

Building Smart Retrofits with Tracking and Benchmarking

Casey Diehl, WegoWise
Account Manager

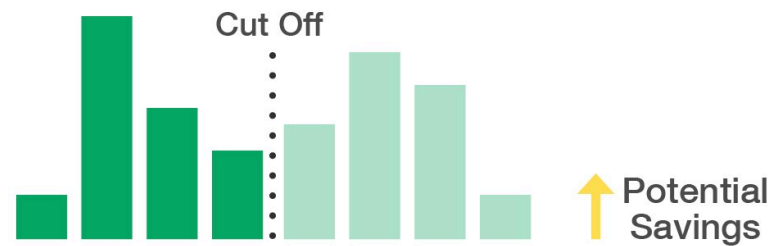
wegowise

Motivation for implementing energy efficiency

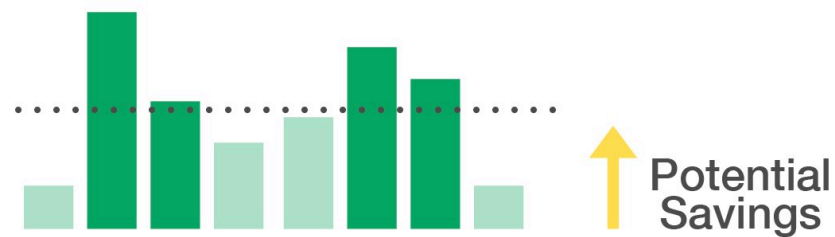
- End of Useful Life
- Reduce Operating Cost
- Utility Allowances
- Capital/Rebate requires energy reduction
- Increase asset value
- Protection against obsolescence
- Good Payback
- Good for the environment
- Improve tenant/occupant comfort
- Be compliant with local laws

Setting yourself up for success

Typical Approach to Retrofits



Our Approach



Part I: Tracking

Building Characteristics

<p>Age & Type of Building Built in 1999 Mid-rise apartment building</p>	<p>Energy Efficiency Not certified as a green building</p>	<p>Water Accounts Water meters are all building-wide 3 water accounts</p>
<p>Housing Category Low-income housing Resident type: Mixed/None of the above</p>	<p>Heating Gas heat Boiler (Hot water)</p>	<p>Electric Accounts Apartments have electric meters 1 electric account</p>
<p>Structure Masonry (load-bearing) construction No basement</p>	<p>Cooling None</p>	<p>Gas Accounts Gas meters are all building-wide 1 gas account</p>
<p>Size 18,700 square feet in total 13,850 sq. ft. in apartments 18 apartments 4 stories tall 33 bedrooms</p>	<p>Hot Water Gas hot water heater Stand-alone storage water heater</p>	<p>Notes</p>
	<p>Facilities Laundry (Electric dryers) 1 elevators No pool</p>	



Utility Data

End Date MM/DD/YYYY	Start Date MM/DD/YYYY	Usage Btu	Usage Therms	Total Charge
09/09/2014	08/11/2014	17.9 MMBtu	179 thm	\$122.50
08/10/2014	07/11/2014	18.0 MMBtu	180 thm	\$133.04
07/10/2014	06/11/2014	27.9 MMBtu	279 thm	\$205.97
06/10/2014	05/12/2014	52.6 MMBtu	526 thm	\$401.39
05/11/2014	04/11/2014	151.0 MMBtu	1,510 thm	\$1,263.16

Spruce Village

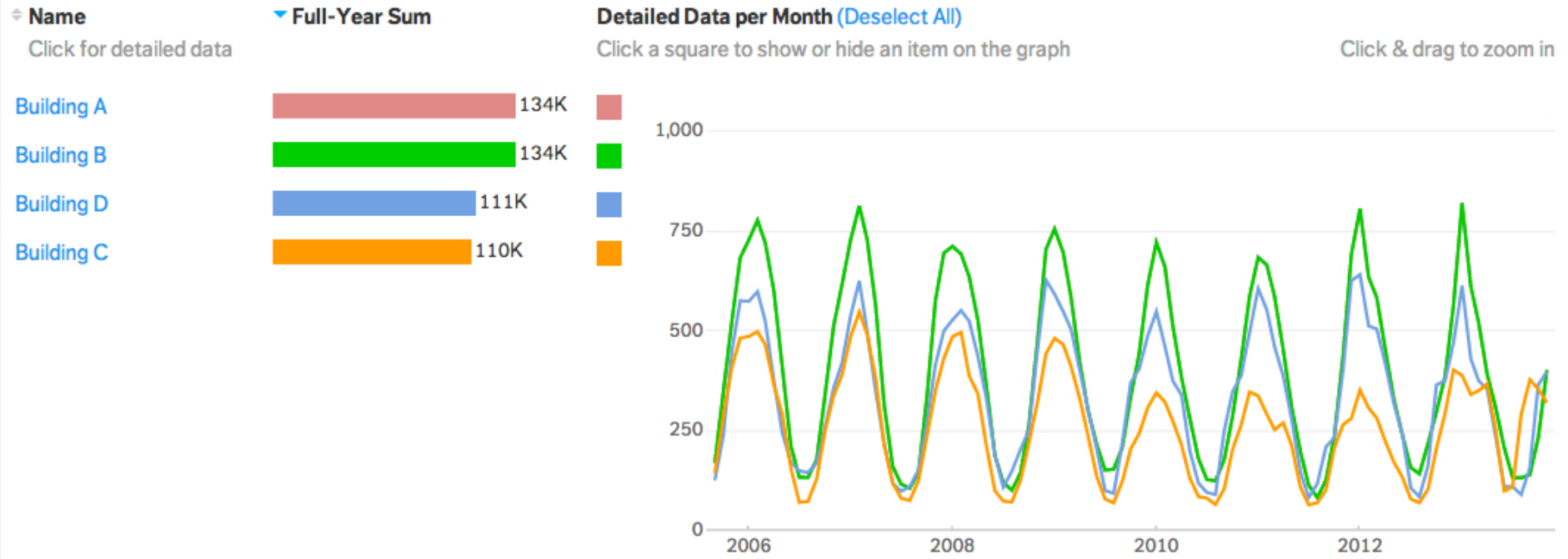
All Developments » Spruce Village

[View Data](#) [Share](#) [Add a Building](#) [View Characteristics](#) [Change Owner](#)

Natural gas use in **Btu** per square foot

[Raw Data](#) [Bookmark](#) [Download](#)

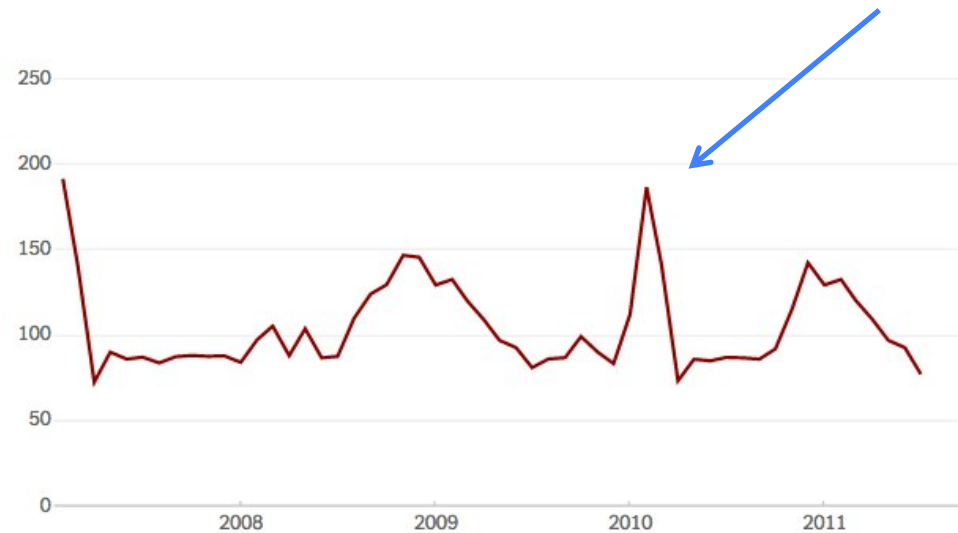
[Show me everything](#) [Full Building Usage](#) [Common Area](#) [Apartment Area](#)



Tracking Your Properties

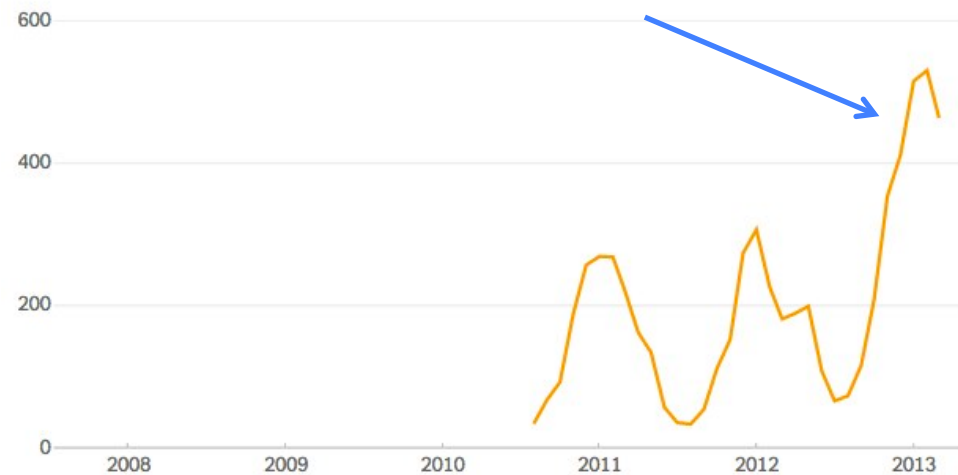
Spikes

- Leaks



Stepped increases

- Failing equipment



Part II: Benchmarking

BTU



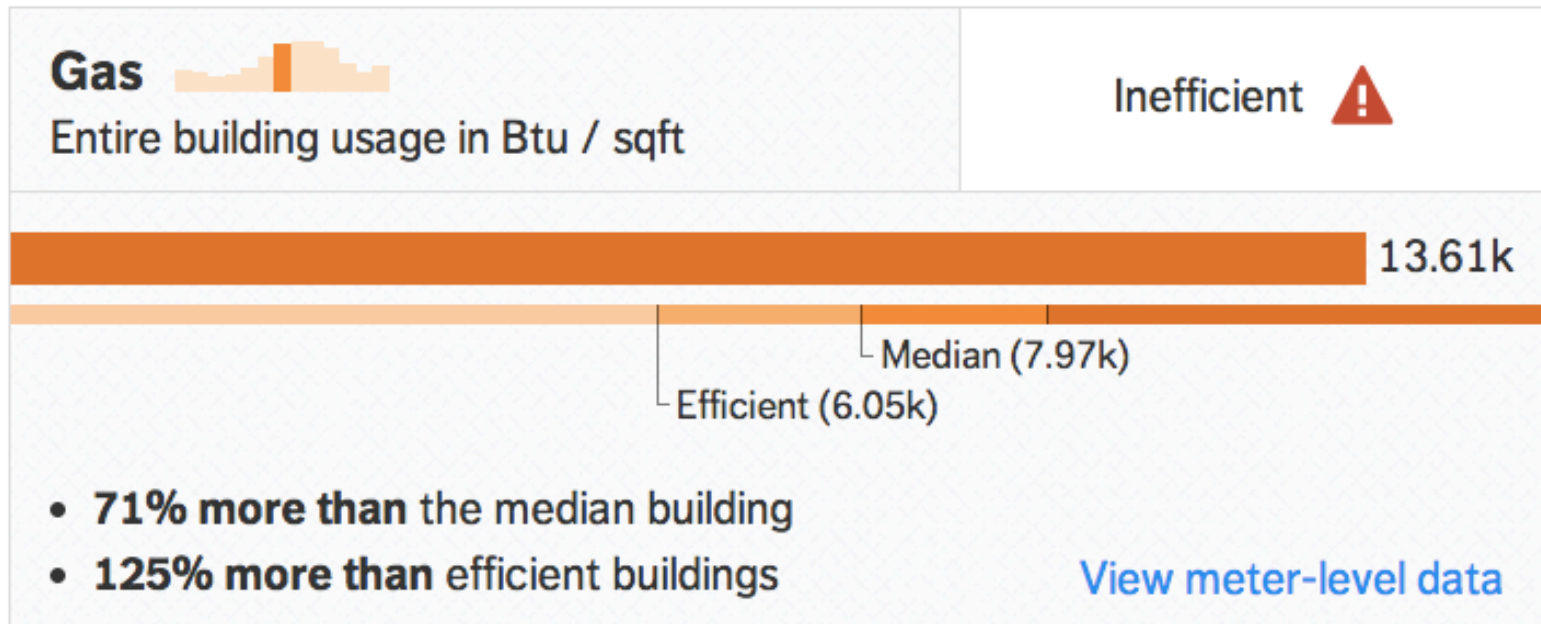
BTU/Cond. Sqft/HDD



Your To Do List



Your Targets



Your Targets

Building Outlook Report

32 Main St.

2013

Projected Spend: \$496,956

Potential Savings: \$33,174

- 18/39 in portfolio

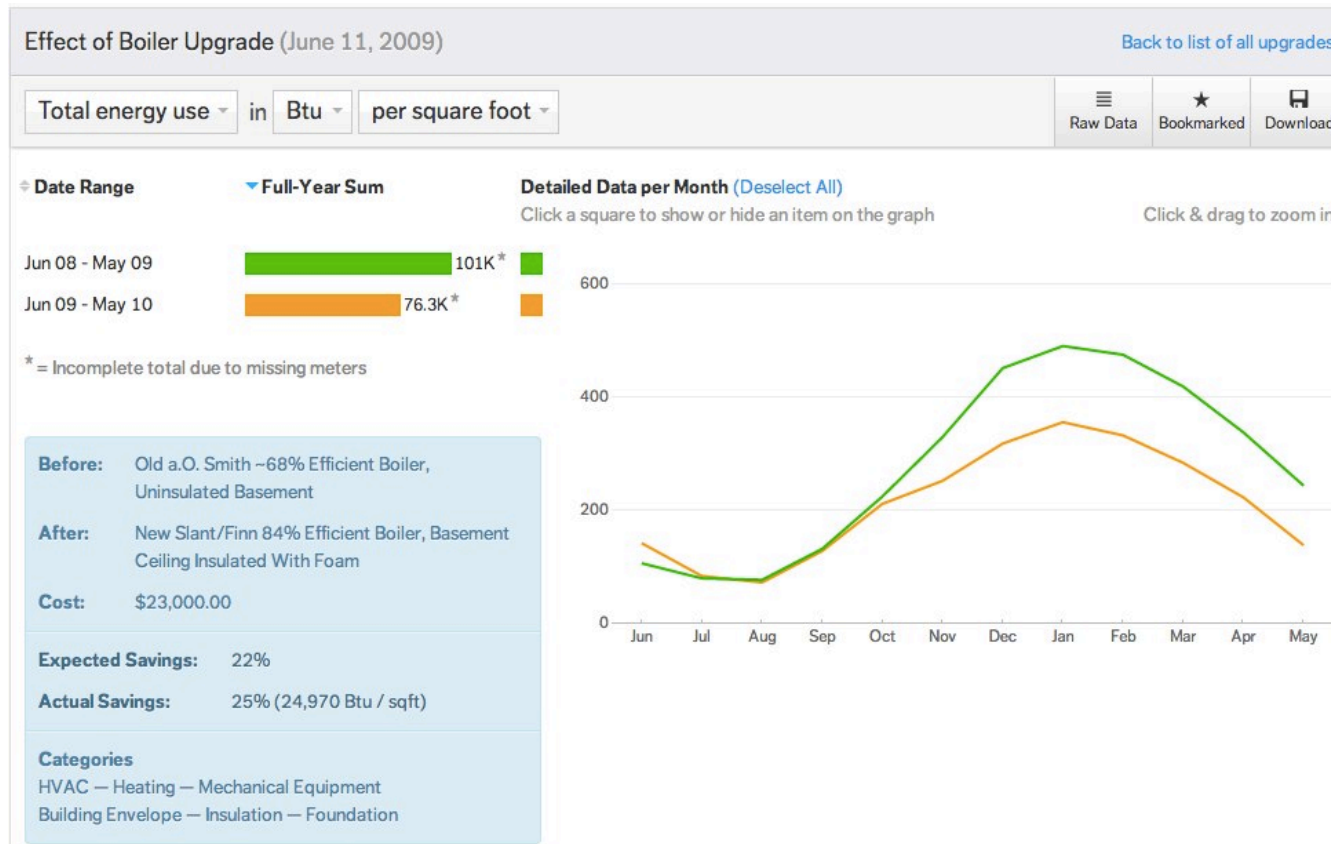
- Focus on water

	2012 (Actual)	2013 (Projected)	Median Building	Potential Savings
Total	\$473,291	\$496,956	\$463,782	\$33,174
Electric	\$194,209	\$203,919	\$198,653	\$5,266
Gas	\$183,930	\$193,127	\$193,127	\$0
Water	\$95,152	\$99,910	\$72,002	\$27,908

Part III: Results

Measure

736,000 Tracked Accounts = 8,832,000 Annual Bills = 5,888 feet
= ~ 1 Mile of Paper






Even for new buildings...

trolley energy star ✎ ✕

[Custom Reports](#) » trolley energy star

Natural gas use in Btu per square foot

 Add Benchmark  Raw Data  Bookmark  Download

≡ Name

▾ Full-Year Sum

Detailed Data per Month (Deselect All)

Click for detailed data

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

Click & drag to zoom in

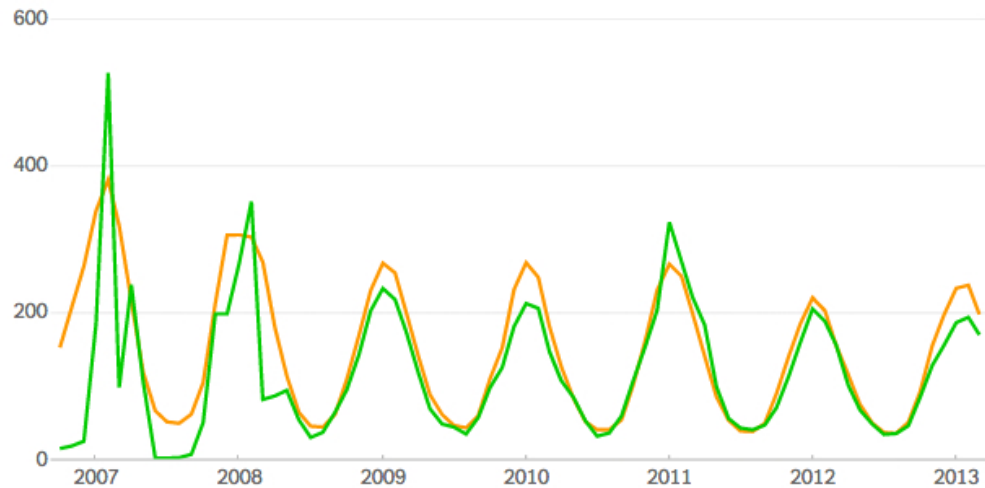
 Green Developments

 44.3K

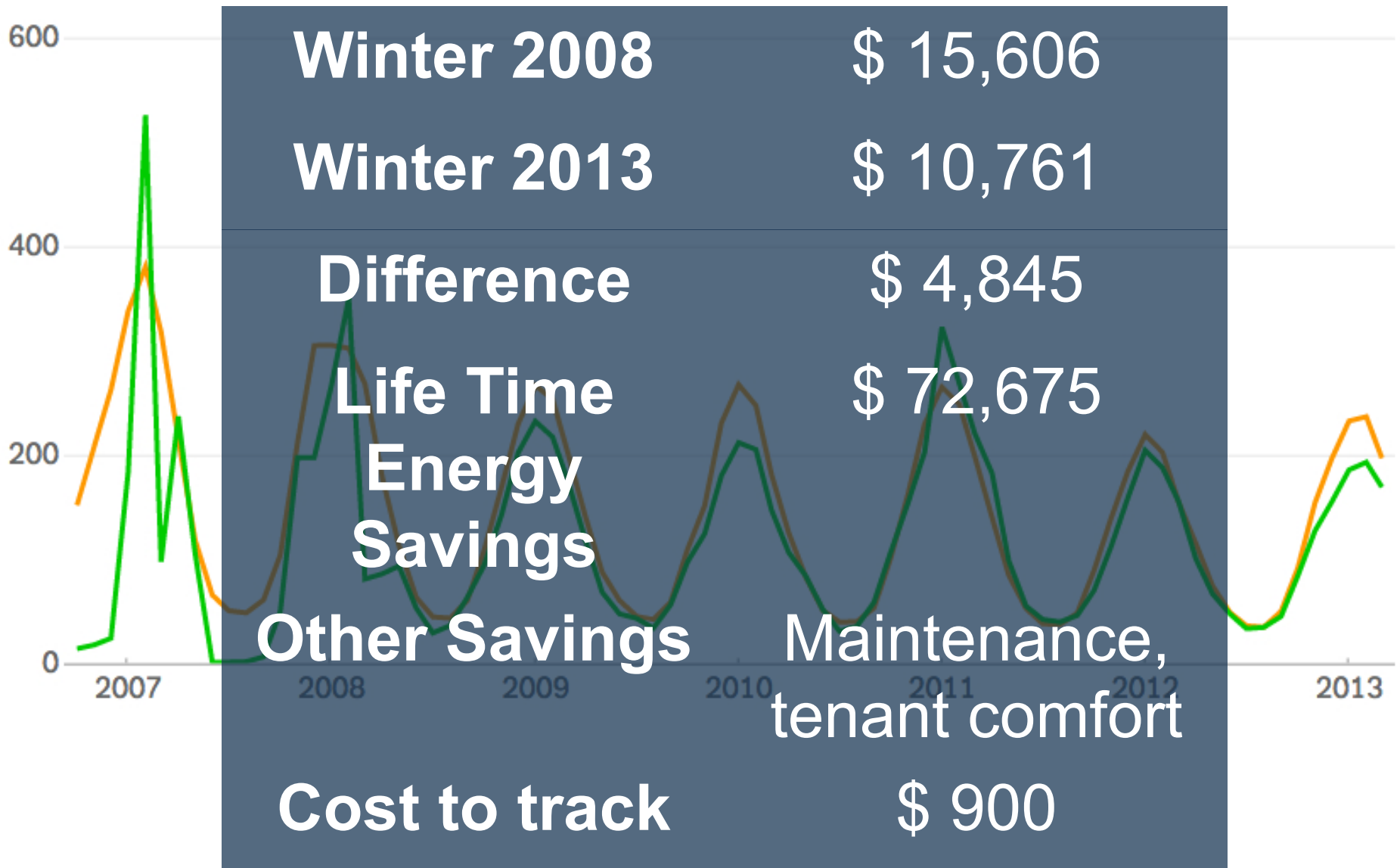


Trolley Square

 37.5K

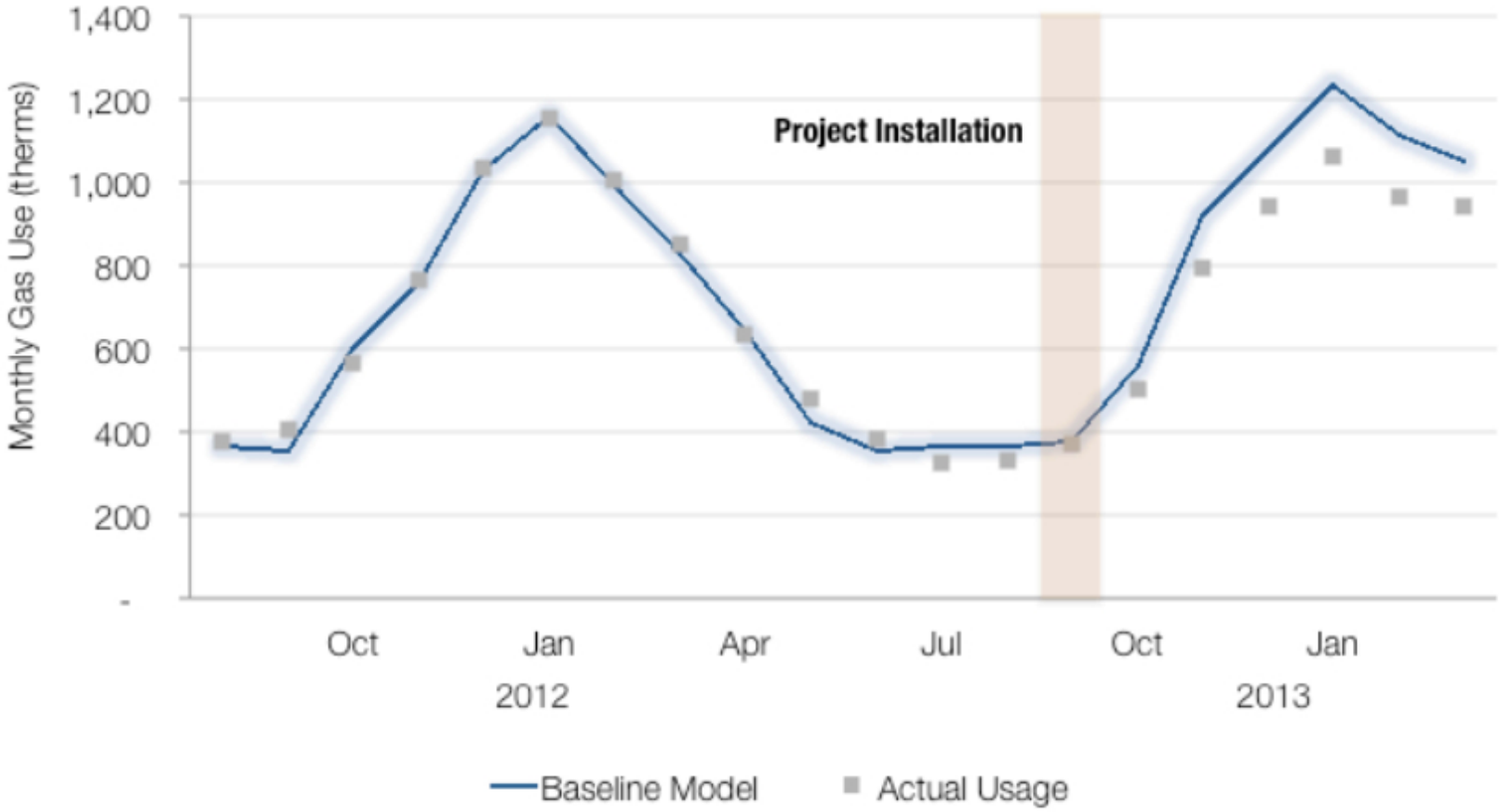


Cost of Delay



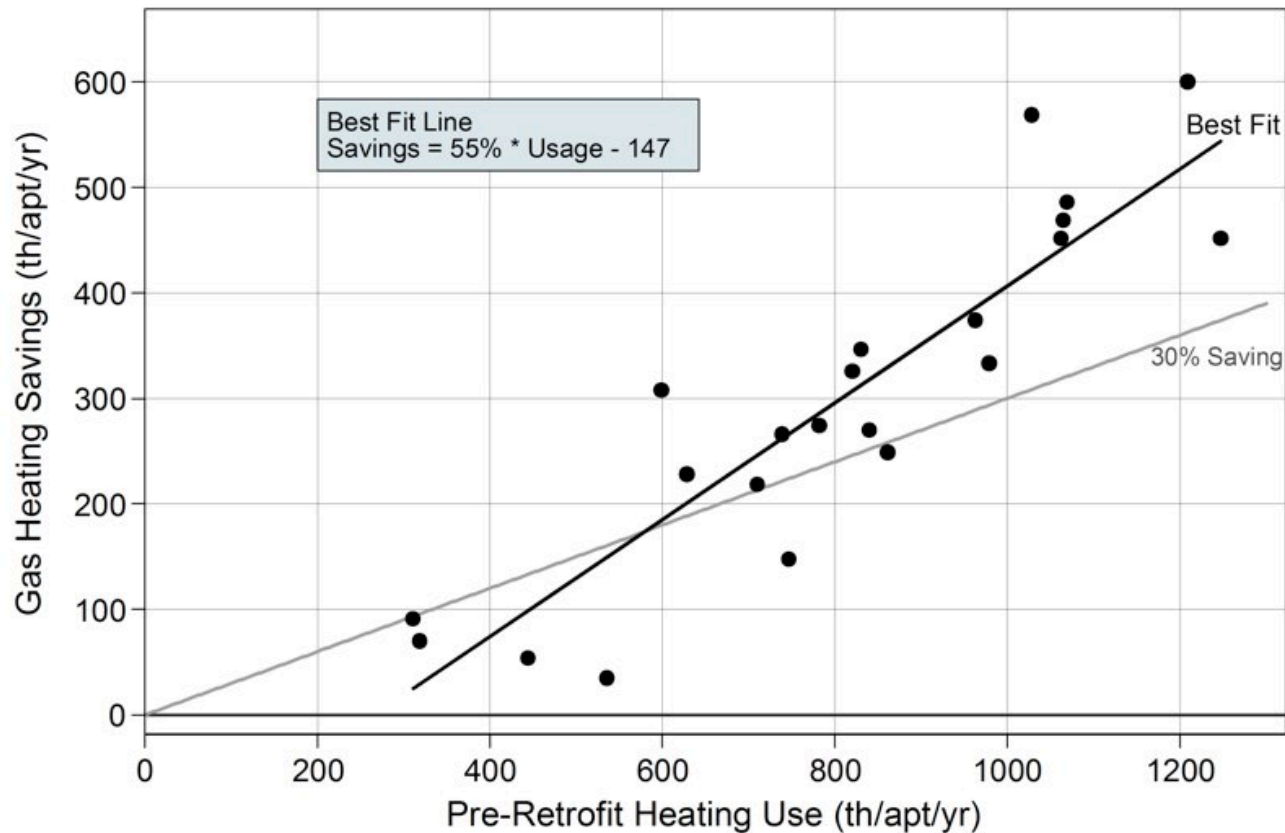
Improve

Model and Actual Usage



Improve

Massachusetts Green Retrofit Initiative: Gas Savings from Heating Replacements

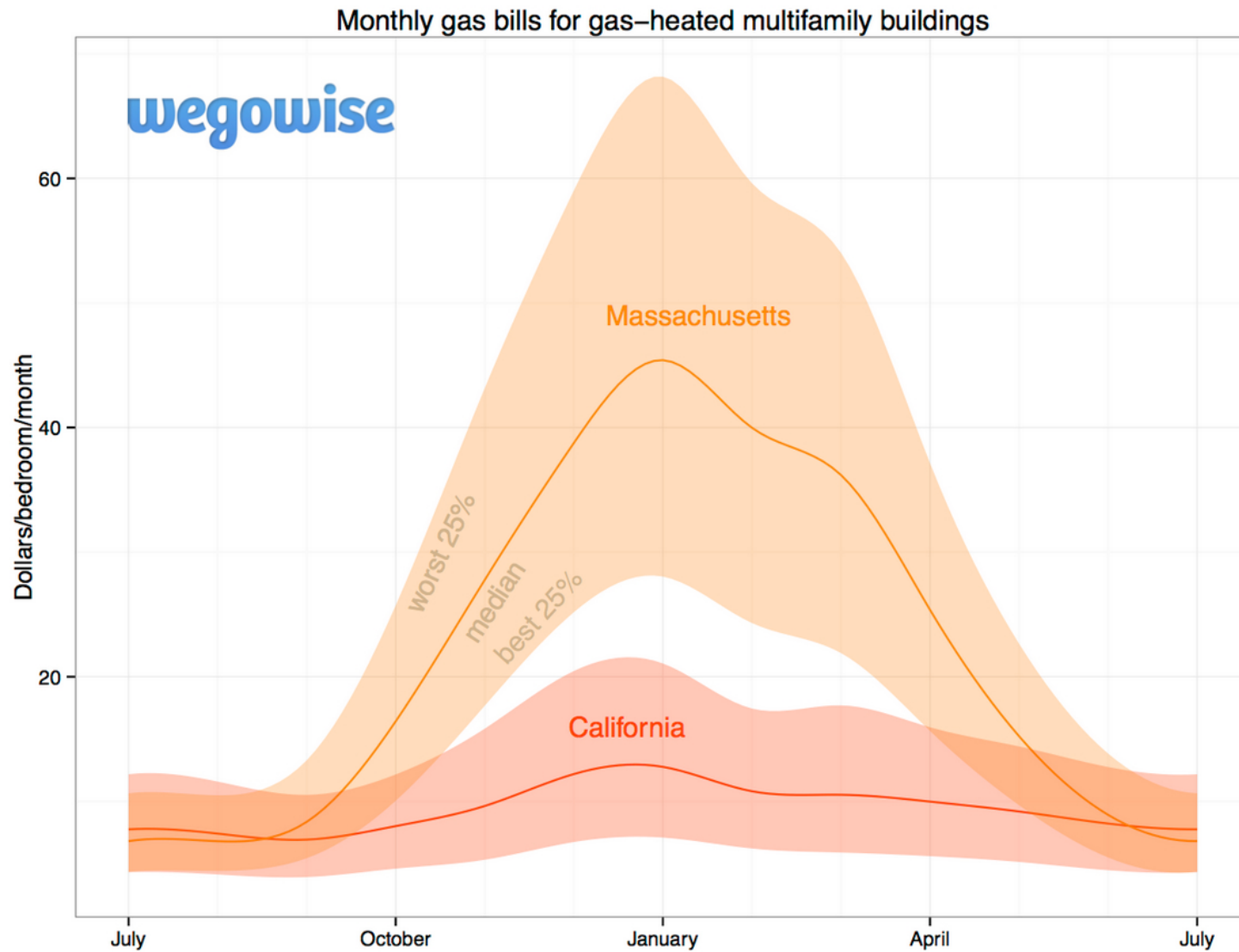


What We're Learning

8x

Utility bills for inefficient buildings cost up to eight times more than bills for efficient buildings

What We're Learning



Casey Diehl

cdiehl@wegowise.com

617-367-9346 x208

wegowise