



HUD Green Academy

Course 4

Financing Green Building

Syllabus

Course Summary

This course reviews the U.S. Department of Housing and Urban Development (HUD) program regulations and incentives for the green rehabilitation and energy efficient upgrades of existing projects. It also provides an overview of other local and federal incentives, tax credit programs, utility company partnerships, and foundation funding opportunities, highlighting the application of such incentives in real projects. This course targets development professionals working with HUD grantees, affordable housing practitioners and participating jurisdictions. Approaches for determining project scope and feasibility are also discussed.

Course Objectives

- Identify HUD funding programs for rehabilitation projects incorporating energy and water efficiencies for public housing, multifamily, and affordable housing preservation projects
- Identify opportunities to incorporate energy and water conservation measures (ECMs) and renewable energy in project scope
- Understand how to evaluate a building portfolio and assess the feasibility of a sustainable project scope
- Understand federal and local green building incentives and partnerships, how to access them and what one needs in preparation for these partnerships.

Module #1	Introduction to Financing Green Building
Module #2	Project Scope: Finding and Assessing Opportunities
Module #3	HUD Funding Programs
Lunch	
Module #4	Financing Programs and Strategies
Module #5	Funding Soft Costs
Module #6	Which Funding Options Are Right for You?
	Review and Course Evaluation

Module 1

Introduction to Financing Green Building

Solution	Insights and Questions	Rate
Evaluating Your Portfolio		1. No Action 2. Planning 3. Forming 4. Developed
Integrated Design		1. No Action 2. Planning 3. Forming 4. Developed
Local Utility Costs		1. No Action 2. Planning 3. Forming 4. Developed
Comprehensive Measures		1. No Action 2. Planning 3. Forming 4. Developed
Internal Capacity		1. No Action 2. Planning 3. Forming 4. Developed
Identifying Partners		1. No Action 2. Planning 3. Forming 4. Developed

What next steps can you personally take to expand opportunities to finance green building?

Timing	Next Steps	Resources/Info Needed
Short		
Short		
Medium		
Medium		

Exercise 1

Portfolio Benchmarking

You are part of the senior development team for Beanville Community Housing, a medium-sized nonprofit in a small town of 75,000 people about 150 miles from the state capital. The local mayor has been highlighting sustainable initiatives around the city, such as a city-wide recycling program, the creation of twenty miles of bike lanes, and a program to reduce energy and water use at public schools across the county while providing educational opportunities for students and training for recent graduates. These initiatives are part of an overall sustainability plan for the community that the mayor intends to announce in three months, titled “GreenBean 2030: A Growth Plan for Beanville.”

With this background, your Executive Director recently returned from a regional HUD conference that highlighted the potential of green building and sustainability to improve affordable housing outcomes, as well as some of the financing opportunities for doing so. She has asked your team to identify a project that would be a good candidate for green building improvements, and of course to develop a financing plan.

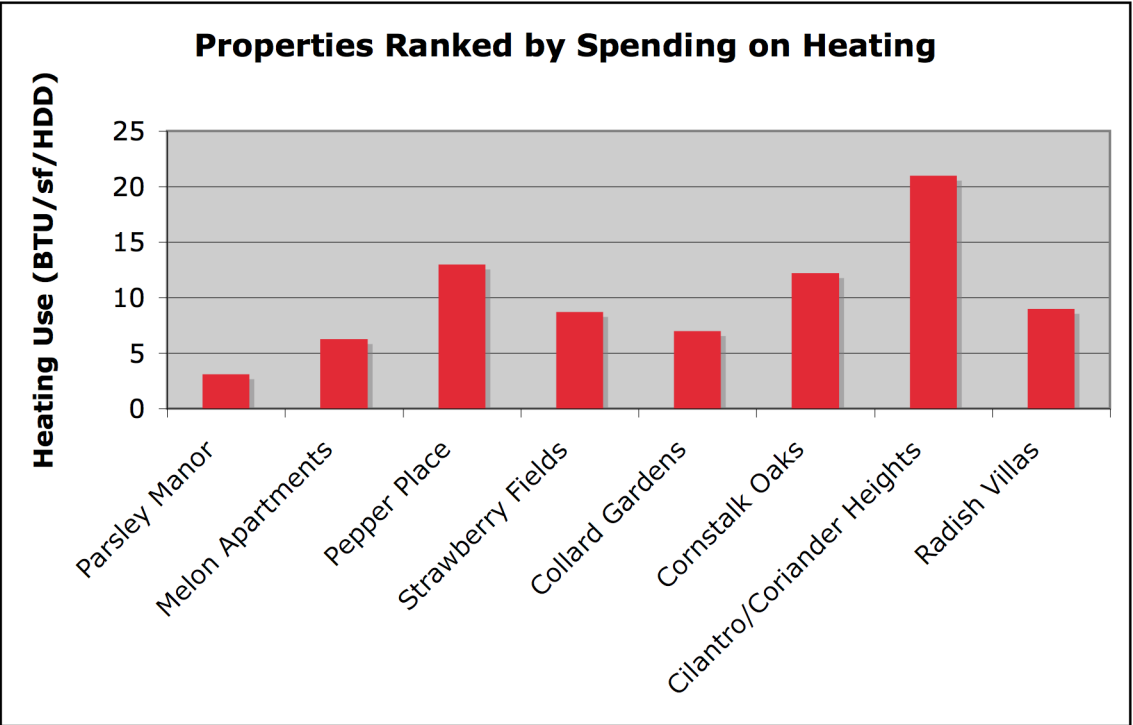
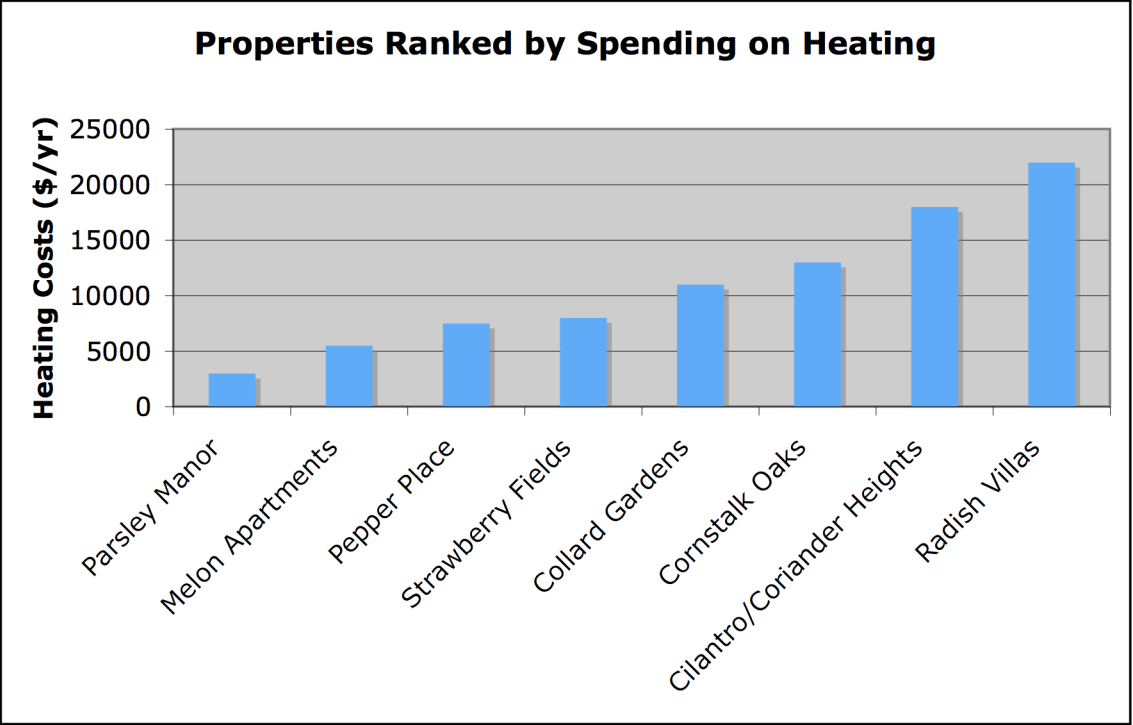
Your team’s first step was to gather a full year of utility data from each of the eight major properties in the Beanville Community Housing portfolio and to utilize an online benchmarking program to identify which properties would present the best opportunities for energy savings. The team also entered data into HUD’s online Residential Energy Use Benchmarking Tool and HUD’s Residential Water Use Benchmarking Tool.

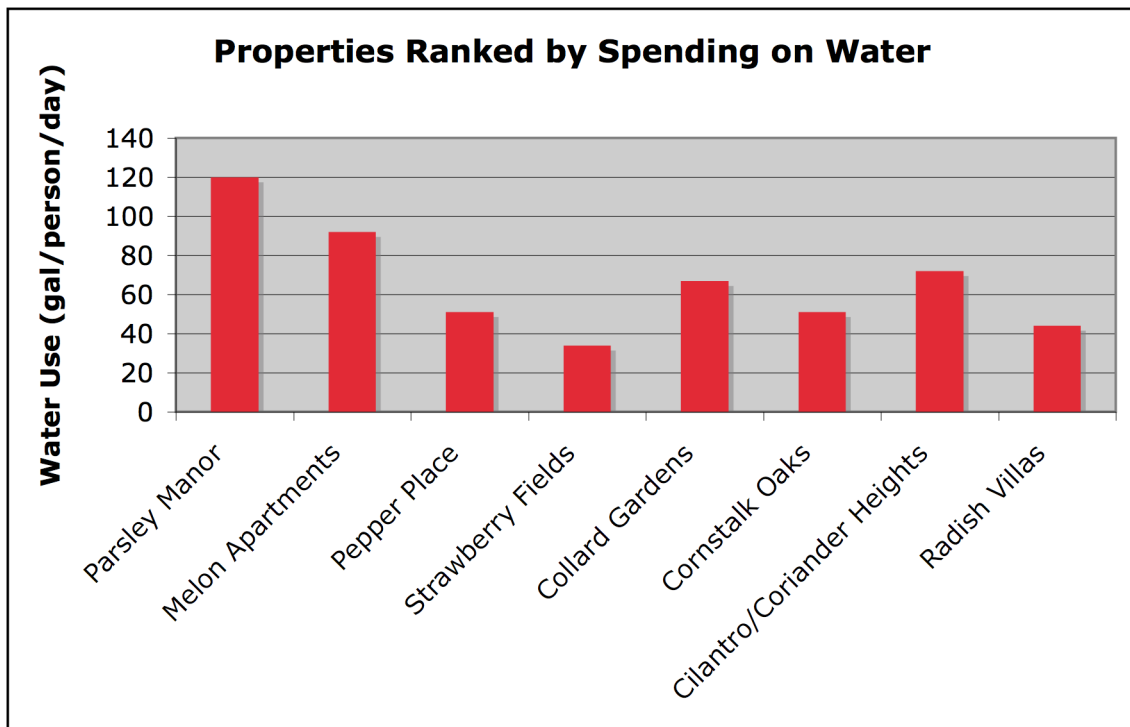
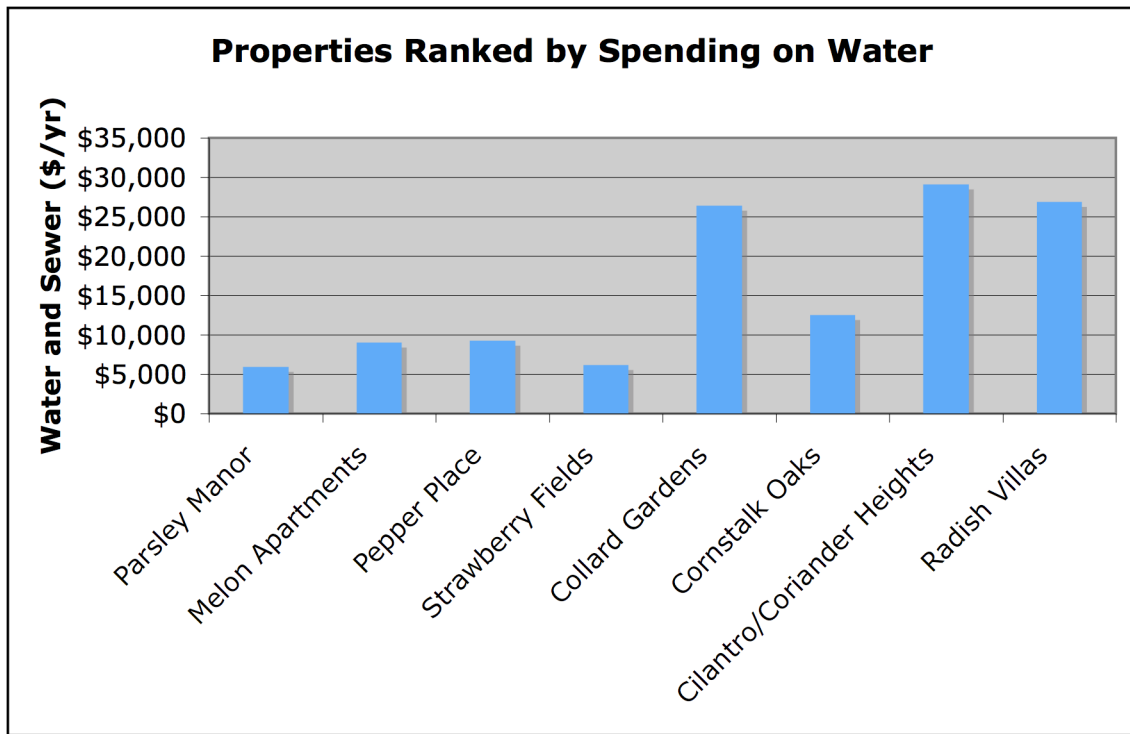
Property Name	Unit Count	Bldg Type	Meter	Year Built
Radish Villas	374	MF	Master	2001
Collard Gardens	216	MF	Master	1970
Strawberry Fields	75	Townhomes	Individual	2005
Parsley Manor	24	MF	Individual	1992
Melon Apartments	40	SF	Master	1979
Cilantro/Coriander Hts	303	MF	Master	1976
Pepper Place	118	Townhomes	Individual	1998
Cornstalk Oaks	192	Midrise	Master	1955

Overall, you learned that there is a wide range of utility usage and costs, and that newer buildings are not necessarily cheaper to run, nor are buildings where tenants pay many of their own utilities any different from properties with a single meter. Indeed, some properties that have high costs are actually more efficient once the number and size of units were taken into account. At the same time, properties of roughly equal efficiency may have widely different costs simply due to the source of fuel used.

The following pages include additional data from the benchmarking exercise showing the Beanville portfolio. Please work in a small group to decide on a specific project in the Beanville portfolio that you think would make the best candidate for a green retrofit, based on the limited information provided here.

- **Goal: Identify and discuss a specific project in the Beanville Community Housing portfolio that you think would make the best candidate for a green retrofit.**





Module 2

Project Scope: Finding and Assessing Opportunities

Solution	Insights and Questions	Rate
Capital Scope Checklist		1. No Action 2. Planning 3. Forming 4. Developed
Energy Audit/ Benchmarking		1. No Action 2. Planning 3. Forming 4. Developed
Measurement & Verification		1. No Action 2. Planning 3. Forming 4. Developed
On-Site Renewables		1. No Action 2. Planning 3. Forming 4. Developed
Staff/Resident Training		1. No Action 2. Planning 3. Forming 4. Developed

What next steps can you personally take to help find and assess opportunities for green improvements?

Timing	Next Steps	Resources/Info Needed
Short		
Short		
Medium		
Medium		

Exercise 2

Green Capital Needs Assessment

Based on your team's review of the utility data and an assessment of existing capital needs and project pipeline, you have commissioned a full Green Capital Needs Assessment (GCNA) from an experienced firm, including (1) a 20-year assessment of capital needs, (2) an analysis of costs and savings from both traditional and green alternatives, (3) an integrated pest management assessment, and (4) a rough projection of immediate rehab costs and annual investment.

A summary of the GPCA report will be handed out. Please review these materials with your team and discuss specific recommendations you would like to proceed with.

- **Goal: Identify and discuss specific components recommended by the GPCA report for inclusion in a green rehab project.**

Module 3

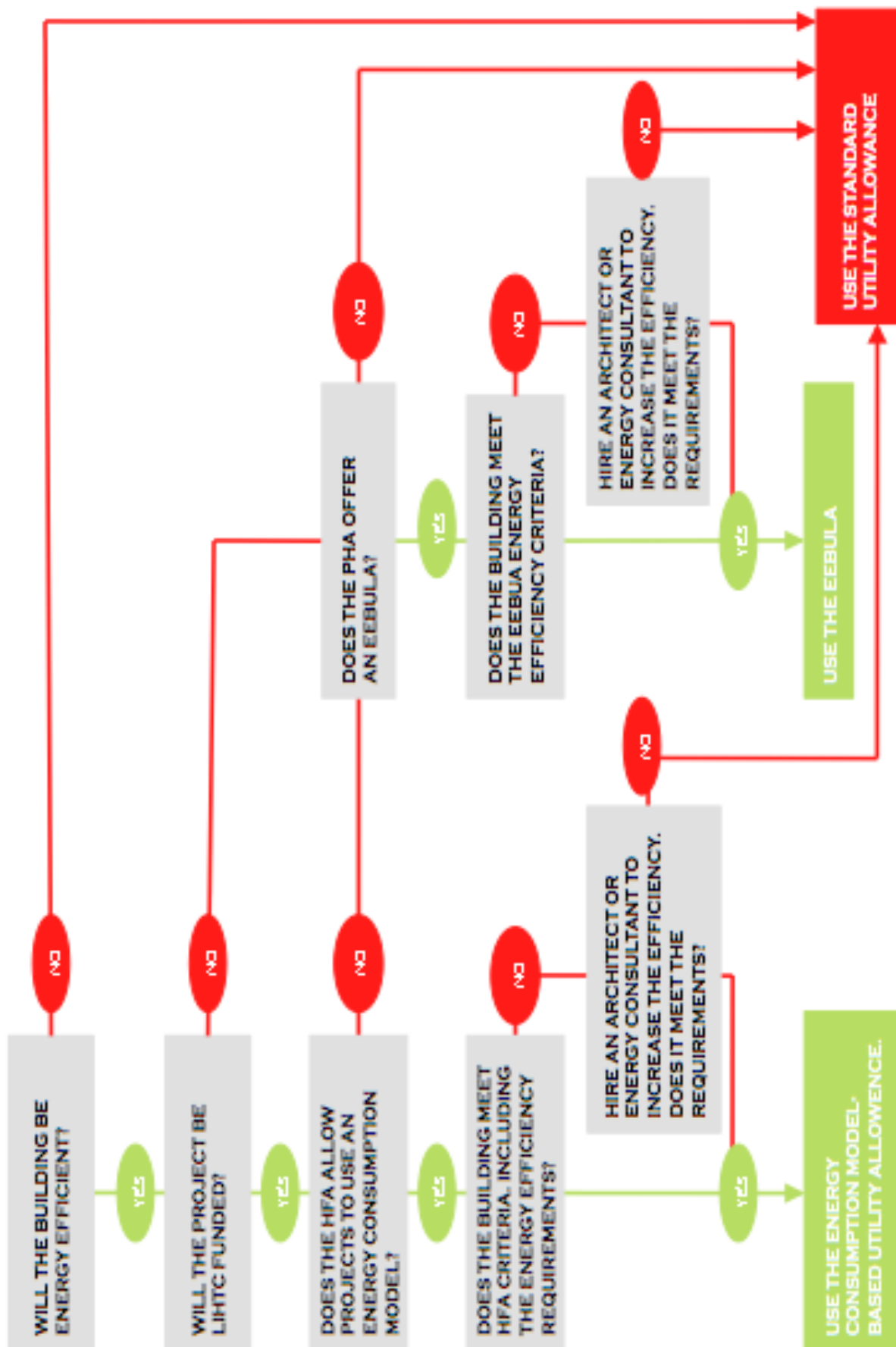
HUD Funding Programs

Solution	Insights and Questions	Rate
CPD Programs		1. Applicable 2. Reviewing 3. Doing 4. N/A
OAHP Mark to Market		1. Applicable 2. Reviewing 3. Doing 4. N/A
PIH: Capital Funds-EPC-RAD		1. Applicable 2. Reviewing 3. Doing 4. N/A
Fannie Mae Green Refi Plus		1. Applicable 2. Reviewing 3. Doing 4. N/A
FHA Multifamily		1. Applicable 2. Reviewing 3. Doing 4. N/A
FHA Single Family		1. Applicable 2. Reviewing 3. Doing 4. N/A
HUD Regional Planning		1. Applicable 2. Reviewing 3. Doing 4. N/A

What next steps can you take to utilize specific HUD funding programs?

Timing	Next Steps	Resources/Info Needed
Short		
Short		
Medium		
Medium		

Financing Program	Nonprofit Owners	For profit owners	Public Housing Authorities	Green Building Incentives	Green Building Requirements	Investment Grade Energy Audit	Data Collection	From HUD	From State	Local	Private Financing	Competitive Allocation	Formula
Neighborhood Stabilization Program (NSP)	X	X	X	X				X				X	
HOME and other CPD Funds	X	X	X					X					X
PHA Capital Funds			X					X					X
Choice Neighborhoods/HOPE VI	X	X	X		X			X				X	
Rental Assistance Demonstration (RAD) program			X		X	X					X	X	
Energy Performance Contract (EPC)			X		X	X					X		X
HUD Section 202/811	X	X						X				X	
HUD M2M	X	X		X		X	X	X					X
FHA Single Family	X	X									X		X
FHA Multifamily	X	X									X		X
OSHC Regional Planning Grants					X			X				X	
DOE Weatherization Assistance Program (WAP)	X	X	X		X			X				X	
Low Income Housing Tax Credits (LIHTCs)	X	X	X	X	X				X			X	
Foundation Grants	X	X	X								X	X	
Utility Community Benefit Funds	X	X	X		X					X		X	



Module 4

Financing Programs and Strategies

Solution	Insights and Questions	Rate
Renewable Energy Credits		1. Applicable 2. Reviewing 3. Doing 4. N/A
Energy Bonds		1. Applicable 2. Reviewing 3. Doing 4. N/A
Weatherization Assistance		1. Applicable 2. Reviewing 3. Doing 4. N/A
State Loans and Rebates		1. Applicable 2. Reviewing 3. Doing 4. N/A
ESCO Savings		1. Applicable 2. Reviewing 3. Doing 4. N/A
PPAs		1. Applicable 2. Reviewing 3. Doing 4. N/A
Utility Programs		1. Applicable 2. Reviewing 3. Doing 4. N/A

What next steps can you take to utilize non-HUD financing programs?

Timing	Next Steps	Resources/Info Needed
Short		
Short		
Medium		

Medium		
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Exercise 3

HUD Funding Programs

Based on the results of the GPCA, your team has decided to proceed with all immediate recommendations. Those recommendations include replacing shower heads and faucets, HVAC in-unit heating, bath exhaust fans, kitchen floor coverings, bathtubs, in-unit lighting fixtures, and installing CO detectors in each unit. The GPCA also recommended that the property management staff be trained and certified as Green PMs, and that a utility monitoring system be implemented.

Overall, the total initial improvements and investments will cost approximately \$2.2 million, or \$10,185 per unit. Please review the financing summary chart provided in Module 3 and discuss possible means of financing this retrofit project. Improvements may be funded from a single source or multiple sources.

For this exercise, presume that the property is owned by an entity most similar to those typically worked with by the individual participants in the exercise. For example, if one person works for a city financing agency, look for funding options that would be available to typical recipients of those city funds. Feel free to use personal experiences or knowledge of existing funding issues in your community to enhance the discussion.

- **Goal:** Identify an appropriate source of financing, or multiple sources, to support and perhaps expand the property retrofit

Module 5

Funding Soft Costs

Solution	Insights and Questions	Rate
Green and Healthy Homes		1. No Action 2. Planning 3. Forming 4. Developed
Charitable Foundations		1. No Action 2. Planning 3. Forming 4. Developed
Other Local Partners		1. No Action 2. Planning 3. Forming 4. Developed

What next steps can you personally take to access funding for soft costs associated with green building?

Timing	Next Steps	Resources/Info Needed
Short		
Short		
Medium		
Medium		

Module 7

Which Funding Options Are Right for You?

Solution	Insights and Questions	Rate
Portfolio Assessment		1. No Action 2. Planning 3. Forming 4. Developed
Potential Pitfalls		1. No Action 2. Planning 3. Forming 4. Developed
Choosing Partners		1. No Action 2. Planning 3. Forming 4. Developed
Key Documents		1. No Action 2. Planning 3. Forming 4. Developed

What next steps can you personally take to improve safety, health and accessibility?

Timing	Next Steps	Resources/Info Needed
Short		
Short		
Medium		
Medium		

Green Affordable Housing Action Plan

My vision for the role of sustainability in advancing the mission of my organization is:

In order to advance this vision, within the next **three months** I will:

As a first step to achieving this vision, within the next **two weeks** I will:

I will measure the success of this effort over time by:

Upon returning to work, I will reach out to in order to:

Organization or Person _____

I will also explore resources or partnerships that will enable me to:

Insert Goal or Intent _____

Possible additional Next Steps to incorporate green building and sustainability into your work and your agency:

- ☐ Gather and enter utility data for an existing building into Portfolio Manager or another third party energy benchmarking program (e.g. WegoWise, EnergyScoreCards)
- ☐ Contact local utility for information on residential energy efficiency programs and incentives (including energy audits)
- ☐ Conduct a healthy homes assessment
- ☐ Sign up for additional training towards a green building or healthy housing certification (e.g. LEED AP, BPI, NHCC)
- ☐ Organize or participate in an integrated design charrette for a current project
- ☐ Revise internal procurement policies to emphasize green cleaning products
- ☐ Contact a local green building or environmental nonprofit to conduct an energy audit for a residential property or administrative office
- ☐ Download the Enterprise or other green O&M Manual and create/customize an O&M Plan for all residential properties
- ☐ Start or expand a recycling program in your local office (paper, plastic, metals, toner cartridges and electronic equipment)
- ☐ Engage residents to help implement a recycling program in existing residential properties
- ☐ Replace existing light bulbs with energy-efficient compact fluorescent bulbs in the common areas of a residential property or in an administrative office
- ☐ Establish a resident education program to reduce energy and water use, improve occupant health, and encourage recycling (perhaps partner with a nonprofit, university, or other partner)