

# MassEnergyInsight User Guide



Buildings



Vehicles



**Traffic Lights and Streetlights** 



Drinking Water & Wastewater Treatment and Pumping

#### Summary

MassEnergyInsight is an innovative software tool designed to help Massachusetts municipalities analyze their energy use. This user guide walks through the features of this tool in four steps. After reading this guide, any MassEnergyInsight user should be able to analyze his/her municipality's energy performance. The types of analysis facilitated by MassEnergyInsight enable users to make appropriate decisions regarding where to best spend the resources available to maximize both financial and environmental gains.

#### **Acknowledgements**

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#### **Purpose**

The purpose of this document is to provide new users of MassEnergyInsight with an overview of this municipal energy management tool. It also provides information about MassEnergyInsight for people who don't have access to the system but are interested in learning more about it. By providing a printable overview, this guide is meant to complement – not supplant - the more detailed and comprehensive support information available online through MassEnergyInsight, such as on-demand training videos and frequently asked questions (FAQs).

### What Is MassEnergyInsight Used For?

MassEnergyInsight enables energy tracking by assigning energy use to **user-created facilities and departments**. All types of municipal energy usage, such as by buildings, vehicles, water/sewer facilities, streetlights and open spaces, can be included, as can all fuel types (electricity, natural gas, oil, propane, gasoline, diesel, renewable energy). MassEnergyInsight can help towns, cities, and school districts to best decide how to allocate their limited resources to pursue energy efficiency, thereby saving taxpayer money. For examples of how municipalities are using MassEnergyInsight, see the *MassEnergyInsight: Overview of A Success* report available on <u>DOER's website</u>.



### Who Is Using MassEnergyInsight?

MassEnergyInsight offers all Massachusetts local and regional governmental entities including municipalities, school districts, and water and wastewater districts - a new interactive way to analyze their energy use. As of June, 2012, more than 700 people were authorized to use MassEnergyInsight in over 220 public entities, as illustrated in the map below.

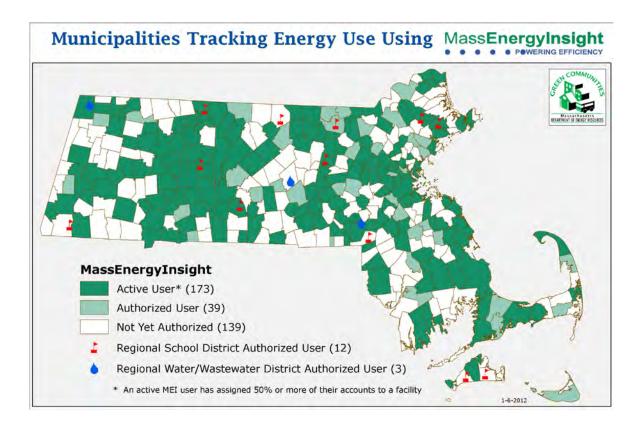


Figure 1: Home page location of Getting Started resources

There are tips and tricks to get the most out of this valuable software. This document will walk new users through the four basic steps needed to get up and running.

### Step 1: Training & Resources

The first step to using MassEnergyInsight is to understand the training resources provided to you. Located on your home page, the Getting Started webinar covers the basics of MassEnergyInsight, walking users through the displayable energy use reports, as well as the process of adding new facilities and assigning them their energy billing accounts *(Arrow 1 in Figure 2)*. Additional, on-demand videos range in length from two to six minutes and deal with very specific topics. These are available in the support section *(Arrow 2 in Figure 2* and *Figure 3)*.

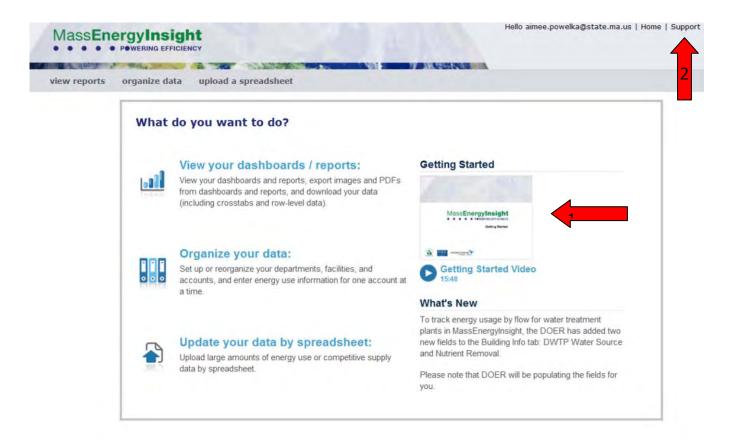


Figure 2: Home page location of Getting Started resources

The Support Page (*Figure 3*) includes the training videos, an FAQ section, a glossary, and a way to contact support personnel. The *FAQ* contains specific MassEnergyInsight information such as fuel grades and emission factors, as well as standard user issues such as lost passwords and understanding the system and reports. The *Glossary* contains definitions for categories and sub-categories. *Contact Support* allows you to request additional help. This is a very important resource for new users who have questions regarding any aspect of MassEnergyInsight. By using these resources, new users should have a fairly clear grasp of the functionality of MassEnergyInsight, even before using it.

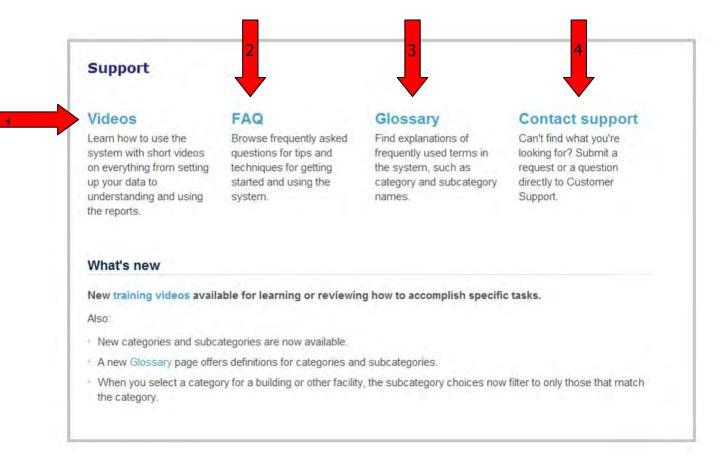


Figure 3: View of the technical support page

### Step 2: Preparing the Data

The second step to using MassEnergyInsight is to prepare the data for analysis. The primary goal of this step is to ensure the completeness and reliability of the underlying data. For MassEnergyInsight, this means that each facility has the proper information (such as square footage) entered correctly, the correct accounts have been assigned, and that these accounts have usage data loaded.

To begin preparing the data, log into MassEnergyInsight and click on "*Organize your data*" (*Figure 4*). From there, the user is brought to MassEnergyInsight's Organize Data view. To add a new department or facility/building, click "*create new*" and fill out the appropriate fields. In order to get the most out of MassEnergyInsight, be sure to assign values to the *category, sub-category*, and *square footage* fields. To see definitions of the *category* and *sub-category*, see the Support section's Glossary. MassEnergyInsight's reports utilize these fields regularly, so the reliability of this information is particularly important.

#### What do you want to do?



#### View your dashboards / reports:

View your dashboards and reports, export images and PDFs from dashboards and reports, and download your data (including crosstabs and row-level data).



#### Organize your data:

Set up or reorganize your departments, facilities, and accounts, and enter energy use information for one account at a time.



#### Update your data by spreadsheet:

Upload large amounts of energy use or competitive supply data by spreadsheet.

Figure 4: Beginning of data preparation

Next, assign the appropriate account(s) to the facility. This is accomplished by clicking the "*accounts*" button (located next to the "*create new*" button). This pulls up the entire list of accounts that were initially imported into MassEnergyInsight (*Figure 5*). Clicking on the account number will bring the user to a page where account information can be entered and the account assigned to a particular facility (*Figure 5*). A drag and drop technique may also be used, as described in the "*Reassign or Move an Account in the Tree*" training video in the Support section.

A user should associate all of his/her energy accounts with their specific corresponding facilities. Additionally, any accounts that MassEnergyInsight automatically links with facilities should be *checked for accuracy*. Finally, if the town is interested in seeing competitive supply costs that aren't being billed by the investor owned utility, competitive supply accounts should be created and linked to the corresponding electric or gas account in order to ensure that the cost information contained in MassEnergyInsight is as accurate as possible.

#### **Organize data**

This "Tree" shows your municipality, departments, complexes, buildings or facilities, and units. Click the plus sign (+) to expand the tree and the minus sign (-) to collapse it.

Click Show accounts within tree to integrate your accounts into the tree, then drag-and-drop them to new locations in the tree.

Show accounts within the tree

Ames (City, Town, or Reg. Entity)
 Ames Elementary School (Facility)
 Elementary Building (Unit)
 Ames Juvenile Detention Facility (Facility)
 building 1 (Facility)
 Fire Department (Department)
 Fire Station 1 (Facility)
 Fire Station 2 (Facility)
 Fire Station 3 (Facility)
 Fire Station 5 (Facility)
 Fire Station 7 (Facility)
 Fire Station 8 (Facility)

accounts	create new
accounts	create new
accounts	
accounts	create new

Figure 5: MassEnergyInsight's Data Tree

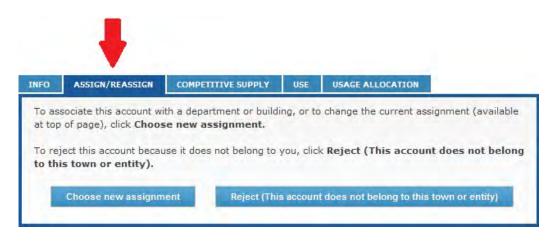


Figure 6: Assigning Accounts

It is also recommended that *special effort be made to enter the square footage for all facilities,* since some of the efficiency calculations done in MassEnergyInsight are based on square footage. Errors in square footage data will cause incorrect numbers for energy use intensity, a measure of energy use per square foot.

Since only "facilities" can be assigned a category and subcategory, it is sometimes useful to create a placeholder "facility." For example, many municipalities have found it useful to create a streetlights "facility" to include all of their streetlights accounts together and assign the category of streetlights. For more information on how to do this, see the training video "*Streetlights and Vehicles*" in the Support section.

To ensure that setup is complete, the "*Setup Completeness Dashboard*" is very useful. It highlights any facilities that have not been assigned a *category, sub-category,* or *square footage* (*Figure* 7). The dashboard also reveals any accounts that have been imported but have not been assigned to a facility. This report is useful in bringing attention to any mistakes the user might have made when creating the facilities.

														2	
* <	Freatme	ent Plant Bend	chmarks	Monitoring Use	Dashboard	Monitoring Cost Dashboard	Setup Completeness Dashboard	Data Loaded - Overview	Data	Loaded - Detail	ESCO F	Report - Ai	nnual Data	ESCC >	
Setup Cor	nplete	eness Dasl	nboard												
then make edits Assign these	s which w	will appear in the Ints	e reports the n	next business day. I	f there's nothi	ing in a table, then you ve completed		n an oth er browser window or tab. `	You can	This table show ty Category and er over the cate the plus (+) or m	l Subcategory gory header o	To expansion the name	, or collapse	the table, hov-	
				ient, complex, build	ing or unit. As	ssign these accounts to ensure their	data is reported properly.			Facility Counts	s by Type				
112233		c City Electric	Electric							Facility		-		-	
123456 98765333	Lipton			ompetitive Supply					_	Category	FY 2008	FY 2009	FY 2010	FY 2011	
222222221	Alterna	ile	Electric						_	Building	1	3	3	1	
222222222		m Oil Co.	Oil						_	Grand Total	1	3	3	1	
234235235	Other		Solar Electri	ic					_						
0002230230	Other		Genoline												
Assign a cate to these item		Assign a sub	ocategory to	o these items	E	Enter a square footage for the	se buildings	Assign these s	schools	a School Type					
Fire Station 4		Ames Juvenile	Detention Fa	acility											
Ames Element	ary	Fire Station 6													
Ames Juvenile	Det.	building 1													
Fire Station 6															
building 1															

Figure 7: Setup Completeness Dashboard

To view the "*Setup Completeness Dashboard*" and other reports, the user needs to navigate to the "*View Reports*" section (*Figure 8*) and use the pull-down menu at the far left (1) or the side scrolling arrows (2) to reach the desired report.

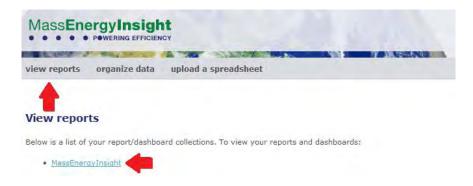


Figure 8: Viewing Reports in MassEnergyInsight

#### **Step 3: Loading Data and Verifying Data Completeness**

The third step to using MassEnergyInsight is to ensure that data is loaded into all accounts. Data enters MassEnergyInsight in two different ways. Data for some accounts, including utility-provided electric and gas usage and cost are "automatically" updated by Peregrine Energy Group without any effort on the user's part. <sup>1</sup>

Other data – including competitive supply cost; oil, propane, gasoline, and diesel usage and cost; and renewable energy generation - must be loaded by the user either manually or via a spreadsheet upload process. To upload these data, the user must gather the account number, delivery date, fuel grade, amount of fuel delivered and the cost. Since this must be done for each account number and delivery date, a spreadsheet greatly simplifies the process. To learn how to upload a spreadsheet, see the "*Uploading a Spreadsheet*" video in the Support section.

Once every facility has been created, all accounts have been assigned, and userprovided data has been uploaded, the third and arguably most crucial step is ensuring *all* the data for those accounts have been loaded. This is accomplished by viewing the "*Data Loaded – Overview*" reports.

Users will find the "*Data Loaded – Overview*" report useful in ensuring the completeness of the underlying data (*Figure 9*). It addresses, in a tabular format, which accounts are missing data for which months. Any month that has a white space indicates that there is no data loaded for that month. This may indicate missing data, or it may indicate that two reads occurred in the previous or subsequent month. If the user determines that

<sup>&</sup>lt;sup>1</sup> Section 7 of Chapter 25A of Massachusetts General Law enables DOER to request energy usage and cost information from the investor-owned electric and gas utilities. This is the data that is loaded into MassEnergyInsight by Peregrine and includes Cape Light Compact, NStar, National Grid, Unitil, Berkshire Gas, Blackstone Gas, Columbia Gas and New England Gas. Additionally, several municipal light plants currently provide data for loading into MassEnergyInsight. If you wish your municipal light plant to provide data, please contact Peregrine Energy Group at 617-367-0777.

data is actually missing, the *user* has three options: (1) contact Peregrine through the Support section if this is an electric or gas account loaded by Peregrine, (2) locate and enter the data manually using the account's *use* tab in the organize data section or by uploading a spreadsheet, or if the data cannot be located, (3) add a note to key reports regarding how much is missing.

Green cells indicate that the data for that account have loaded for the indicated month. It is important for analysis to verify that all of the utility data for the year under review has *been loaded, without any missing months.* 

For accounts that use competitive supply, the data loaded from the electric and gas utilities will not have the total cost, although the usage will be correct. For the cost information to be accurate, users must load the competitive supply cost into the corresponding competitive supply accounts on MassEnergyInsight themselves. The "*Data Loaded – Overview*" report includes the competitive supply accounts separately to assist you with tracking whether the competitive supply data have been loaded.

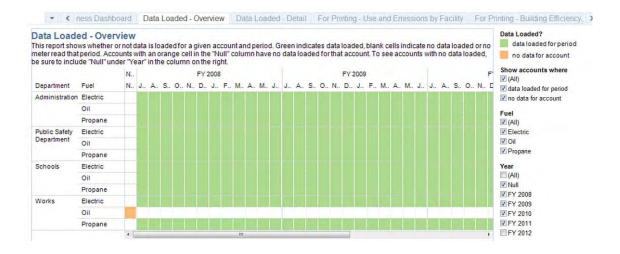


Figure 9: Data Loaded – Overview Report

By this point, the user should have data that are both reliable and valid, meaning they can proceed to the next stage.

### Step 4: Analyzing your Energy Use Data

The final step in using MassEnergyInsight is to use and understand the reports. A general process for analyzing the data can be followed using the reports listed below. By viewing the reports *in this order*, the user can gain a general understanding of his/her municipal energy use in a top-down manner, beginning with the general energy use for the municipality and ending with a specific energy usage for individual facilities.

- Baseline Dashboard
- Usage Trends City/Town
- Buildings to Target
- School Benchmarks
- Building Dashboard

The most useful report giving the user a "big picture" of energy use is the "*Baseline Dashboard*" (*Figure 10*). The overall percent change in energy usage from the baseline year at the upper left is a very useful graph. It tells whether the energy use is increasing, decreasing, or remaining constant. Establishing a baseline year is an important step for analysis and should be done from this report. Start by selecting all the years available in the "Baseline Dashboard," then remove any years that have a significant portion of missing data and are noticeably lower than the most complete year. Alternatively, if a baseline year has been established during the process of applying for Green Community designation, uncheck any years previous to that baseline year. A good baseline year will be the start of a consistent trend of energy usage data.

Next, the breakdown of use by facility category will enable the user to understand how their municipal energy is apportioned among buildings, open spaces, water/sewer facilities, and street and traffic lights and vehicles (*Figure 10A*). For most municipalities, the primary consumer of energy is the Buildings category.

Finally, the data may be viewed by department by selecting the department filter (*Figure 10B*). This view is useful for facilitating discussions among department heads regarding the energy costs and use by their facilities.



Figure 10A: Baseline report with facility category filter

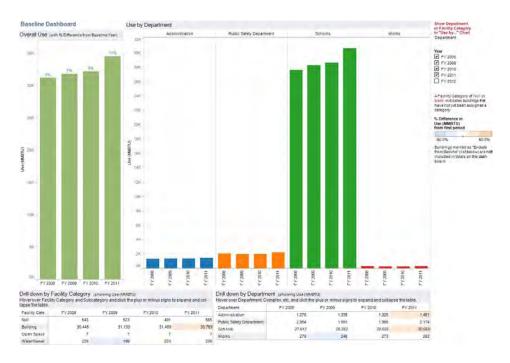


Figure 10B: Baseline report with department filter

#### Energy Use Trends

The next graph to view is "*Usage Trends – Town*" (*Figure 11*). This report drills down further into a municipality's energy use and provides general trends for all major energy types. This report provides a good opportunity to see if the chosen baseline year is appropriate. An appropriate baseline year is one that enables trends of energy usage to be seen over the subsequent years.

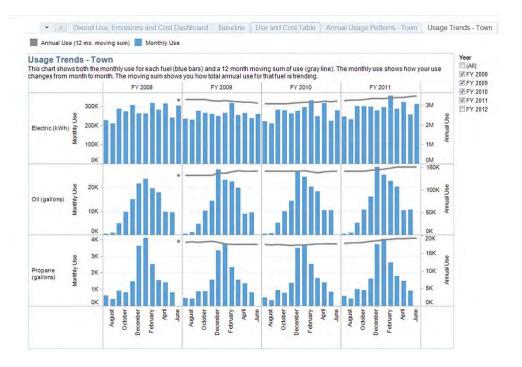


Figure 11: Usage Trends Report

Additionally, the "*Use and Cost This Year to Last" (Figure 12)* graph shows current energy use and cost overall or for an individual fuel type, from the latest complete data set, compared to energy use and cost from the same time in the previous year.

lse and C	ost This	Year to Last							Fiscal Year Start I	Month
				Tetelfeeleet	ar as of Same Date				July	
st vear (red)	ine) and to la	st vear's total ene	erdvuse and cos	t (vellow bar), If the	blue bar is past the	rea line, your ener	av use or spending is	dreater now	-	
an it was at		a last year. To exp					hent, Building, etc., th		<ul> <li>(All)</li> <li>Electric</li> <li>Oil</li> </ul>	

Figure 12: Use and Cost this Year to Last

#### Analyzing Building Energy Consumption

The next logical step would be to look at building efficiency, since buildings (facilities) are often the primary contributors to energy consumption. MassEnergyInsight calculates building efficiency using energy per area (measured as kBTU per square foot). What this means is a more efficient facility will have a lower value than a less efficient facility because it consumes less energy per square foot.

Several reports display facility information. From the "*Buildings to Target"* (*Figure 13*) report, it's easy to identify which facilities use the most energy and how they rank in terms of efficiency against the rest of an entity's facilities. The chart titled "*Efficiency and Use,"* which is divided into four quadrants, is a good preliminary indicator of which facilities need additional analysis. The upper right quadrant is the key, since facilities in this quadrant are both the least efficient facilities (in kBtu/sf) and the highest energy consumers (in MMBtu).

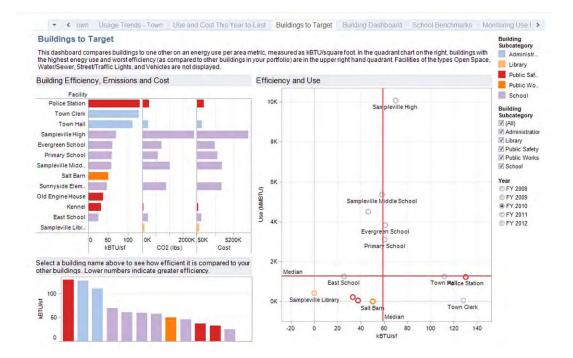


Figure 13: Buildings to Target Report

#### **Analyzing School Benchmarks**

MassEnergyInsight has an excellent "*School Benchmark*" report (*Figure 14*), that allows users to compare the efficiency of their schools with others throughout Massachusetts.

The user has the option to select different years, as well as to filter results by type of school analyzed. More efficient schools are to the right, while less efficient schools are on the left. While this graph is an excellent tool, the type of school will significantly change its energy consumption habits.

For instance, a high school, which presumably has significantly more computers and high energy consumption devices than an elementary school, will consume more than an elementary school per square foot. In order to compare a particular school to its peers, the user can select the school type, such as a high school or elementary school.

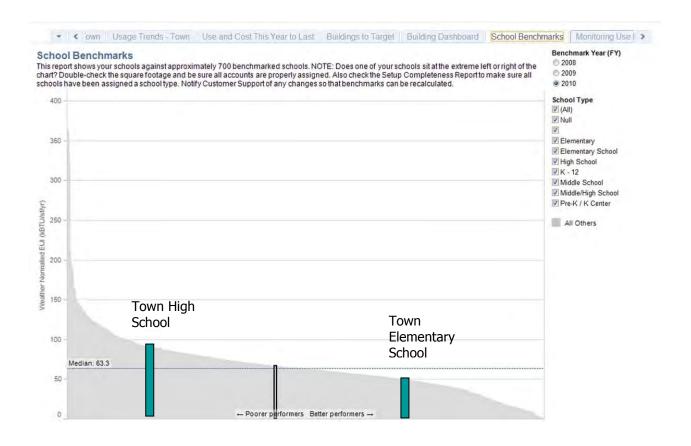


Figure 14: School Benchmark Report

#### Analyzing Building Energy Use and Costs

The final step in the top-down analysis approach is to look at each facility identified by either the "*Buildings to Target*" report or "*School Benchmark*" report in detail. This is accomplished using the "*Building Dashboard*" (*Figure 15*), which lets the user examine the detailed energy consumption patterns and costs for a specific facility. With this report, the user can identify if a facility has had unusual energy usage that should be investigated further, as well as how much each fuel type contributes to the overall energy consumption.

The "*Usage Trends*" graph shows facility fuel use by month as blue bars, as well as a 12-month rolling sum of use as a line. The "*Cost Trends*" graph shows facility fuel costs by month as green bars, in addition to the 12-month rolling sum of cost, shown as a line. The "*Annual Usage Patterns*" chart shows the energy use for multiple years on the same chart, highlighting normal versus abnormal patterns of usage across a year.



Figure 15: Building Dashboard Report

### Step 5: Exporting the Data (Optional)

For users wishing to perform advanced analysis on the underlying data, the data can be exported from any report:

- First, navigate to the graph for which you would like to view the data and select all the relevant years. The "*Overall, Use, Emissions, and Cost Dashboard*" is shown as an example in *Figure 16A*.
- Select the "Use, Emissions and Cost by Item Level" graph by clicking on it
- Hover over the leftmost icon (Export menu) in the toolbar at the top center of the page, then click on "Data" in the dropdown menu (*Arrow in Figure 16A*). A new window will immediately open containing a select portion of the data for view, split into two tabs: *Summary* and *Underlying*. The *Summary* data exported from *Figure 16A* is shown below in *Figure 16B* for illustration.



Figure 16A: Step 1 in exporting the underlying data

#### Summary

Fuel (family)	Department	Length of bar	Width of bar
Oil	Administration	1,078.50	19,707.75
Electric	Administration	201.578	9,448.13
Propane	Works	184.184	4,532.03
Oil	Public Safety Department	60.187	953.28
Propane	Administration	45.318	1,327.91
Propane	Public Safety Department	1,094.46	27,901.38
Oil	Schools	18,504.51	370,120.62
Propane	Schools	280.28	7,180.98
Electric	Works	88.52	6,503.38
Electric	Public Safety Department	830.344	32,280.08
Electric	Schools	9,841.67	426,886.66

Figure 16B: Step 2 in Exporting the Underlying Data

#### Underlying

The summary data tab contains just the data points presented in the chart or table. In order to gain access to all of the data used to create the chart or table, the user must click on "*Underlying,*" check the box labeled "*show all columns,*" and then click "*Download all rows as a text file*" as shown in *Figure 17A*. A "comma separated value" (.csv file) will be downloaded and should be opened and saved in Excel. The data can then be manipulated at will. For larger datasets, this csv file can be quite large, often several megabytes. A sample of the data from the csv file is included below *Figure 17B*.

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#### 🕘 View Data - Mozilla Firefox

Summ	ary Unde	erlying											
	out of 408 rows as a te												
ength of bar	Width of	of	Usage End Date (null filter)	Account #	account_active	account_city	Fuel	Fuel (family)	account_fuel_grade	account_id	account_meter_num	account_provider	account_
0	0	1	12/31/2009	1008949322	1	Null	Propane	Propane	Null	45,041		Sampleville Fuel Co.	Null
2.548	73.03	1	11/30/2009	1008949322	t	Nutt	Propane	Propane	Null	45,041		Sampleville Fuel Co-	Null
0	0	1	10/31/2009	1008949322	ı	Null	Propane	Propane	Null	45.041		Sampleville Fuel Co.	Null
0	o	ĩ	9/30/2009	1008949322	1	Null	Propane	Propane	Null	45,041		Sampleville Fuel Co.	Null
D	0	1	8/31/2009	1008949322	1	Null	Propane	Propane	Null	45,041		Sampleville Fuel Co.	Null
0	0	I	7/31/2009	1008949322	1	Null	Propane	Propane	Null	45,041		Sampleville Fuel Co.	Null
D	Ō	ī	6/30/2010	1008949322	t	Null	Propane	Propane	Null	45,041		Sampleville Fuel Co.	Null
0	0	1	5/31/2010	1008949322	1	Null	Propane	Propane	Null	45,041		Sampleville Fuel Co.	Null

Figure 17A: Step 3 in Exporting the Underlying Data

Length of bar	Width of bar	Number of Records	Usage End Date (null filter)	Account #	Fuel (family)
0	0	1	12/31/2009	1008949322	Propane
2.548	73.03	1	11/30/2009	1008949322	Propane
0	0	1	10/31/2009	1008949322	Propane
0	0	1	9/30/2009	1008949322	Propane
0	0	1	8/31/2009	1008949322	Propane
0	0	1	7/31/2009	1008949322	Propane
0	0	1	6/30/2010	1008949322	Propane
0	0	1	5/31/2010	1008949322	Propane
0	0	1	4/30/2010	1008949322	Propane
8.008	180.4	1	3/31/2010	1008949322	Propane
0	0	1	2/28/2010	1008949322	Propane

Figure 17B: Step 4 in Exporting the Underlying Data

The data can then be manipulated at will for more sophisticated analysis.

### Appendix

MassEnergyInsight offers many reports. Those highlighted above make it easy for users to start using the system to understand their energy use and make energy decisions. This Appendix contains the complete set of MassEnergyInsight reports that are available as well as a quick guide to how a MassEnergyInsight user might use each of the reports.

#### MassEnergyInsight User Guide – Appendix

#### Emissions and Cost Setup Completeness Dashboard Jse and Cost This Year to Last 3aseline - Weather Normalized Annual Usage Patterns - Town ERP Guidance Table 3 Reports **Monitoring Cost Dashboard Monitoring Use Dashboard** Data Loaded - Reports Usage Trends - Town **Baseline Dashboard** Jse and Cost Table **Building Dashboard** School Benchmarks **Buildings to Target** Reports Matrix - If you want to do the following, use the checked report(s) ESCO Reports Overall Use, Determine whether town-wide energy use is $\sqrt{}$ $\sqrt{}$ increasing or decreasing √ See how much energy a department is using $\sqrt{}$ See the impact of weather on your town's $\sqrt{}$ energy use Look at town fuel mix and greenhouse gas √ impacts Get a snapshot of town energy use and cost $\sqrt{}$ $\sqrt{}$ Compare your energy spending to last year Compare your electricity/gas/oil/propane use to $\sqrt{}$ prior years Determine which building(s) are highest priority $\sqrt{}$ for efficiency improvements Examine a buildings' energy use √ Compare town schools to others in √ Massachusetts Report on quarterly energy use for individual $\checkmark$ fuels Report on guarterly energy cost for individual $\sqrt{}$ fuels See if my town has completed its √ MassEnergyInsight set-up Determine what data is included in $\sqrt{}$ MassEnergyInsight Download energy use information to provide to your ESCO for a performance contract annual $\sqrt{}$ report Apply to become a Green Community √ Provide energy use for Green Community Annual √ Report

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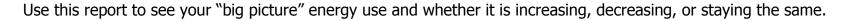
#### **Overall Use, Emissions and Cost**

Use this report to quickly see your fuel mix and assess your greenhouse gas impacts.

Oil       611%       52%       43%       Fropane         Electric       34%       44%       52%       43%       62%         Propane       5%       4%       5%       62%       64%       62%         OK       10%       20%       50%       60%       10%       20%       30%       40%       50%       62%       41%       62%       41%       62%       41%       62%       41%       62%       41%       62%       41%       62%       41%       62%       41%       62%       41%       62%       41%       62%       41%       62%       41%       62%       41%       62%       42%       62%       41%       62%       62%       41%       62%	verall Use, Emi	issions ar	d Cost by	Fuel as a P	ercent o	of Total	1												BOR BOR	
Electric       34%       44%       52%         Propare       5%       5%       5%       5%         0%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       20%       50%       0%       10%       20%       20%       50%       50%       0%       10%       10%       20%       50%       0%       10%       20%       20%       20%       20%       20%       20%       20%       20%       20%       20%       20%       20%       20%       20%       20%       20%       20%       20%       20%				1.000.001.011			-			_	-	8 8 9 9 6	-	-	_	-	43%		Electric	
Propane       9%		_		-	_	Contrait					_		-					and a	and the second second	
0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       20%       30%       40%       50%       0%       10%       50%       0%       10%       50%       0%       10%       50%       0%       10%       50%       0%       50%       0%       10%       50%       0%       10%       50%       0%       10%	Electric			34%						_	_	44%		_		_	-	62%		
On 101 200 soft across of the off bar off total Use (MMBTU)       Soft of total CO2 Emissions (Ibs)       Soft of total Cost       Soft of total Cost         Se, Emissions and Cost by Item Level       FY 2010       FY 2010       FY 2010         e, Emissions and Cost by Item Level       FY 2010       FY 2010       FY 2010         er over bars to see their contribution to the total above. Use the menus on the right to choose which values to display here. To expand or collapse the chart, hover your pointer over the words City tend to the total above. Use the menus on the right to choose which values to display here. To expand or collapse the chart, hover your pointer over the words City tend to the total above. Use the menus on the right to choose which values to display here. To expand or collapse the chart, hover your pointer over the words City tend to the total above. Use the menus on the right to choose which values to display here. To expand or collapse the chart, hover your pointer over the words City tend to the form the total above. Use the menus on the right to choose which values to display here. To expand or collapse the chart, hover your pointer over the words City tend to the form to the f	Propane	5%					41	W.					5	56-						
e, Emissions and Cost by Item Level er over bars to see their contribution to the total above. Use the menus on the right to choose which values to display here. To expand or collapse the chart, hover your pointer over the words City aritment. Building, etc., then click the plus (+) or minus (-) symbols. Department Schools - blic Safety Department Administration Works = 0K 2K 4K 6K 6K 6K 10K 12K 14K 16K 16K 20K 22K 24K 26K 26K 30K 953 I too, cool See menu on right for value	0%	10%				60%	0%	10%				.50%	10%	10%			15-	60%	EY 2010	
Schools - blic Safety Department Administration	er over bars to se	e their con	tribution to	he total above			on the ri	ightto ch	noose whi	ich values to	display here.	To expan	d or colla	pse the cha	art, hover your	pointerove	r the word	ds City	Choose field for	
blic Safety Department Administration Works = 0K 2K 4K 6K 6K 6K 10K 72K 14K 16K 16K 20K 22K 24K 26K 26K 30K 953 See menu on right for value 100,000 200,000	anment, Building	g, etc., trien	click the plu	is (+) or minus	(-) symbo	115													length of bar	
Administration         Cost           Works ~         0K         2K         9K         6K         10K         12K         14K         16K         20K         22K         24K         26K         26K         963         963         100,000         200,000	Depar	tment	click the pit	is (+) or minus	(-) symbo	065														Y
OK         2K         4K         6K         14K         16K         16K         20K         24K         26K         26K         30K         963           Size menu on right for value         100,000	Depar Sch	tment 10015 -	click the plu	is (+) or minus	(+) symbo	265						-	_	_	_				Use (MMBTU) Choose field for	Y
0K 2K 4K 5K 8K 10K 12K 14K 16K 18K 20K 22K 24K 26K 26K 30K 953 See menu on right for value 200,000	Depart Sch slic Safety Depart	tment noois -	cick the pit	is (+) or minus	(+) symbo	265		-	-	-		•	-	-	-	-			Use (MMBTU) Choose field for width of bar	×
	Depar Sch blic Safety Departi Administr	tment noois -	click the plu	is (+) or minus	(+) symbo	145_				-		•							Use (MM/BTU) Choose field for width of bar Cost	
	Depar Sch blic Safety Departi Administr	tment mools	-					ibic-					2014	22K	24K.	264	285	306	Use (MM/BTU) Choose field for width of bar Cost Width of bar 953	
	Depar Sch ublic Safety Departi Administr	tment mools	-				3	t Dic .					2014	29K	24K.	266	285	306	Use (MM/BTU) Choose field for width of bar Cost Width of bar 953 100,000	

The upper "Overall Use, Emissions and Cost by Fuel as a Percent of Total" graph shows the total use by fuel type, the resulting greenhouse gas emissions, and cost. The lower "Use, Emissions and Cost by Item Level" graph attributes the use, emissions, OR cost to departments and has a drill-down to the department/complex/facility/unit/account levels.

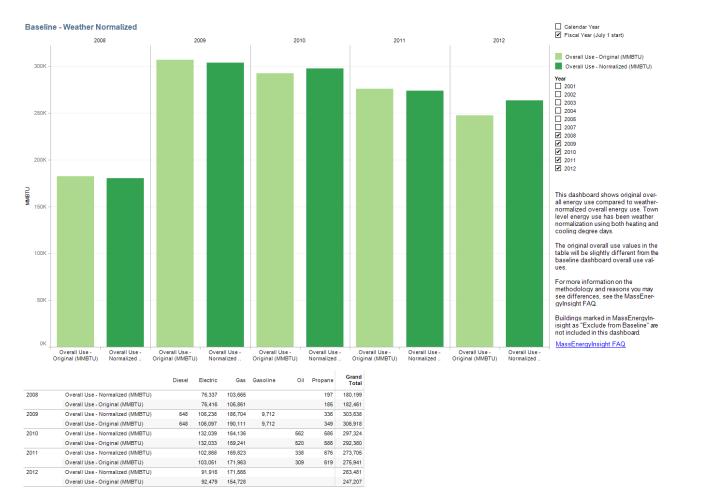
#### **Baseline**





The left "Overall Use" graph shows the overall percent change in energy usage from the baseline year (the first year selected). The right "Use by Facility Category" graph displays total usage by department or category and is useful for discussing energy usage with department heads. The lower left "Drill down by Facility Category" table shows the numeric energy use by category, while the lower right "Drill down by Department" table shows the numeric energy use by department. Both tables can drill down to the department/complex/facility/unit/account levels.

#### **Baseline – Weather Normalized**



Use this report to see the impact of temperature on the energy baseline of the entire municipality or entity

The graph compares energy use that is not normalized to temperature (in light green) to energy use that has been normalized to heating and cooling degree days (in dark green). Fiscal or calendar year can be selected. The table below provides this information numerically.

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### Use and Cost Table

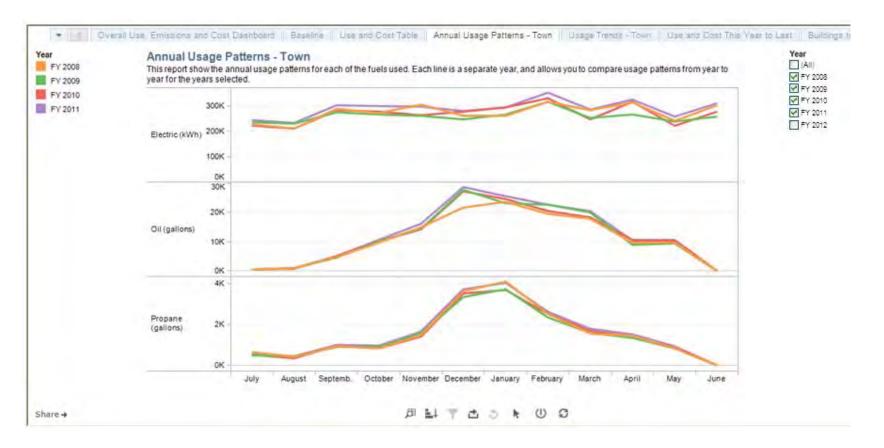
Use this report to view fuel use and costs side by side for every building by department.

			Œ	FY2	800	FY 2	009	FY2	010	FY 2	110	O Propa
City	Department	Complex	Facility	Use	Cost	Use	Cost	Use	Cost	Use	Cost	Year
ampleville	Administration	Nutl	Town Clerk	3,748	\$828	4,173	\$918	4.017	\$882	4,354	\$958	FY 20
			Town Hall	58,749	\$9,125	56,847	\$8,876	55.063	\$8,567	61,495	\$9,672	FY 20
	Public Safety	Nutt	Kennel	39,540	\$6,710	39,173	\$5,637	36,186	\$5,248	42,219	\$6,101	FY 20
	Department		Old Engine House	628	\$213	728	\$246	611	\$215	711	\$244	FY 20
			Police Station	210,922	\$27,377	201,011	\$26,121	206,562	\$26,817	221,871	\$28,827	FY 20
	Schools	Null	Dorman Fields	1,986	5439	2,035	\$451	2,070	5459	2,171	\$481	
			Evergreen School	327,513	\$44,668	335,980	\$45,733	330,471	\$44,948	358,825	\$48,842	
			Primary School	264,072	\$73,507	316,060	\$86,592	286,570	\$72,050	318,143	\$85,919	
			Sampleville High	1,216,094	\$162,882	1,027,482	\$137,855	1,094,282	\$146,944	1,211,822	\$162,432	
			Sampleville Library	42,627	\$6,403	43,115	\$6,449	44,223	\$6,648	46,616	\$8,997	
			Sampleville Middle School	494,335	\$65,882	605,245	\$68,515	539,632	\$72,770	553,529	\$74,907	
			Sunnyside Elementary	588,890	\$83,356	545,873	\$77,314	587,180	\$83,067	626,751	588,685	
	Works	Null	Pumping Station	13,265	\$2,732	13,658	\$2,787	14,484	\$2,965	14,935	\$3,070	
			Salt Barn	1,076	\$287	1,167	\$308	1,106	5294	1,200	\$318	
			Transfer Station	9.893	\$3,072	10,007	\$3,117	10.353	\$3,244	10,948	\$3,415	

This table shows the total energy use and cost for each department/complex/facility/unit/account.

#### Annual Usage Patterns – Town

Use this report when you want to compare your fuel use from one year to another.



Multiple years of energy usage by fuel are superimposed using different colors to facilitate comparison between years.

#### Usage Trends – Town

Use this report to examine your energy use trends over time and see the impact of efficiency and renewable projects. It can also be used to see if a chosen baseline year is appropriate. An appropriate baseline year is one in which declining trends of energy usage can be seen over the subsequent years.



This graph shows monthly energy use for each fuel and a 12-month rolling sum.

### Use and Cost This Year to Last

Use this graph to compare this year's energy use and cost to the same time in the prior year.

Use and C	Cost This	ear to Last	scal Year Start Month
Total for P	revious Year	Total as of July 31, 2011   Total for Last Year as of Same Date	W N
use and cost (	yellow bar). If	Building, etc., then click the plus (+) of minus (-) symbols	ael ) (All) ) Electric ) Qill
Sampleville	Electric		) Propane
	Oil Propane		
		0K 500K 1000K 1500K 2000K 2500K 3000K 3500K 0K 100K 200K 300K 400K 500K Usage (kWh, therms, gallons, mits depending on fuel) Cost (5)	

This graph shows the current year's energy use and cost shown in blue. It is superimposed on the previous year's energy use and cost shown in yellow. Last year's energy use and cost at the comparable time to this year is shown as a red line. Fiscal year (July) or calendar year (January) can be selected.

### **Buildings to Target**

Use this graph to quickly identify your municipality's least efficient buildings.

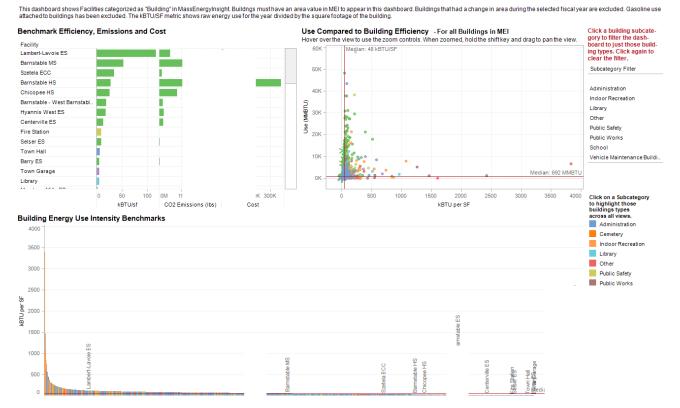


The upper left "Building Efficiency, Emissions and Cost" graph ranks facilities in descending order of their efficiency (in kBtu/sqft) and also illustrates their greenhouse gas emissions and energy costs. The lower left graph also displays facilities in descending order of their efficiency (in kBtu/sqft). The right "Efficiency and Use" graph plots facilities based upon their efficiency on the x-axis and upon their energy use in the y-axis. This means that the least efficient and highest energy-using facilities are shown in the upper right quadrant. These facilities make excellent targets for energy efficiency actions.

### **Building Benchmarks**

Use this graph to compare your buildings to all other buildings in MassEnergyInsight. All buildings or specific subcategories (Administration, Library, Public Safety, etc.) can be selected.

Building Benchmarks - Your buildings compared to all other buildings in MassEnergyInsight



The upper left "Benchmark Efficiency, Emissions and Cost" graph ranks facilities in descending order of their efficiency (in kBtu/sqft) and also illustrates their greenhouse gas emissions and energy costs. The upper right "Use Compared to Building Efficiency" graph plots facilities based upon their efficiency on the x-axis and upon their energy use in the y-axis. This means that the least efficient and highest energy-using facilities are shown in the upper-right quadrant. Your buildings are shown as asterisks, all others as open circles. Finally, the lower "Building Energy Use Intensity Benchmarks" graph displays facilities in descending order of their efficiency (in kBtu/sqft). For all, the building subcategory is denoted by the color of the bar or symbol.

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#### **Building Dashboard**

Use this report examine the detailed energy consumption patterns for a specific building. Interventions, such as efficiency or renewable projects, can be noted on this report.



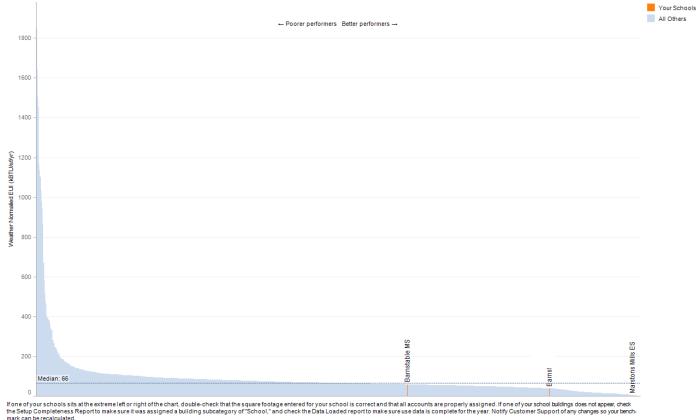
The upper right "Usage Trends" graph shows facility energy use for each fuel over time. The bars indicate monthly usage, while the line is a 12-month rolling sum. The lower right "Cost Trends" graph shows the cost for each of these fuels. Again, the bars bars indicate monthly usage while the line is a rolling sum. The right "Annual Usage Patterns" graph superimposes multiple years of energy use using different colors to facilitate comparison between years.

#### **School Benchmarks**

Use this report to compare the efficiency of your schools to others in MassEnergyInsight.

#### School Benchmarks

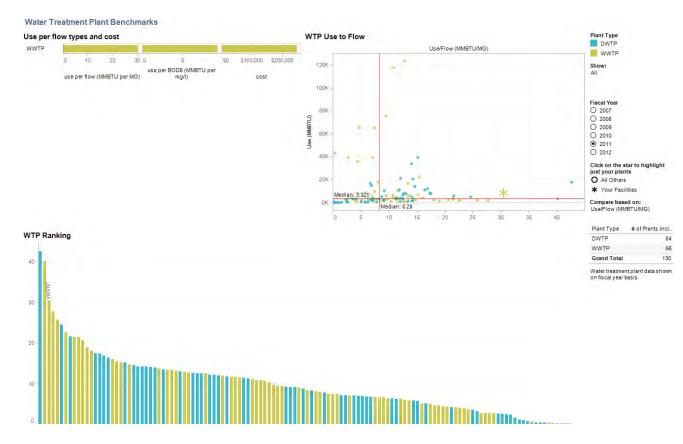
This report shows the Energy Use Intensity (EUI) in kBTU per square feet per year for your schools against 942 benchmarked schools in Massachusetts. Energy use has been weather normalized. Schools without enough energy use data for a given year were not benchmarked for that year.



This graph shows your schools in orange and compares them to other schools in MassEnergyInsight for a particular year. The median is shown as a horizontal line. The type of school can be selected (high school, elementary, etc.). The more efficient schools are on the right, less efficient schools to the left. Typically, high schools will use more energy per square foot. This data has been weathernormalized for heating and cooling degree days.

#### Water Treatment Plant Benchmarks

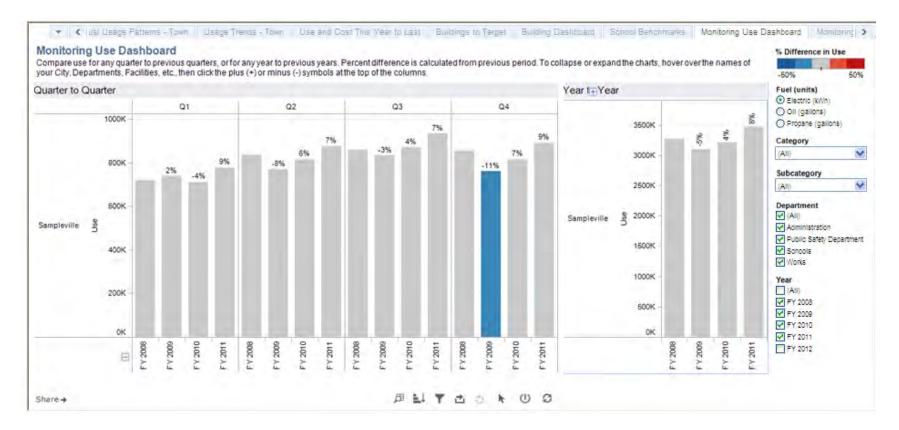
Use this report to compare the efficiency of your drinking water or wastewater treatment plant to others in MassEnergyInsight.



The upper left "Use per flow types and cost" graph shows the energy intensity of your drinking water or wastewater treatment plant by normalizing the total energy use to the annual flow. For wastewater treatment plants, energy use is also normalized to the BOD5, a measure of the amount of treatment the wastewater requires. Total energy costs are also shown. The upper right "WTP Use to Flow" graph plots facilities based upon their energy use/flow efficiency (in MMBtu/million gallons) on the x-axis and upon their total energy use in the y-axis. This means that the least efficient and highest-energy using facilities are shown in the upper right quadrant. Your facilities are shown as asterisks, all others as open circles. Finally, the lower "WTP Ranking" graph displays facilities in descending order of their efficiency (in MMBtu/MG).

### Monitoring Use Dashboard

Use this report to monitor and compare fuel use by department or category, from quarter to quarter and year to year.



The left "Quarter to Quarter" graph shows the quarterly percent change in energy usage for the selected fuel. Blue indicates a percentage decrease, red indicates a percentage increase. You can select by category, subcategory, department and year. The left "Year to Year" graph shows the annual percent change in energy usage for the selected fuel.

### Monitoring Cost Dashboard

Use this report to monitor and compare fuel cost by department or category, from quarter to quarter and year to year.



The left "Quarter to Quarter" graph shows the quarterly percent change in energy cost for the selected fuel. Blue indicates a percentage decrease, red indicates a percentage increase. You can select by category, subcategory, department and year. The left "Year to Year" graph shows the annual percent change in energy cost for the selected fuel.

#### Setup Completeness Dashboard

Use this report to finish setting up your facilities listings completely and correctly. This report is useful for bringing attention to any omissions the user might have made when creating the facilities, such as highlighting any that have not been assigned a category, sub-category, and square footage.

•	< Freat	nent Plant Ben	chmarks Monitoring	Use Dashboar	Monitoring Cost Dashboard	Setup Completeness Dashboard	Data Loaded - Overview	Data	Loaded - Detail	ESCO	Report - A	nnual Data	ESCC >
Setup (	Comple	teness Das	hboard										
then make Assign th	edits which	h will appear in th ounts	e reports the next busines	day. If there's no	thing in a table, then you've completed		in another browser window or tab. Y	′ou can	This table shows ty Category and er over the categ the plus (+) or mi	Subcategor ory header	y. To expan or the name	d or collaps	e the table, hov-
		_		c, building or unit	Assign these accounts to ensure their	r data is reported properly.			Facility Counts	by Type			
112233 123456	Lipto		Electric Electric - Competitive S	pply				_	Facility Category	FY 2008	FY 2009	FY 2010	FY 2011
98765333	Alter	nate	Electric					_	Building	1	3	3	1
222222222	1 Hess	•	Oil						Grand Total	1	3	3	1
222222222	2 Agav	vam Oil Co.	Oil										
234235235	5 Othe	r	Solar Electric										
000888777	7 Othe	ir.	Gesoline										
Assign a		Assign a su	bcategory to these ite	ns	Enter a square footage for the	se buildings	Assign these s	chools	a School Type				
to these i		Fire Station 4											
Fire Statio	n 4	Ames Juvenil	e Detention Facility										
Ames Elen	mentary	Fire Station 6											
Ames Juve	enile Det	building 1											
Fire Statio	n 6												
building 1													

These five tables show information needed to complete setup: (1) Shows Accounts that need assigning, (2) facilities that need to be assigned a category, (3) facilities that need to be assigned a subcategory, (4) buildings that need square footage assigned, and (5) schools that need to be assigned a School Type. Finally, the upper left "Facility Counts by Type" table shows how many facilities you have created is listed by Facility Category and Subcategory.

#### Data Loaded – Overview

Use this report to check completeness of the underlying data, specifically which accounts are missing data for which months.

	ws whether o	view mot data is loaded for the "Null" column ha																									no data	ded for pe for accour	nt
					N.,				F	FY 201	10							1	FY 20	11							Show acco	unts when	81)
Department	Complex	Facility	Fuel	Account #	N	4	A. S	. O.	N., 1	D. J.	. F.,	M	A. M.	. J.,	J. A	. 5	0.	N.,	D. J	. F.	M.,	A. 1	J. J.				data load	d for period	
Administration	Null	Town Clerk	Electric	1648388286																				~			no data fo		
			Propane	1117058407																							Fuel		
		Town Hall	Electric	1246571068																							(All)		
				1824019251																							Electric Electric		
			Oil	1415822192																							<b>O</b> I		
				1461354020																							Propane		
	Nell	Fire Headquarters	Propane	1567682285																4			-			- 21	Year		
Department		Kennel	Electric	1632863025															Sc	hod	als					-8	(All)		^
			Propane	1603449617																		an	Sel	hool			Vull		
		Old Engine House	Electric	1386018066																					Electric		FY 2009		
			OIL	1490205650																ctric		e m	unit	apar	LICCUIC		FY 2010		
		Police Station	Electric	1293870138															FY 2		-						FY 2011		
				1823803701															Dece								EX 2012		×
			Propane	1957770588																unt#: loaded			1				Departmen	t	
Schools	Not	Dorman Fields	Electric	1679995120																\$5,76							(All)		~
		East School	Oil	1227641726															Use	native	e unit	6) 2.4	1,700	-			Search for	a Building	
		Evergreen School	Electric	1450550847																									
			Oil	1034579667																							Search for	Account	
		Primary School	Electric	1540178579																				-			Search TOT	an Accoun	
			-								<u> </u>													-					

This table shows whether or not data is loaded for each department, complex, facility, unit, and account. It has a search feature, so you can do a quick search by building name or account number. Months with a white space indicate no data for that month.

#### Data Loaded – Detail

Use this report to quickly check if there is a question about whether the data loaded for a particular account is accurate.

	g indicate cor	or not data is loaded f mpetitive supply data													data loaded for p	
					Null		FY 20	10			FY 20	11			Show accounts	
Department	Complex	Facility	Fuel (units)	Account #	Nult	Q1	Q2	Q3	Q4	01	02	Q3	Q4		data loaded for perio	00
Administration	n Null	Town Clerk	Electric (kWh)	1648388286		905	965	1,132	1,015	977	1,145	1,142	1,090	*	no data for account	
			Propane (gallons)	1117058407		0	.97	307	94	0	124	334	98		Fuel (units)	
		Town Hall	Electric (kWh)	1246571068		7,111	6.143	9,247	6,445	8,330	6,912	9,502	7,789		(All)	
				1824019251		5,106	7,060	5,096	6,853	8,793	7.087	6,597	6,485		Electric (k/\/h)	
			Oil (gallons)	1415822192		0	780	832	141	0	857	956	142		Oli (galions)	
				1461354020		0	1,793	3,528	685	0	1,856	3,925	723	=	Propane (gallons)	
Public Safety	Nutl	Fire Headquarters	Propane (gallons)	1567682285		843	1.501	2,245	414	922	1,841	2,558	471		Year	
Department		Kennel	Electric (kWh)	1632863025		3,225	8,218	16,908	7,835	3,798	9,206	20,778	8,437		(All)	-
			Propane (gallons)	1603449617		97	439	438	187	62	492	478	157		Vull.	
		Old Engine House	Electric (kWh)	1386018066		173	123	243	72	220	149	268	76		FY 2005	
			Oil (gallons)	1490205650		0	-87	315	31	0	104	330	30		FY 2010	_
		Police Station	Electric (kWh)	1293870138		37,566	34,479	39.441	33,423	44,054	35.570	40,267	37,001		FY 2011	*
				1823803701		16,099	12,751	16.970	15,833	15,878	13,934	18,376	15,791			-
			Propane (gallons)	1957770588		335	1,916	2,625	987	443	2.177	2.580	1,044		Department	
Schools	Null	Dorman Fields	Electric (kWh)	1679995120		577	530	638	425	611	534	528	496		(AII)	v
		East School	Oil (gallons)	1227641726		1.231	2,722	3,670	1,529	1.796	2,967	4,654	1.772		Type to find a Build	ing
		Evergreen School	Electric (kWh)	1450550847		65,083	94,511	95,268	75,619	75,529	103.170	91,104	89,022			
			Oil (gallons)	1034579567		1,065	6,695	8,324	3,398	1,361	7,552	9,523	3.213		Type to find an Acc	ount N
		Primary School	Electric (kWh)	1540178579		53,049	56,682	77,893	88,968	69,375	64.393	92,632	91,743	21	Type to min an Acc	ount nu
			-					2.22				- 200		200		_

This table shows the value of the data loaded for each department, complex, facility, unit, and account. It has a search feature so you can do a quick search by building name or account number.

#### ESCO Report – Annual Data

Use this report to track the annual performance of facilities included in a performance contract.

ESCO Rep	ort - Annu	al Data							FY 20	009						Year of Usage End
							Electric	(KWh)	Oii (gal	lans)	Propane	gallons)	Electric	e GrWhi		@ FY 2009 @ FY 2010
Facility	Account #	Provider	Fuel (units)	Department	Facility Subc	Year Built	Use	Cost - Total	Use	Cost - Total	Use	Cost - Total	Use	Cost - Total		EFY 2011
Dorman Fiel	1879995120	Sampleville_	Electric (kWh)	Schools	Outdoor Rec	1982	2,035	\$451					2,070	\$459	1	D FY 2012
East School	1227641726	Sampleville	Oil (galtons)	Schools	School	1899			10,434	\$29,124						Fuel Type
Evergreen	1034579667	Sampleville_	Oil (gallons)	Schools	School	1975			20,692	\$57,647						(All)
School	1450550847	Sampleville_	Electric (kWh)	Schools	School	1975	335,980	\$45,733					330,471	\$44,948		
Fire Headqu.	1567682285	Sampleville_	Propane (gal.	Public Safet.	Null	Null					5,369	\$12,476				Propane
Kennel	1603449617	Sampleville	Propane (gal.	Public Safet	Public Safety	1972					1,102	\$2,544				Constant Store
	1632853025	Sampleville_	Electric (kWh)	Public Safet.	Public Safety	1972	39,173	55,637			Police Stati		×\$ 186	\$5,248		
OldEngine	1386018066	Sampleville_	Electric (kWh)	Public Safet.	Public Safety	1964	728	\$246			A CARLES OF PROPERTY.	on ty Department	611	\$215	-	
House	1490205650	Sampleville_	Oil (gallors)	Public Safet.	Public Safety	1964			420	5924	Sampleville Fo Appl. # 1957770	N Co.				
Police Station	1293870138	Sampleville	Electric (KWh)	Public Safet	Public Safety	1935	143,925	\$18,200				ecory: Fublic Safe	a 1,909	\$18,289		
	1823803701	Sampleville_	Electric (kWh)	Public Safet.	Public Safety	1935	57.088	57,921			FY 2009		1.853	\$8,629		
	1957770588	Sampleville	Propane (gal.	Public Safet.	Public Safety	1935					5,760	\$13,487	-			
Primary	1540178579	Sampleville	Electric (kWh)	Schools	School	1975	316,060	\$85,592					286,570	\$72,050		
School	1846331018	Sampleville	Oil (gallors)	Schools	School	1975			17,116	\$47.030	-					
Pumping	1495908883	Sampleville.	Electric (kWh)	Works	Wastewater	1980	13,658	52,787					14,484	\$2,965		
Station	1873438678	Sampleville	Propane (gal	Works	Wastewater	1980					1,673	\$3,739				
Salt Barn	1008949322	Sampleville	Propane (gal.	Works	Public Works	1980					97	\$215				
	1678197507	Sampleville	Electric (KWh)	Works	Public Works	1980	1.167	\$308					1,105	\$294		
Sampleville	1061740078	Sampleville	Oil (galiors)	Schools	School	1955			43.014	5122,348	0					
High	1925850965	Sampleville	Electric (KWh)	Schools	School	1955	1.027,452	\$137,855					1.094,282	\$145,944		
Sampleville	1015344730	Sampleville .	Electric (kWh)	Schools	Library	1920	43,115	56,449					44.223	58.648	-	
							at)					1			(B)	

This table shows the annual energy use and cost for each fuel by individual account for facilities included in a performance contract.

### **ESCO Report – Monthly Data**

Use this report to track the monthly performance of facilities included in a performance contract.

SCO Re	port - Mont	hly Data										i
Facility	Account #	Provider	Fuel (units)	Department	Facility Subcategory	Usage Start Date	Usage End Date	Read Days U	se Deman (kW		Cost - Total	1
Dorman	1679995120	Sampleville	Electric (KWh)	Schools	Outdoor	7/1/2009	7/31/2009	1	73	\$39		I
Fields		Municipal Electric			Recreation	8/1/2009	8/31/2009	2	45	\$49	\$49	Ĩ
						9/1/2009	9/30/2009		58	\$35	\$36	
						10/1/2009	10/31/2009	1	75	\$39	\$39	E
						11/1/2009	11/30/2009	1	43	\$32	\$32	5
						12/1/2009	12/31/2009	2	12	\$48	\$48	
						1/1/2010	1/31/2010	1	25	\$30	\$30	6
						2/1/2010	2/28/2010	2	21	\$45	\$46	
						3/1/2010	3/31/2010	1	92	\$41	\$41	
						4/1/2010	4/30/2010	1	66	\$35	\$35	
						5/1/2010	5/31/2010	1	33	\$32	\$32	
						6/1/2010	6/30/2010	1	25	\$32	\$32	
East School	1227641726	Sampleville	Oil (gallons)	Schools	School	Null	7/31/2009		0		\$0	
		Fuel Co.					8/31/2009		0		\$0	
							9/30/2009	1.2	31		\$4,800	
							10/31/2009	1,8	5 East Sehr	ool (School)	34,794	
							11/30/2009		Schools	101 (001001)	50	
							12/31/2009	1,0	and the second sec	Fue) Co.	\$3,735	
							1/31/2010	12	4 Acol # 1227	541726	\$2,799	
							2/28/2010	1,0	9 4/30/2010		\$2,463	
							3/31/2010	1,3	2 Demand (KW)	L	\$2,968	
							4/30/2010	1.6	29		\$3,425	
							5/31/2010		0		50	
									A.		en 🐂	

This table shows the monthly energy use and cost for each fuel by individual account for facilities included in a performance contract. It includes the start and end dates for each reading period which can be helpful if comparing to a report with different time periods. It also includes competitive supply costs.

#### 1/22/2013

#### ESCO Report – Building Level Usage (MMBTU)

Use this report to examine the performance of facilities included in a performance contract for improvements in their overall efficiency (kbtu/sqft).

		ng Level Usa		FY 2	800			FV2	009			FV 20	010		(Ali) V FY 200
Facility	Gross Floor Area (SF)		Electric	Oil	Propane	Total	Electric	OH	Propane	Total	Electric	Dil	Propane	Total	[] FY 200 [] FY 201
Dorman	11,610	Use (MMBTU)	7			7	7			7	7			7 🖷	E FY 201
Fields		kBTU/sf	1			Ť	1			1	1			1	EY 201
East School	49,915	Use (MMBTU)		1,580		1,580		1,450		1,450		1,272		1,272	Fuel
		kBTU/sf		32		32		29		29		25		25	
Evergreen	62.990	Use (MMBTU)	1,118	2.706		3,823	1,145	2,876		4.023	1,128	2.711		3,838	년 Electric 년 이
School		k6TU/sf	18	43		61	18	48		64	18	43		61	Property
Fire	14,137	Use (MMBTU)			509	509			489	489			455	455	-
Headquarters		kBTU/sf			36	36			36	36			32	32	
Kennel	5,920	Use (MMBTU)	135		99	234	134		100	234	123		106	229	
		kBTU/sf	19		14	34	19		14	34	18		15	33	
OldEngine	1,658	Use (MMBTU)	2	66		69	2	68		61	2	60		62	
House		kBTU/sf	1	34		36	1	36		37	1	36		38	
Police Station	9,521	Use (MMBTU)	720		533	1,252	685		624	1.210	705		634	1,238	
		kBTU/sf	76		58	132	72		55	127	74		56	130	
Primary	51,609	Use (MMBTU)	901	2,074		2.975	1,078	2.379		3,458	978	2,141		3,119	
School		kBTU/st	17	-40		58	21	45		67	19	41		60	
Pumping	1	Use (MMBTU)	45		184	229	47		152	199	49		174	223	
Station		kBTU/sf	45,260		183,911	229.171	45,601		152,243	198,844	49,421		173,628	223.049	
Salt Barn	285	Use (MMBTU)	4		13	16	4		9	13	4		11	14	
		kBTU/st	13		44	57	14		31	45	13		37	50	
Sampleville	144,223	Use (MMBTU)	4.149	5.568		9.717	3,506	5.979	-	9.485	3,734	6,349		10.083	
High		kBTU/st	29	39		67	24	41		55	26	44		70	
Sampleville	Null	Use (MMBTU)	145		283	429	147		258	405	151		280	431 📼	

This table shows fuel usage (MMBtu) and efficiency (kBTU/sqft) for facilities included in a performance contract.

#### Energy Reduction Plan Guidance Table 3 (Fuel Units)

Use this report to provide the baseline for a Green Communities designation application. Designated Green Communities may use this report to directly file the annual energy use for their Annual Reports with DOER.

ERP Guidance Tab Fuel Units)	le 3a - Municipa	I Energy Con	sumptio	n for Baselin	e Year FY	2010 (	Native				Baseline Year C FY 2008 C FY 2009
					Electric	OII	Propane				() FY 2010 () FY 2011
Null, Null	Fire Headquarters	Fire Headquarters	Neuri	1567682285	-		5.003	100			
	Transfer Station	Transfer Station	70L()	1074845442	7,335						
				1992993977	3,018						
Null, Total					10,353		5,003				
Building, Administration	Town Clerk	Town Clerk	Teuri	1117068407			496				
				1648388286	4,017			Account #:	1603449617	×	
	Town Hall	Town Hall	Neutil	1245571068 1481354020	28,946	6,006		Fuel: Facility (copy): Facility:	Propane Kennel Kennel		
		Town Hall	Null	1415822192 1824019251	26,117	1,753		Facility Category: Facility Subcategory: City:	Building Public Safety Sampley le		
Suilding, Library	Sampleville Library	Sampleville Library	Null	1015344730	44,223		3,080	Unit: Monthly Use:	1,161		
Building, Public Safety	Kennel	Kennel	Null	1603449617	36.186		1,161				
	Old Engine House	Old Engine House	Pèuli	1386018065 1490205650	611	433					
	Police Station	Police Station	Null	1293870138	144,909						
				1823803701 1967770688	61,653		5.863				
Building, Public Works	Salt Barn	Salt Barn	Null	1008949322	1,105		115				
Building School	East School	East School	Null	1227641726		9.152					
	Evergreen School	Evergreen School	Null	1034579687		19,502		-			
Share +						51 <u>1</u> 1	TO	5 k ()	0		

This table shows category and facility energy use by fuel type in their native fuel units. This means that electric use is shown in kWh, natural gas use in therms, and fuel oil, propane, gasoline and diesel use in gallons. It can drill down to the account level.

1/22/2013

#### Energy Reduction Plan Guidance Table 3 (MMBtu)

Use this report to provide the baseline for a Green Communities designation application. Designated Green Communities may use this report to directly file the annual energy use for their Annual Reports with DOER.

		and the second second	CO. C. B. C. C. C.		Electric	Oil	Propane	Grand	3	○ FY 2005 ○ FY 2009
					2.000.00			Total		() FY 2010
Null	NUR	Fire Headquarters	Fire Headquarters	Null			455	465		OFX:011
		Translet Station	Transfer Station	Null	36	_		35		
	Total				36		455	491		
Building	Administration	Town Clerk	Town Clerk	Null	14		45	59		
		Town Hall	Town Hall	Null	99	835	- 1	934		
			Town Hall	Nutl	89	244		333		
	Library	Sampleville Library	Sampleville Library	Nutl	151		280	431		
	Public Safety	Kennel	Kennel	Null	123		106	229		
		Old Engine House	Old Engine House	Null	2	60	- 1	62		
		Police Station	Police Station	Null.	705		534	1,238		
	Public Works	Salt Barn	Salt Barn	Num	4		11	14		
	School	East School	East.School	Null		1,272		1,272		
		Evergreen School	Evergreen School	Nutl	1.128	2,711	1	3,838		
		Primary School	Primary School	Nutl	978	2,141		3,119		
		SamplevilleHigh	Sampleville High	Null	3,734	6,349		10,083		
		Sampleville Middle School	Sampleville Middle School	Null	1,841	3,529		5,370		
		Sunnyside Elementary	Sunnyside Elementary	Nutl	2,003	2,503		4.506		
	Total				10,870	19,643	975	31,489		
Open Space	Outdoor Recreation	Dorman Fields	Dorman Fields	Null	7			7		
	Total				7			7		
Water/Sewer	Wastewater Pumping	Pumping Station	Pumping Station	Nut	49		174	223		
	Total				49		174	223		
Grand Total					10,962	19,643	1,604	32,210		

This table shows category and facility energy use by fuel type in MMBtu. It can drill down to the account level.