

2015 Multifamily Retrofit Demonstration Projects: Data Analysis

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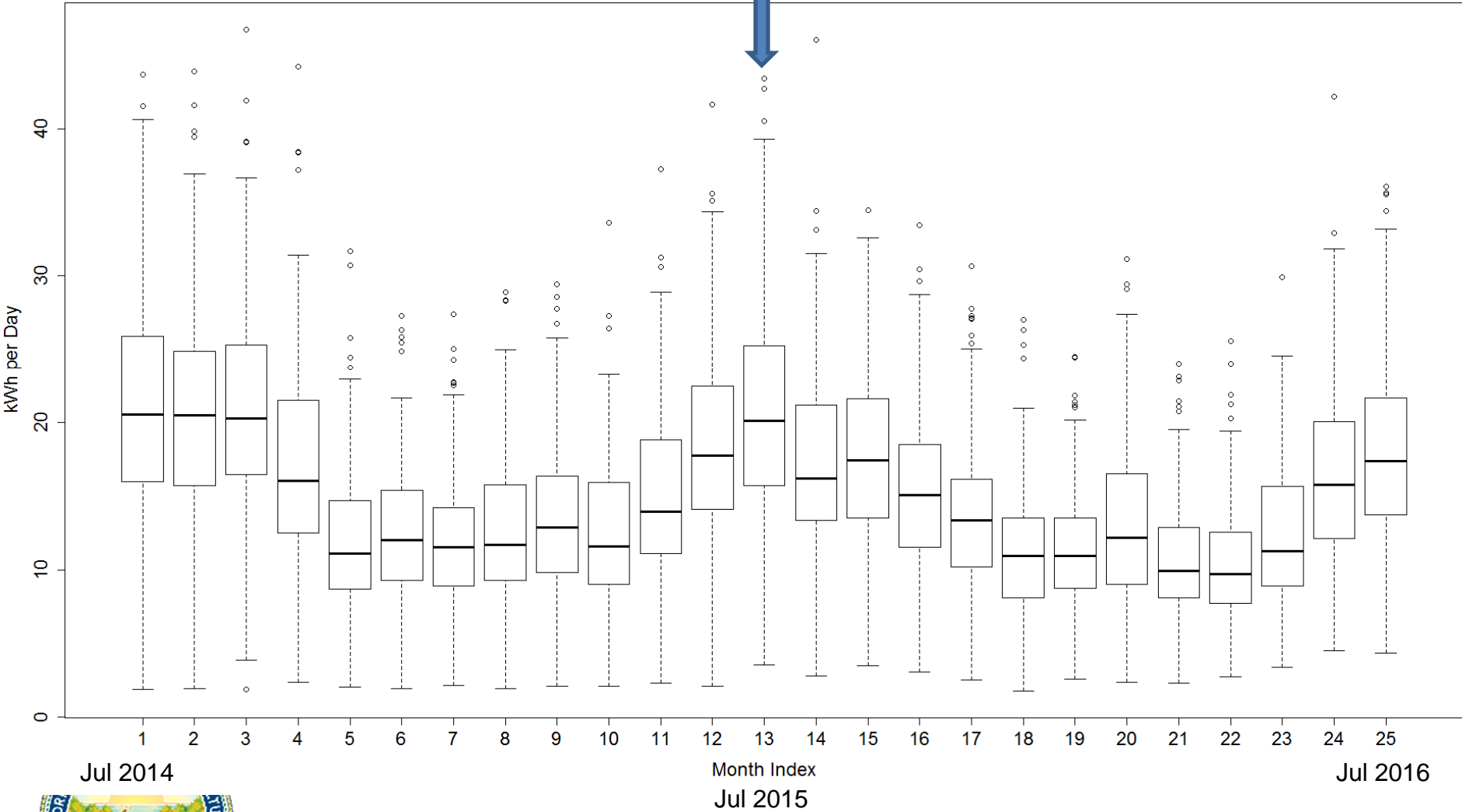
Questions for Data Analysis

- Do retrofits result in energy savings?
- Did both housing developments experience similar energy savings?
- Do different retrofits result in different energy savings?
- Are energy savings from retrofits worth their cost?



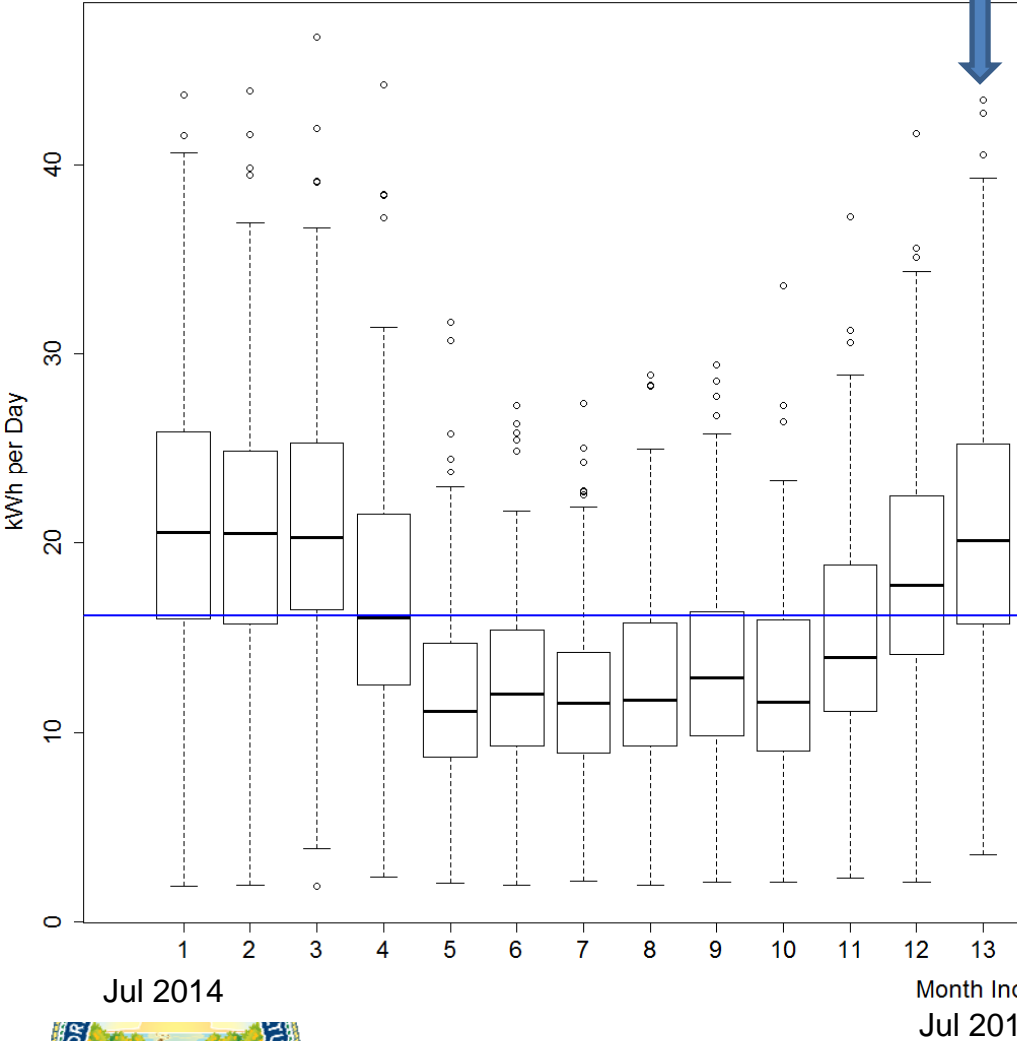
Energy Savings

Crystal Lakes Manor (Pinellas) - Average Daily Electricity Use by Month



Energy Savings

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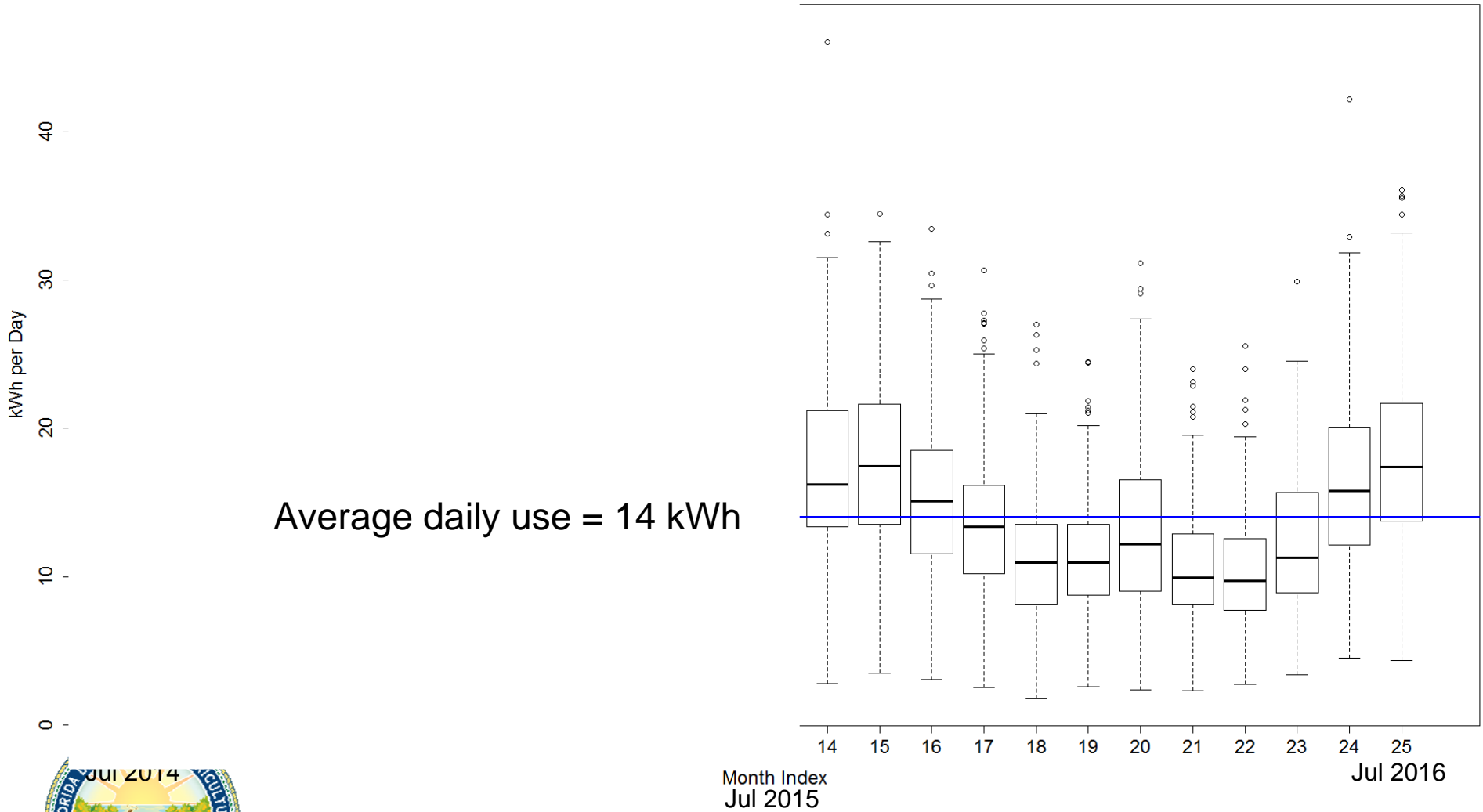


Average daily use = 16.150 kWh



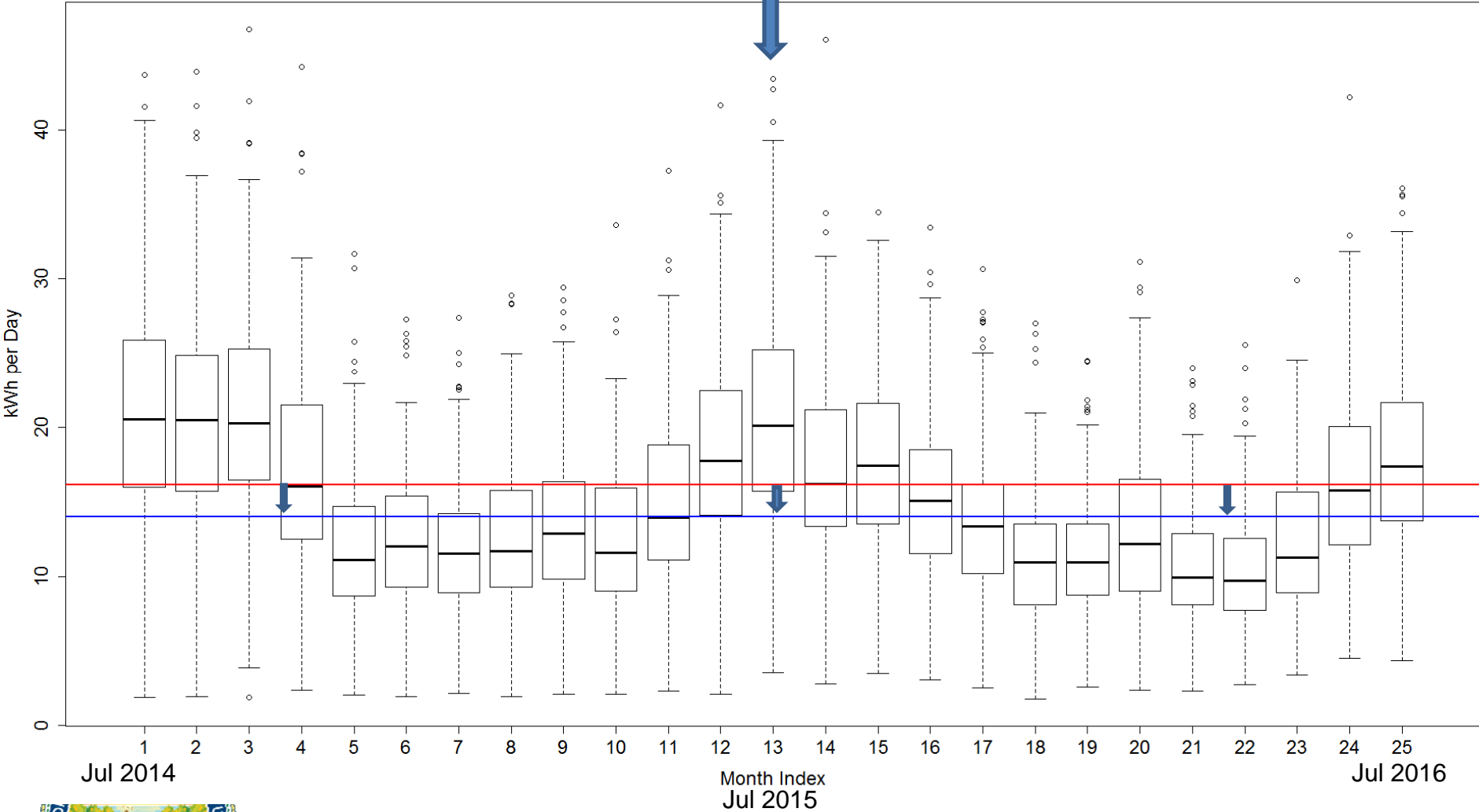
Energy Savings

Crystal Lakes Manor (Pinellas) - Average Daily Electricity Use by Month



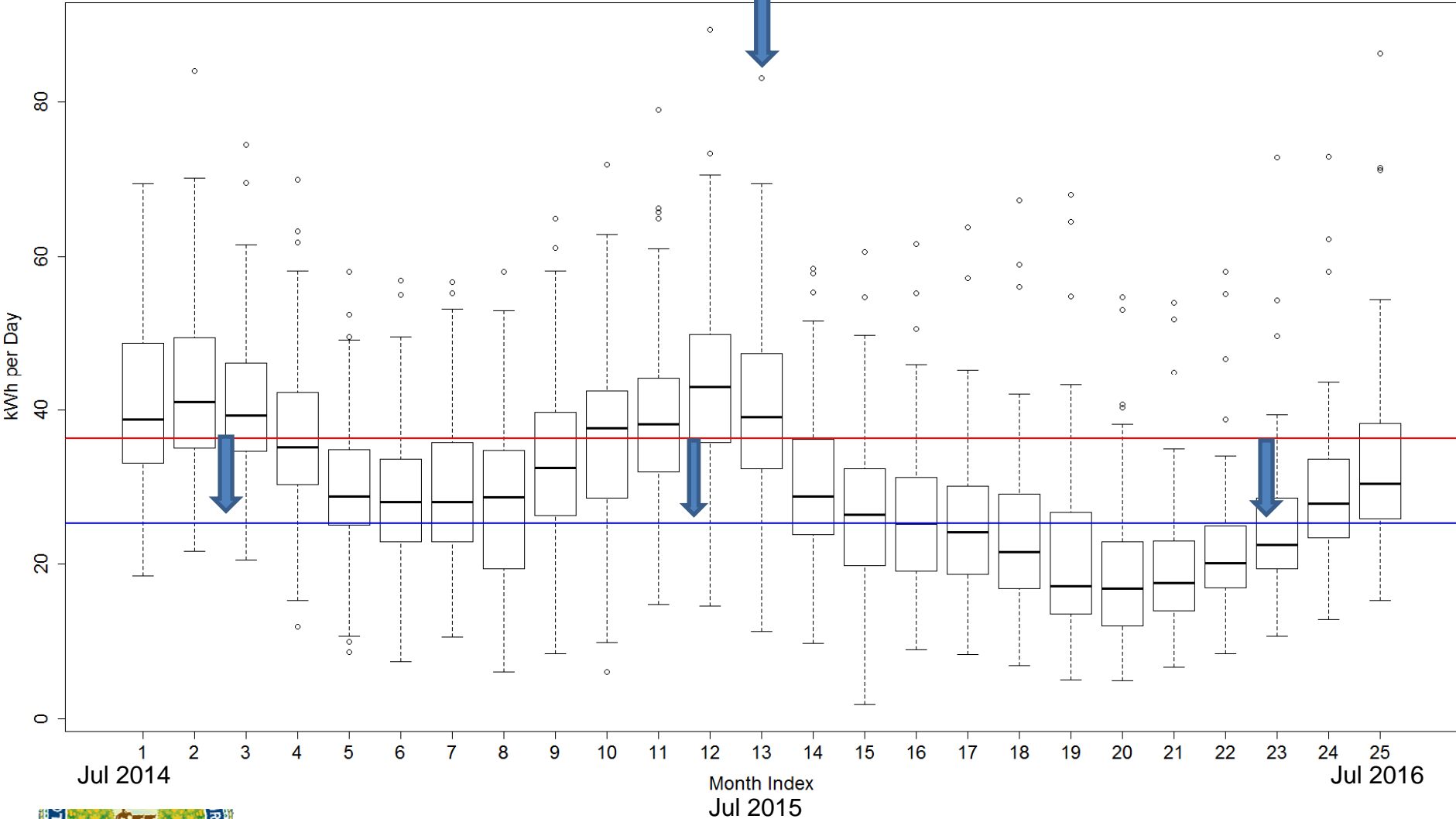
Energy Savings

Crystal Lakes Manor (Pinellas) - Average Daily Electricity Use by Month



Energy Savings

Robinson Village (West Palm Beach) - Average Daily Electricity Use by Month

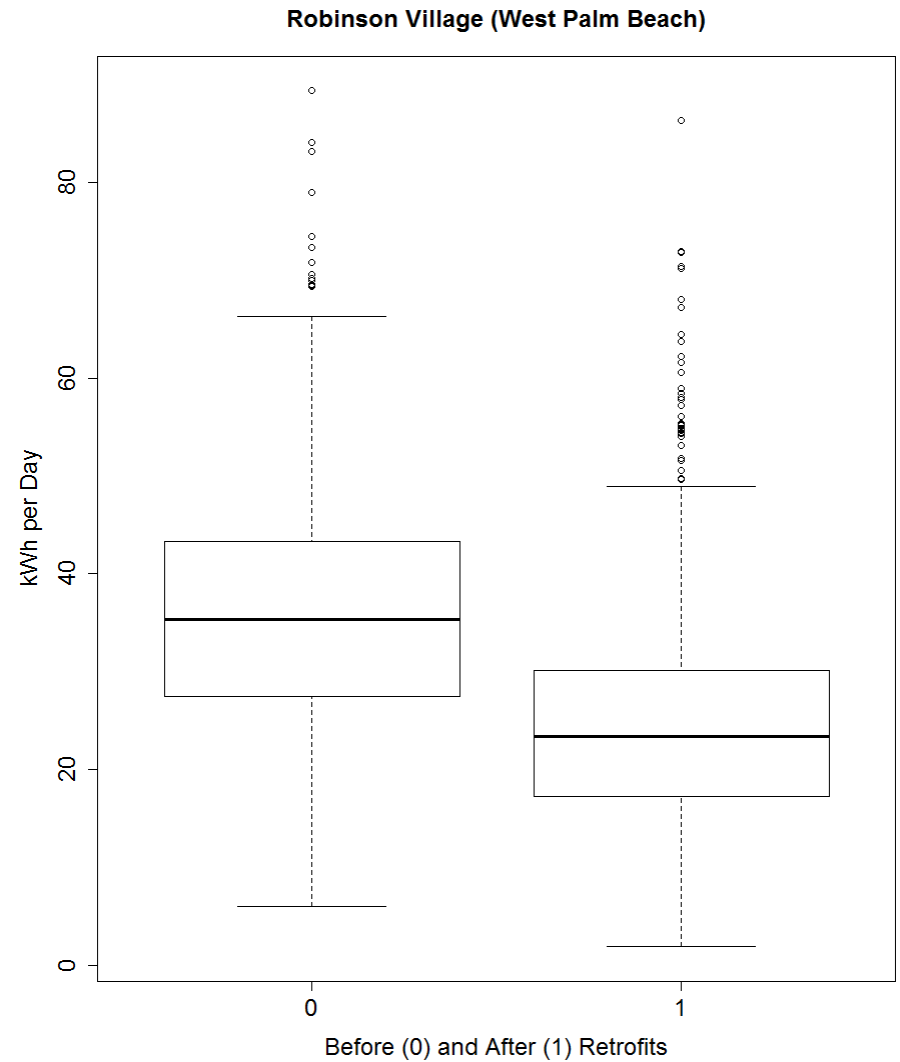
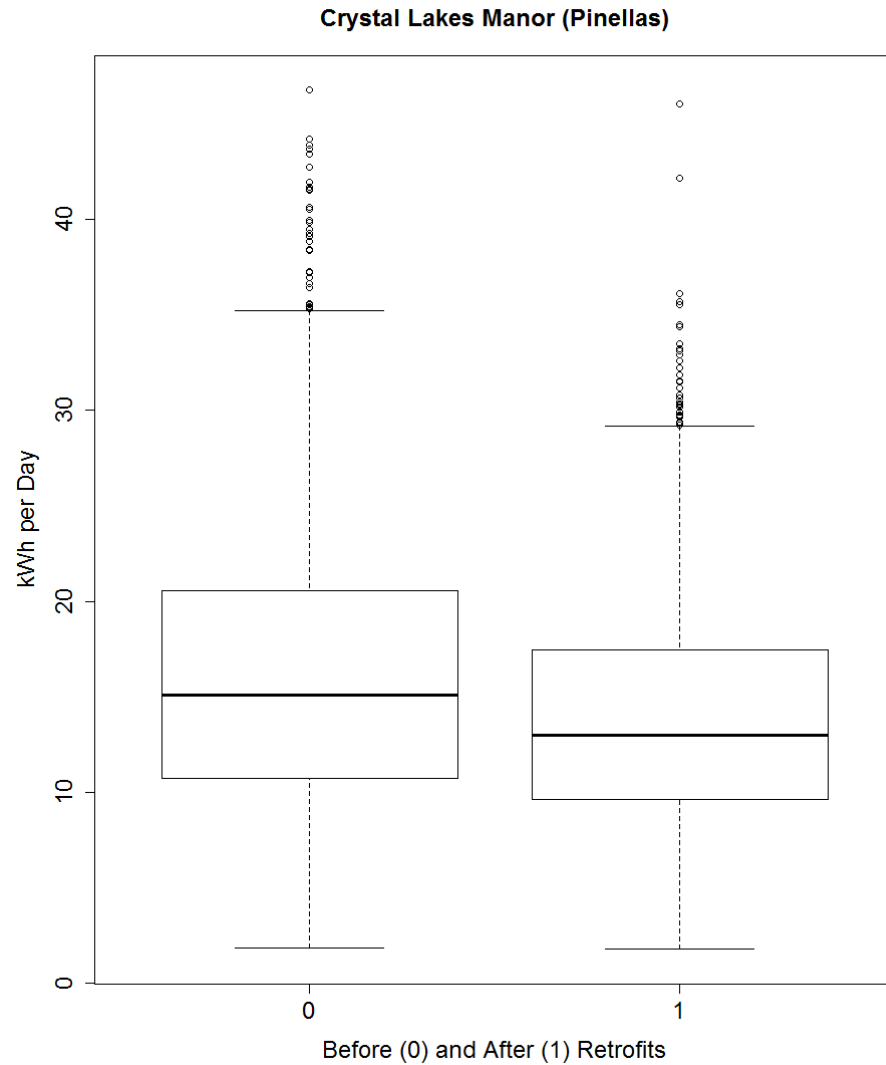


Questions for Data Analysis

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 - YES!
- Will both housing developments experience similar energy savings?
- Do different retrofits result in different energy savings?
- Are energy savings from retrofits worth their cost?



Energy Savings Comparison



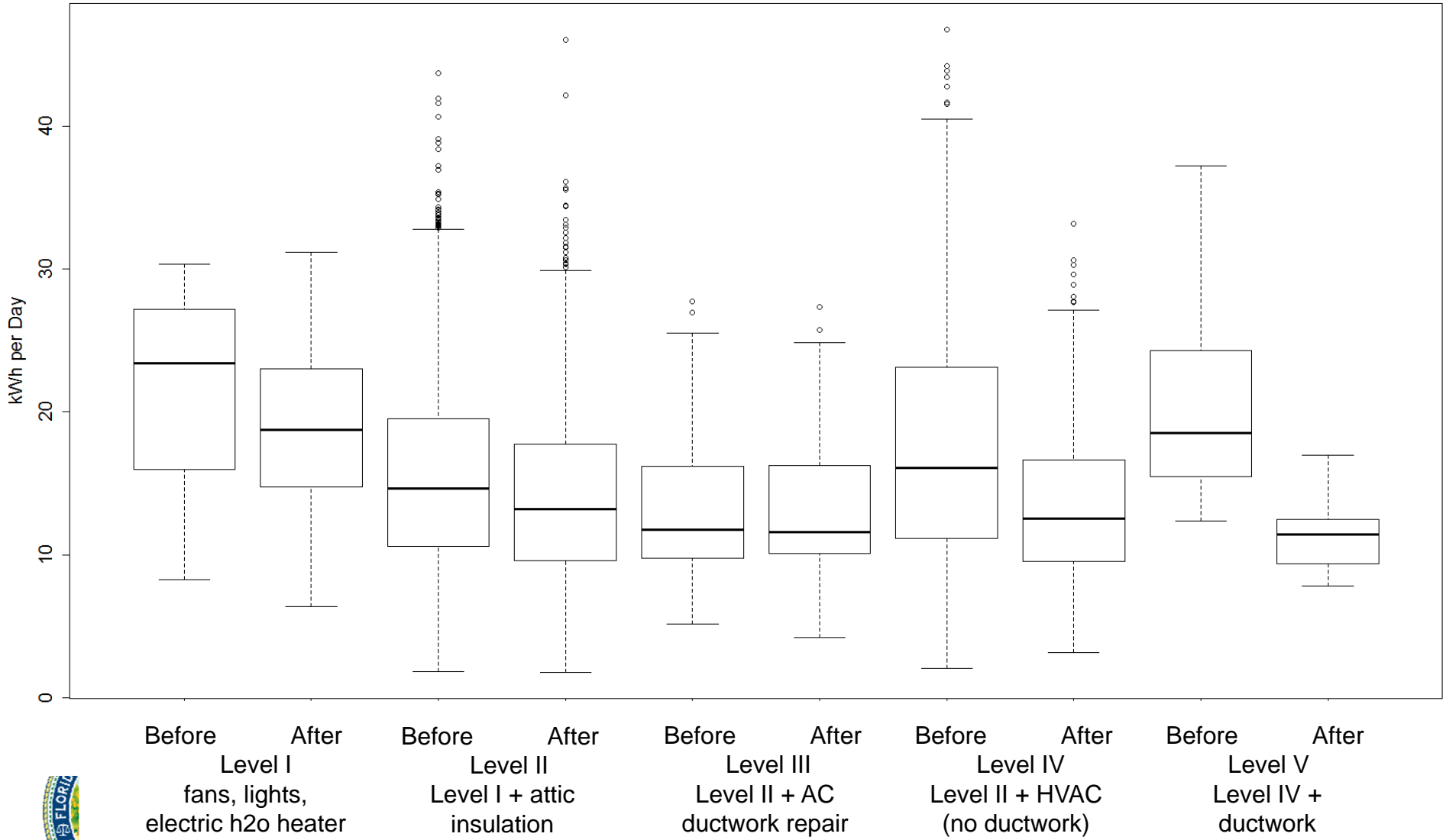
Questions for Data Analysis

- Do retrofits result in energy savings?
 - YES!
- Will both housing developments experience similar energy savings?
 - NO!
 - Efficiency gains for Robinson Village (larger, older units) are greater
- Do different retrofits result in different energy savings?
- Are energy savings from retrofits worth their cost?



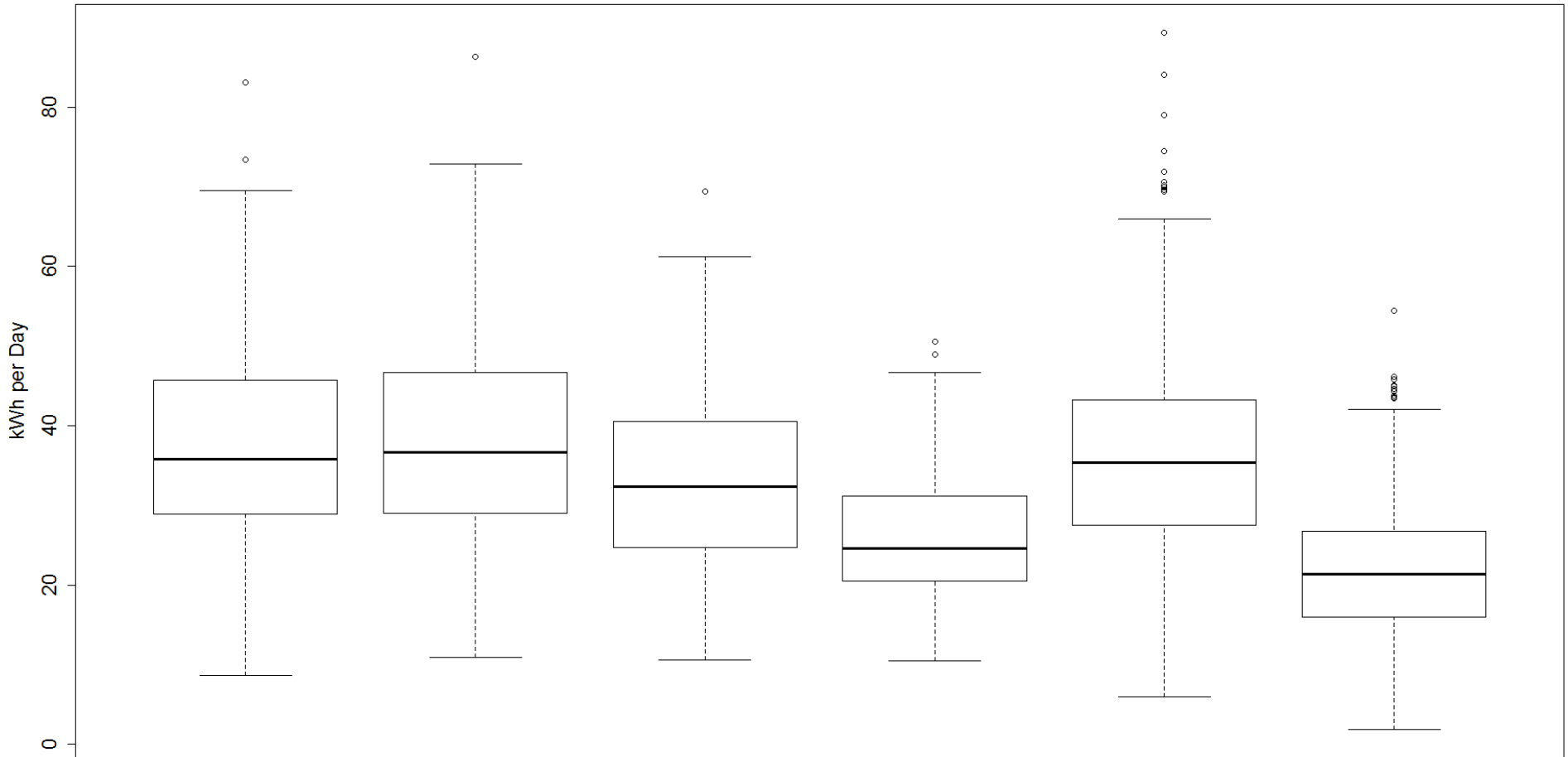
Types of Retrofits

Crystal Lakes Manor (Pinellas)



Types of Retrofits

Robinson Village (West Palm Beach)



Before

After

Before

After

Before

After

Level I

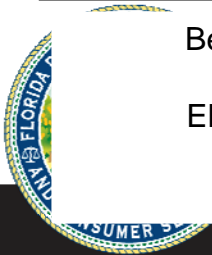
Level II

Level III

Electric water heater, lights,
attic insulation, AC
ductwork

Level I + HVAC
replacement

Level II but natural gas
water heater instead



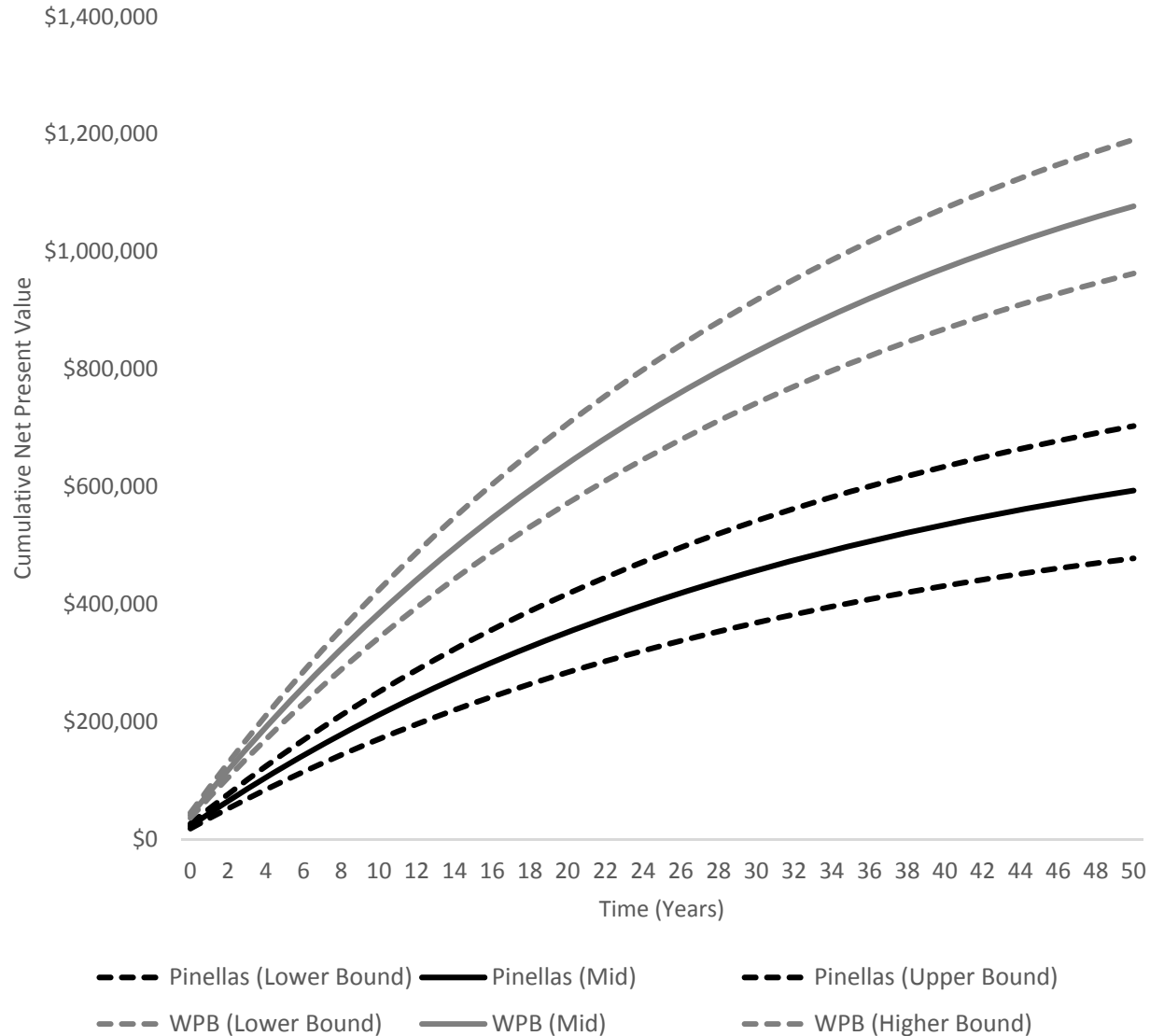
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What are the Returns of Retrofits?

- At 11.93 cents per kWh, 3% discount rate:
- Crystal Lakes Manor (Pinellas)
 - Annual savings per unit = \$94
 - Annual savings for complex = \$22,197
 - Payoff Period = 35 years
- Robinson Village (West Palm)
 - Annual savings per unit = \$480
 - Annual savings for complex = \$40,308
 - Payoff Period = 14 years



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- Do different retrofits result in different energy savings?
 - YES!
 - HVAC replacement results in large efficiency gains
- Are energy savings from retrofits worth their cost?
 - Complicated answer, but generally YES!
 - More bang for buck in older, larger units where efficiency gains will be greater



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Florida Department of Agriculture and Consumer Services • Adam H. Putnam, Commissioner