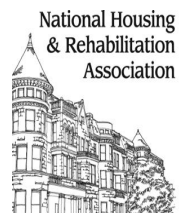

New Opportunities in Affordable Housing Energy Efficiency and Renewables

Presentation by Mercy Housing and
Affordable Community Energy



DISCUSSION TOPICS

- 1 Setting the Stage
- 2 Why Whole Building Retrofits
- 3 Why Not Whole Portfolio Retrofits
- 4 Discussion

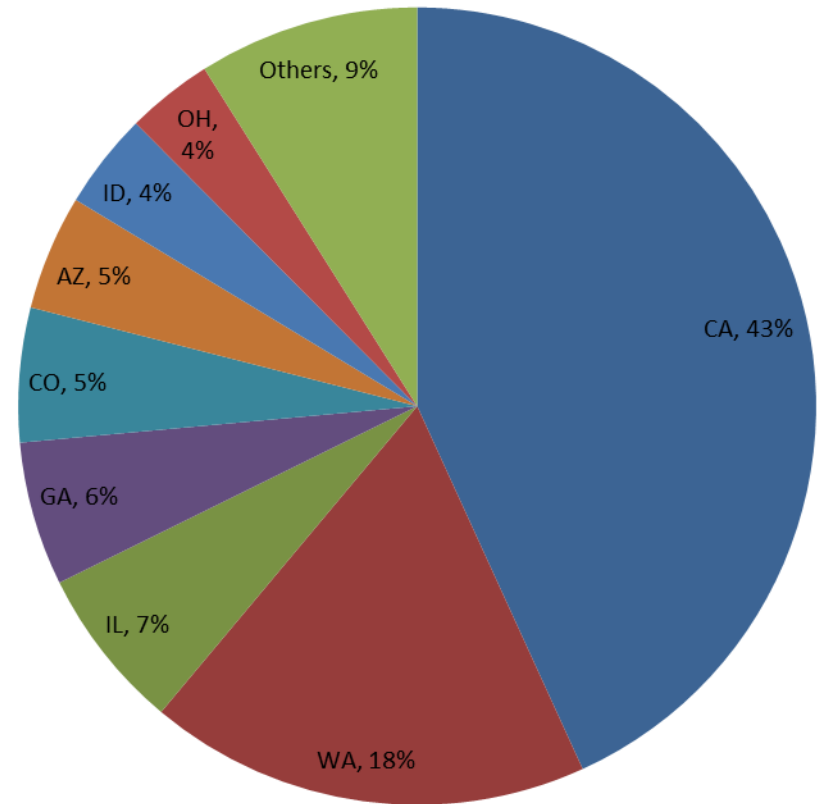


SETTING THE STAGE

MERCY HOUSING

- Affordable housing nonprofit
 - ~280 owned properties
 - ~18,000 units
 - ~16.5M sf (owned)
- Mostly LIHTC, Section 202, Section 8, USDA RD
- Green Hope External Environmental Commitments
 - BBC
 - Enterprise Call to Action
 - Renew300

Number of Properties By State





SETTING THE STAGE

AFFORDABLE COMMUNITY ENERGY (ACE)

- Mission-Driven Energy Services Company
- Whole Building Retrofits
 - Energy Efficiency
 - Water Conservation
 - Renewable, Co-generation and Storage
- Multifamily Affordable Housing
- National
- Turn-key
 - Feasibility/design
 - Installation
 - Management
 - 100% of the capital





SETTING THE STAGE

MERCY HOUSING'S OBJECTIVES, CHALLENGES

- Objectives
 - Reduce operating expenses
 - 20% energy and water reduction portfolio wide
- Financial Barriers
 - Split incentives
 - Owner vs HUD
 - Owner vs Tenant
 - Developer vs Manager
 - Payback periods
 - LOC and loan adversity or inability
 - Non-fungible savings/pencil at each property
- Other Constraints
 - Gaining internal buy-in
 - Diverse portfolio





WHY WHOLE BUILDING RETROFITS?



WHY WHOLE BUILDING RETROFITS

USE IT OR LOSE IT

- Limited benefits from low-hanging fruit
 - Immediate satisfaction
 - But ultimate satisfaction is permanently delayed
- Savings from low-hanging fruit will be lost
 - Management will use it
 - Or HUD will sweep it

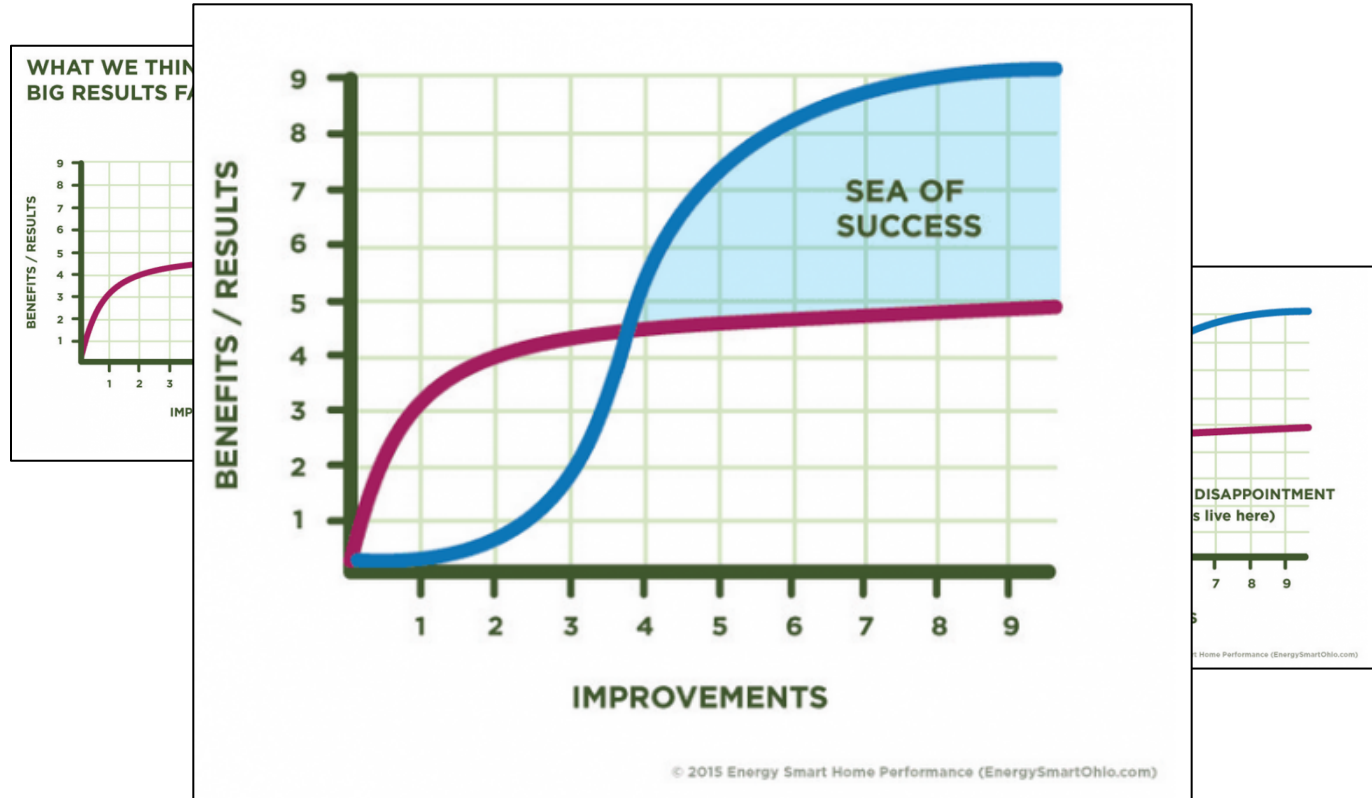




WHY WHOLE BUILDING RETROFITS

USE IT OR LOSE IT

- Properties are “systems,” work needs to be integrated¹

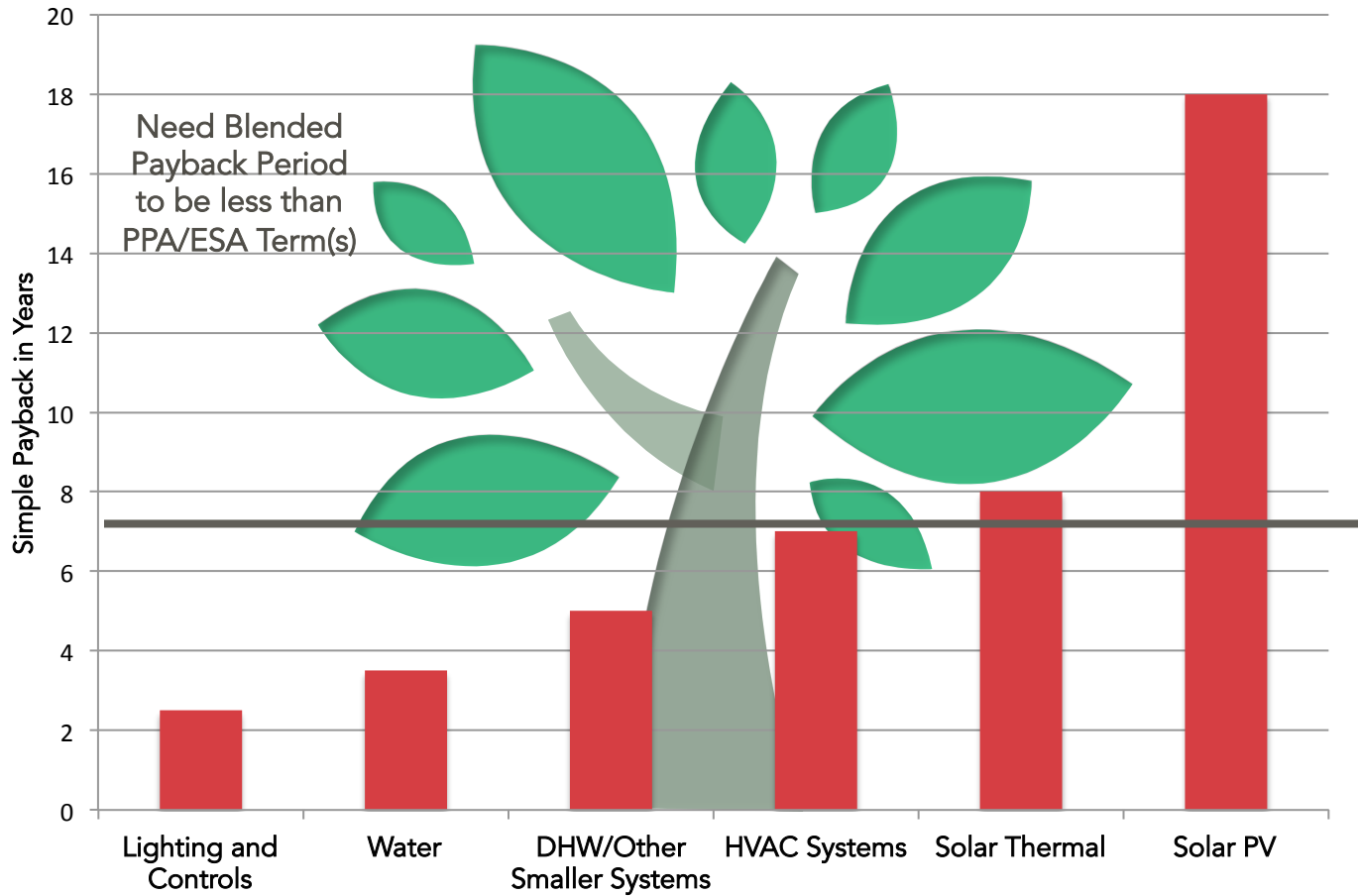


¹ From “How ‘Low-Hanging Fruit’ Has Poisoned Energy Efficiency” by Nate Adams, published online in Greentech Media, Feb. 2, 2015



NOT WHY WHOLE BUILDING RETROFITS—BUT HOW!

USE LOWER HANGING FRUIT TO REACH THE TOP





WHY NOT WHOLE PORTFOLIO RETROFITS



WHOLE PORTFOLIO RETROFITS

ANOTHER FORM OF "LOW-HANGING FRUIT"

Instinct is to focus on the worst offenders in the portfolio

Or

Quickly grab the best incentives

Then couldn't afford to make improvements in many of the other properties

Because the savings will be swept

DON'T LEAVE ANYTHING IN THE BARREL





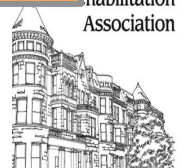
WHOLE PORTFOLIO RETROFITS

BUT THIS APPROACH IS MUCH HARDER

- Challenge
 - 120 Properties +/-
 - Savings goal of >20%
 - Need every possible incentives
 - Goal to do every property, every measure
 - Execute efficiently and effectively
- Advantages
 - Institutional openness
 - Good data
 - California



nal Housing
habilitation
Association





CONCLUSION

