc.





■ ■ ■ Thank You!

**Emily Jones**

Program Officer, LISC Boston

[ejones@lisc.org](mailto:ejones@lisc.org) ■ 617.410.4336

