



Energy Management and Benchmarking

Moderator: Kevin Bush, HUD

Panelists: Jonathan Braman, Bright Power, Inc., Ed Connelly, New Ecology, Inc., Mike Zatz, ENERGY STAR® Commercial Buildings, EPA



Multifamily Housing Energy Management and Benchmarking

*3 Proven Ways Benchmarking
Helps Achieve BBC Goals*

wegowise



Edward Connelly
President, New Ecology, Inc.
Founder, WegoWise, Inc.



1. Getting The Data You'll Need

Edit Electric Account



1 Account coverage

2 Account number & details

3 Utility login

Specify which apartment this account is associated with

Apartment #1



Update Account

– or –

[Cancel](#)

1 Account coverage

2 Account number & details

3 Utility login

This account covers Apartment #1.

Utility Company

NSTAR

Account Number

123456789

Notes

[Update Account](#)

– or –

[Cancel](#)

Edit Electric Account



1

Account coverage

2

Account number & details

3

Utility login

Provide your NSTAR login information

Account #123456789

Username

Password

Save Login

– or –

[Cancel \(Continue without a login\)](#)

WegoWise and Portfolio Manager

wego**wise**

Dashboard Properties Reports ★ Help connellyhouse ▾

My Account

✉ Email Account Login My Network ⚙ Utility Accounts 📄 View My Subscription ✓ Portfolio Manager 📄 Apps Bulk Imports

Login Information

First name

Last name

Organization

Username

Current password

Change Password Leave this blank to keep current password

New password



Welcome to Portfolio Manager

Helping you track and improve energy efficiency across your entire portfolio of properties.

Username:

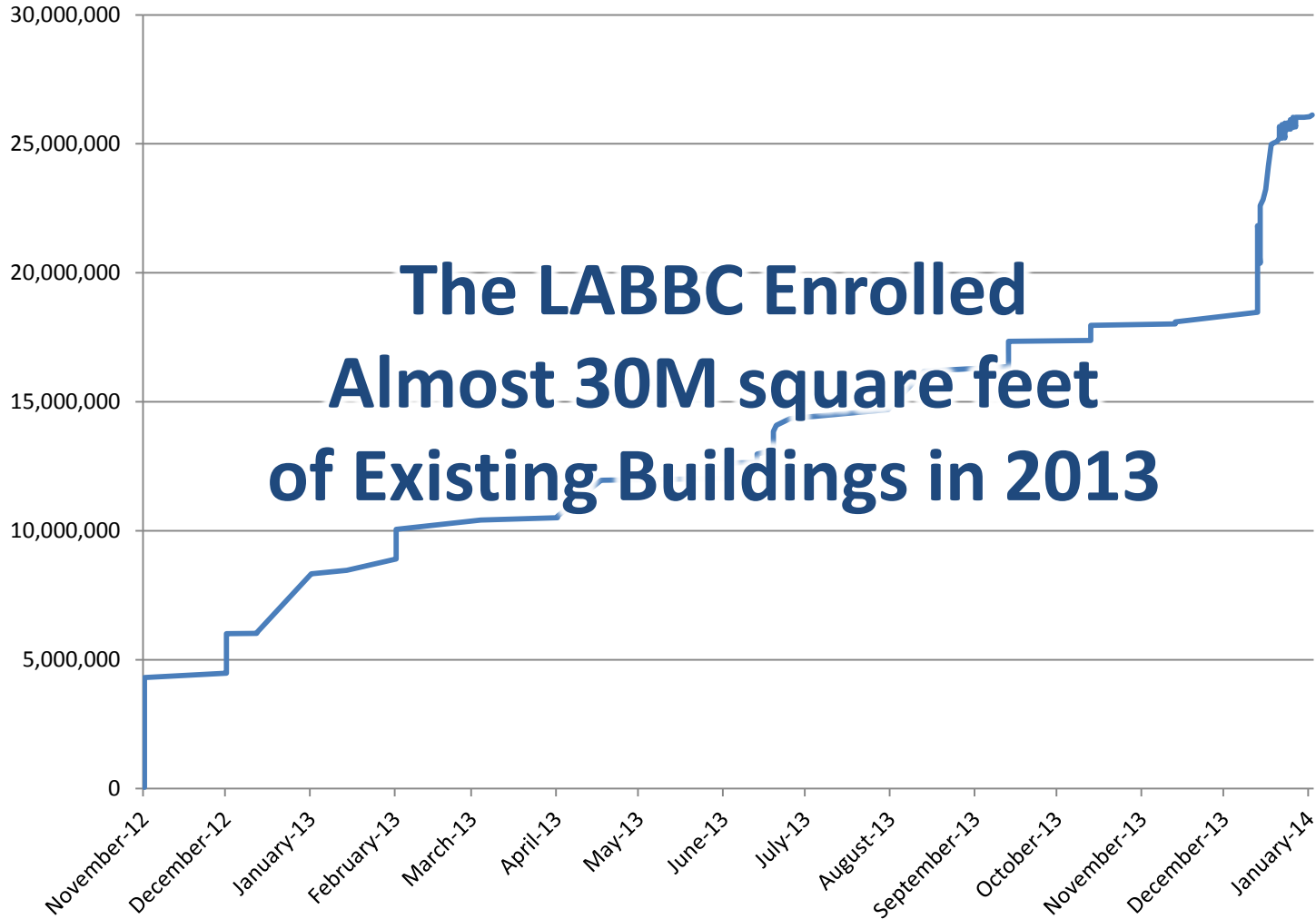
Password:

[I forgot my password.](#)
[I forgot my username.](#)

Sign In

Create a New Account

Building Momentum





Philadelphia Housing Authority
Building Beyond Expectations

Select Language ▾

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Building beyond expectations

2. Finding The Path for Savings

Portfolio Summary

Showing: **All Energy** Water Electricity Gas Oil



This graph shows the performance of all of your buildings, relative to one another.

- Buildings in the top right quadrant need the most attention — they are the most inefficient and expensive ones in your portfolio.
- Use the buttons at the top to switch between different utilities.

Legend

Click label to toggle graph items

- Burke Mountain
- ◆ Hopeville
- Mystic Bay
- ▲ Spruce Village

Heating energy in Btu per square foot (co

Show me everything Full Building Usage Common Area Apartment

Name Click for detailed data	Full-Year Sum Per HDD	Detail Click
25 Central St	13.6	
78 Jaskolski Traf...	11.3	
43 Pfannerstill Glen	11.3	
22 Rohan Lights	11.1	
21 Lurline Burgs	11.1	
85 Harry Pike	10.9	
48 Joanne Forest	10.9	
49 Daniel Pass	9.97	
26 Hyatt Ports	9.97	
27 Block Rest	9.91	
10 Patricia Parkways	9.68	

← 2011

2012

2013 →

Currently v

Water

BETTER THAN AVERAGE

Entire building - Gallons / bedroom / year

20% better than similar bldgs



8% worse than efficient bldgs



[View meter-level data](#)

Electric

BETTER THAN AVERAGE

Entire building - kWh / 1k sqft / year

27% better than similar bldgs



4% worse than efficient bldgs



[View meter-level data](#)

Gas

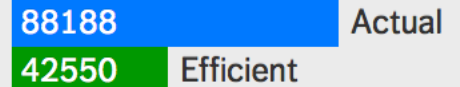
POOR

Entire building - Btu / sqft / year

57% worse than similar bldgs

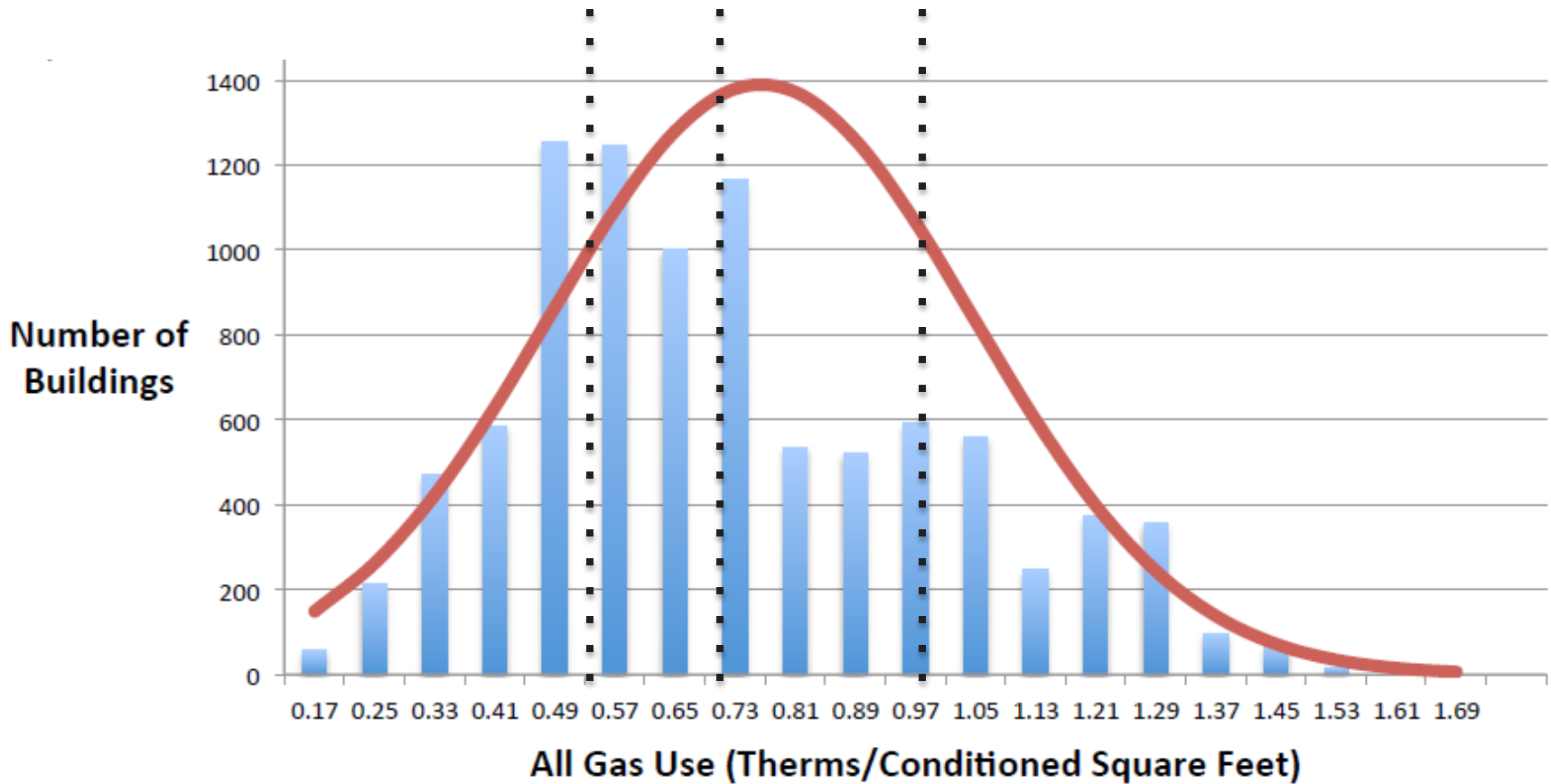


107% worse than efficient bldgs



[View meter-level data](#)

Gas Use (Therms/Cond. Sq Ft/Yr)



Aggregated Gas Benchmark	
Program-Wide Statistics (Therms/Conditioned SF)	
Mean	0.76
Median	0.72
Standard Deviation	0.28
Minimum	0.21
Maximum	1.58
Reported Benchmarks	10,168

[View Report](#) [Edit Report](#) [Delete Report](#)

Natural gas use in Btu per bedroom

[Show Raw Data](#) [Add Benchmark](#) [Bookmark This Report](#)

Name
 Click for detailed data

Full-Year Sum

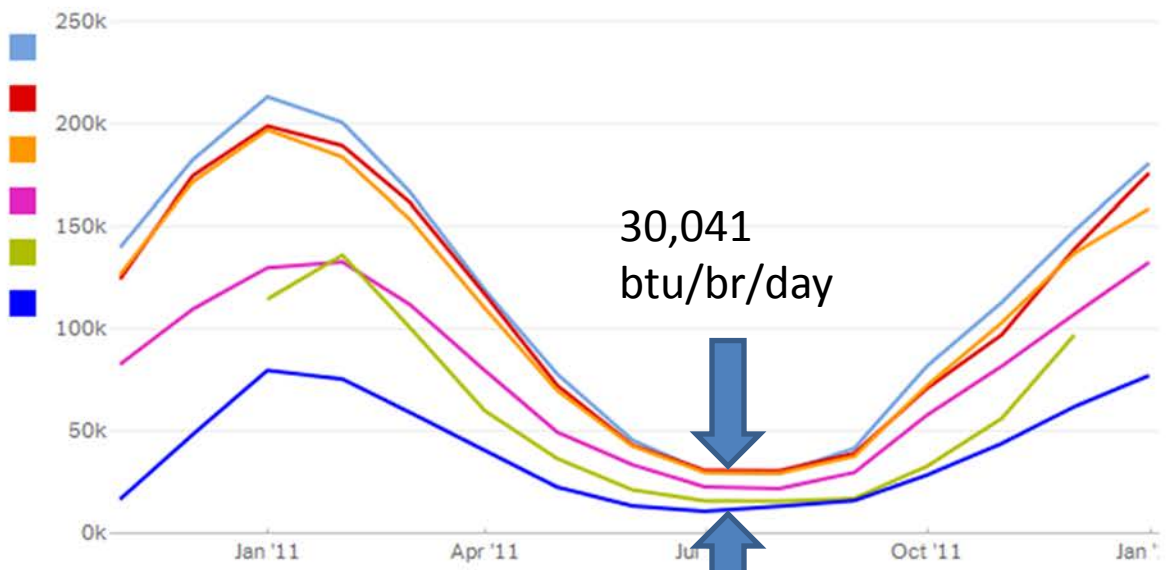
Detailed Data per Month

Click a square to show or hide an item on the graph

Click and drag to zoom

- MA Stand Along DHW
- MA Heat+DHW boiler
- MA Dedicated DHW ...
- 1997+

Item	Full-Year Sum
MA Stand Along DHW	37,153,867
MA Heat+DHW boiler	35,122,246
MA Dedicated DHW ...	33,924,482
1997+	25,873,399
	21,056,736
	13,802,824

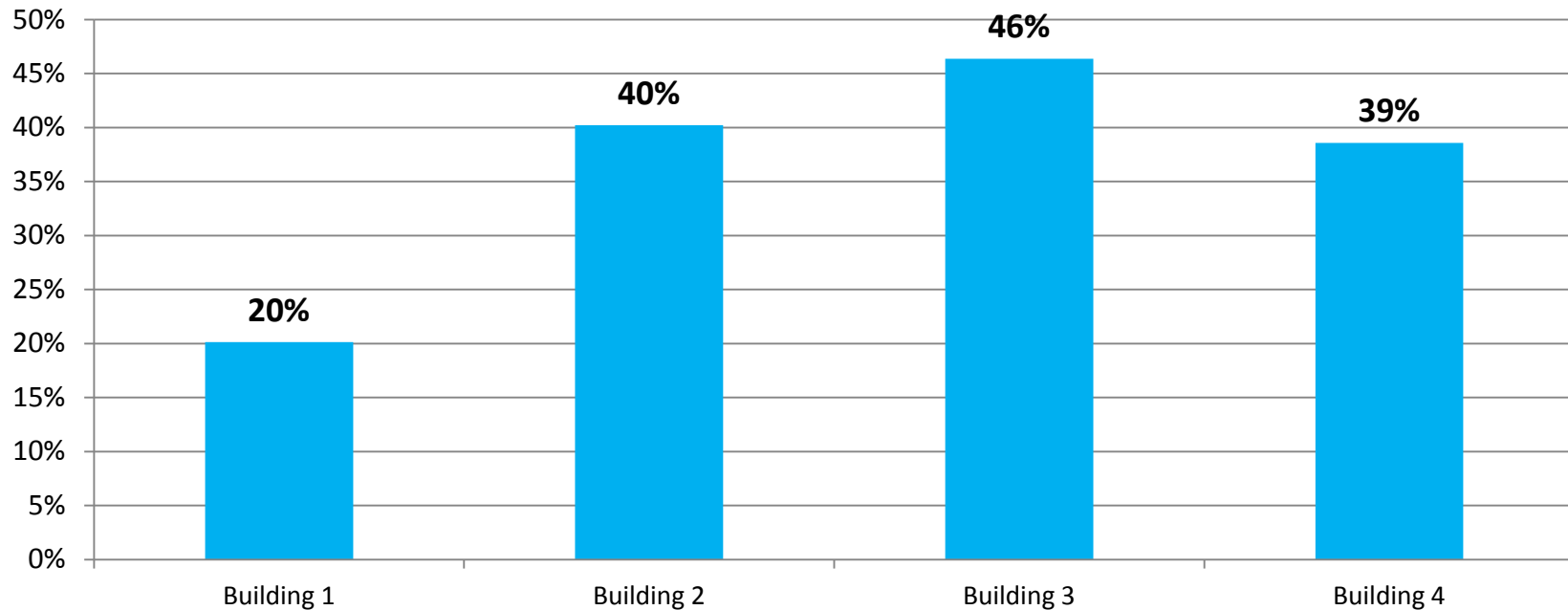


30,041
btu/br/day

10,231
btu/br/day

DHW System Efficiency

DHW System Efficiency



	DHW(Therm/day)	DHW Monitoring (Therm/day)	System Efficiency
Building 1	7	1.5	20%
Building 2	35	14	40%
Building 3	56	26	46%
Building 4	4.7	1.8	39%

3. Measuring The Results

Results: Cold Climate Retrofits

Type of Retrofit	Avg. Savings*
Heating Systems:	24%
Heating & Weatherization:	30%
Weatherization Only	10%
Hot Water Upgrades	24%
Electric Upgrades (common areas)	11%
Electric Upgrades (whole bldg)	19%

*-% Savings of targeted fuel and end use

Success: 37% Reduction in Total Energy



50 Units, 3 Story, Elderly

Heating Gas Usage

Effect of Heating and DHW Upgrade (February 6, 2013)

[Back to list of all upgrades](#)

Heating energy in Btu per square foot (conditioned)

Raw Data

Bookmark

Download

Date Range

Full-Year Sum

Detailed Data per Month (Deselect All)

Click a square to show or hide an item on the graph

Click & drag to zoom in

Feb 13 - Jan 14



4.37



Feb 12 - Jan 13



7.21



Before: Four Atmospheric Boilers With Total Input of 2,424 Mbh

After: 2 Lochinvar KB501

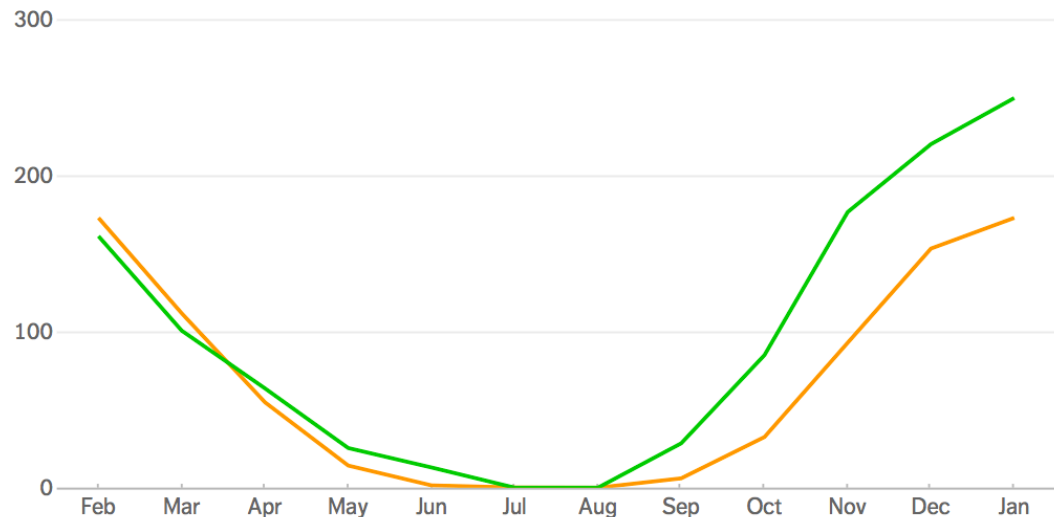
Cost: \$78,500.00

Actual Savings: 39% (3 Btu / conditioned sqft / HDD)

Categories

HVAC – Heating – Mechanical Equipment

Water – Domestic Hot Water – Mechanical Equipment

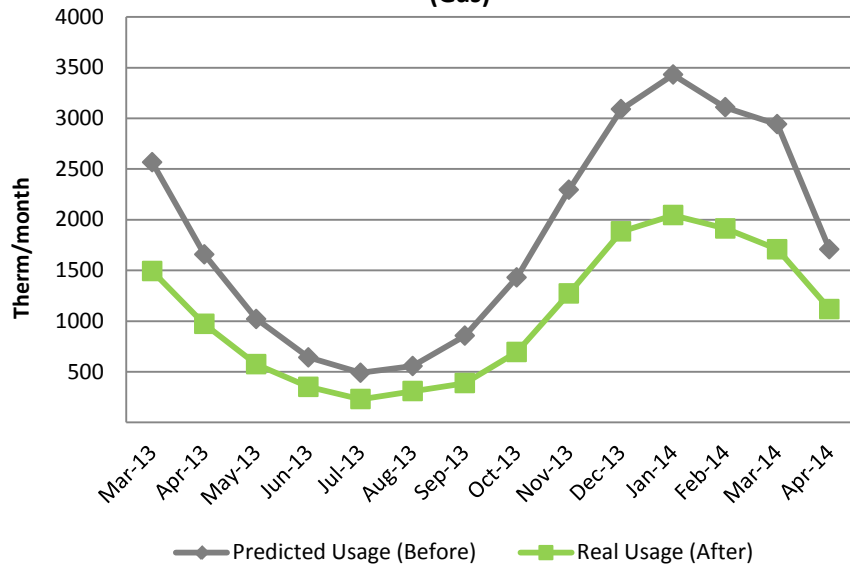


39% Gas Reduction

Gas Upgrade

Upgrading on	2/6/2013
Upgrading Category	Boiler/Heating
Gas/Oil Upgrade Cost \$	\$78,500

Upgrade Before-and-After Comparison of Monthly Usage (Gas)

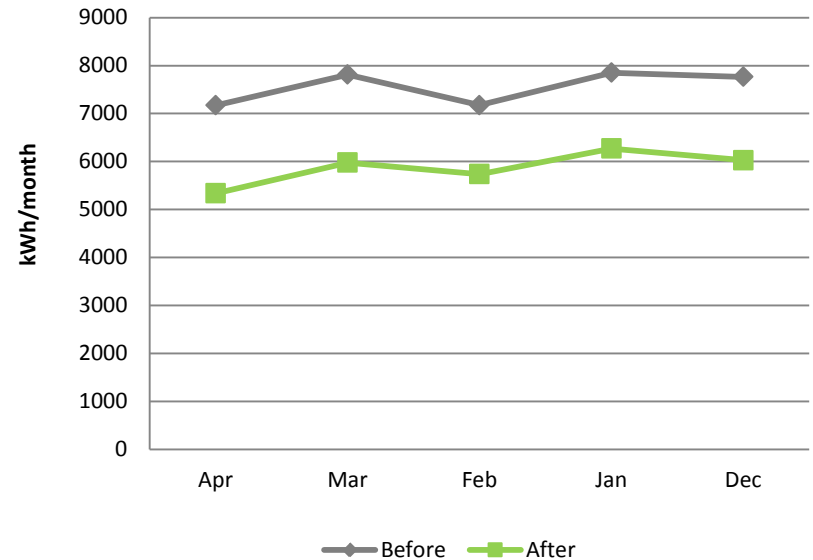


23% Reduction

Elec Upgrade

Upgrading on	Aug-01-2013, Nov-14-2013
Upgrading Category	Electric - Lighting
Elec Upgrade Cost \$	\$32,812

Upgrade Before-and-After Comparison of Monthly Usage (Elec)



Thank You

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