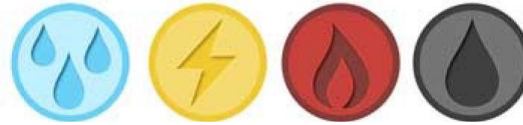




wegowise



Energy & Water Performance Benchmarking for Multifamily Housing

SustainableCT Training:
Glastonbury, CT

July 30, 2018



CT Green Bank



Support the Governor's and Legislature's energy strategy to achieve cheaper, cleaner, and more reliable sources of energy while creating jobs and supporting local economic development

- Attract and deploy private capital to finance the clean energy goals for Connecticut
- Leverage limited public funds with multiples of private investment, returning and reinvesting public funds for further clean energy deployment
- Develop and implement strategies that bring down the cost of clean energy in order to make it more accessible and affordable to consumers
- Support affordable and healthy homes and businesses in distressed communities **reduce energy burden** and **address health & safety**



Over 8 years, WegoWise has developed the **largest database** of multifamily energy consumption in the United States.



1.4M
Units



58k
Buildings



700
Utilities

Our Goal? To make real estate data **accessible and useful**

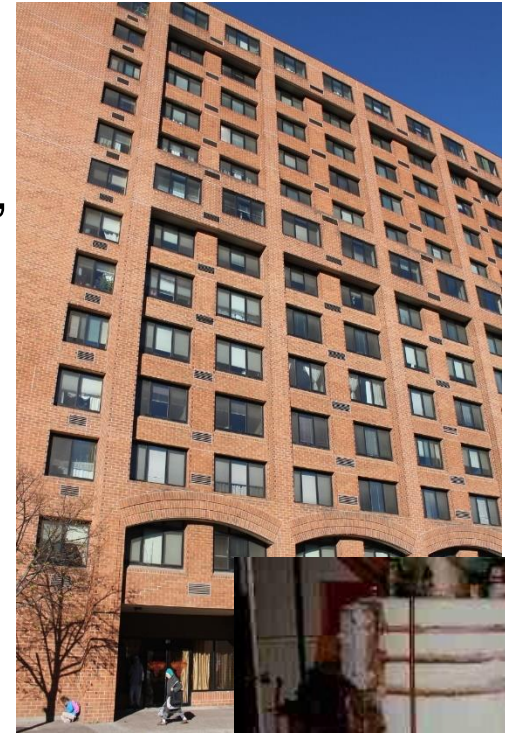


Benchmarking ▶ Sustainability ▶ Profit

Why is this important?

High Building Energy Costs in CT

- Among the highest energy costs in the US
- Resi buildings spend \$5.2 billion/year to heat, cool, light and provide hot water – more than state’s budget for health care or education
- Low income residents are hardest hit – having to make choices between food, medicine, utilities.
- For LMI residents living in multifamily housing, opportunity to reduce energy costs by more than \$65 Million per year!



Contents

- What is benchmarking and why it is a valuable tool for multifamily owners and managers?
- Glastonbury example: *Herbert T. Clark Assisted Living*
- Resources available to take the next steps
- Before and after example illustrating impact of energy upgrades
- What is the SustainableCT action: “*Benchmark Energy and Water Use for Multifamily Housing*” ?
- Benchmarking platforms for multifamily housing

What is a benchmark and why is it a valuable tool?



- A data-based value you can compare building performance against
- Calculated based on the usage of other similar buildings
- Factors to consider may include
 - Building location
 - Building size
 - Building age
 - System types
 - Metering arrangement

How is my building, or portfolio of properties, using energy and water resources and are there opportunities for energy and cost savings?

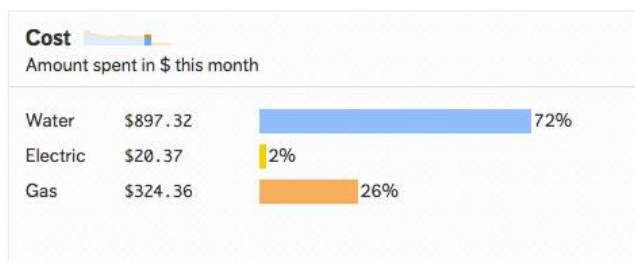
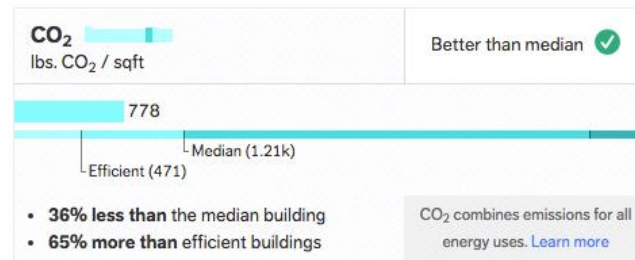
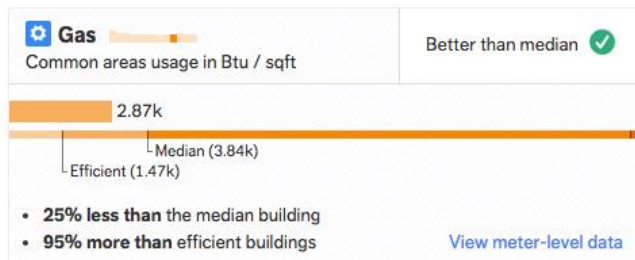
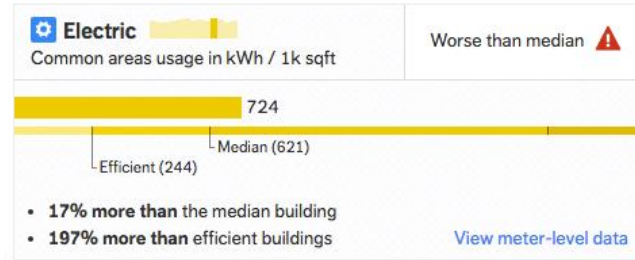
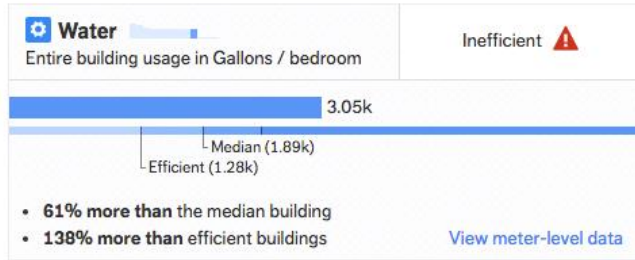
1. Identify inefficient properties

Relative performance of buildings in your portfolio - Every point is a building. The top right are problems that need attention



2. Compare to Similar Buildings

< Nov **Dec 2015** Jan > Monthly Annual

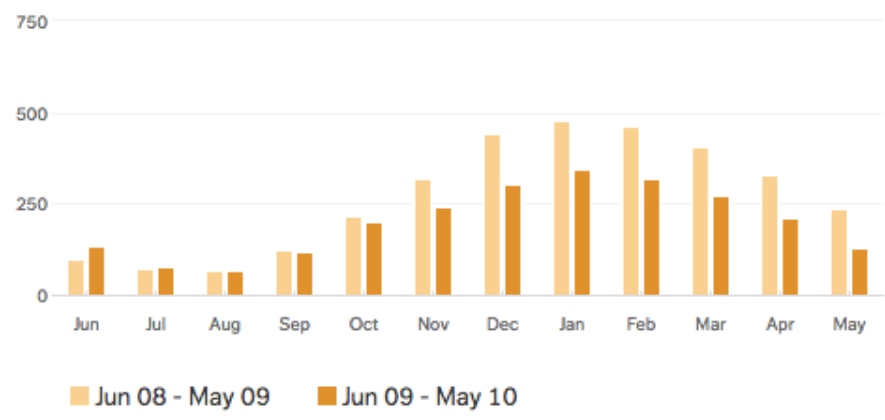


3. Quantify Savings/Identify Issues

Gas: Btu per square foot



Savings of 26%. Usage reduced from 98.2k to 73k .



Before: Old a.o. smith ~68% efficient boiler, uninsulated basement

After: New slant/finn 84% efficient boiler, basement ceiling insulated with foam

Cost: \$23,000.00

Expected savings: 22%

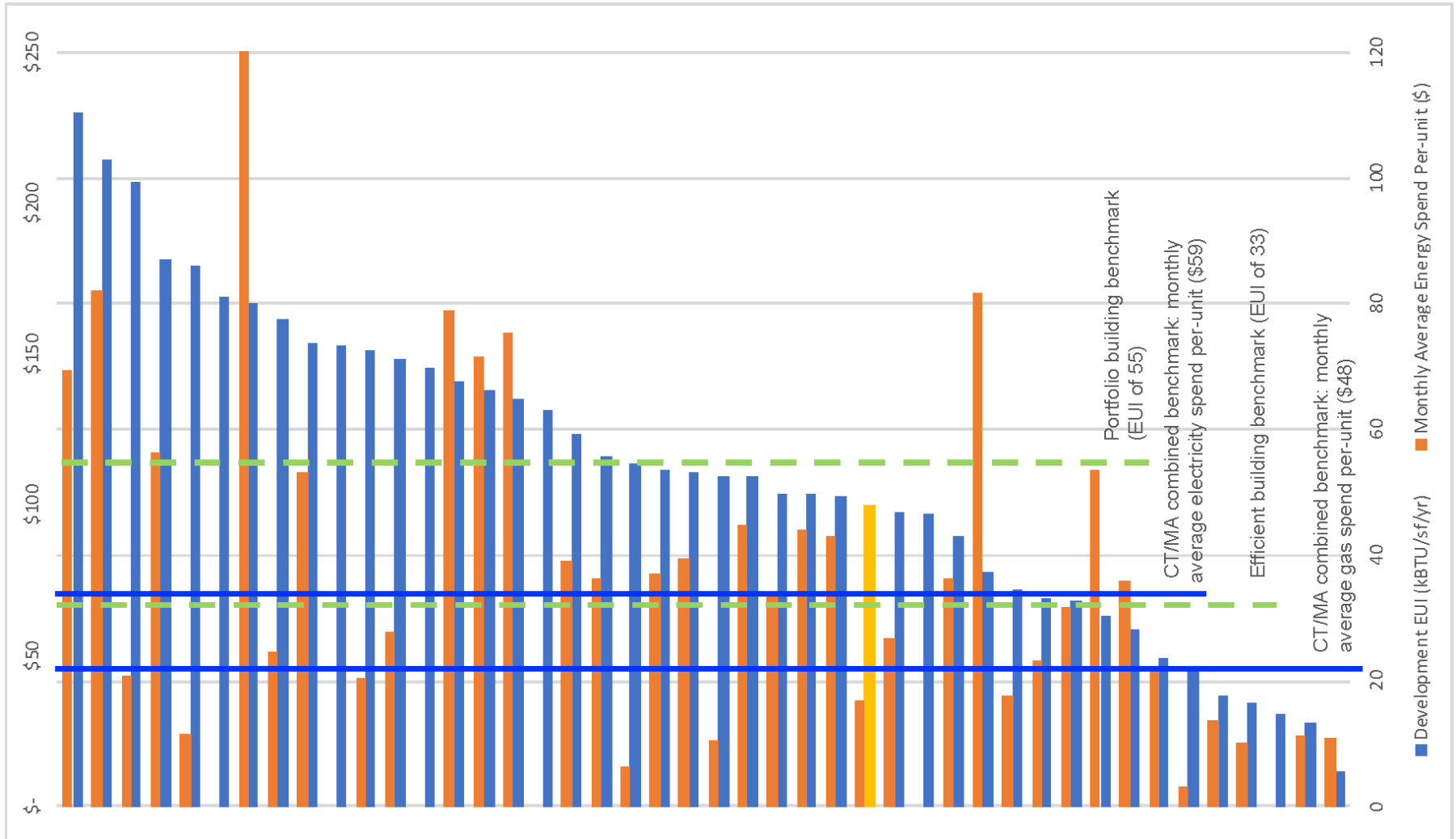
Categories:

- HVAC — Heating — Mechanical Equipment
- Building Envelope — Insulation — Foundation

Benchmark CT: Energy Usage



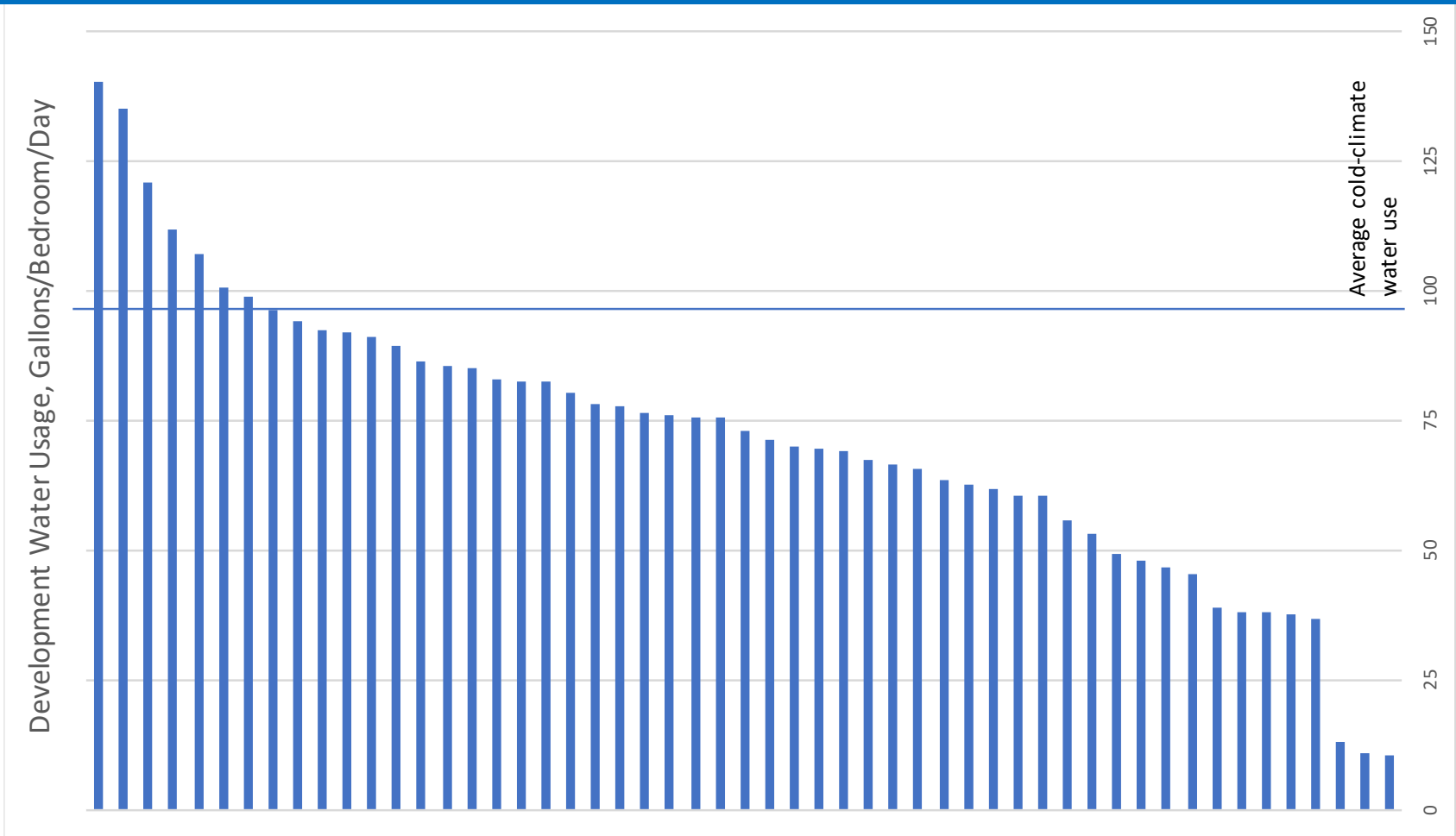
Benchmarking confirms high energy usage and costs



Benchmark CT: Water Usage



More properties are inefficient than not and water measures often have the fastest payback.



Glastonbury Example: Herbert T. Clark Assisted Living

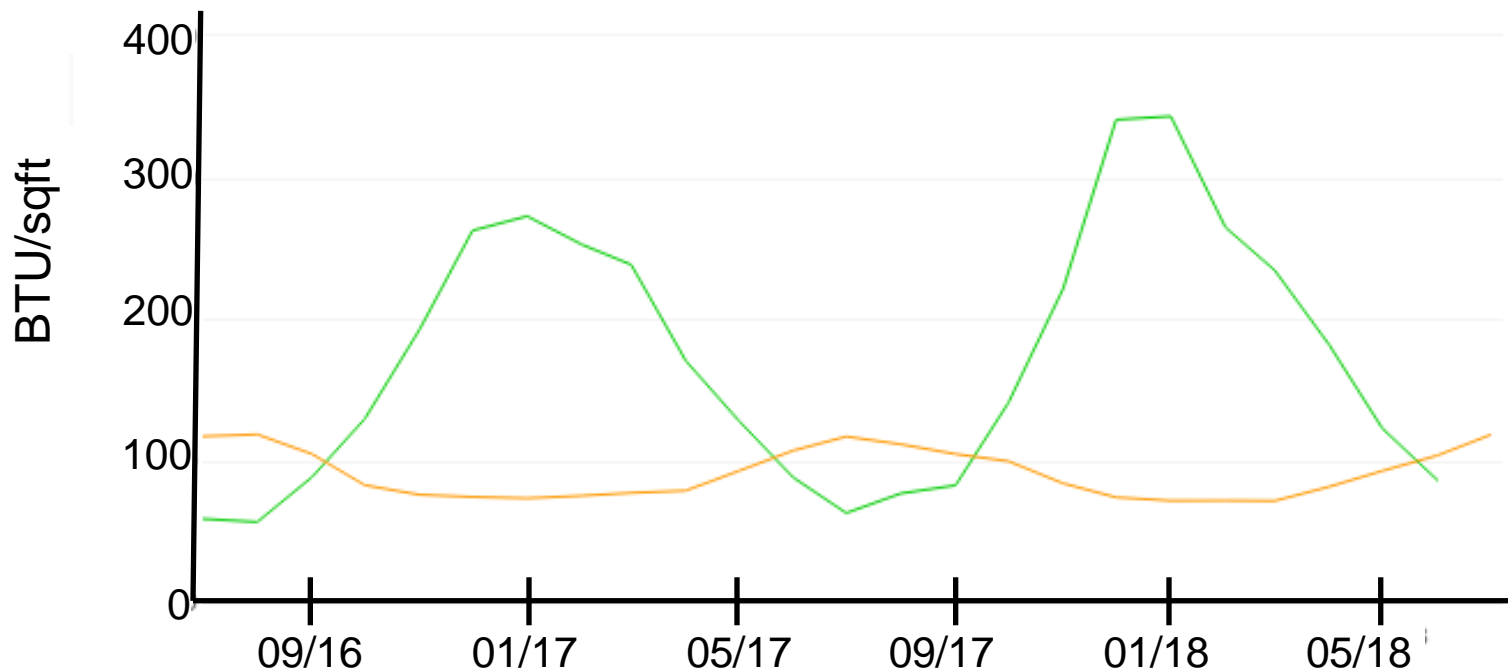


Glastonbury Example: Herbert T. Clark Assisted Living



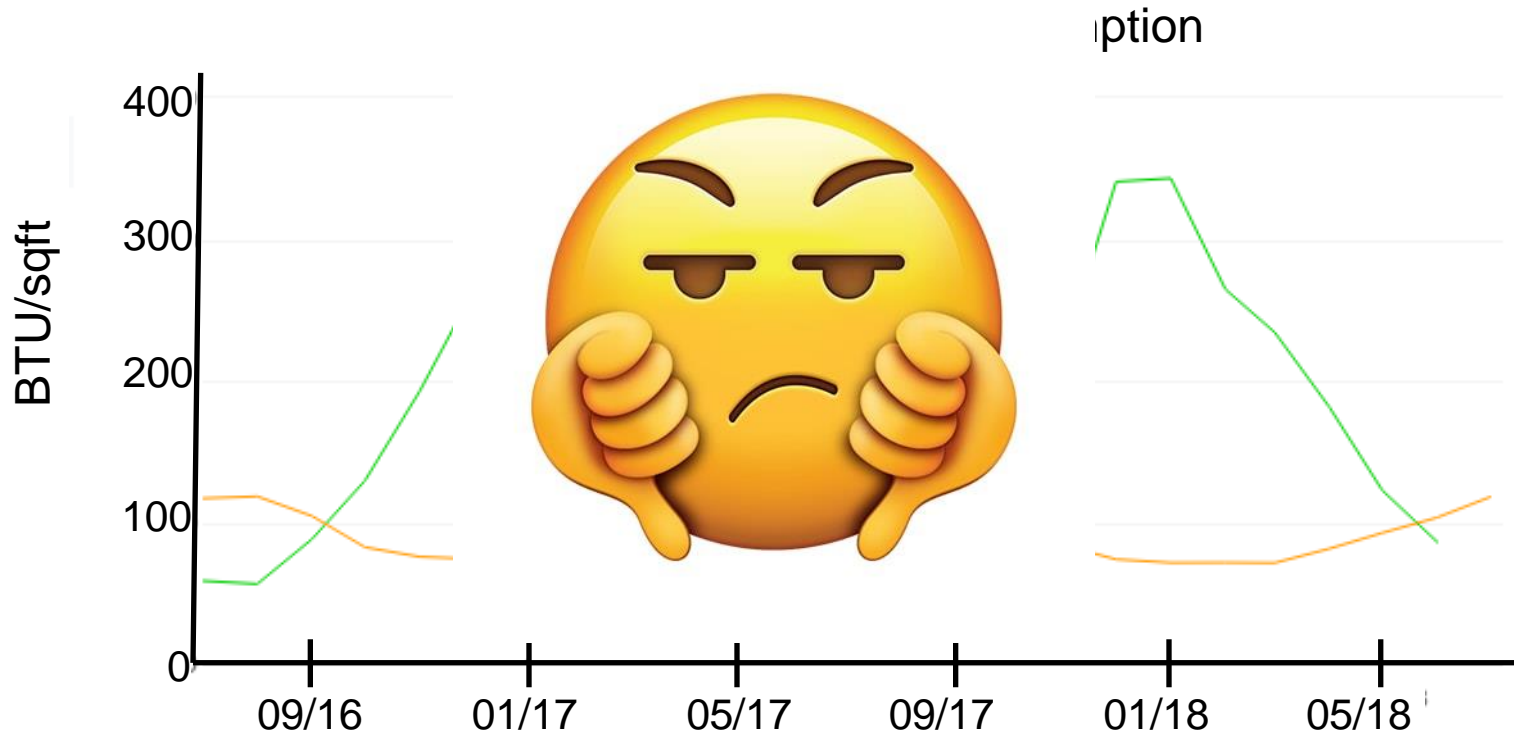
Year built	Unit count	Bedrm count	Gross Area	Owner paid utilities	Electric EUI	Gas EUI	Total EUI
2004	25	25	22,326	Electric and Gas	32.9	65.7	98.6

Property Energy Consumption



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Next steps to consider. . . .



Herbert T. Clark Assisted Living:

- **Lighting** - Are there opportunities to install LED bulbs and/or fixtures that accept LED bulbs (include site lighting)?
- **High efficiency equipment** - Are there cost effective opportunities for replacing or upgrading heating, air-conditioning, laundry, ventilation or cooking equipment? How about pumps?
- **Controls** - Are smarter controls appropriate?
- **Building Envelope** - Is there insulating potential? Is there an opportunity to caulk? Can the AC sleeves be sealed and/or upgraded?
- **Solar-PV** - Is there an opportunity?
- **Resident Education and Participation** - Training, informational signage, contests.

Resources available to take the next steps



- What should I do and how do I fund the work?
 - Pre-Development loans
 - TA & incentives from the utility companies
 - Construction and term loans
 - Monitoring & verification of performance
 - Commissioning

Unlocking Cash Flows to Make Improvements



Before and After Impact

Unlocking Cash Flows with Unsecured LIME Loan



East Meadow Condo Association, Manchester, CT



Description:	Lighting, boilers, roof replacement, insulation
Total Project Costs:	\$654,000
Utility Incentives:	<u>\$34,000</u>
Financed:	\$620,000
Estimated Annual Savings:	\$79,000
Annual Debt Service:	\$53,000, 1.48 DSCR
Financing Terms:	20 years, 6.00%
Payback Period:	7.8 years

www.ctgreenbank.com/our-stories/#multifamily

Energy improvements yield significant savings, unlocking cashflows that cover debt service – often for additional improvements such as needed structural, health or safety work.

Multifamily Loan Programs



Technical assistance and financing to help owners save money on energy, increase property values, and improve tenants' safety & comfort.

Pre-Development Resources

Sherpa Loan

- Designated service provider
- Standardized process & fee schedule



Navigator Loan

- Client managed contractor(s)
- Customized technical services



Project Financing

LIME

- Low Income Multifamily Energy
- Affordable
- Unsecured



Solar

- Solar projects only
- Commercial solar lease



Catalyst Fund

- Flexible low-cost financing
- Energy & health/safety



SustainableCT action: *“Benchmark*

Energy and Water Use for Multifamily Housing”



<https://sustainablect.org/actions-certifications/actions/#open/action/24>

Benchmarking platforms for multifamily housing:



- WegoWise, BrightPower, Portfolio Manager, others

CT Green Bank

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