Town of Winchester

Town Manager's Office
71 Mt. Vernon Street
Winchester, MA 01890
Phone: 781-721-7133
Fax: 781-756-0505
townmanager@winchester.us

Board of Selectmen Meeting
Monday, October 17, 2016

BUSINESS

Docket Item **G - 4:** Energy Management Committee Update; WinSaves Program Update – Susan McPhee

Supporting Documents:

G – 4:

Action Required:

G – 4:

Energy Management Committee Update

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Supporting Documents:

G – 4:

Action Required:

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WINCHESTER ENERGY

FY16 Energy Results

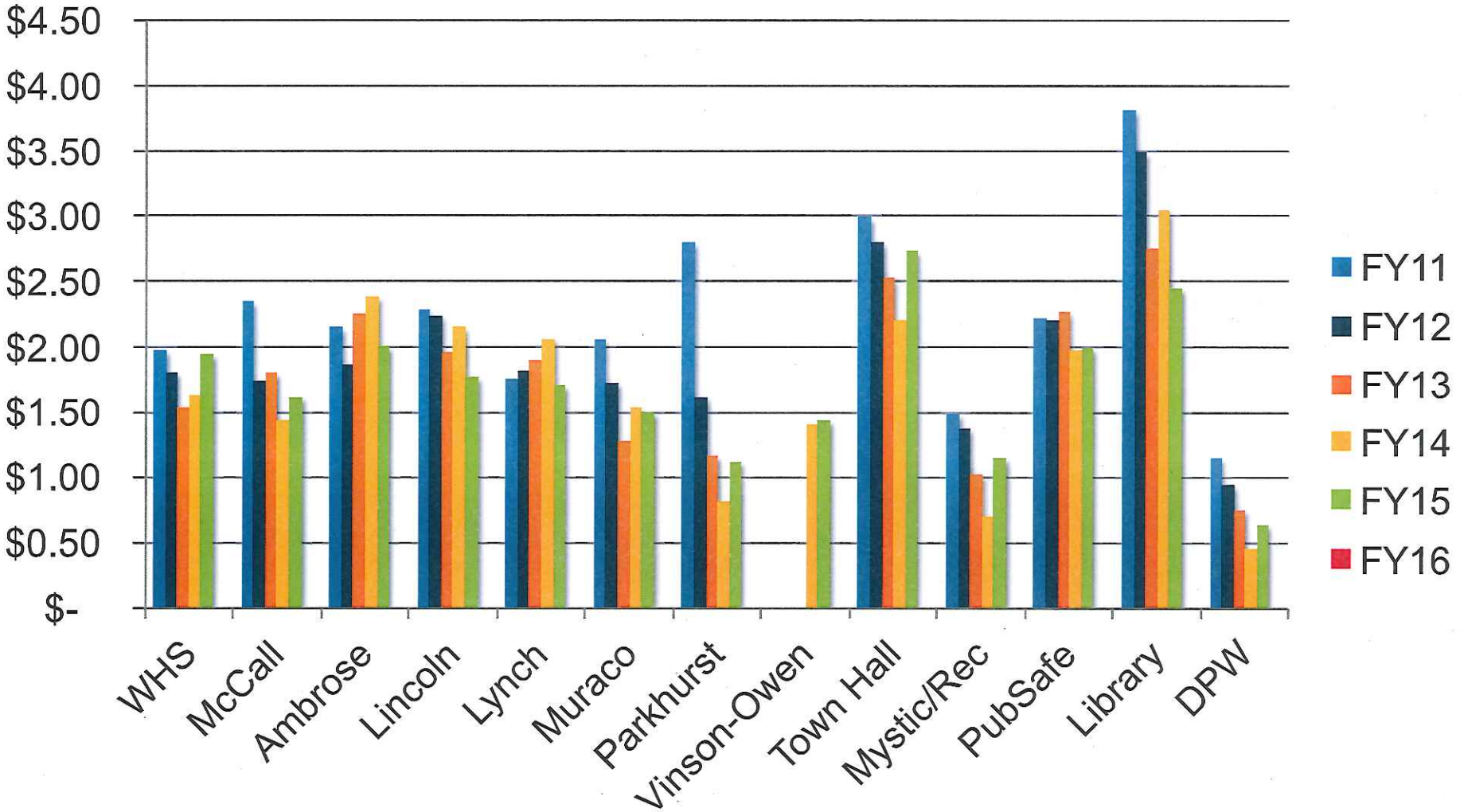
2016 Energy Projects

- Green Communities
  - Exterior & Parking Lot LED Lighting: Lynch, Ambrose, McCall
  - Interior LED lighting 30% of McCall
  - Parkhurst HVAC improvements
    - Steam trap replace and repair, Air source heat pumps, thermostatic valves on radiators and boiler controls.
  - Mystic School steam trap replace and repair
  - Town Hall sheave room infiltration sealing
  - Refrigeration improvements at McCall
- Energy Revolving Fund
  - Parkhurst fan controls, Public Safety infiltration sealing
- Library HVAC research

2015 Energy Projects

- Library controls upgrade
- Parking lot lighting switch to LED
  - Town Hall/Library lot
  - Jenks lot
- Electric Vehicles and charging station
  - Old recycled Crown Vics off the road

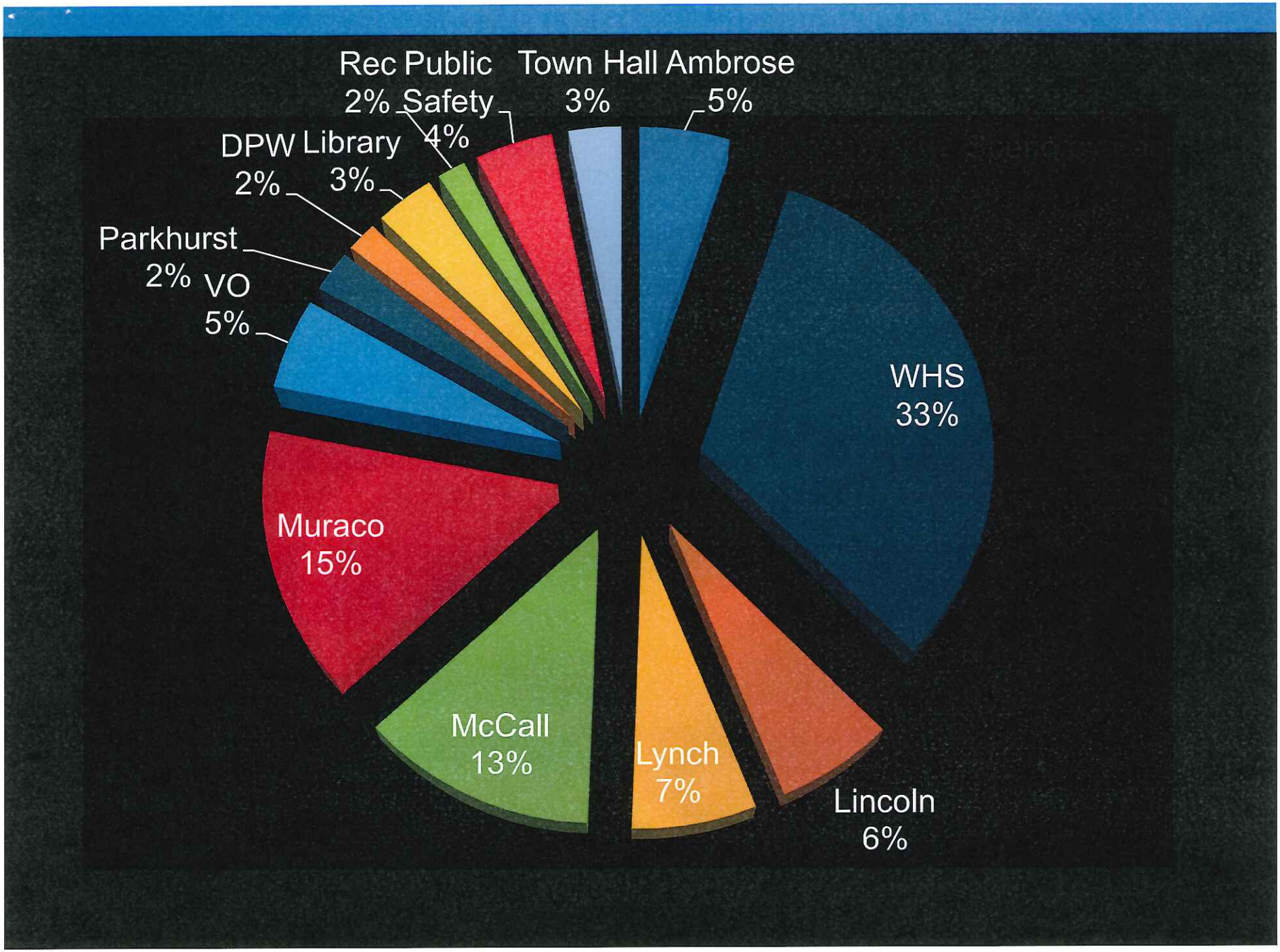
Energy Cost per Square Foot



Trends for Individual Facilities

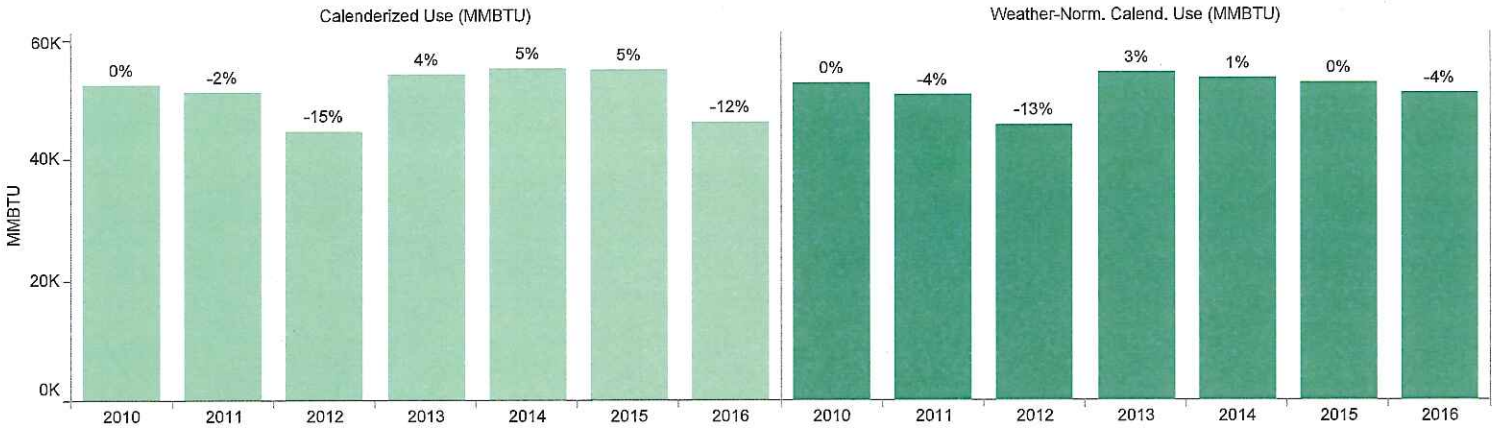
Energy Usage 2010 – 2016
(MMBTU's)

	FY10 - FY16 Trend	% chng
Ambrose		-47.5%
WHS		-18.6%
Lincoln		-12.7%
Lynch***		-26.8%
McCall		-27.8%
Muraco		-31.7%
VO		-70.8%
Parkhurst		166.7%
DPW*		-48.0%
Library		-17.6%
Rec		-5.0%
Public Safety		15.4%
Town Hall		7.3%


Rec 2%
Public Safety 4%
Town Hall 3%
Ambrose 5%
DPW 2%
Library 3%
Parkhurst 2%
VO 5%
WHS 33%
Muraco 15%
McCall 13%
Lynch 7%
Lincoln 6%

Recipient	Granting Organization	Year	Description	Projects	Amount
Winchester	Federal Government	2009	Stimulus Funds	Muraco Boiler	$ 150,000
	DOER, Green Communities	2011	Initial Grant	Initial grant, multiple projects	$ 151,000
	DOER, Green Communities	2013	Competitive Grant	Mulitple projects: DCV, drives, EMS	$ 199,000
	DOER, Green Communities	2014	Competitive Grant	LED streetlights	$ 250,000
	DOER, Green Communities	2015	Competitive Grant	Projects: library EMS, parking lot lighting, Evs	$ 115,000
	DOER, Green Communities	2016	Competitive Grant	Exterior LEDs: Manchester parking, Ambrose, Lynch; Interior LEDs McCall; HVAC improvements: Parkhurst, Mystic & Town Hall.	$ 215,000
	DOER, Green Communities	2013	Technical Assistance	Geothermal for the library	$ 10,000
	Clean Energy Center	2013	Technical Assistance	WHS solar hot water study	$ 10,000
	Federal Government	2012	Rooftop solar challenge	streamline solar energy processes for residential solar	$ 8,000
	National Grid	2016	Residential Energy Outreach	Home energy assessments, sealing and insulation work.	$ 29,900
	Federal Government	2014	Rooftop solar challenge	Work on making it easier for non-profits to get solar power.	$ 14,000
Total					**$ 1,151,900**
Green Communities					**$ 940,000**

Baseline - Weather Normalized



		Diesel	Electric	Gas	Gasoline	Oil	Grand Total
2010	Weather-Norm. Calend. Use (MMBTU)	5,149	16,783	8,003	4,841	17,993	52,770
	Calenderized Use (MMBTU)	5,149	16,667	7,653	4,841	17,993	52,303
2011	Weather-Norm. Calend. Use (MMBTU)	6,146	17,111	7,706	4,636	15,152	50,751
	Calenderized Use (MMBTU)	6,146	17,179	7,897	4,636	15,152	51,011
2012	Weather-Norm. Calend. Use (MMBTU)	3,524	17,306	6,554	4,128	14,143	45,655
	Calenderized Use (MMBTU)	3,524	17,022	5,725	4,128	14,143	44,542
2013	Weather-Norm. Calend. Use (MMBTU)	5,624	16,715	12,885	5,398	13,743	54,366
	Calenderized Use (MMBTU)	5,624	16,715	12,676	5,398	13,743	54,156
2014	Weather-Norm. Calend. Use (MMBTU)	5,556	16,518	14,991	5,595	10,646	53,306
	Calenderized Use (MMBTU)	5,556	16,660	16,719	5,595	10,646	55,177
2015	Weather-Norm. Calend. Use (MMBTU)	5,907	15,962	15,866	5,348	9,678	52,762
	Calenderized Use (MMBTU)	5,907	16,147	17,954	5,348	9,678	55,036
2016	Weather-Norm. Calend. Use (MMBTU)	4,998	14,938	17,756	5,194	7,919	50,806
	Calenderized Use (MMBTU)	4,998	14,938	15,079	5,194	5,939	46,149

	Heating Degree Days	Cooling Degree Days
2010	5,768	611
2011	6,383	827
2012	5,190	725
2013	6,055	720
2014	6,904	569
2015	6,965	529
2016	5,227	710

○ Calendar Year
◉ Fiscal Year (July 1 start)

Year
Multiple values

This dashboard shows Town-level energy use with and without weather-normalization for both heating and cooling degree days. The non-weather normalized (original) use values in the table will be slightly different from the baseline dashboard overall use values.

This report is updated every weekend. Changes made to the data this week will be reflected in this report next week.

For more information on the methodology and reasons you may see differences, see the MassEnergyInsight FAQ.

Buildings marked in MassEnergyInisight as "Exclude from Baseline" are not included in this dashboard.

MassEnergyInsight FAQ

BASELINE

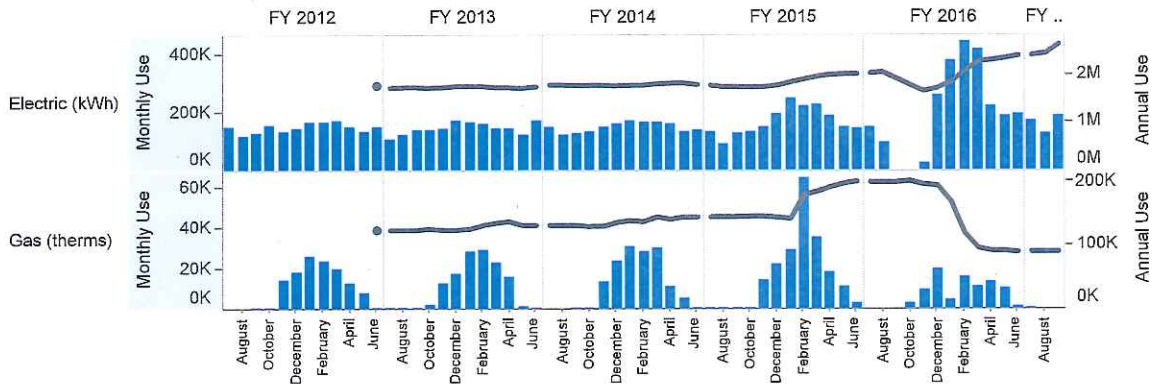
Building Dashboard

Choose a Building
Winchester HS

Usage Trends

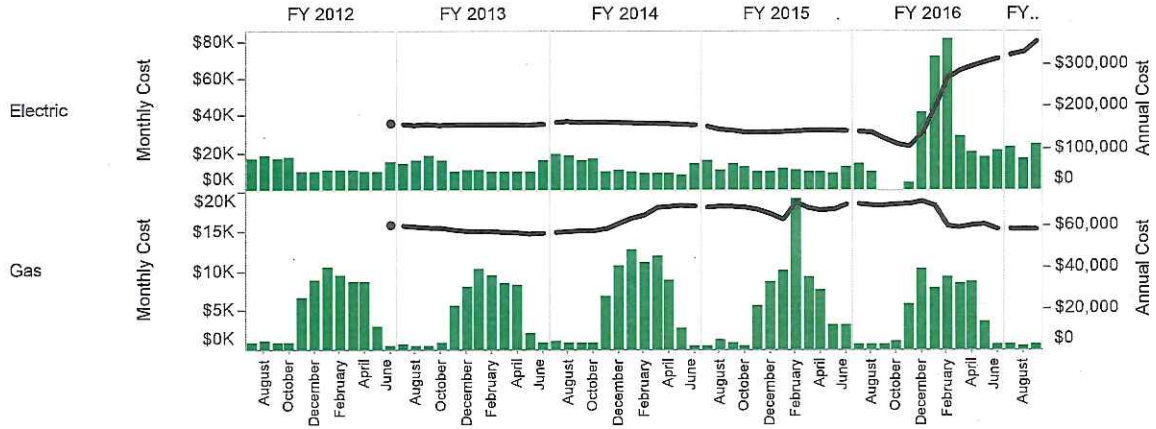
Monthly Use Annual Use (12 Month Rolling Sum)

An asterisk over a bar indicates building interventions completed in that month. Click on the bar to display more information about the interventions.

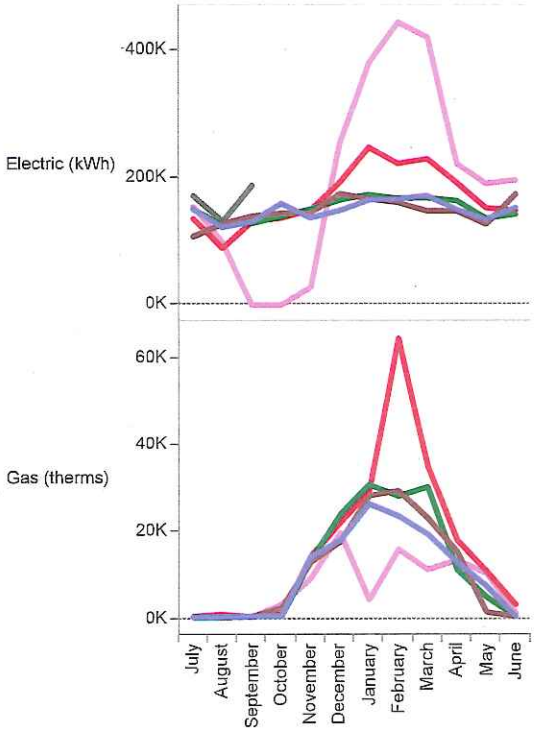


Cost Trends

Monthly Cost Annual Cost (12 Month Rolling Sum)



Annual Usage Patterns



Category
Building

Subcategory
School

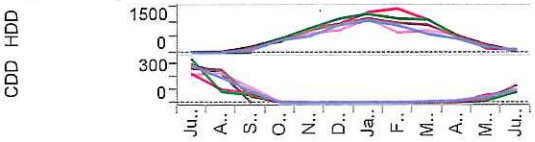
Year Built

- FY 2012
- FY 2013
- FY 2014
- FY 2015
- FY 2016
- FY 2017

Years
Multiple values

Heating or Cooling Degree Days for your local weather station are shown for your information, usage data has not been normalized. See the FAQ for more info: http://massenergyinsight.net/faq#degree_days

Degree Day Patterns



WHS

Building Dashboard

Usage Trends

Monthly Use | Annual Use (12 Month Rolling Sum)

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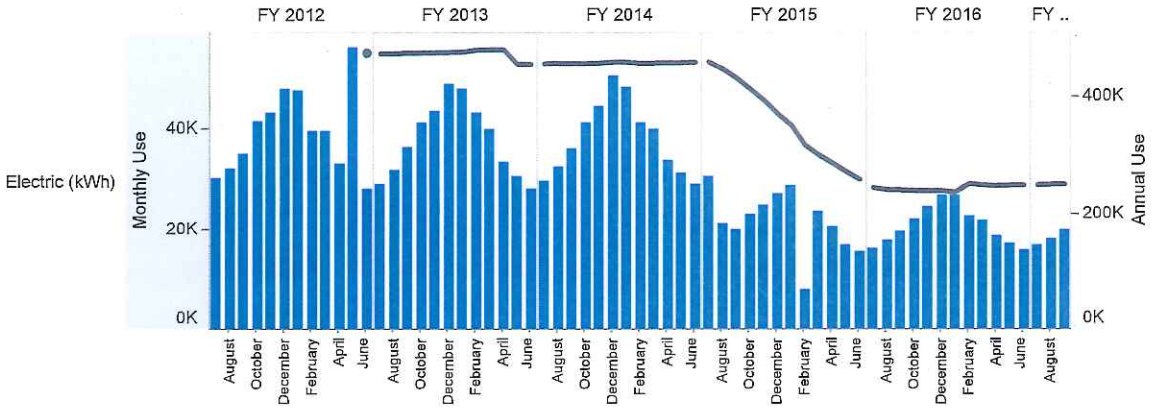
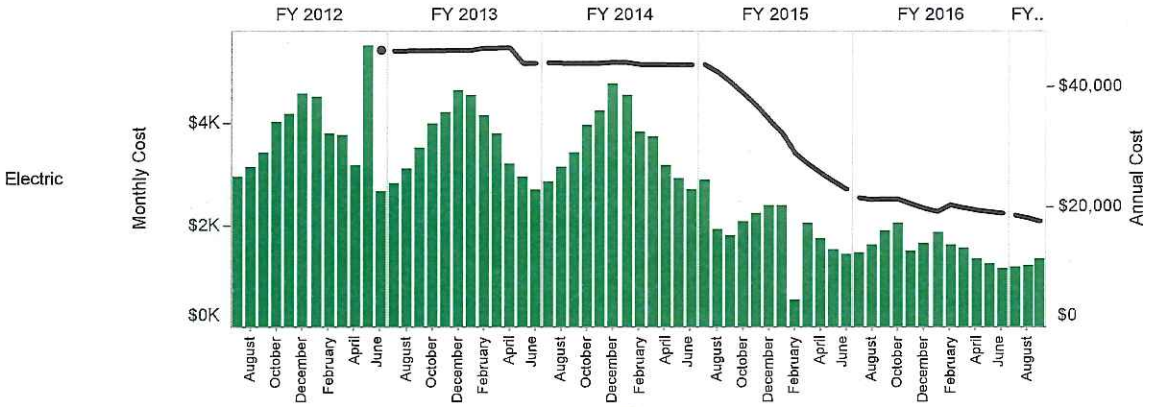
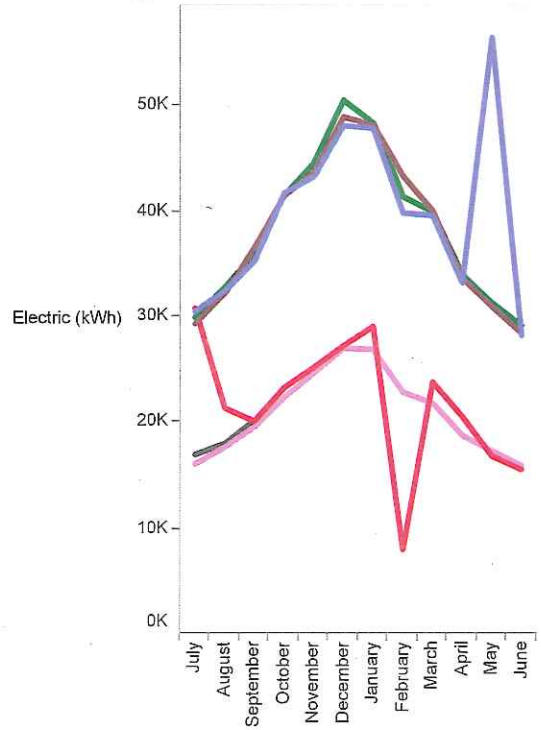


Cost Trends

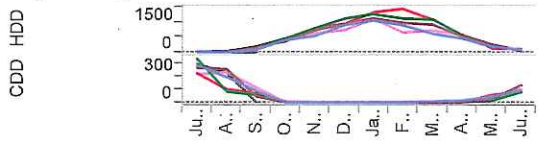
Monthly Cost | Annual Cost (12 Month Rolling Sum)



Annual Usage Patterns



Degree Day Patterns



Choose a Building

Street Lights

Category

Street/Traffic ..

Subcategory

Street Light

Year Built

- FY 2012
- FY 2013
- FY 2014
- FY 2015
- FY 2016
- FY 2017

Years

Multiple values

Heating or Cooling Degree Days for your local weather station are shown for your information, usage data has not been normalized. See the FAQ for more info: http://massenergyinsight.net/faq#degree_days

STREET LIGHTS

Building Dashboard

Usage Trends

Monthly Use Annual Use (12 Month Rolling Sum)

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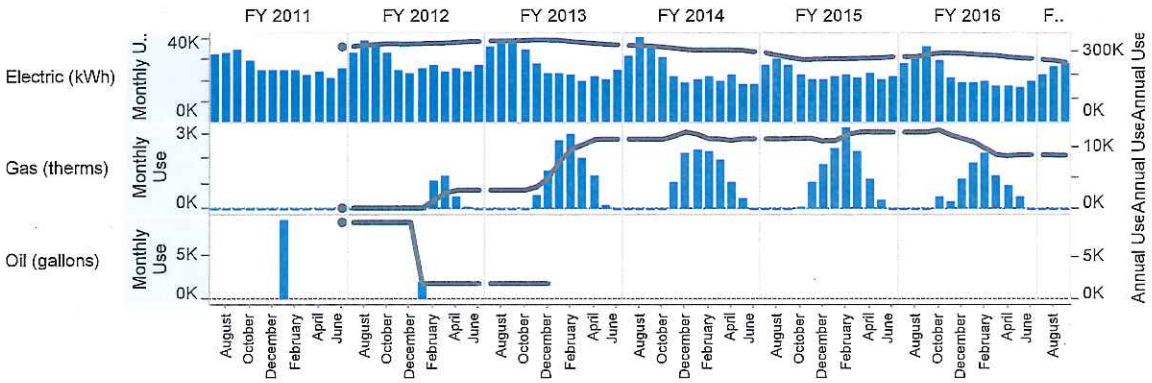
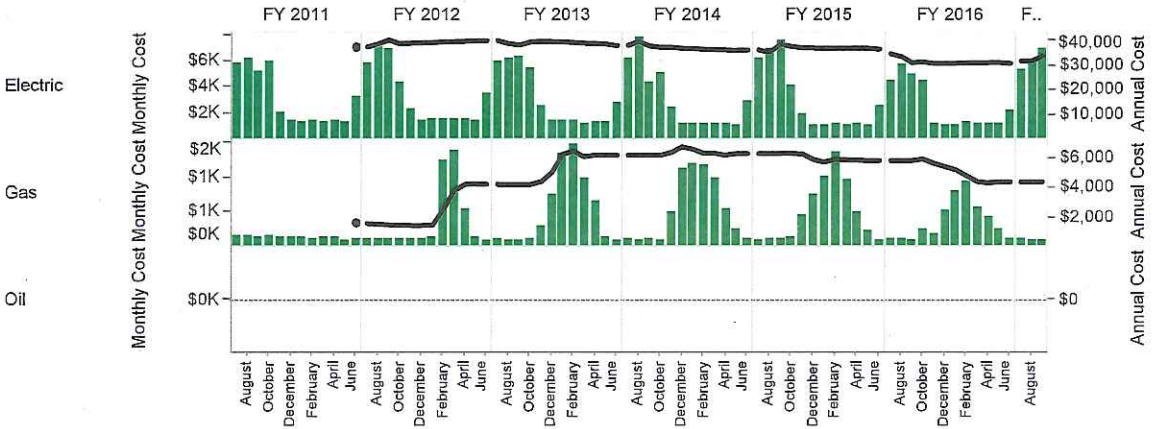
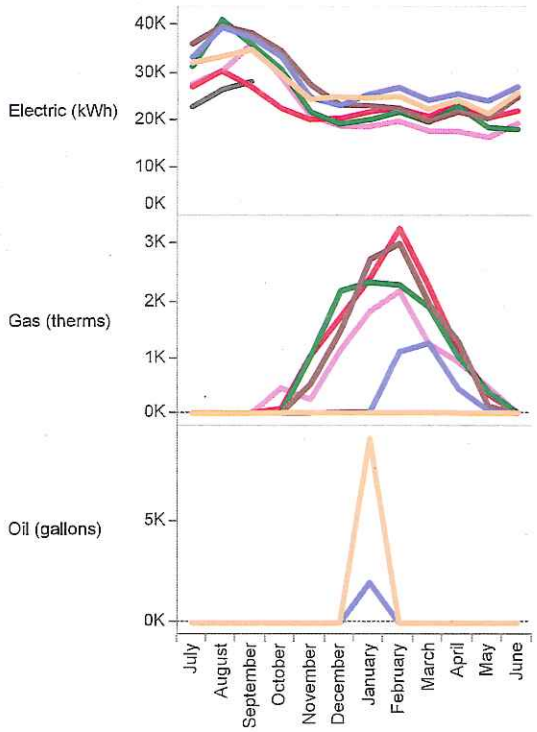


Cost Trends

Monthly Cost Annual Cost (12 Month Rolling Sum)



Annual Usage Patterns



Choose a Building
Public Library

Category
Building

Subcategory
Library

Year Built

- FY 2011
- FY 2012
- FY 2013
- FY 2014
- FY 2015
- FY 2016
- FY 2017

Years
Multiple values

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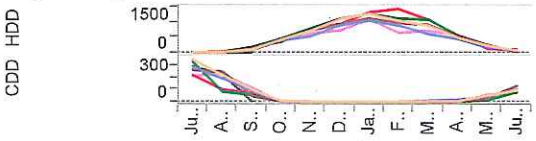
Degree Day Patterns



LIBRARY

WinSaves Update

Winchester Energy Efficiency
August Report

nationalgrid
HERE WITH YOU. HERE FOR YOU.

ASSESSMENTS

GOAL: 405

274

68%

PHONE CALL INQUIRIES

437

ENERGY EFFICIENCY MEASURES

AIR SEALING	INSULATION	HEATING SYSTEM	WIRELESS THERMOSTATS
GOAL: 113	GOAL: 128	GOAL: 26	GOAL: 41
75	91	46	110
		COMPLETED!	COMPLETED!
66%	71%	177%	268%

ENERGY SAVINGS:

6,757,300,000 BTUs

EQUIVALENT TO A COST SAVINGS OF:

$120,856 Savings = 53,007 Cups of coffee

EMISSION EQUIVALENTS OF ENERGY SAVINGS

GREENHOUSE GAS SAVINGS

442 Tons of waste sent to landfills

294 Passenger vehicles driven for one year

CO^2 EMISSIONS SAVINGS

147 Homes' Average Annual Energy Use

Report represents metrics from 1/1/2016–8/31/2016. Phone call inquiries reflect call volume to the community line. The monetary factors that inform the dollar values of the savings are based on average, market prices. They are for illustrative purposes only. The cost savings equivalent assumes one cup of coffee costs $2.28.