

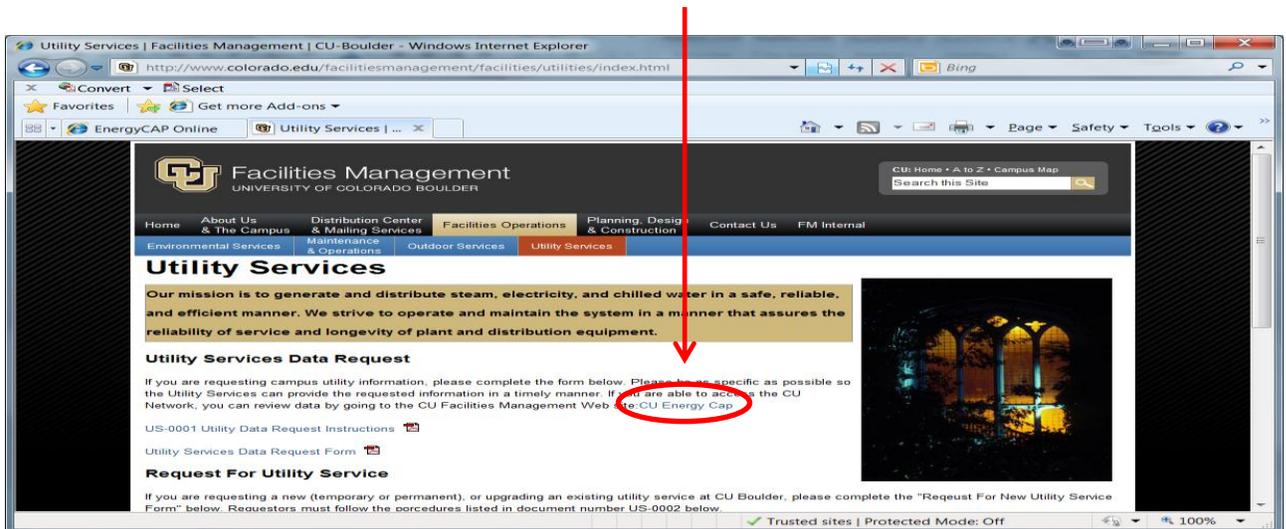
 University of Colorado Boulder FACILITIES MANAGEMENT Utility Services ENVD – 1B-90, 319 UCB, Boulder, Colorado 80309-0319 Phone: (303) 735-4981 FAX: (303) 492-6856	Title	Document Number	Revision
	EnergyCAP Data Web Access	US-0003	
	Approved by	Date	
	Bryan Birozak	02-13-13	

1. **Purpose:** This procedure outlines the steps to be taken to obtain standard campus utility consumption and cost data from the EnergyCAP software available via the internet.
2. **Scope:** This procedure allows users to access campus utility data from computers with access to the CU network. Users who do not have access to the CU network can request data from the Utility Services Department by submitting a Request for Data form located at: <https://www-stage.colorado.edu/fm/content/utility-service-data-request-form>
3. **Procedures:** These steps should be followed when attempting to access the following campus utility data (ctrl+click any link to jump to that part of the document).
 - I. [Getting Started](#)
 - [Buildings and Meters Display Settings](#)
 - [Navigating to an Individual Building](#)
 - II. [Building Consumption and Cost Information](#)
 - [Building Summary Information](#)
 - [Viewing Chart Data](#)
 - [Building Commodity Cost and Consumption](#)
 - [Building Monthly Cost and Consumption](#)
 - [Building Scenario Application – Baker Hall](#)
 - III. [Meter Consumption and Cost Information](#)
 - [Meter Summary Information](#)
 - [Meter Trend Graphs](#)
 - [Meter Monthly Cost and Consumption](#)
 - [Meter Monthly Billing Information](#)
 - [Customize Display](#)
 - [View Bill](#)
 - [Meter Scenario Application - Norlin Library](#)

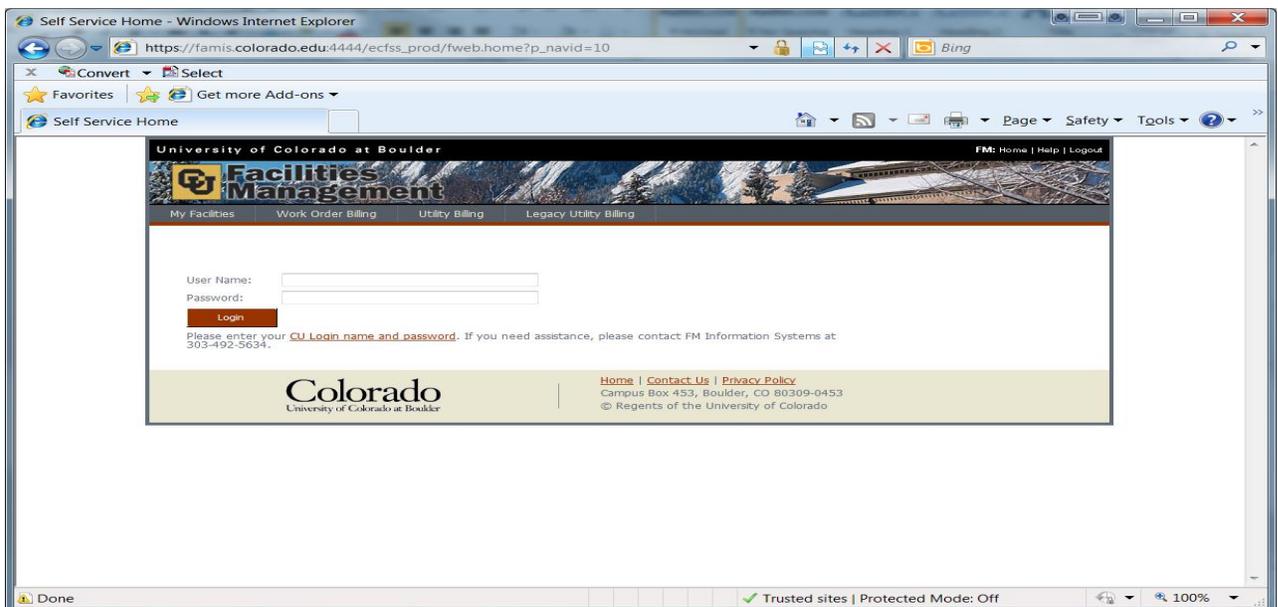
 University of Colorado Boulder FACILITIES MANAGEMENT Utility Services ENVD – 1B-90, 319 UCB, Boulder, Colorado 80309-0319 Phone: (303) 735-4981 FAX: (303) 492-6856	Title EnergyCAP Data Web Access	Document Number US-0003	Revision
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I. GETTING STARTED

- a. Go to the Facilities Management Utilities Services web site by ctrl+clicking on this hyperlink: <http://www.colorado.edu/facilitiesmanagement/facilities/utilities/index.html>. Once at the site, click on link titled CU EnergyCAP.



- b. Login with your CU network user name and password (Identikey) and you will automatically be redirected to the EnergyCAP web site.



c. The default entry to EnergyCAP is the Home menu. Click on the **arrow key** (▼) next to Home to open the options box.

The screenshot shows the EnergyCAP Online Home page. The browser address bar displays the URL: <http://encapweb.colorado.edu/Default.aspx?token=F7-E9-87-F6-EB-63-07-04-AC-7C-55-AB-B6-E1>. The page features a navigation bar with 'Home', 'Support', 'Admin', 'About', and 'Log Out'. A search bar is located to the right of the navigation bar. The main content area includes a 'Getting Started' section with 'Setup Tasks' and 'Analysis Tasks', a 'Latest News' section with several release announcements, and a 'Top 10 Meters by Cost' table. A 'Cost Trend' line chart is also visible.

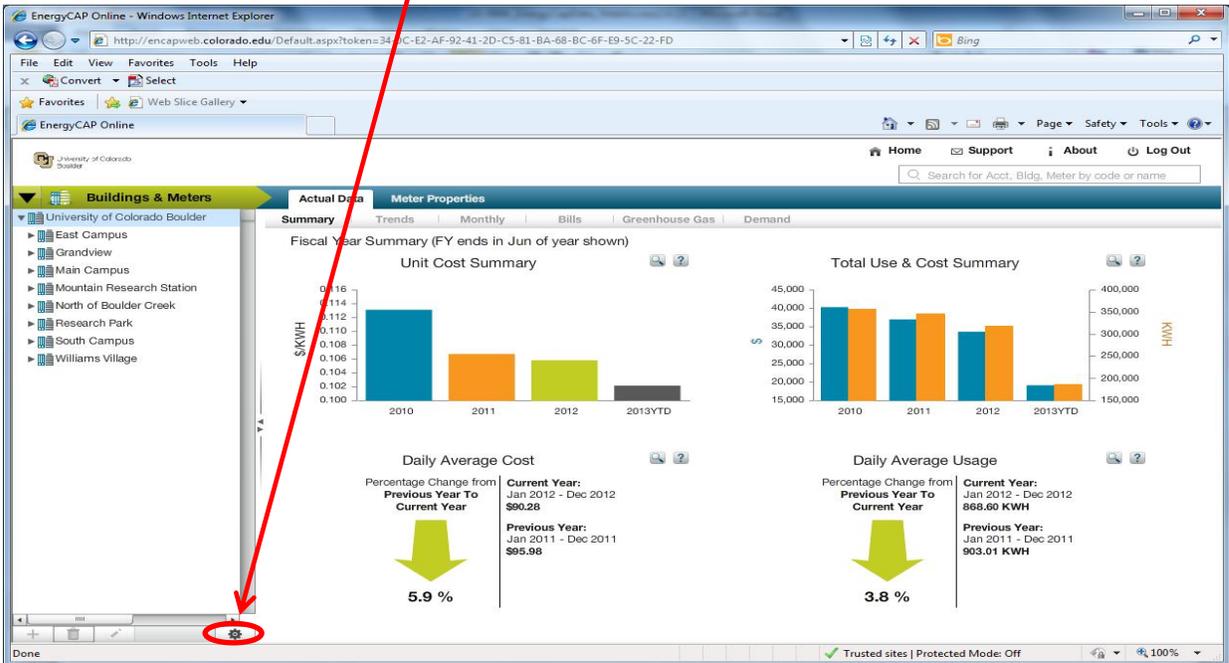
Meter Code	Commodity	Place	Total Cost
354-STM01-PROD	Steam	X-Steam	\$8,248,976
354-ELE01-Master	Electric	X-Electric	\$7,657,190
354-GAS01	Natural Gas	X-Natural Gas	\$3,285,633
354-CHW01-PROD	Chilled Water	X-Chilled Water	\$1,835,769
354-CHW01-VSM	Chilled Water	POWR	\$1,269,919
509-ELE01-Master	Electric	X-Electric	\$1,081,977
X-MARKUP-ACCOUN	Markup	X-Markup Accounts	\$665,273
245-STM01	Steam	LIBR	\$522,296
MC-SEW01-Master	Sewer	X-Sewer	\$481,152

d. Click on the Buildings and Meters directory.

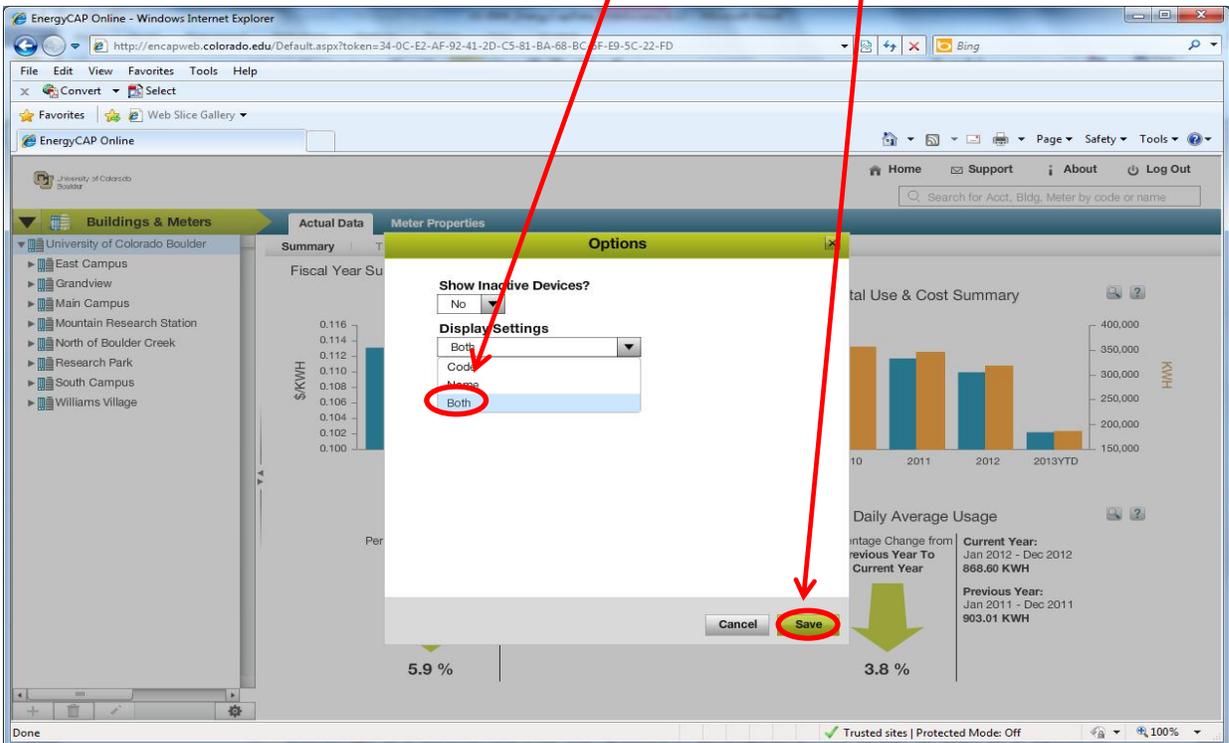
The screenshot shows the EnergyCAP Online Buildings and Meters directory page. The browser address bar displays the URL: <http://encapweb.colorado.edu/Default.aspx?token=8C-A3-32-7C-DA-8A-F2-89-89-B1-82-BF>. The page features a navigation bar with 'Home', 'Support', 'About', and 'Log Out'. A search bar is located to the right of the navigation bar. The main content area includes a 'Cost Summary' pie chart, a 'Usage Trend' line chart, a 'Cost Trend' line chart, and a 'Carbon Footprint' bar chart. The left-hand navigation pane is expanded, and the 'Buildings & Meters' menu item is circled in red.

Commodity	Percentage
Electric	46.8%
Steam	32%
Chilled Water	3.8%
Sewer	3.8%
Water	3.7%
Natural Gas	1.4%
Refuse	1.4%
Flood	1.3%

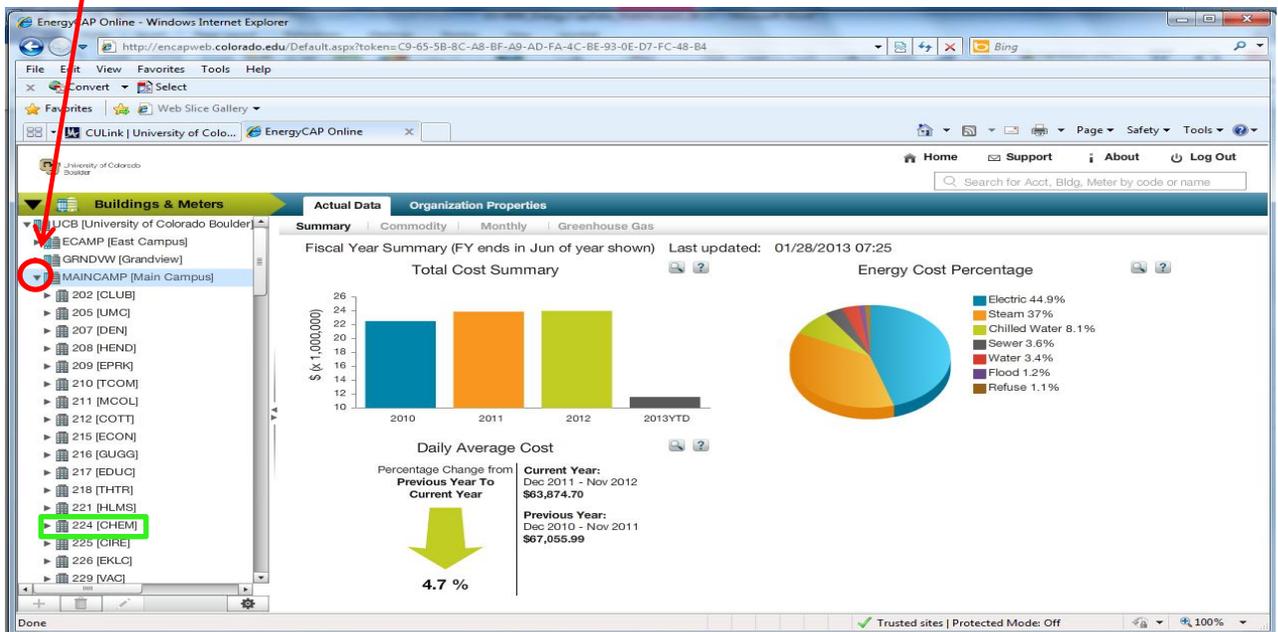
- e. To ensure that your settings are displaying both “Name” and “Code” for buildings and meters, select the Settings tool (⚙️) in the lower right hand corner of the directory.



- f. Once you have selected the Settings tool, a dialogue box will appear. From the “Display Settings” drop-down menu, select “Both”, then click “Save” in the lower right hand corner.

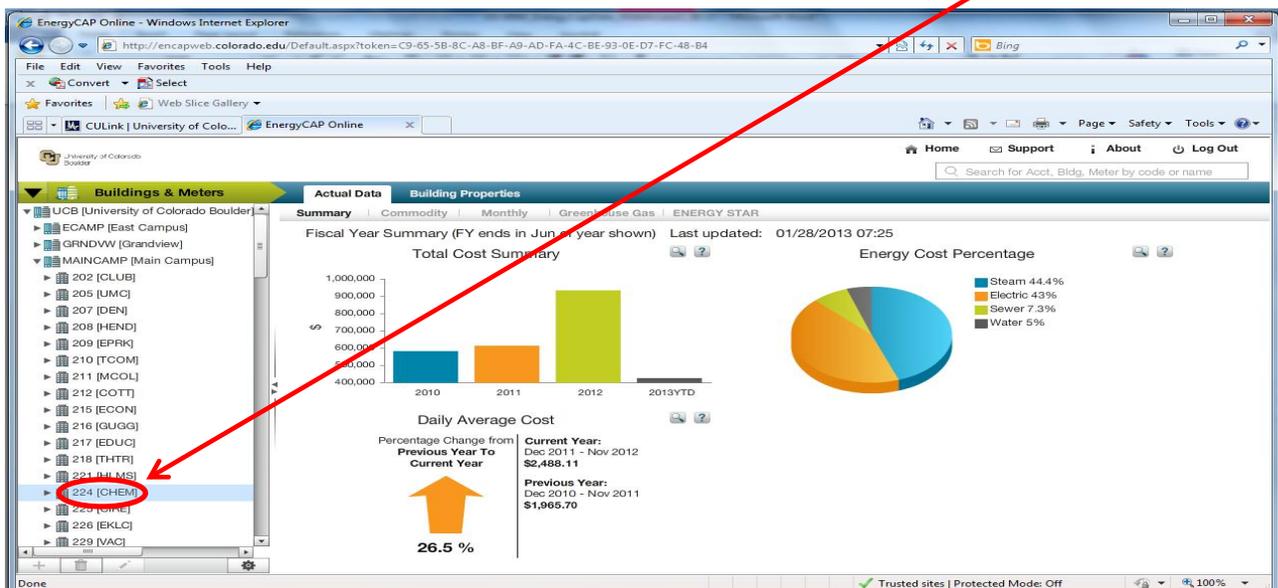


- g. Buildings are sectioned into campuses in EnergyCAP. In order to look at a specific building, open the campus menu where the building is located by clicking on the **arrow key** (▼) to the left of the campus name. For example; to find information for the Chemistry building, open MAINCAMP (Main Campus) and scroll until you find “224 (CHEM)”.

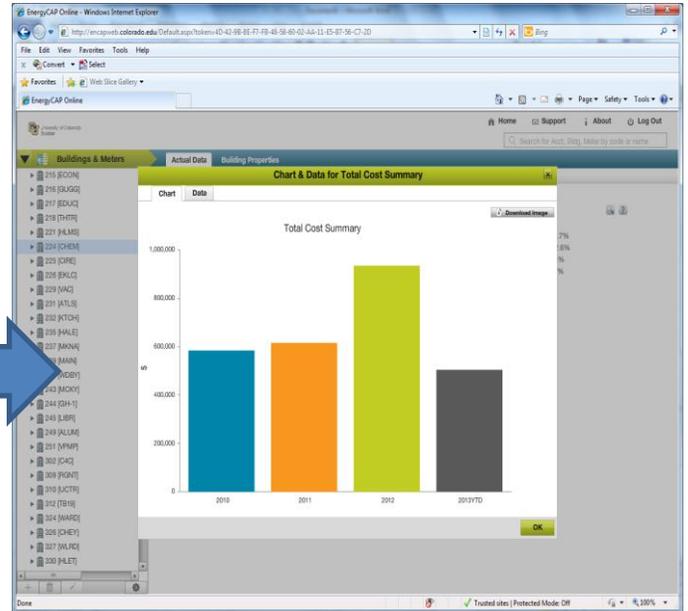
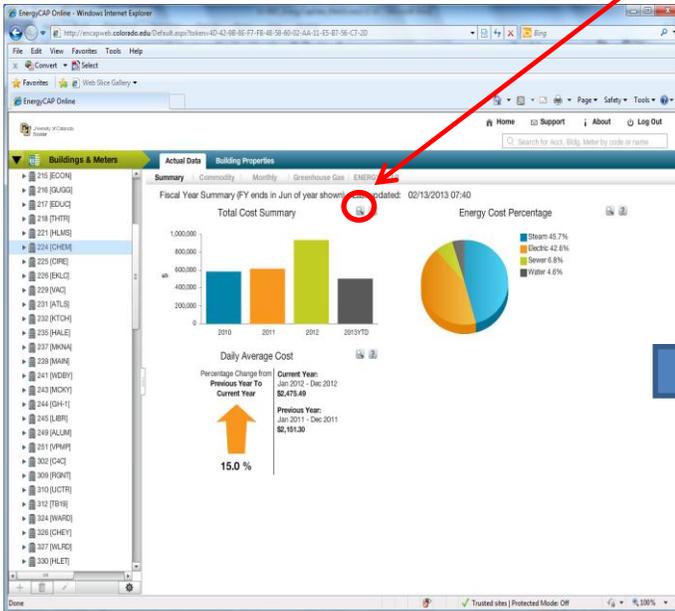


II. CONSUMPTION & COST INFORMATION - BUILDINGS: this section explains how to find summary information about a specific building. The next section, Consumption & Cost Information - Meters, will explain how to find information about individual meters in a specific building.

- h. For summary information about the entire building, click directly on “224 (CHEM)”. The “Summary” tab provides cost information for the building.



****NOTE:** All of the charts and graphs in EnergyCAP have the ability to be enlarged or copied, and they are able to show you the data used to create them. All of these features are accessed by selecting the “Magnify” tool (), which will bring up a larger image of the chart or graph.



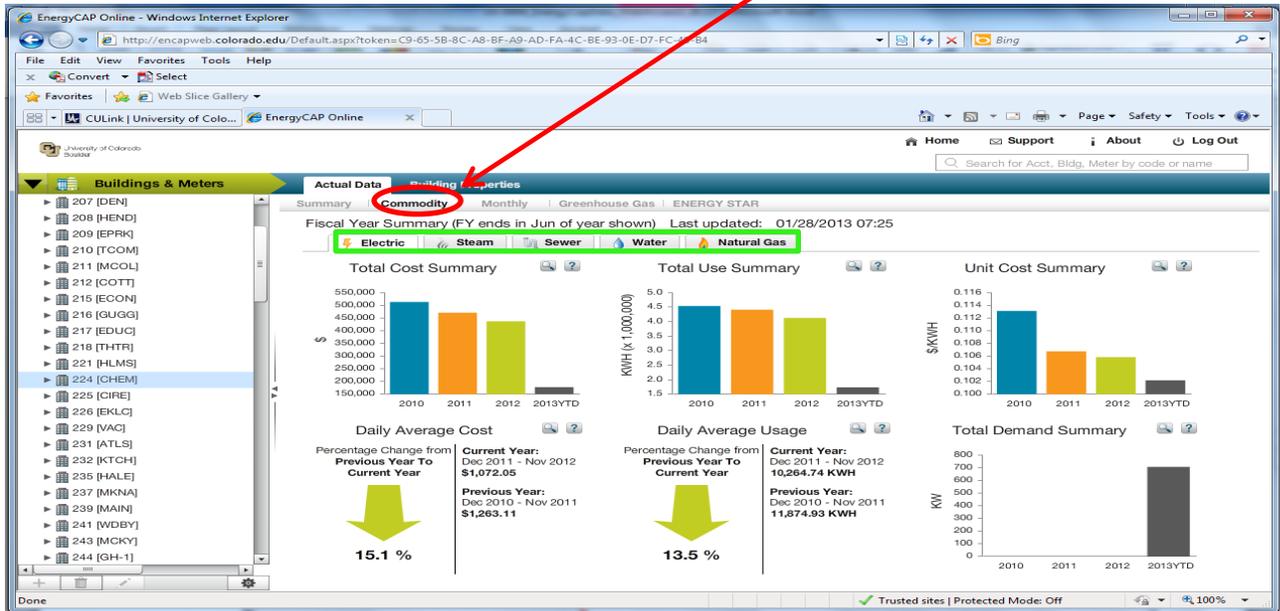
You can then save the image by selecting the “Download Image” tool (), or you can view the data by selecting the “Data” tab. If you choose to view the data, you can also copy the information to paste into another program by selecting the “Copy Data” tool ().



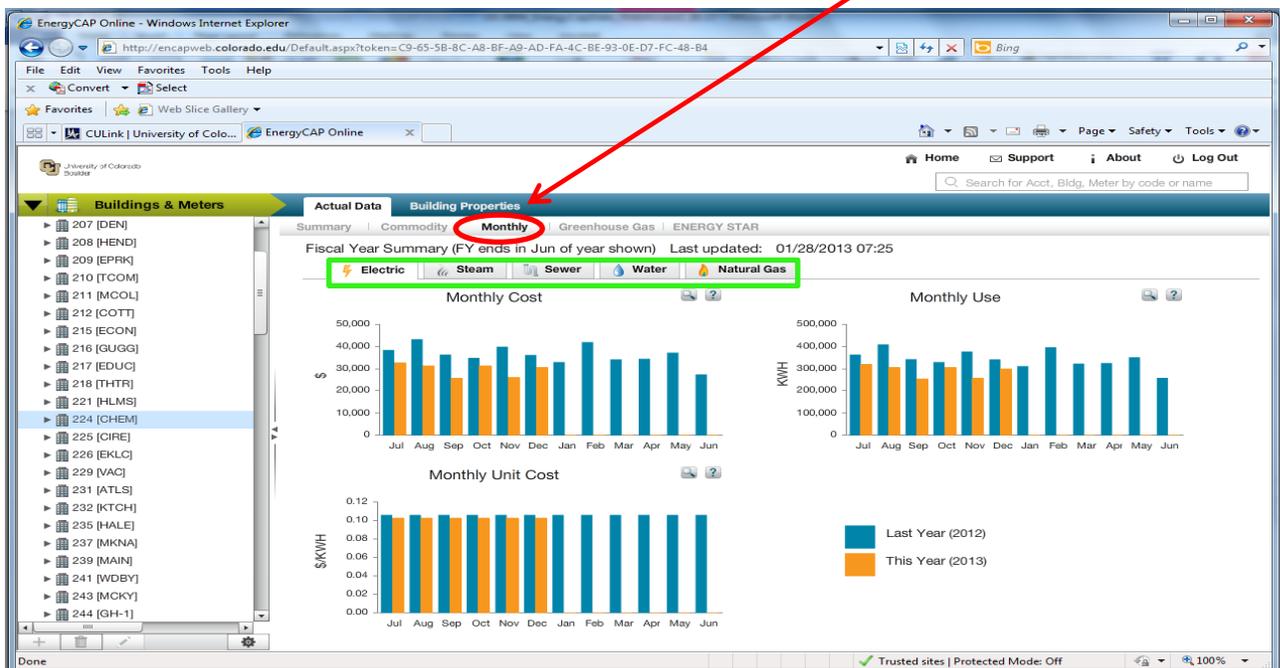
Year	Total Cost (\$)
2010	584,149.59
2011	615,135.11
2012	934,341.16
2013YTD	504,267.30

- i. To view consumption information for the entire building, click the “Commodity” tab. This area provides three year comparative cost and consumption data for each commodity, which you can view by clicking each of the tabs: electric, steam, sewer, water and natural gas (outlined in green below).

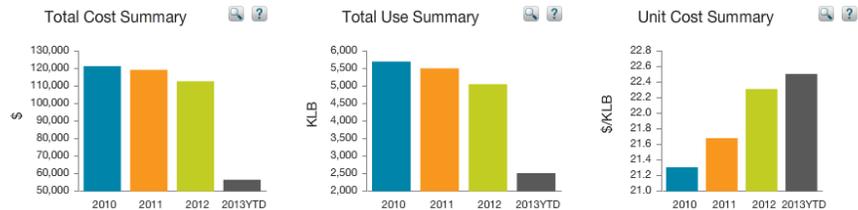
Note: these commodities will vary depending on what utilities the building uses.



- j. To view a month by month comparison of current and prior fiscal year cost, consumption and unit cost data for each commodity, select the “Monthly” tab. Like the commodity tab, the monthly tab separates information into individual tabs for steam, electric, sewer, water and natural gas.



- k. SCENARIO APPLICATION: Seeking three year comparative electricity cost and consumption data for Baker Hall.
- Under the MAINCAMP (Main Campus) directory, scroll to and click on 346 (BKER).
 - Select the “Commodity Tab” ().
 - Within the “Commodity Tab”, select the “Electric Tab” ().
 - This will bring up three year total cost, total use and total unit cost summaries for the electricity in Baker Hall.



- Using the “Magnify” tool (), navigate to the chart data view for precise yearly data for both Total Cost and Total Use.
- Three year comparative cost and consumption data for Baker Hall:

- Cost Data –

Chart & Data for Total Cost Summary		
Chart		Data
Copy Data		
Year	Cost (\$)	
2010	59,137.74	
2011	54,826.80	
2012	52,742.17	
2013YTD	31,902.74	

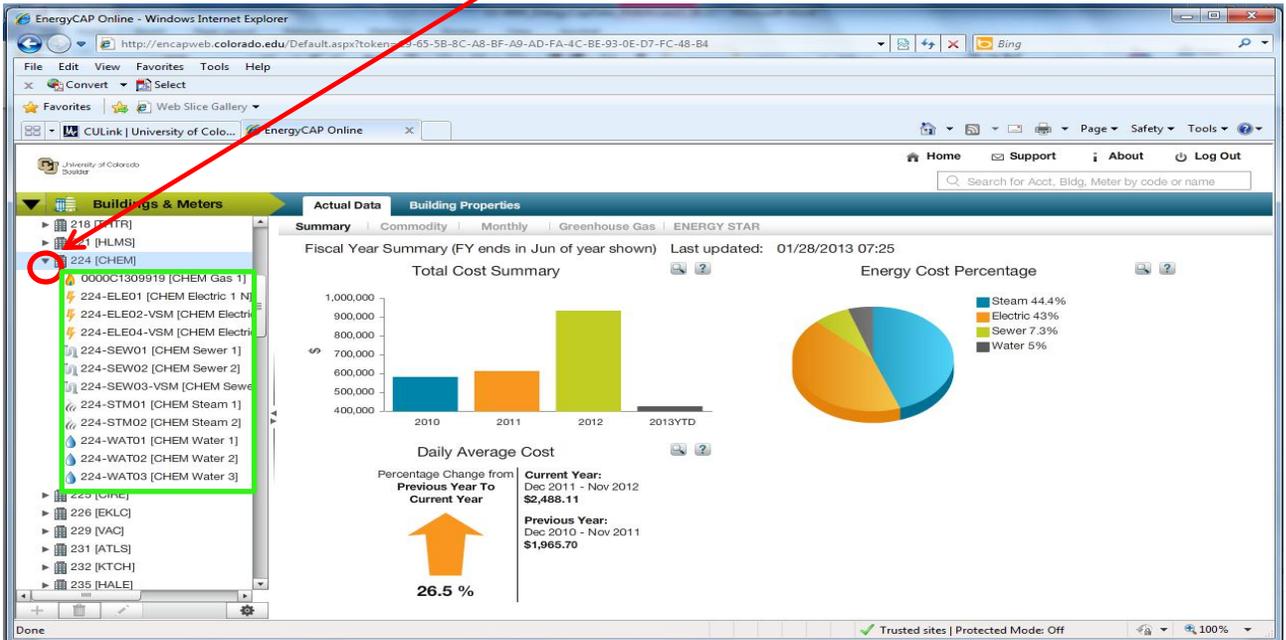
- Use Data –

Chart & Data for Total Use Summary		
Chart		Data
Copy Data		
Year	Use (KWH)	
2010	522,880.00	
2011	513,600.00	
2012	498,320.00	
2013YTD	312,160.00	

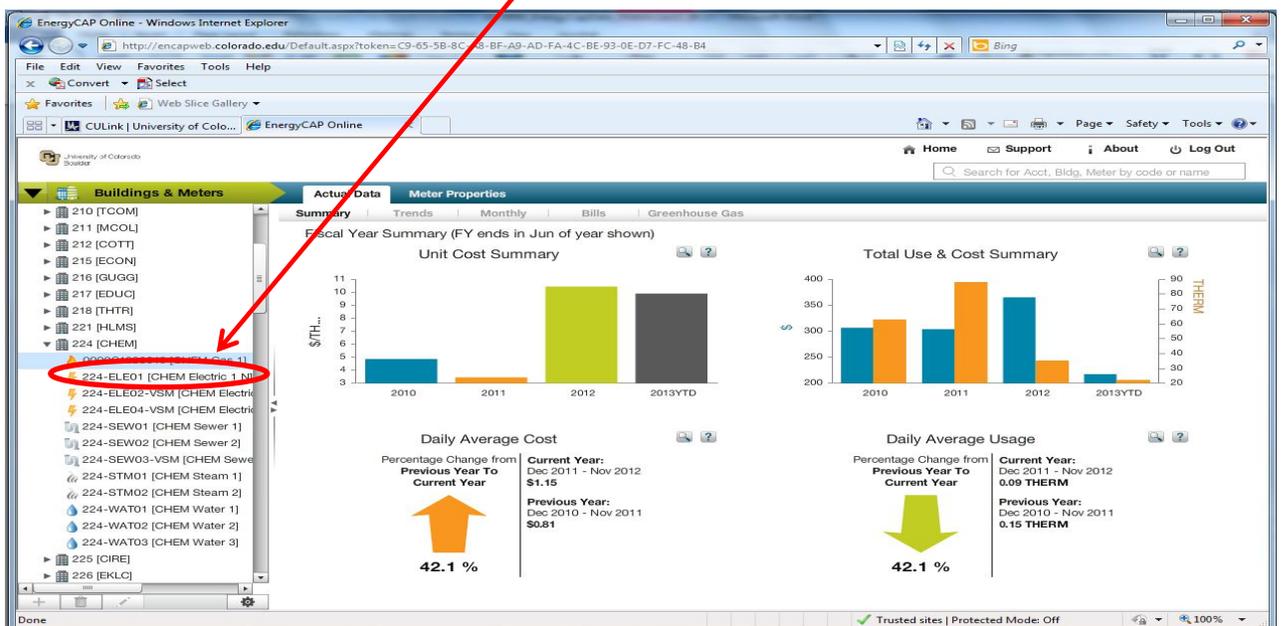
III. CONSUMPTION & COST INFORMATION – METERS: this section outlines how to find information about individual meters in a specific building.

- I. To view the meters in a building, click the **arrow key** (▼) to the left of the building name, and the list will appear below the building name (outlined in green below).

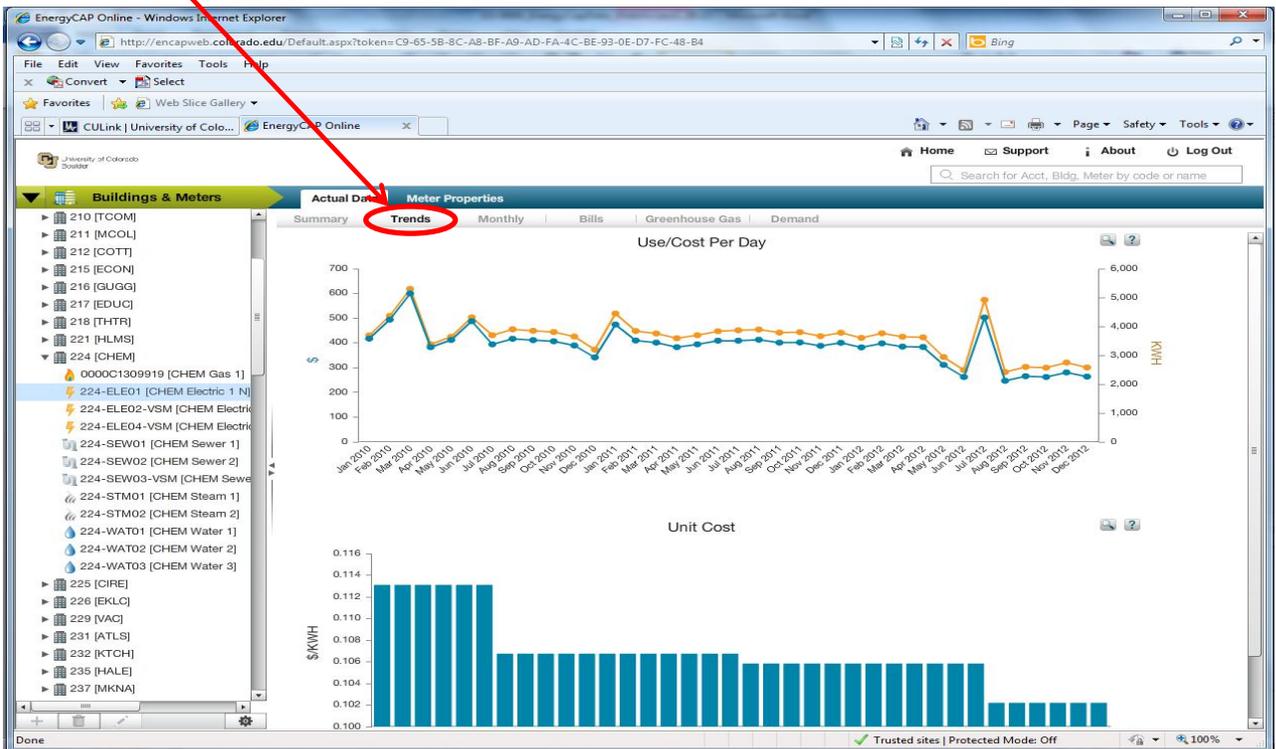
Note: the names and quantities of meters will vary between buildings depending on what the building utilizes.



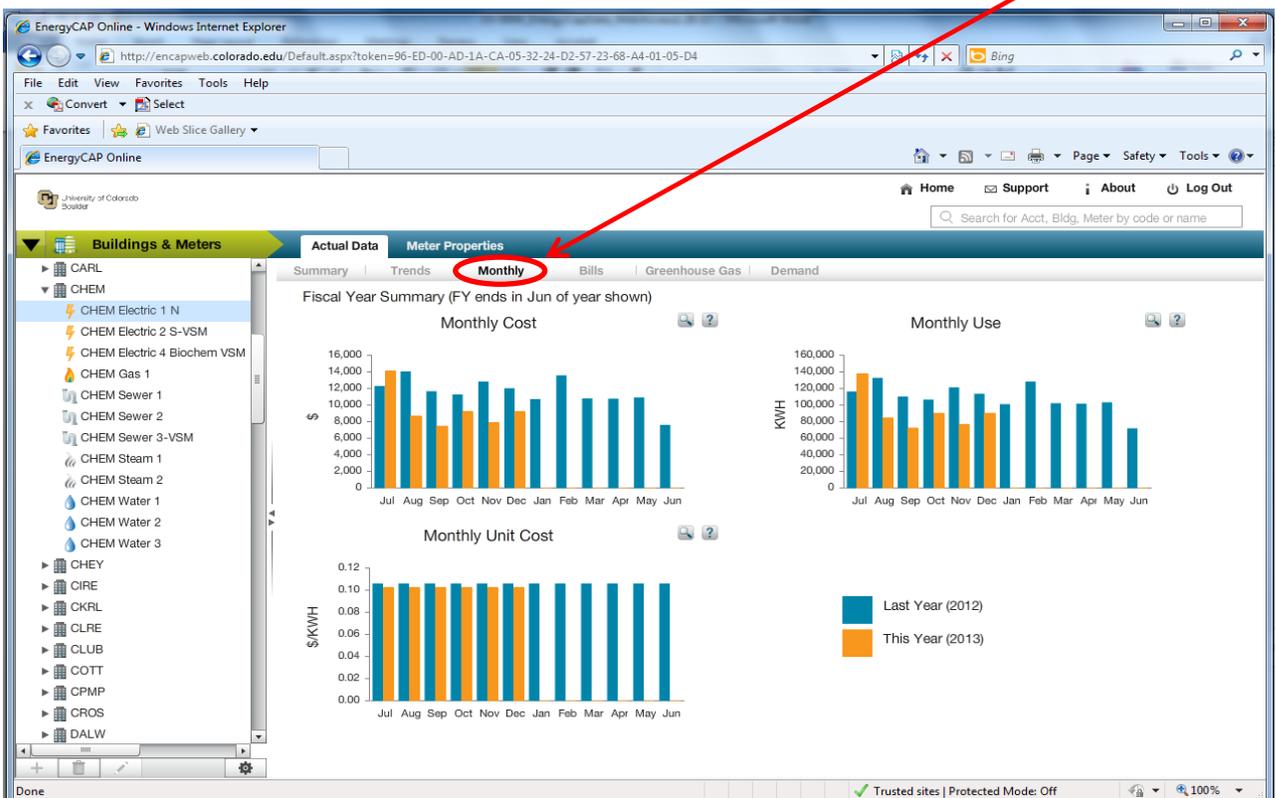
- m. To view one of the meters, select the meter name next to the commodity symbol. For example, to view cost and consumption information for Electric Meter #1 in the Chemistry building, click on “224-ELE01 (CHEM Electric 1 N)”. The summary tab will provide cost and consumption information for that individual meter.



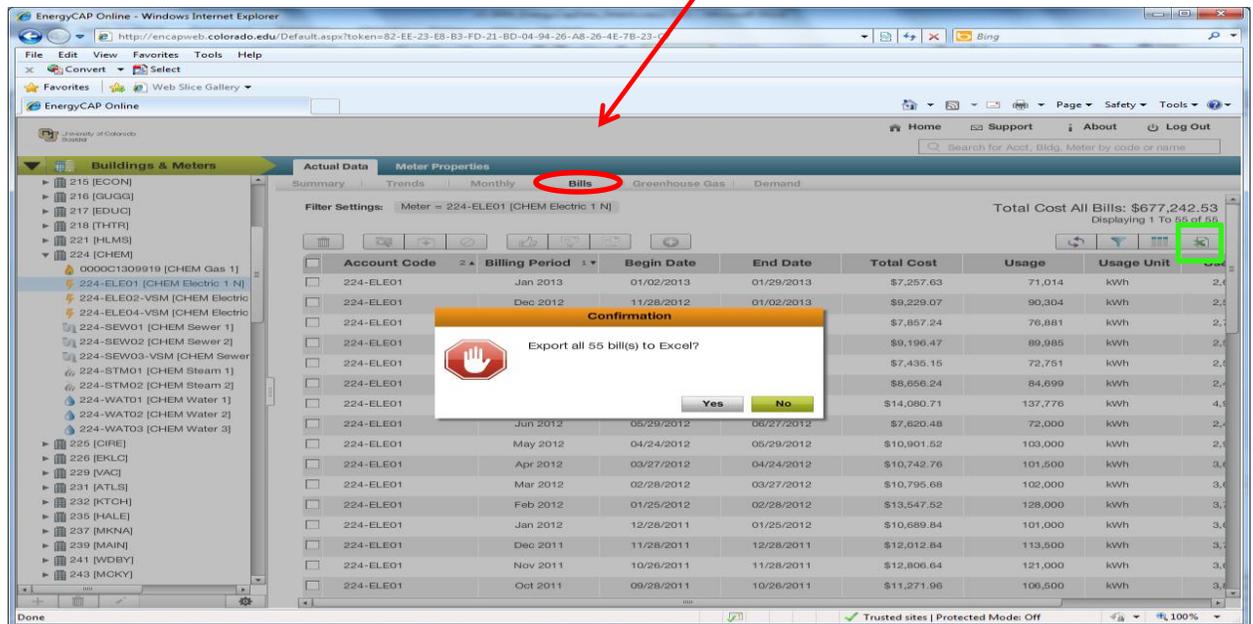
- n. To view monthly cost, consumption and unit cost trends in a graph format, click the “Trends” tab.



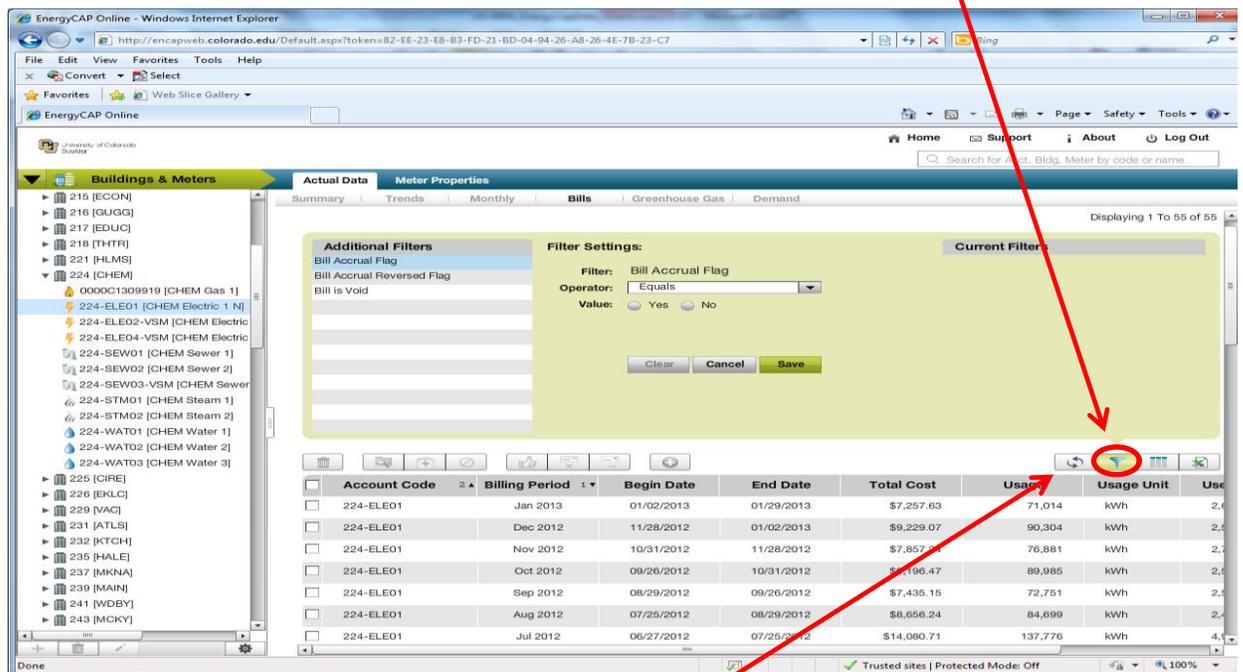
- o. To view month by month comparison of current and prior fiscal year comparative fiscal summary graphs of costs, consumption, and unit costs, select the “Monthly” tab.



- p. To obtain monthly information on a meter, select the “Bills” tab at the top of the screen. To export data from this screen to an Excel spreadsheet, select the “Excel” tool () on the right side of the screen (outlined in green below). When the confirmation message comes up select “Yes” to export the bills to Excel. An Excel doc will then open with the selected data.

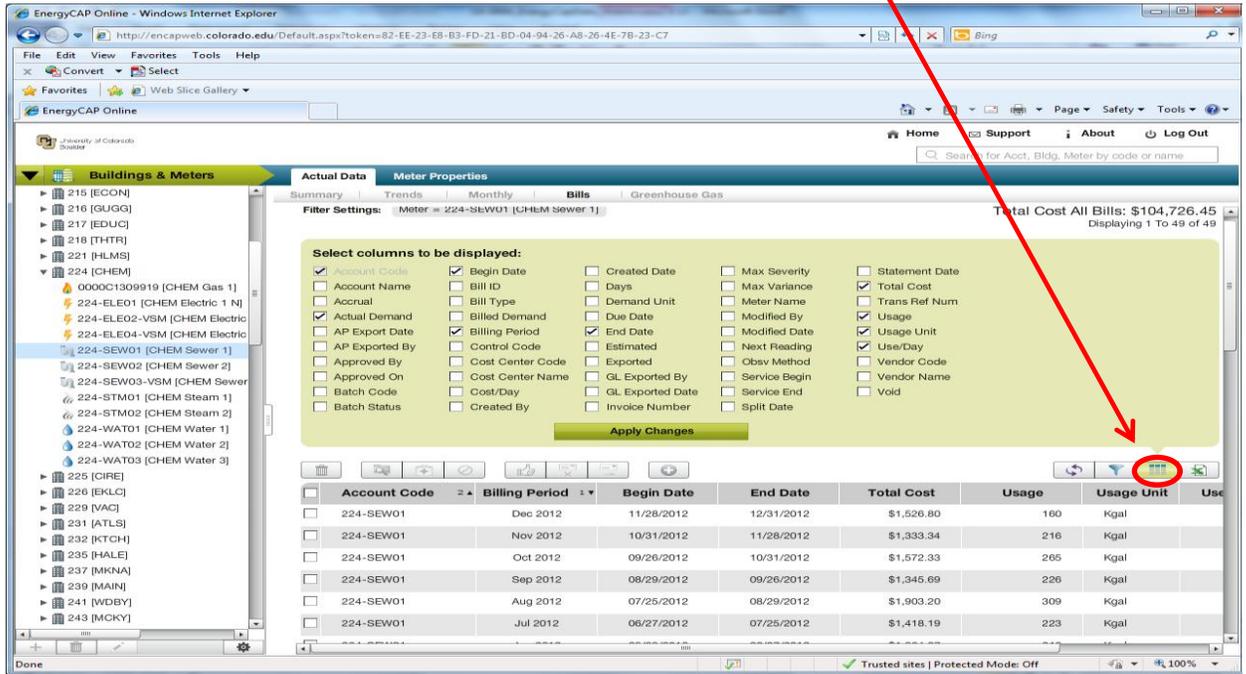


- q. To customize the filter settings for the bill data, select the “Filter” tool () on the right side of the screen. This will bring up a screen that allows you to make changes to the filters.



NOTE: when you save filter settings, they will become your default settings for every meter. To revert to the original settings select the “Reset” tool () on the right side of the screen.

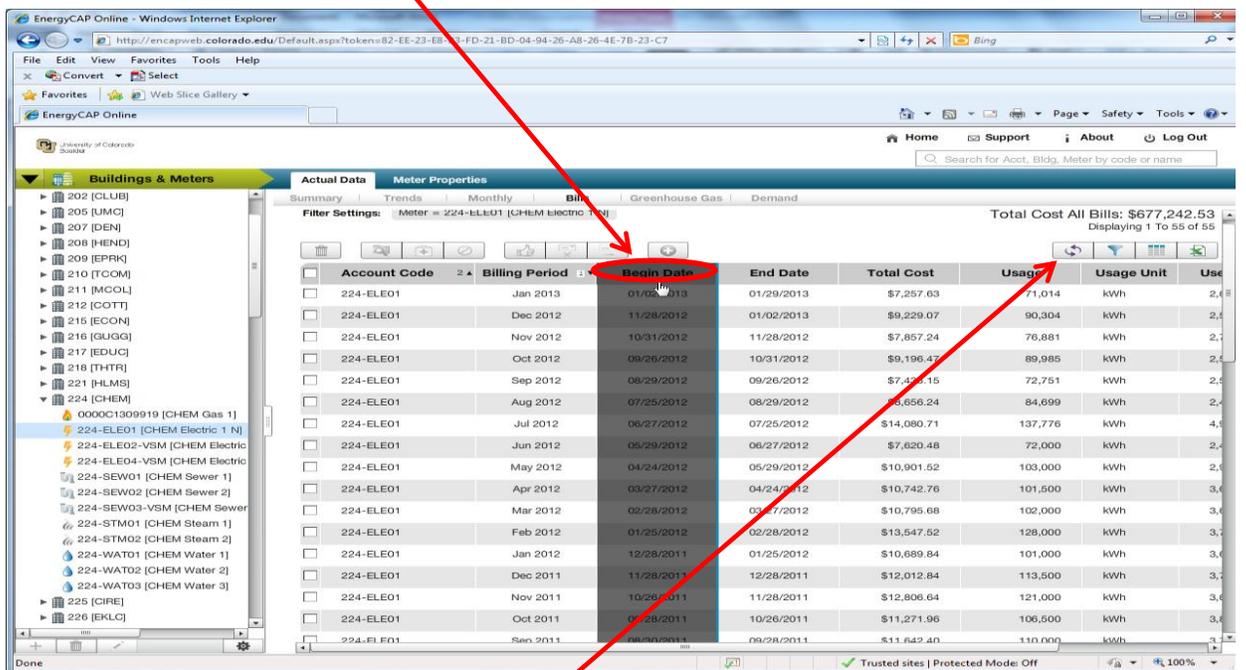
- r. To customize the billing data columns, select the “Column” tool () on the right side of the screen. This will bring up a screen with all data columns available for viewing. You can select or de-select any depending on what information you want to be shown.



The screenshot shows the EnergyCAP Online interface with the 'Select columns to be displayed' dialog box open. The dialog box contains a grid of checkboxes for various data columns. The 'Column' tool icon in the table toolbar is circled in red, and a red arrow points from it to the dialog box.

Account Code	Billing Period	Begin Date	End Date	Total Cost	Usage	Usage Unit	Use
<input type="checkbox"/>	224-SEW01	Dec 2012	11/28/2012	12/31/2012	\$1,526.80	160	Kgal
<input type="checkbox"/>	224-SEW01	Nov 2012	10/31/2012	11/28/2012	\$1,333.34	216	Kgal
<input type="checkbox"/>	224-SEW01	Oct 2012	09/26/2012	10/31/2012	\$1,572.33	265	Kgal
<input type="checkbox"/>	224-SEW01	Sep 2012	08/29/2012	09/26/2012	\$1,346.69	226	Kgal
<input type="checkbox"/>	224-SEW01	Aug 2012	07/25/2012	08/29/2012	\$1,903.20	309	Kgal
<input type="checkbox"/>	224-SEW01	Jul 2012	06/27/2012	07/25/2012	\$1,418.19	223	Kgal

- s. Once you have selected “Apply Changes” you can move the columns into any order you want by dragging the column header to the desired location.

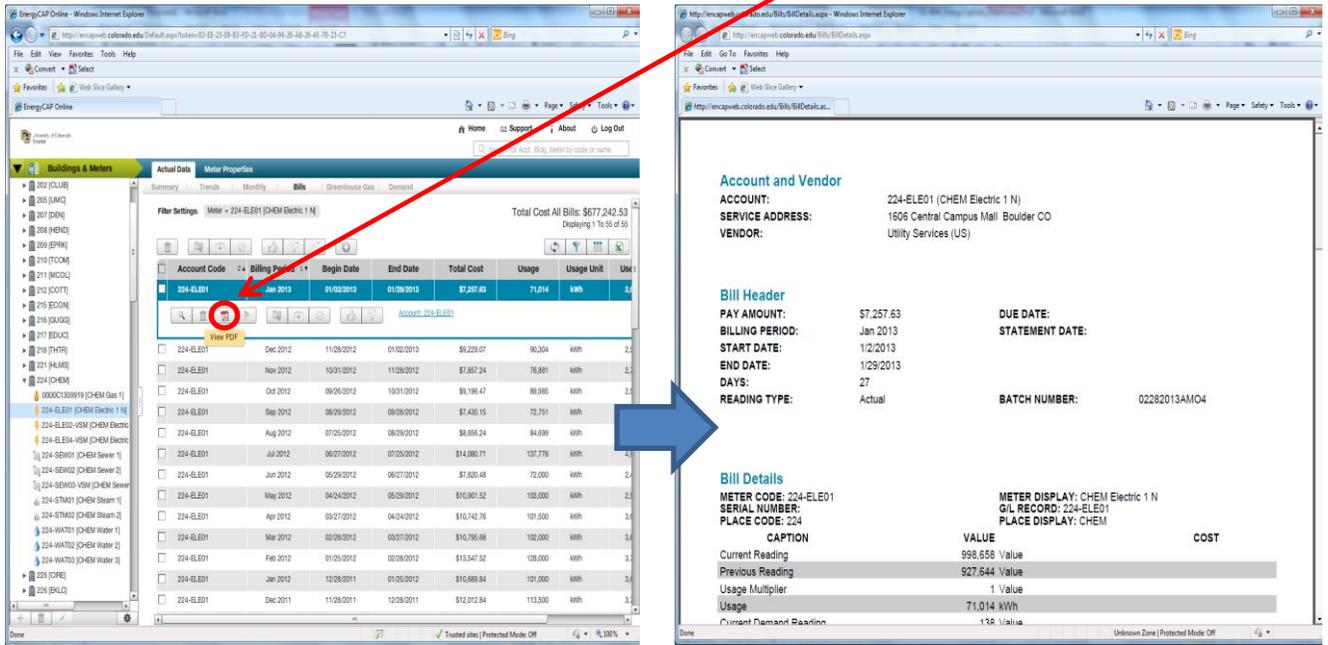


The screenshot shows the EnergyCAP Online interface with the table columns rearranged. The 'Begin Date' column header is circled in red, and a red arrow points from the 'Apply Changes' button in the previous screenshot to it. Another red arrow points from the 'Begin Date' header to the 'Usage Unit' column header.

Account Code	Billing Period	Begin Date	End Date	Total Cost	Usage	Usage Unit	Use
<input type="checkbox"/>	224-ELE01	Jan 2013	01/02/2013	01/29/2013	\$7,257.63	71,014	kWh
<input type="checkbox"/>	224-ELE01	Dec 2012	11/28/2012	01/02/2013	\$9,229.07	90,304	kWh
<input type="checkbox"/>	224-ELE01	Nov 2012	10/31/2012	11/28/2012	\$7,857.24	76,881	kWh
<input type="checkbox"/>	224-ELE01	Oct 2012	09/26/2012	10/31/2012	\$9,196.47	89,985	kWh
<input type="checkbox"/>	224-ELE01	Sep 2012	08/29/2012	09/26/2012	\$7,433.15	72,751	kWh
<input type="checkbox"/>	224-ELE01	Aug 2012	07/25/2012	08/29/2012	\$8,656.24	84,699	kWh
<input type="checkbox"/>	224-ELE01	Jul 2012	06/27/2012	07/25/2012	\$14,080.71	137,776	kWh
<input type="checkbox"/>	224-ELE01	Jun 2012	05/29/2012	06/27/2012	\$7,620.48	72,000	kWh
<input type="checkbox"/>	224-ELE01	May 2012	04/24/2012	05/29/2012	\$10,901.52	103,000	kWh
<input type="checkbox"/>	224-ELE01	Apr 2012	03/27/2012	04/24/2012	\$10,742.76	101,500	kWh
<input type="checkbox"/>	224-ELE01	Mar 2012	02/28/2012	03/27/2012	\$10,795.68	102,000	kWh
<input type="checkbox"/>	224-ELE01	Feb 2012	01/25/2012	02/28/2012	\$13,547.52	128,000	kWh
<input type="checkbox"/>	224-ELE01	Jan 2012	12/28/2011	01/25/2012	\$10,689.84	101,000	kWh
<input type="checkbox"/>	224-ELE01	Dec 2011	11/28/2011	12/28/2011	\$12,012.84	113,500	kWh
<input type="checkbox"/>	224-ELE01	Nov 2011	10/26/2011	11/28/2011	\$12,806.64	121,000	kWh
<input type="checkbox"/>	224-ELE01	Oct 2011	09/28/2011	10/26/2011	\$11,271.96	106,500	kWh
<input type="checkbox"/>	224-ELE01	Sep 2011	08/29/2011	09/28/2011	\$11,642.40	110,000	kWh

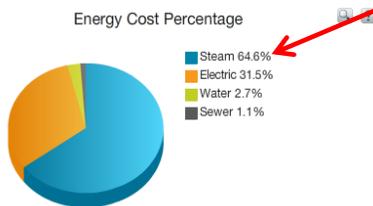
NOTE: when you save filter settings, they will become your default settings for every meter. To revert to the original settings select the “Reset” tool () on the right side of the screen.

- t. To view bill detail, click the row of the individual bill you want to see, which will bring up an option bar below the row information. Select the “View PDF” button () to open a PDF of the bill in a new window.

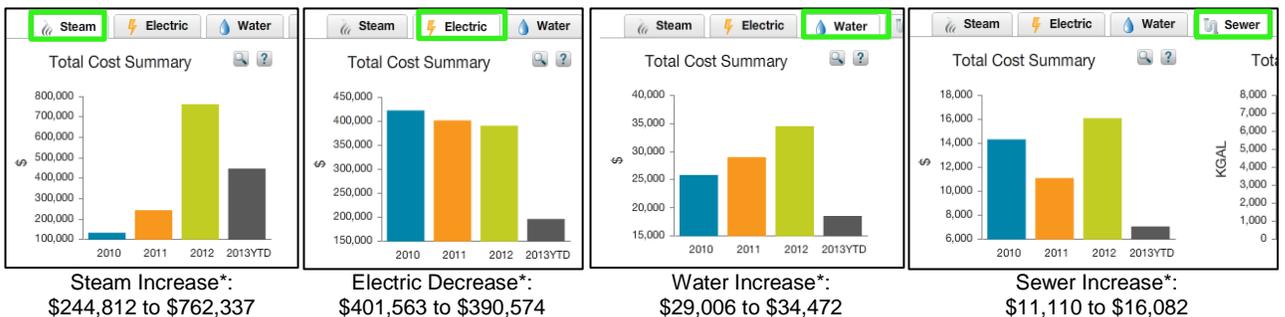


- u. SCENARIO APPLICATION: seeking explanation for the large increase in total cost from FY2011 to FY2012 for Norlin Library (\$686,493 to \$1,203,466).

- i. On the summary tab for the Library, 245 (LIBR), note that the Energy Cost Percentage pie chart indicates that steam is the largest cost driver for the building.

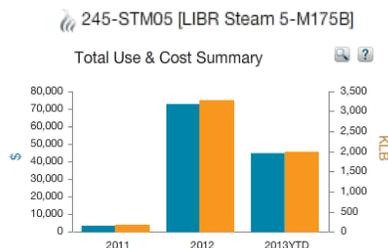
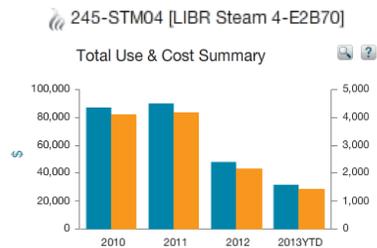
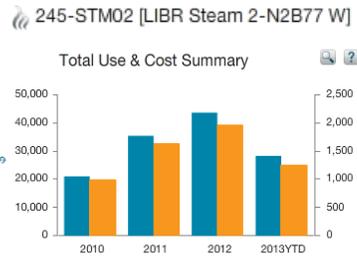
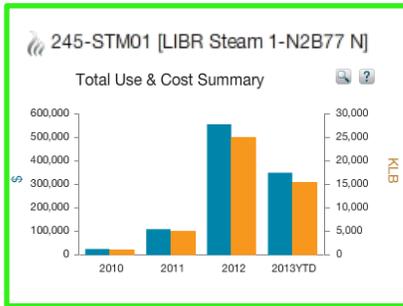


- ii. Verify that steam is the commodity that is seeing the largest cost increase by drilling through each commodity tab.



*Data acquired by viewing Chart Data

- iii. Click the **arrow key** (▼) to the left of 245 (LIBR) to show all meters in the building. Examine the Total Use & Cost Summary on the summary tabs for each of the steam meters in the building to identify which has seen the greatest cost & consumption increase in the past year (result outlined in green).



- iv. Upon identifying 245-STM01 (LIBR Steam 1-N2B77 N) as the meter with the greatest increase in cost and usage over the past year, you can explore the various tabs (trends, monthly, bills, etc.) to find more information about its activity.

Specifically, monthly cost (A), consumption (B) and demand (C) data can be found by going to the bills tab.

Billing Period	Begin Date	End Date	Total Cost	Usage	Usage Unit	Use/Day	Actual Demand
Jan 2013	01/03/2013	01/30/2013	\$3,870.48	4	kib	6.37	283.0
Dec 2012	11/29/2012	01/03/2013	\$10,913.86	4	kib	13.8	6,752.0
Nov 2012	10/30/2012	11/29/2012	\$20,792.59	924	kib	30.80	6,816.0
Oct 2012	09/28/2012	10/30/2012	\$36,544.55	1,624	kib	50.75	794.0
Sep 2012	08/30/2012	09/28/2012	\$72,391.51	3,217	kib	110.93	0.0
Aug 2012	07/26/2012	08/30/2012	\$110,061.19	4,891	kib	139.74	8,124.0
Jul 2012	06/28/2012	07/26/2012	\$94,601.77	4,204	kib	150.14	8,151.0
Jun 2012	05/30/2012	06/28/2012	\$86,803.70	3,891	kib	134.17	8,089.0
May 2012	04/25/2012	05/30/2012	\$61,728.56	2,767	kib	79.06	8,137.0
Apr 2012	03/28/2012	04/25/2012	\$39,888.21	1,788	kib	63.86	6,688.0
Mar 2012	02/29/2012	03/28/2012	\$26,547.52	1,190	kib	42.50	
Feb 2012	01/26/2012	02/29/2012	\$6,424.95	288	kib	8.47	
Jan 2012	12/28/2011	01/26/2012	\$8,165.04	366	kib	12.62	
Dec 2011	11/29/2011	12/28/2011	\$5,621.83	252	kib	8.69	
Nov 2011	10/27/2011	11/29/2011	\$10,061.29	451	kib	13.67	
Oct 2011	09/29/2011	10/27/2011	\$37,166.53	1,666	kib	59.50	