

Paying for Green:

The Costs and Benefits of Green Retrofits and Energy Efficiency

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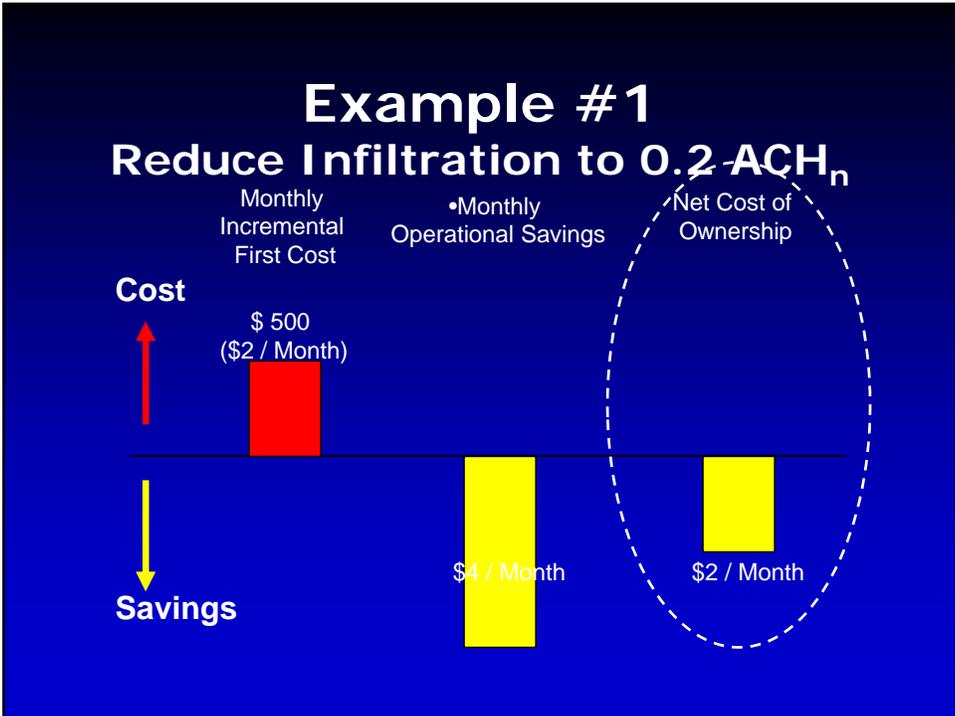
Key Concepts

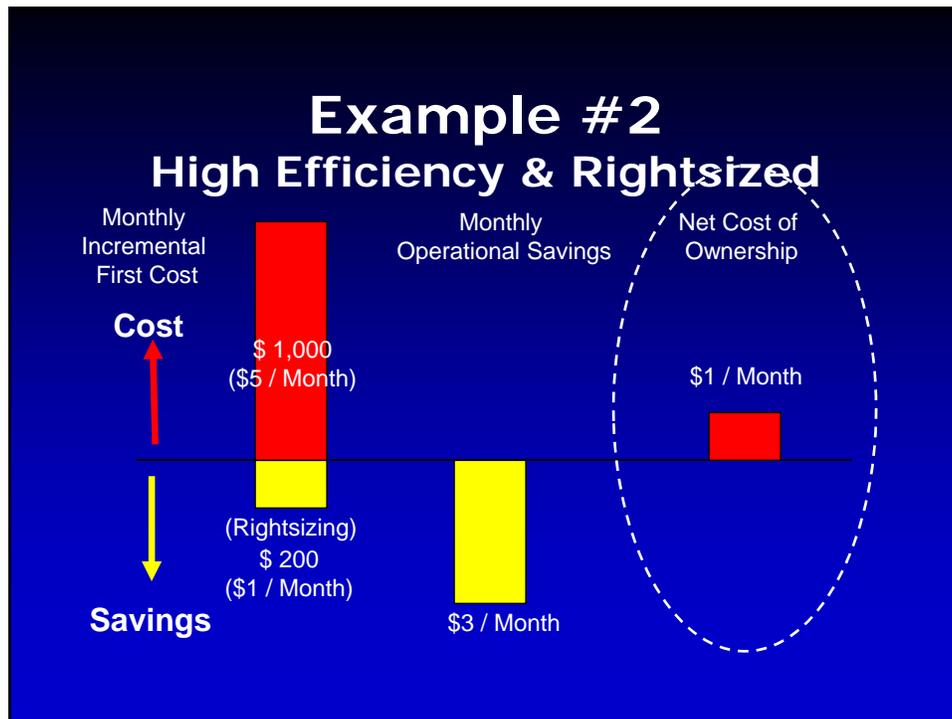
- ❑ **First Costs**
 - Incentives and/or Subsidies
 - Down-Payment
 - Financing
- ❑ **Savings**
 - Energy
 - Water
- ❑ **Cost Effectiveness**
- ❑ **Non-Measurable Benefits**
 - Health, Comfort, Durable



How to Measure Cost Effectiveness?

- ❑ Simple Payback
- ❑ Rate of Return
- ❑ Net Cost of Ownership
= Monthly Cost - Monthly Savings

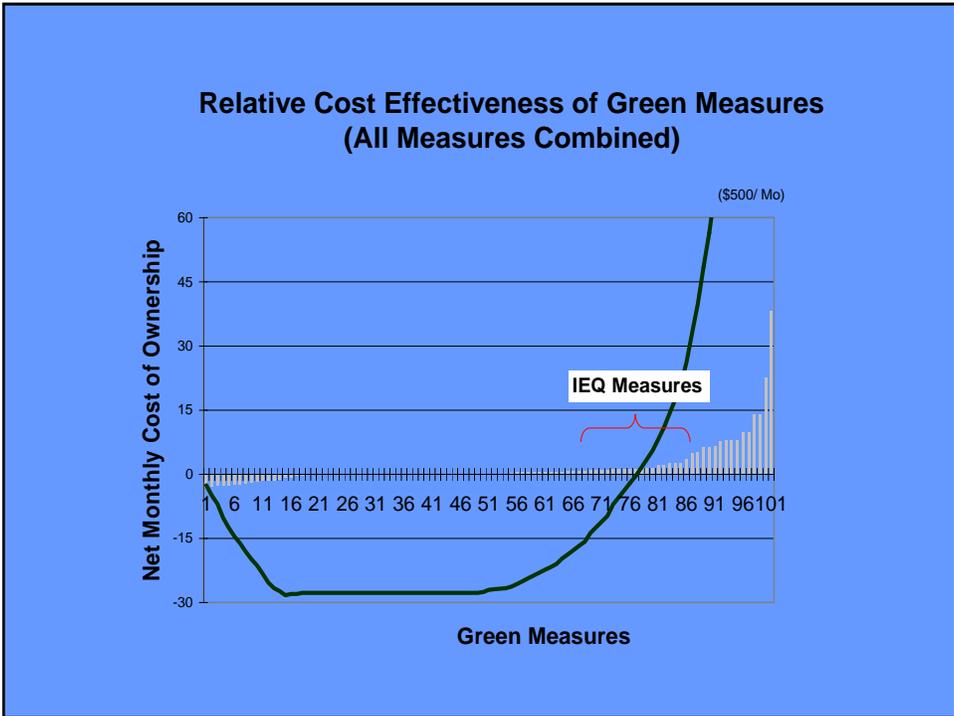
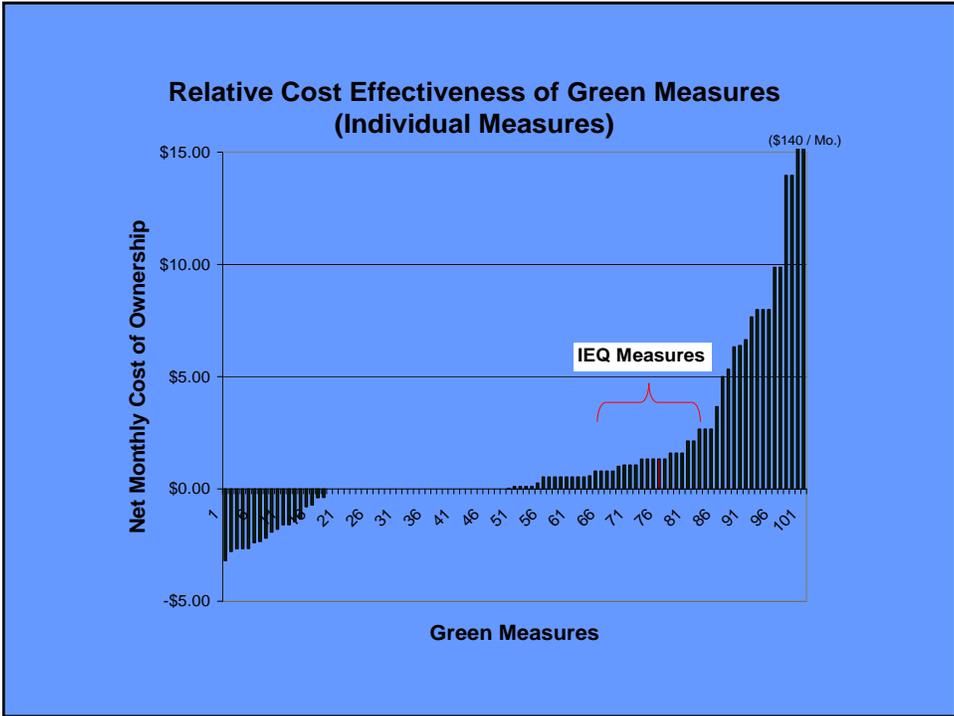


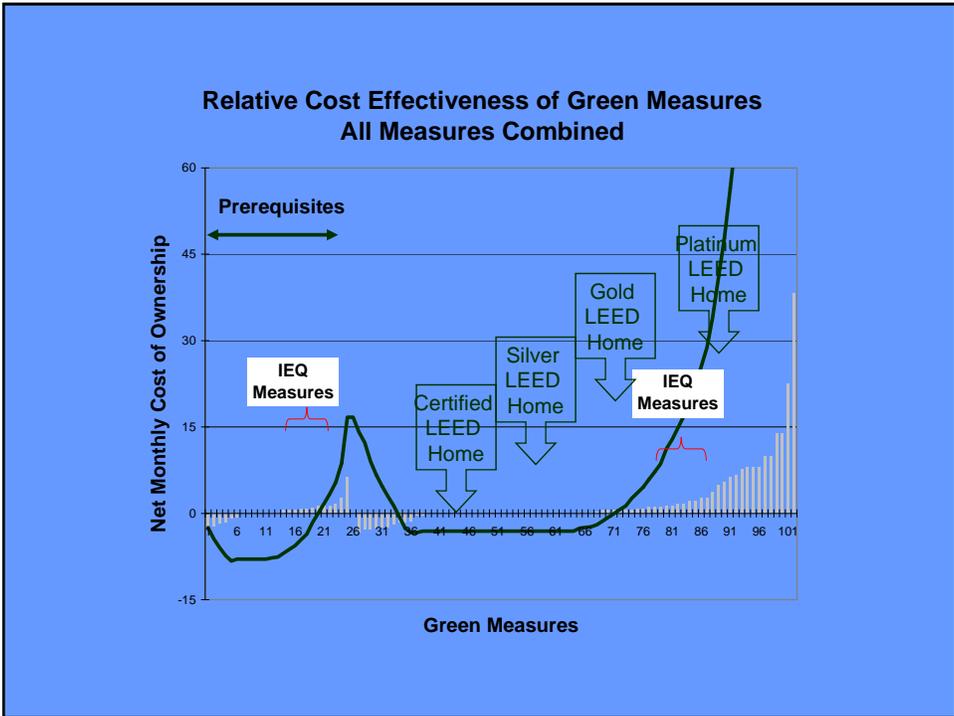
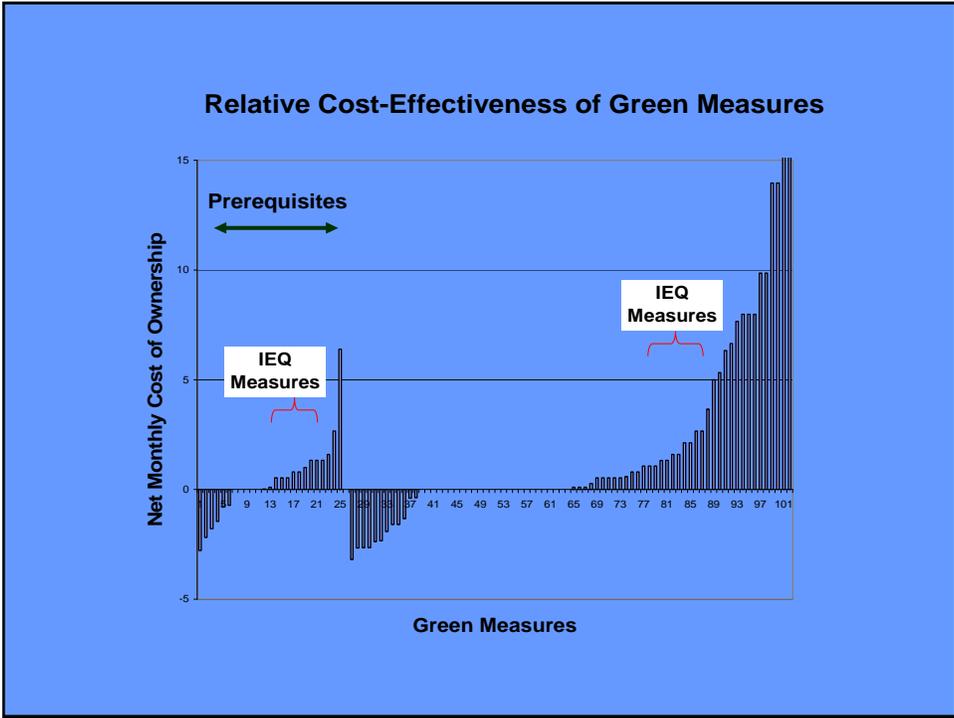


Assumptions

- Affordable Home
 - Below Average Size
- New Construction
 - Incremental Costs
 - 30 Year Financing
- Mixed Climate
- Measurable Benefits Only







List of Cost-Effective Measures

Type	Description
1. Water Heating	- Efficient Distribution System
2. Air Infiltration	- Good Envelope (Prereq)
3. Water Heating	- Efficient Water Heating Equipment
4. Waste Management	- Construction Waste Reduction
5. Air Infiltration	- Better Envelope

List of Cost-Effective Measures Continued...

Type	Description
6. Air Infiltration	- Best Envelope
7. Integrated Project Planning	- Preliminary Rating
8. Insulation	- Basic Insulation (Prereq)
9. Insulation	- Enhanced Insulation
10. Duct Tightness	- Reduced Distribution Losses (Prereq)

Summary

- ❑ Improved financing for retrofits is needed
- ❑ Difficult to compare costs of green measures
 - Limited data available
 - Account for interactions?
- ❑ *These data are critically needed*
 - *For better decision-making*