



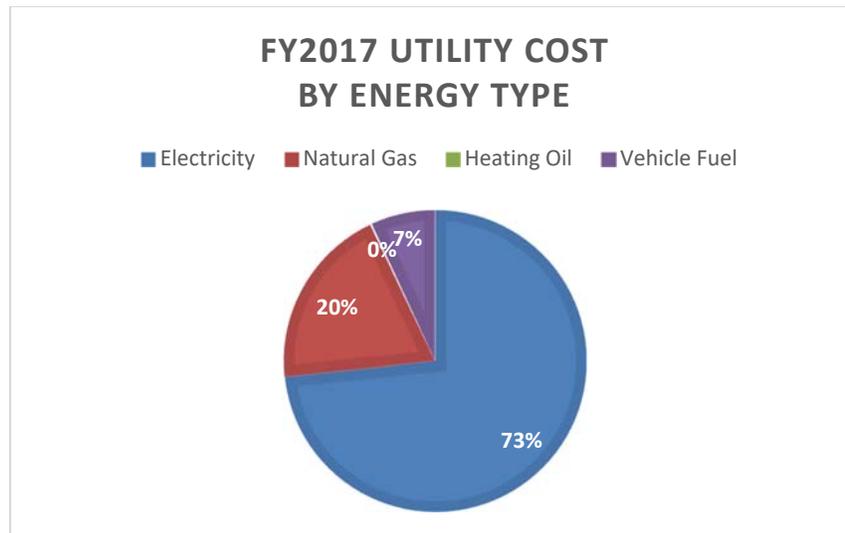
TOWN OF ANDOVER, MASSACHUSETTS MUNICIPAL SERVICES DEPARTMENT

TOWN OFFICES
36 Bartlet Street
Andover, MA 01810
Tel: (978) 623-8702

JANET NICOSIA, CEM
ACTING DEPUTY DIRECTOR
PLANT & FACILITIES DIVISION and
MANAGER OF ENERGY & UTILITIES

Fiscal 2017 year end results – Energy

The Town of Andover ended FY2017 under budget on combined utilities for both Town and Schools by \$296K. The total budget of \$3.9M for the year included electricity, natural gas, heating fuel oil, and vehicle fuel. Electricity is by far our largest energy cost, accounting for \$2.6M in FY2017:



Since we have data of our energy costs and use going back 10 years, this is a good time to look back:

- How has Andover changed in 10 years?
- How have our energy costs changed?
- Where do we stand compared to our peers?
- Are our energy efficiency projects reaping benefits?

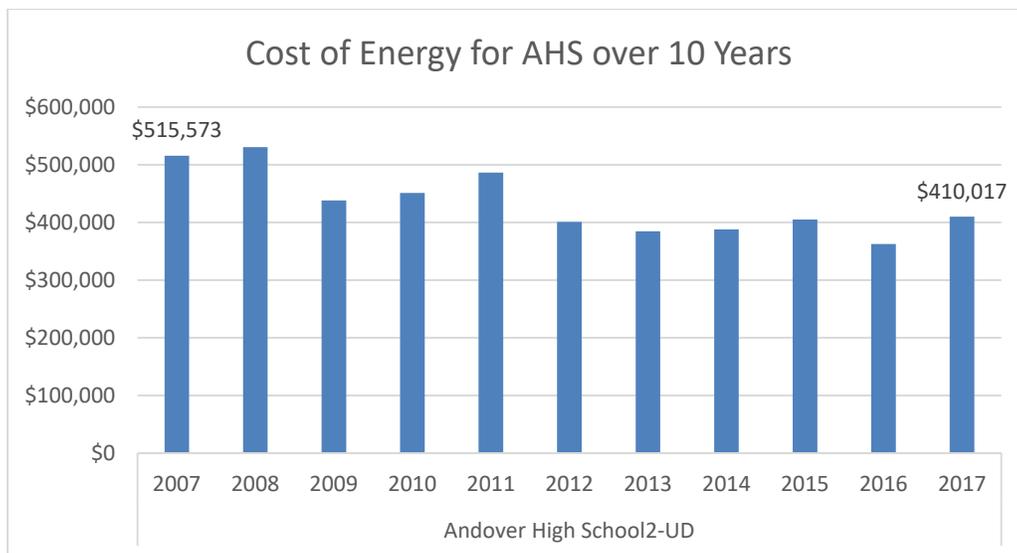
Andover, then and now...how has Andover changed?

	2007	2017	Percent Change
Cost of Utilities	\$3,650,919	\$3,406,386	6.7% decrease
Information Technology Devices	1,200	10,000	733.3% increase
Building Square Footage	1,329,005	1,467,454	10.4% increase
Gallons of Water Supplied	2.395 Billion	2.553 Billion	13.6% increase

Even with increased services, more buildings maintained, and increased water and sewer provided, over the past 10 years Andover has managed to reduce annual energy costs.

How have energy costs changed over the past 10 years?

Andover High School is by far our largest building at 343,520 square feet. It is also a heavily used building, year-round. We have identified Andover High School as our Energy Flagship, applying new technologies and methodology. It is also where we have a unique partnership with citizen volunteers, faculty and students, who are an integral part of our energy planning and success. The cost of energy for AHS has been reduced by approximately \$115K in 10 years.



Where do we stand compared to our peers?

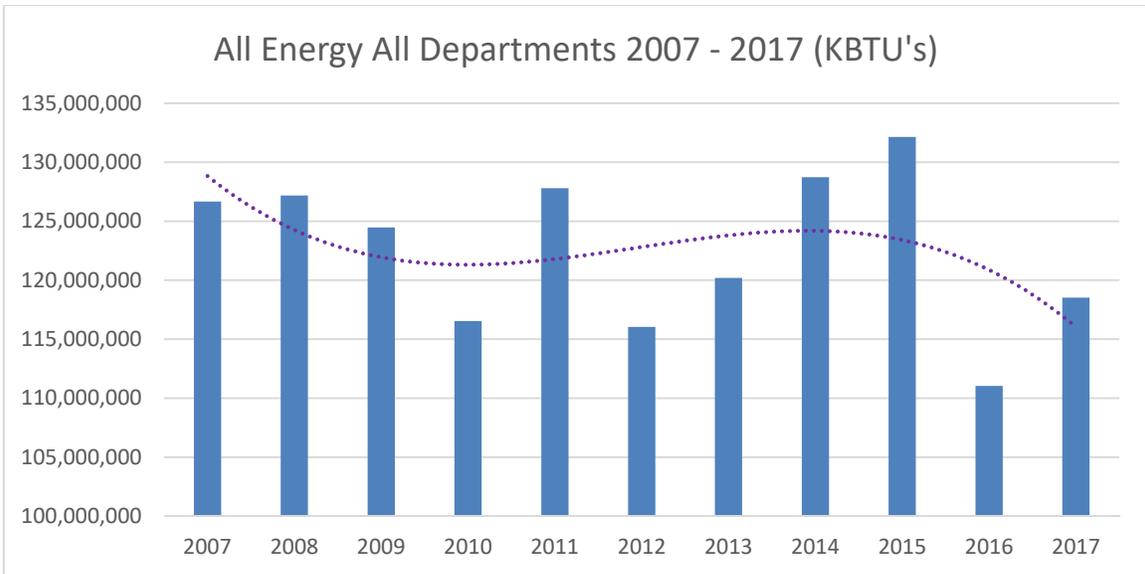


Andover High School has just been awarded Energy Star Certification. In order to achieve this certification, a professional engineering company must attest to the energy use, square footage, systems, and building uses and the building must perform above the 75th percentile for similar buildings, in this case, High Schools in our area. AHS scores in the 96th percentile, an excellent grade.

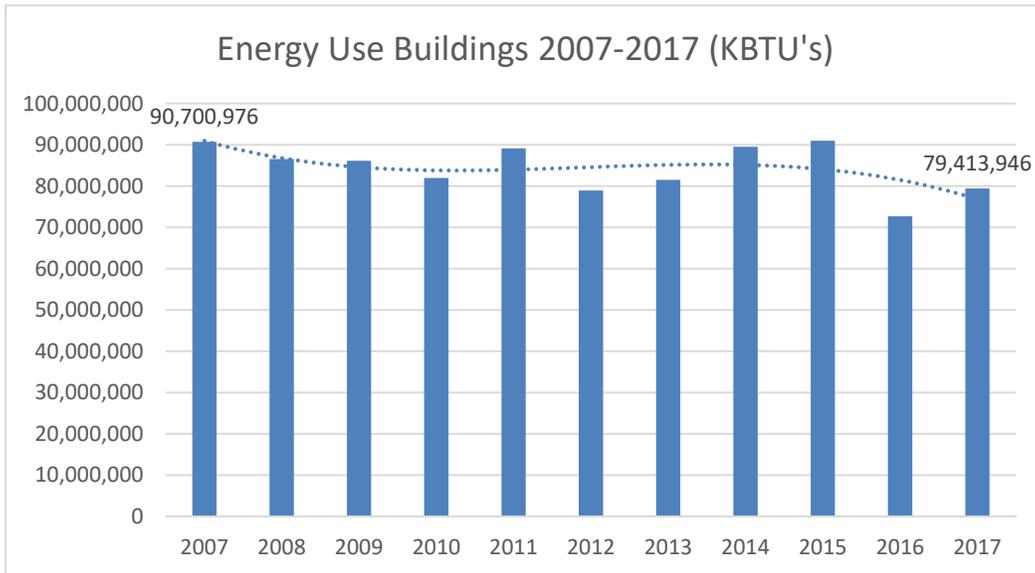
Are our energy efficiency projects reaping benefits?

The definition of efficiency, according to Google, is “The ratio of the useful work performed by a machine or in a process to the total energy expended.” For our purposes this means meeting the increased demand for services while still working to reduce our energy use. This is achieved through making our processes more efficient. These processes include heating and cooling our buildings, providing water and sewer, and protecting our community through the use of many specialized vehicles and machines in Police, Fire, and Public Works operations. We must do this while fulfilling the changing programmatic needs of our School and Town departments.

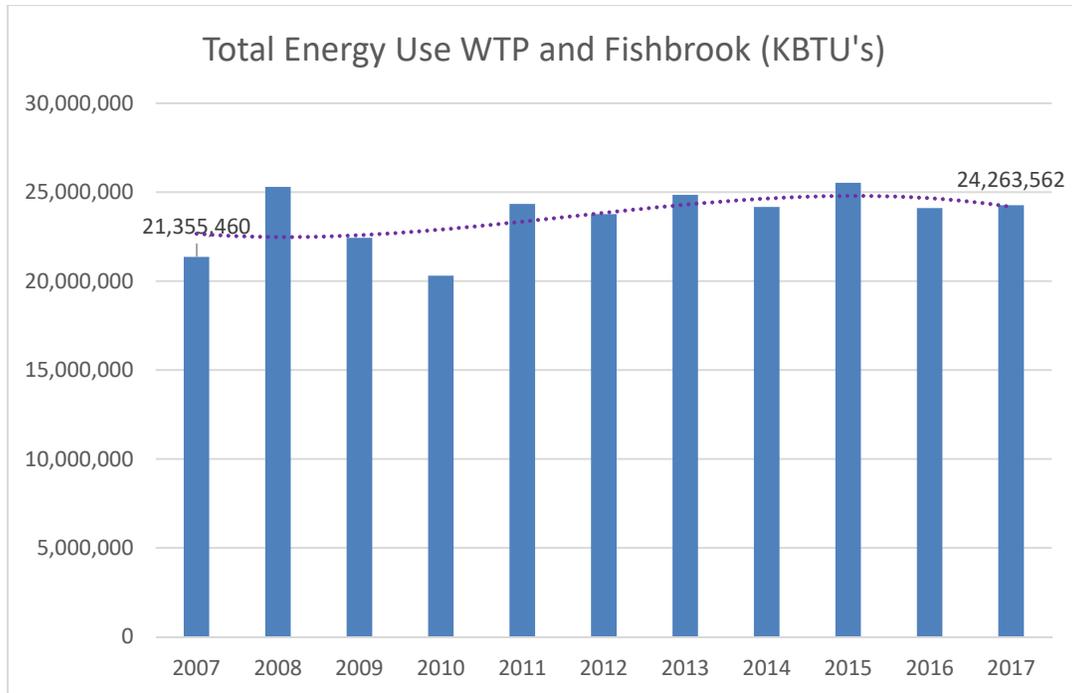
So how are we doing? Below is a 10 year history of energy use across all departments and includes electricity, natural gas, heating oil, and vehicle gasoline combined:



Energy use has been reduced overall during the past 10 years, despite increased demands on services. It is helpful to look at buildings separately from water and sewer. Both of these categories are affected by weather, but not necessarily in the same way. Building usage is affected more by a cold winter, where Water usage is affected more by drought.



Despite an increase of 10.4% in building square footage, building energy use has dropped 12.4%.



Despite an increase of 13.6% in water provided, energy use only increased 6.6%.

We will continue to strive to meet the challenge to reduce energy costs while delivering services more efficiently to meet the growing and changing needs of the citizens of the Town of Andover.

Respectfully,

Janet Nicosia, CEM
 Manager of Energy and Utilities
 Acting Deputy Director of Plant and Facilities