CATALYST

Bill data done better

(audits, visualization, analysis, sharing)

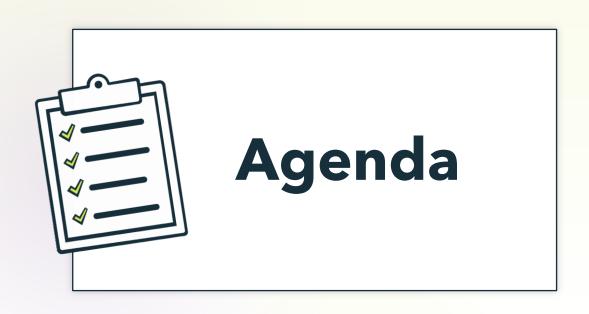


Lalit AgarwalVP, Energy Management & Sustainability
EnergyCAP



David UlmerChief Product & Tech Officer
EnergyCAP





- Record: Bills Accurately
- Audit: Identify Issues
- Act: Focus on Quality
- Visualize: See the Forest and the Trees
- Share: Curate Your Story

Energy and Sustainability ERP // The single source of truth

Get instant access to validated, actionable data you can trust to better manage resource consumption, reduce your carbon footprint, reach net-zero, and drive massive savings.



Financial-grade greenhouse gas accounting

Target and track emissions.

An advanced, holistic view of financialgrade emissions data across your business with automatically applied factors to meet your ESG reporting needs.

Customer Data Type:

GHG activities

Persona:

Sustainability



Portfolio-level energy and sustainability reporting

Manage and see it all.

Get accurate and reliable energy and utility data across your entire portfolio and streamline energy and accounting workflows.

Customer Data Type:

Utilities/Bill/Resources

Persona:

Finance/Energy



Real-time energy and sustainability analytics

Dive deep. Respond quickly.

Dive deep into real-time performance of assets, devices, and sensors. Make quick, data-driven decisions for high-performance, net-zero buildings.

Customer Data Type:

Time-Series/Interval Energy

Persona:

Energy/Facilities

CAPture Services: Bill CAPture, Bill Processing/Managed Services

Energy and Sustainability ERP // The single source of truth

Get instant access to validated, actionable data you can trust to better manage resource consumption, reduce your carbon footprint, reach net-zero, and drive massive savings.



Portfolio-level energy and sustainability reporting

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Customer Data Type:

Utilities/Bill/Resources

Persona:

Finance/Energy

CAPture Services: Bill CAPture, Bill Processing/Managed Services

By the Numbers...Vendor Bills Tracked in UtilityManagement in 2023

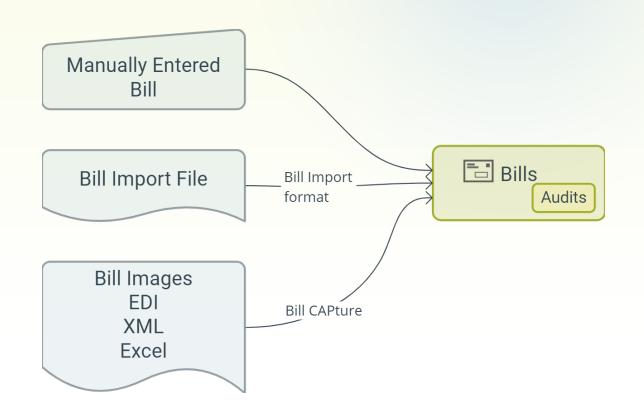


Record: Bills Accurately

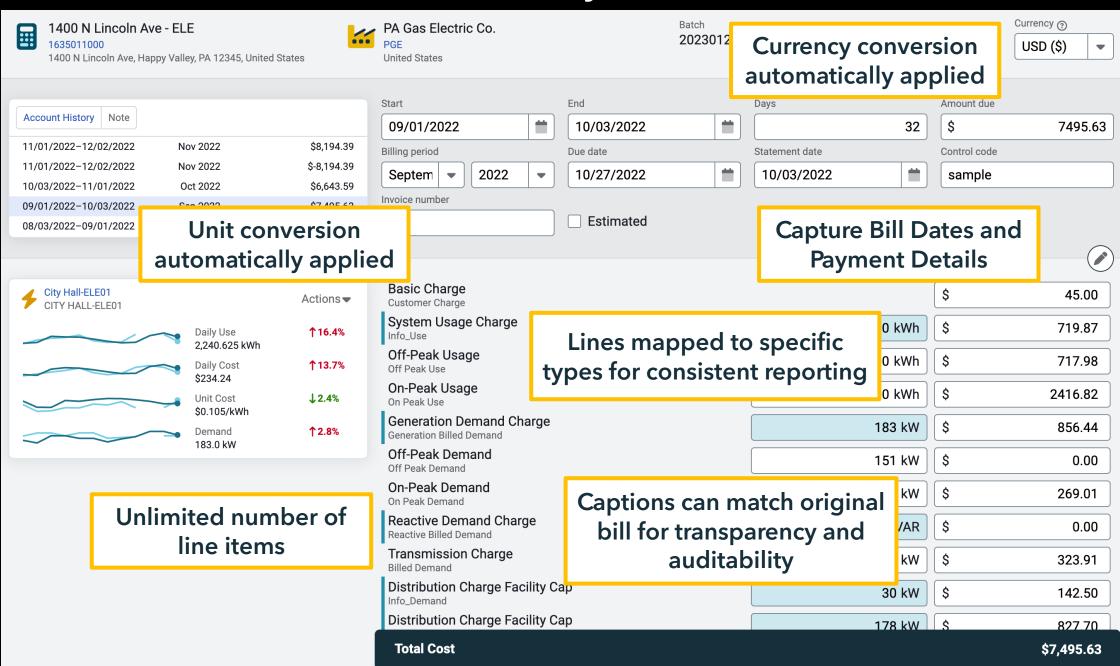
Recording Vendor Utility Bills

Flexible options for recording bills:

- Enter manually
- Import files
- Bill CAPture service



Hand-Key Bills

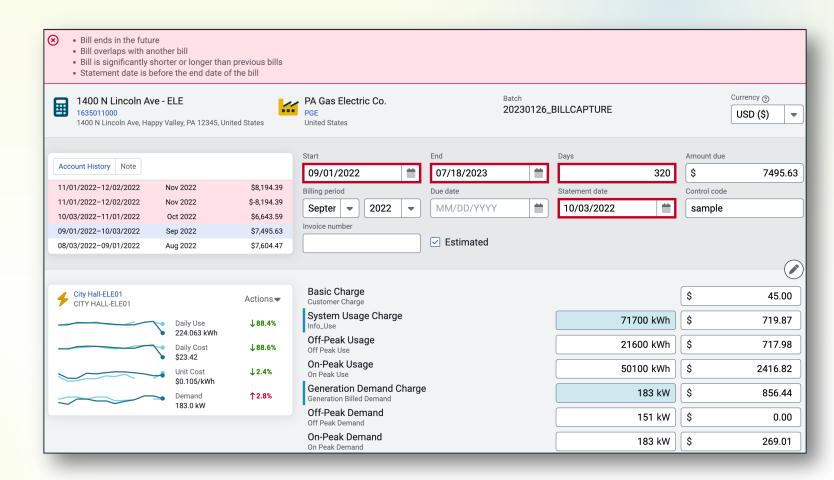


Additional Hand-Key Features

Enable/disable bill details important to your organization

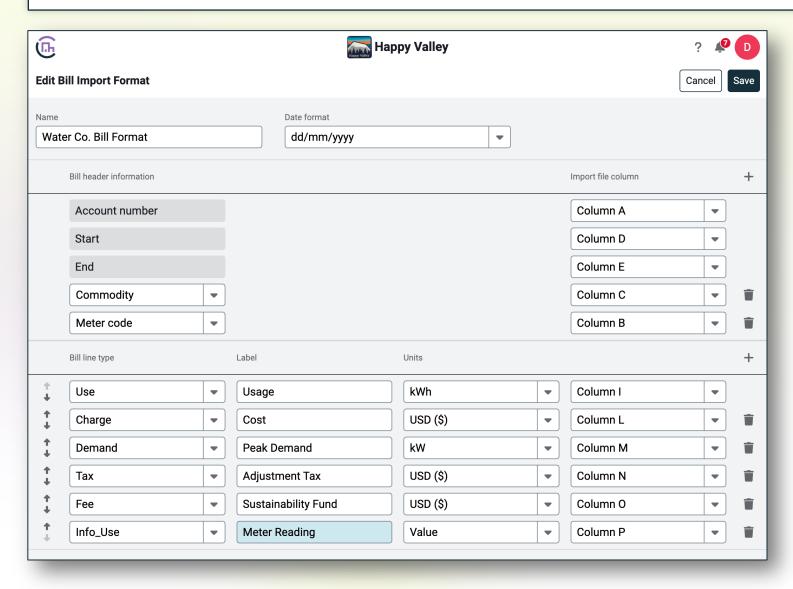
Easily modify line items as vendor bills change

Problem data automatically highlighted



Demonstration

Bill Import



Import spreadsheets with multiple bills at one time

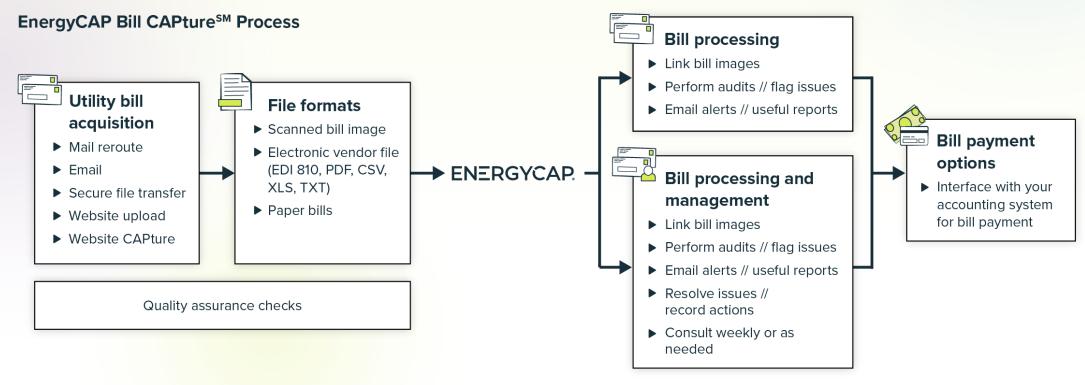
Create unlimited number of custom formats—define and save your formats for easy reuse

Avoid unnecessary intermediate steps and reformatting

Bill CAPtureSM

Capture utility bill data and convert it into important **energy cost** and **consumption** information.

We do the work for you to collect, interpret, process, and enter utility bills into EnergyCAP.



Audit: Identify Issues

Bill Audits

Bill audits are powerful tools for data validation, examining utility bill data for accuracy and unusual patterns of use or cost.

Audits **flag bills** for manual review and indicate there may be a problem.

All bills are audited as they are entered into UtilityManagement (hand-keyed, imported, Bill CAPture).

A bill can also be manually flagged by a user.





Flag & Hold

Audits

ts

BILL ENTRY

Bill unexpectedly ends in the future

- > Duplicate bill
 Likely duplicate bill on account

 Skip Flag
- > Repeat invoice number | Skip | Flag & Hold |
 Invoice number is repeated on account
- Skip Flag & Hold

 Gap of two or more days between this bill and the preceding bill on the same account. Use Report-17 to find 1-day gaps.
- > Overlapping bill
 Bill overlaps with another bill on the same account

 Skip Flag & Hold
- > Multiple bills in period
 Multiple bills for the same account in the same billing period

 Skip Flag & Hold
- > Shorter or longer bill
 Bill is significantly shorter or longer than previous bills for the same account

 50 %

 Skip Flag & Hold
- > Consecutive estimated bills

 3 bills

 Skip

 Flag

 Flag & Hold
- Too many consecutive estimated bills on account

 > Future end date

 Skip Flag & Hold
- > Unexpected billing period
- Billing period is outside the bill's start and end dates

 Skip Flag & Hold
- > Early due date

 Due date is before the end date of the bill

 Skip Flag & Hold
- > Late due date

 Due date is too many days after the end date of the bill

 Skip Flag & Hold
- > Early statement date
 Statement date is before the end date of the bill

 Skip Flag & Hold
- > Late statement date
 Statement date is too many days after the end date of the bill

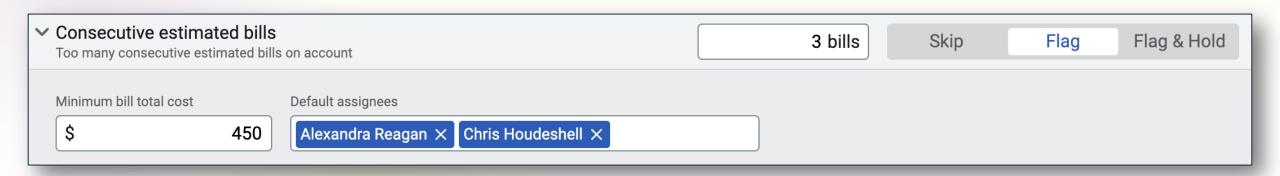
 Skip Flag & Hold
- > High use per day
 Use per day is higher than expected based on prior bills on the same meter

Additional Audit Options

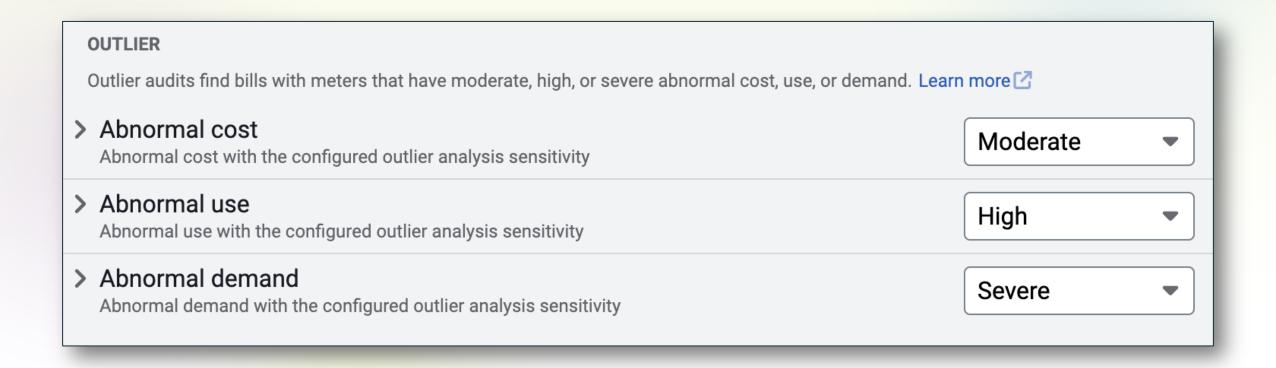
Skip specific audit checks

Automatically assign flagged bills based on issues

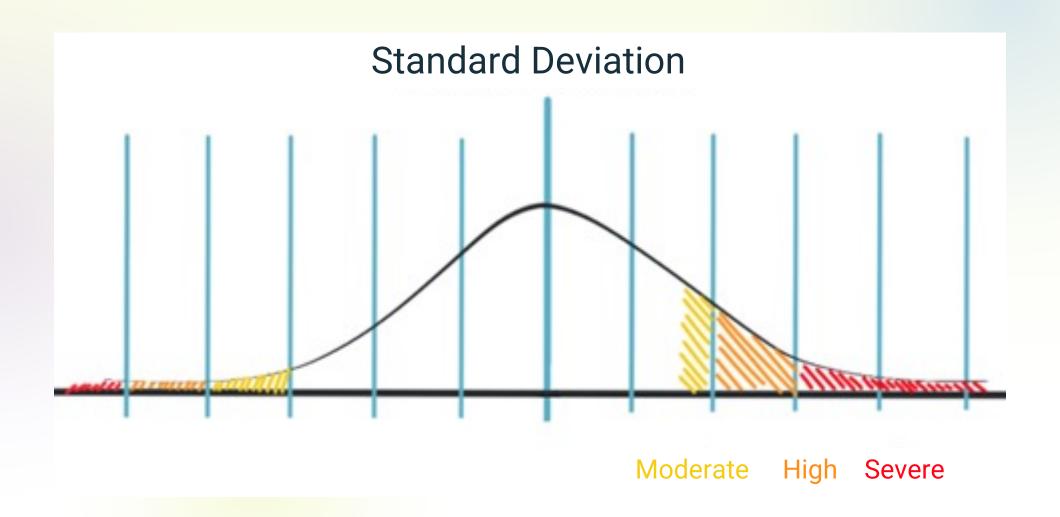
Ignore bills below a certain threshold



Advanced Outlier Audits – use your bill history to your advantage!



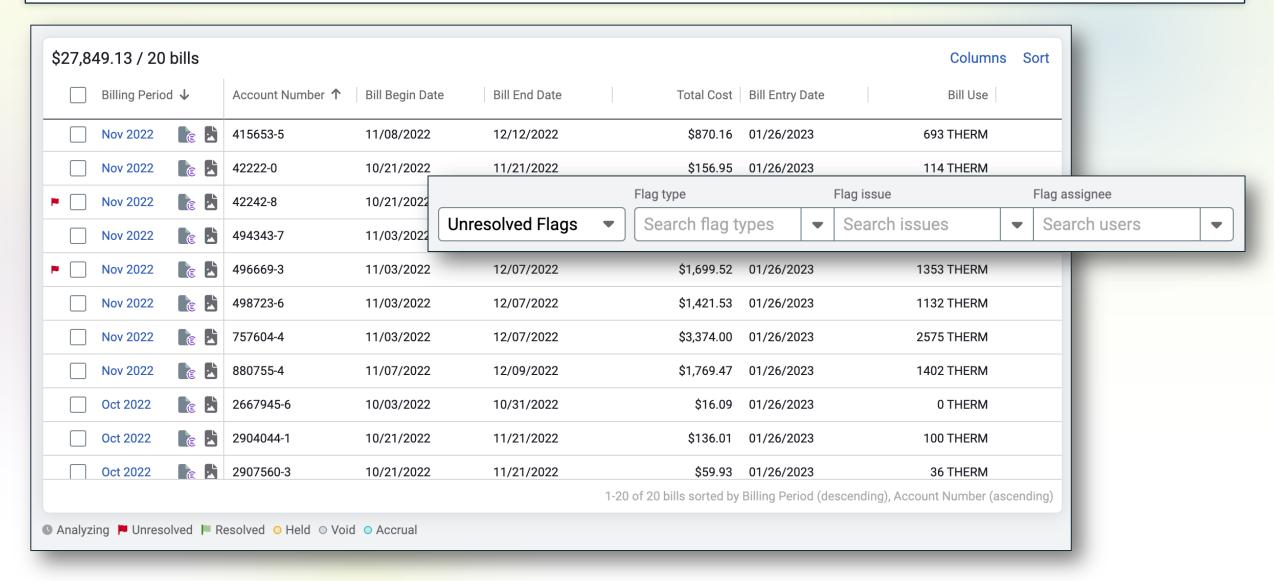
Outlier Detection – comparing your bill to a "predicted bill"



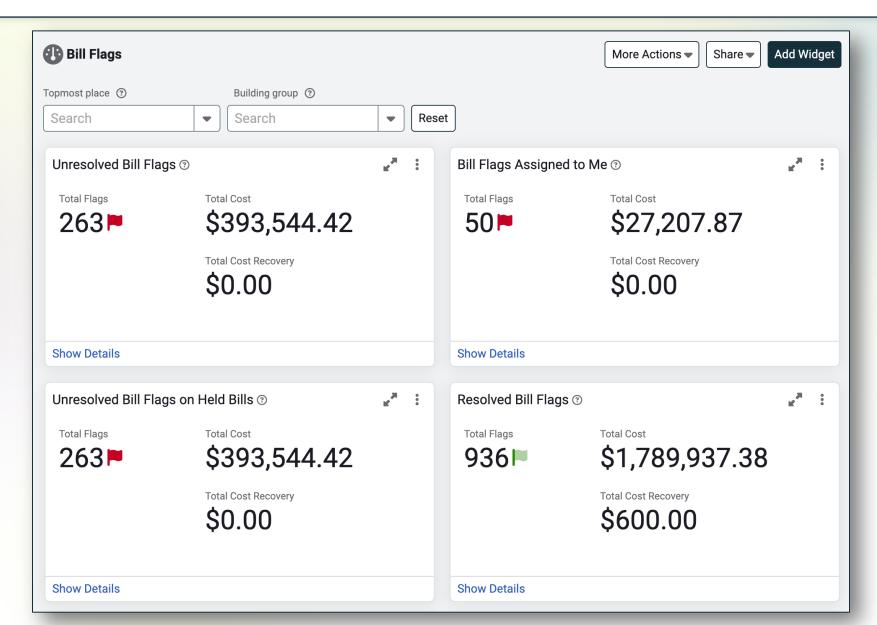
Demonstration

Act: Focus on Quality

Easily find bills that need attention



Easily find bills that need attention



Reports Highlight Possible Issues

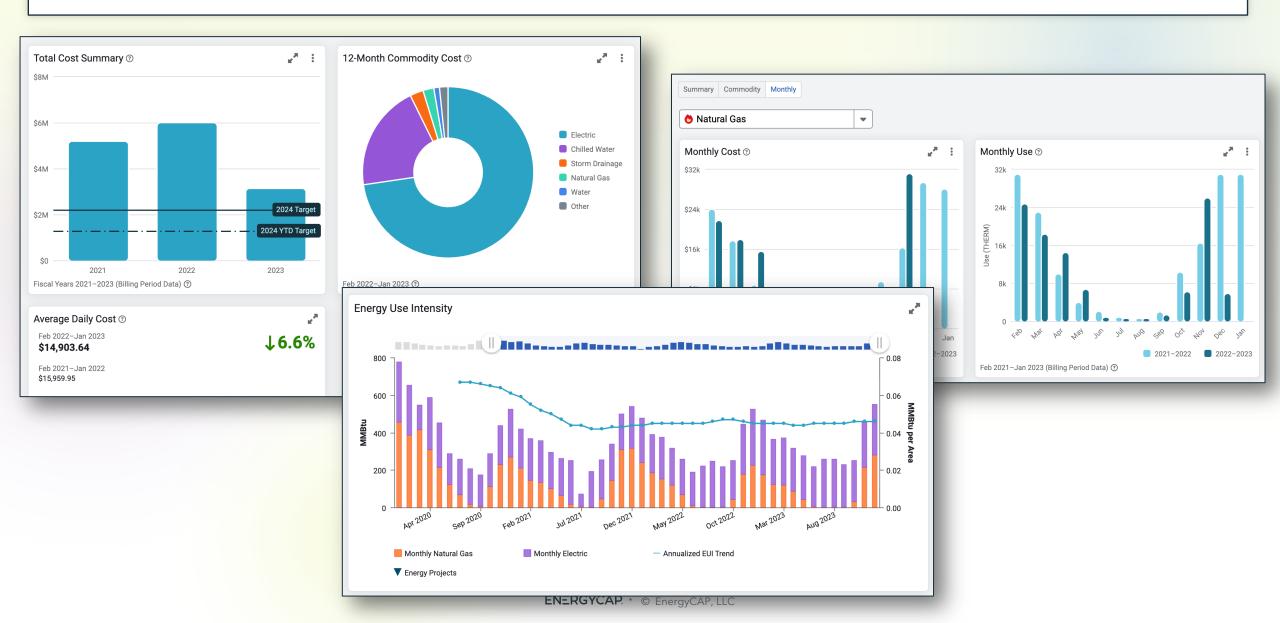
Happy Valle	еу				Re	port-17 - Ove	lapping an	d Days Witho	ut Bills by Me	ter by Billing	g Period										
Vendor	Account Code	Meter	# Bills	Average bill cost	Average cost per day	Total estimated value of problem days	Billing periods in date range	Billing periods without Bills	Billing periods with multiple bills	Total days w/o bills	Total overlapping days	202201	202202	202203	202204	202205	202207	202208	202209	202211	202212
PA Commonwealth	00051661-0664	10th & Central	11	\$2,151.00	\$69.80	\$1,814.71	12	1	0	26	0	1	1	1	1	1	1 1	1	1 1	1	0
PA Commonwealth	001-8675-309	Data Center -	12	\$13,404.52	\$440.70	\$0.00	12	0	0	0	0	1	1	1	1	1	1 1	1	1 1	1	1
PA Commonwealth	001-8675-309	Data Center - Non-	12	\$17,883.49	\$587.95	\$0.00	12	0	0	0	0	1	1	1	1	1	1 1	1	1 1	1	1
PA Commonwealth	05125121-010 3	North Precinct-	6	\$4,382.58	\$92.59	\$15,832.85	12	6	0	171	0	1	1	0	0	1	1 1	0	0 1	0	0
PA Commonwealth	05125121-010 3	North Precinct-	4	\$21.92	\$0.31	\$71.01	12	8	0	230	0	1	0	0	0	1	1 0	0	0 1	0	0
PA Commonwealth	05125121-010 3	North Precinct-	6	\$65.83	\$1.39	\$237.84	12	6	0	171	0	1	1	0	0	1	1 1	0	0 1	0	0
PA Commonwealth	05125121-031 9	Twin Pines Garage-	10	\$93.23	\$2.94	\$170.59	12	2	0	48	10	1	1	1	1	0	1 1	1	1 1	1	0
PA Commonwealth	05125121-034 3	Twin Pines Garage-	11	\$37.96	\$1.22	\$29.39	12	1	0	24	0	1	1	1	1	1	1 1	1	1 1	1	0
PA Commonwealth	05125121-055 8	Thomas Square	10	\$191.97	\$5.56	\$578.68	12	3	1	84	20	1	1	1	0	1	1 2	1	1 () 1	0
PA Commonwealth	05125121-090 5	Tanner Garage-	10	\$5,187.96	\$163.66	\$17,838.73	12	3	1	77	32	1	1	0	1	1	1 1	1	1 2	0	0
PA Commonwealth	63703541-001 7	Tanner Garage-	11	\$877.44	\$28.30	\$679.31	12	1	0	24	0	1	1	1	1	1	1 1	1	1 1	1	0
PA Commonwealth	70787215-001 6	North Precinct-	9	\$85.76	\$2.47	\$207.15	12	3	0	84	0	1	1	1	1	1	1 1	0	1 1	0	0
National Weller	1027863-8	Train Station-NG01	11	\$781.38	\$25.28	\$632.00	12	1	0	25	0	1	1	1	1	1	1 1	1	1 1	1	0
National Weller	1045103-7	North Precinct-	9	\$52.20	\$1.60	\$160.36	12	3	0	100	0	1	1	1	1	0	1 1	1	1 1	0	0
National Weller	124907-8	East Precinct-NG01	10	\$170.17	\$5.25	\$367.66	12	2	0	70	0	1	1	1	1	1	1 0	1	1 1	1	0
National Weller	1498884-4	Warehouse-NG02	10	\$609.25	\$17.81	\$997.60	12	2	0	56	0	1	1	0	1	1	1 1	1	1 1	1	0
National Weller	1529774-0	North Precinct-	9	\$53.22	\$1.63	\$163.47	12	3	0	100	0	1	1	1	1	0	1 1	1	1 1	0	0
National Weller	1874994-5	Twin Pines Garage-	11	\$18.01	\$0.61	\$25.07	12	1	0	41	0	1	1	1	1	1	1 1	1	1 1	1	0
National Weller	2103598-5	Warehouse-NG01	10	\$13.56	\$0.40	\$21.41	12	2	0	54	0	1	1	0	1	1	1 1	1	1 1	1	0
National Weller	2143688-6	Happy Valley	10	\$996.22	\$29.30	\$1,670.14	12	2	0	57	0	1	1	1	1	0	1 1	1	1 1	1	0
National Weller	2667648-6	Airport Police	11	\$1,221.84	\$41.48	\$1,700.78	12	1	0	41	0	1	1	1	1	1	1 1	1	1 1	1	0
National Weller	2667945-6	Strickland Building-	11	\$16.27	\$0.53	\$16.02	12	1	0	30	0	1	1	1	1	1	1 1	1	1 1	1	0
National Weller	2690103-3	Wilson Building-	12	\$736.80	\$25.33	\$405.35	12	1	1	16	0	1	1	2	1	1	1 1	0	1 1	1	1
National Weller	2904044-1	North Precinct-	11	\$53.11	\$1.80	\$73.92	12	2	1	41	0	1	1	1	1	1	1 1	2	1 1	0	0
National Weller	2907560-3	North Precinct-	11	\$45.45	\$1.54	\$63.26	12	2	1	41	0	1	1	1	1	1	1 1	2	1 1	0	0
National Weller	339907-8	Tanner Garage-	11	\$1,035.62	\$35.16	\$1,441.56	12	1	0	41	0	1	1	1	1	1	1 1	1	1 1	1	0
National Weller	393885-9	Communications	10	\$310.79	\$9.56	\$659.82	12	2	0	69	0	1	1	1	1	0	1 1	1	1 1	1	0
National Weller	415653-5	Jacobs Precinct-	10	\$296.18	\$8.58	\$420.65	12	2	0	49	0	1	1	1	0	1	1 1	1	1 1	1	0
National Weller	42222-0	North Precinct-	10	\$115.84	\$3.58	\$246.70	12	2	0	69	0	1	1	1	1	0	1 1	1	1 1	1	0
National Weller	42242-8	North Precinct-	10	\$30.48	\$0.94	\$64.91	12	2	0	69	0	1	1	1	1	0	1 1	1	1 1	1	0
National Weller	494343-7	Train Station-NG02	11	\$3,405.83	\$110.19	\$2,754.72	12	1	0	25	0	1	1	1	1	1	1 1	1	1 1	1	0
National Weller	496669-3	1st & Main Parking	9	\$636.35	\$16.84	\$1,549.70	12	3	0	86	6	1	1	1	1	1	1 1	0	1 0) 1	0
National Weller	498723-6	3rd & West Parking	10	\$399.49	\$11.75	\$634.49	12	2	0	54	0	1	1	1	0	1	1 1	1	1 1	1	0
National Weller	757604-4	City Hall-NG01	11	\$1,273.23	\$41.19	\$1,029.82	12	1	0	25	0	1	1	1		1	1 1	1	1 1	1	0
National Weller	880755-4	Twin Pines Mall-	11	\$539.02		\$398.75	12	1	0	23	0	1	1	1	1	1	1 1	1	1 1	1	0
Internal - Happy	SPLT_KHS-090-	Split - Keene	24	\$1,820.09	\$119.68	\$43,682.21	12	0	12	0	365	2	2	2	2	2	2 2	2	2 2	. 2	2

Reports Highlight Possible Issues

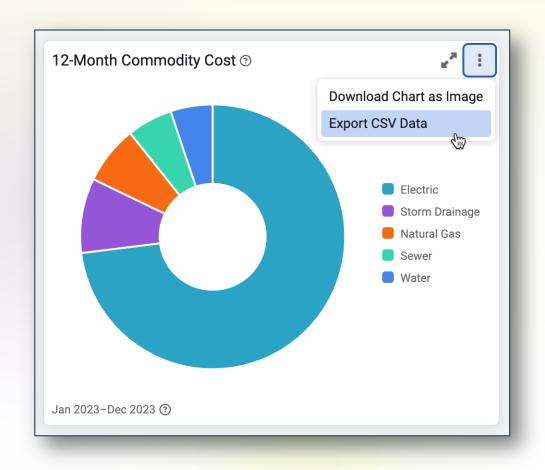
Happy Valley	На	ppy Valley					Repo	ort-27 - Bill Flags
Account:	1060 Twin Pines E	Blvd - WAT02	[299-562-12	0-0]				
	1060 Twin Pines Blvd	, Happy Valley, P.	A 12345					
Vendor:	Port and Land Wa	ter [PORTLAN	IDWATER]					
Bill ID	Billing Period	Start Date	End Date	# Days	Statement Date	Due Date	Cost	
23924	201905	4/26/2019	5/29/2019	33	6/6/2019	6/27/2019	\$48.81	
Flag Type:	Questionable Bill F	lag Status: Res	olved	Assigned to:	Douglas Un	derhill		Cost Recovery: \$0.00
Flag Issue:								
08/19/202	1 02:33 PM amr <i>Flag</i>	resolved						
• Updat	ted bill start date							
09/05/201	9 04:43 AM dwu <i>Ass</i>	signees change	d to David U	lmer. Flag tyj	e changed to	Questionable I	Bill	
• Please	e review							
09/04/201	9 05:34 PM SYSTEM	Bill flagged as	Audit Excep	tion				
• Gap o	of one or more days b	etween this bi	ll and the pre	ceding bill				
Account:	300 SW 10th Ave							
	818 SW 4th Ave, Hap							
Vendor:	Port and Land Wa	iter [PORTLAN	IDWATER]					
Bill ID	Billing Period	Start Date	End Date	# Days	Statement Date	Due Date	Cost	
23931	201905	5/1/2019	6/3/2019	33	6/11/2019	7/2/2019	\$139.12	
Flag Type:	Questionable Bill F	lag Status: Res	olved	Assigned to:	Douglas Un	derhill		Cost Recovery: \$0.00
	Gap between bills							
Flag Issue:								
_	1 11:30 AM amr <i>Flag</i>	resolvea						
05/21/202			المناطبة	Janes Flants		Overtien eble	n:II	
05/21/202 09/05/201	9 04:43 AM dwu <i>Ass</i>		d to David U	lmer. Flag typ	oe changed to	Questionable l	Bill	
05/21/202 09/05/201 • Please	9 04:43 AM dwu <i>Ass</i> e review	signees change			oe changed to	Questionable I	Bill	
05/21/202 09/05/201 • Please 09/04/201	9 04:43 AM dwu <i>Ass</i>	signees change Bill flagged as	s Audit Excep	tion	oe changed to	Questionable I	Bill	

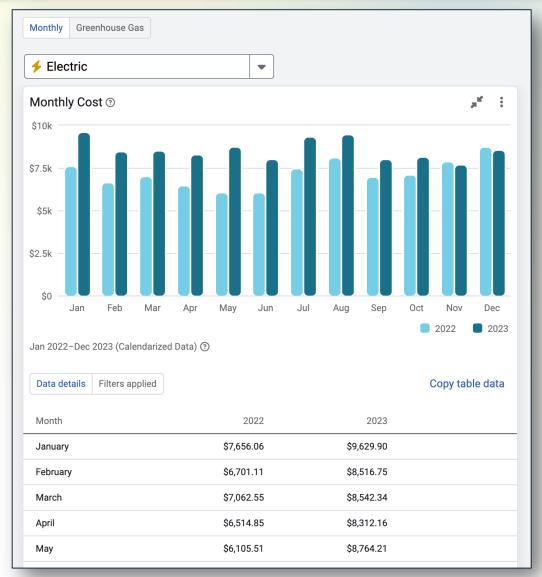
Visualize: See the Forest and the Trees

Powerviews – built-in, no configuration required

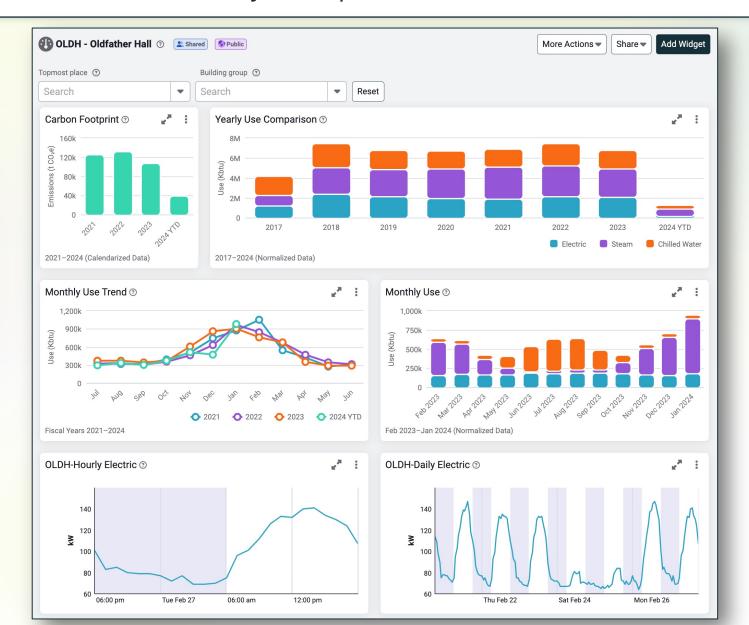


Powerviews – easily copy image and copy/export data

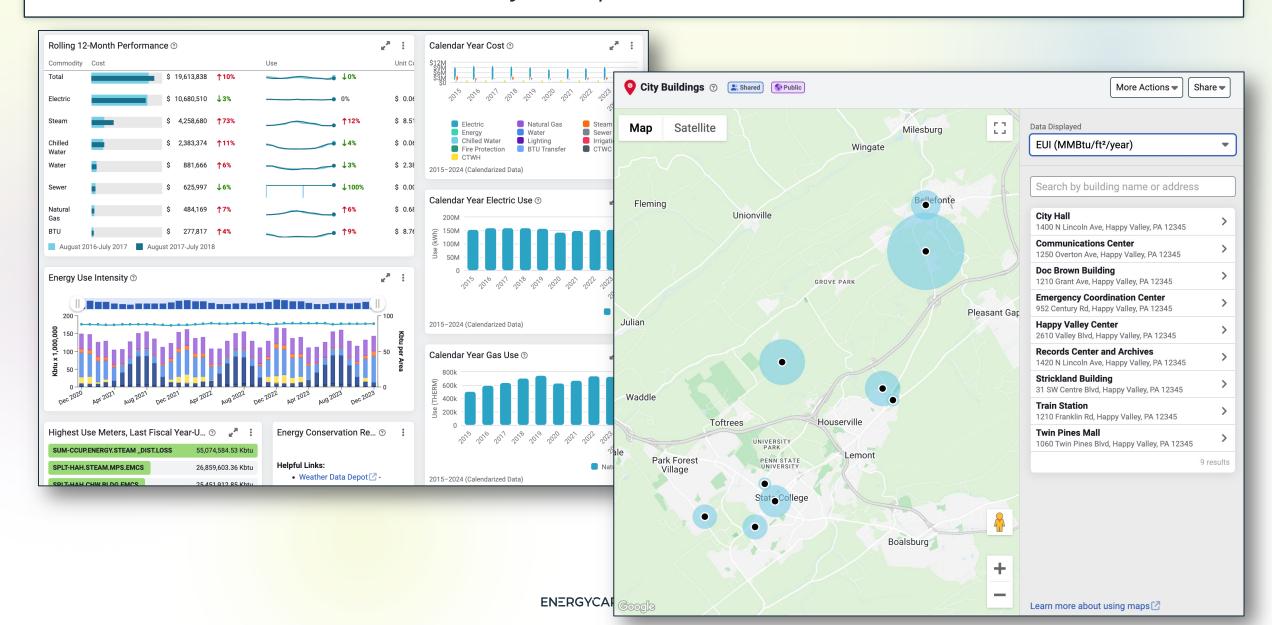




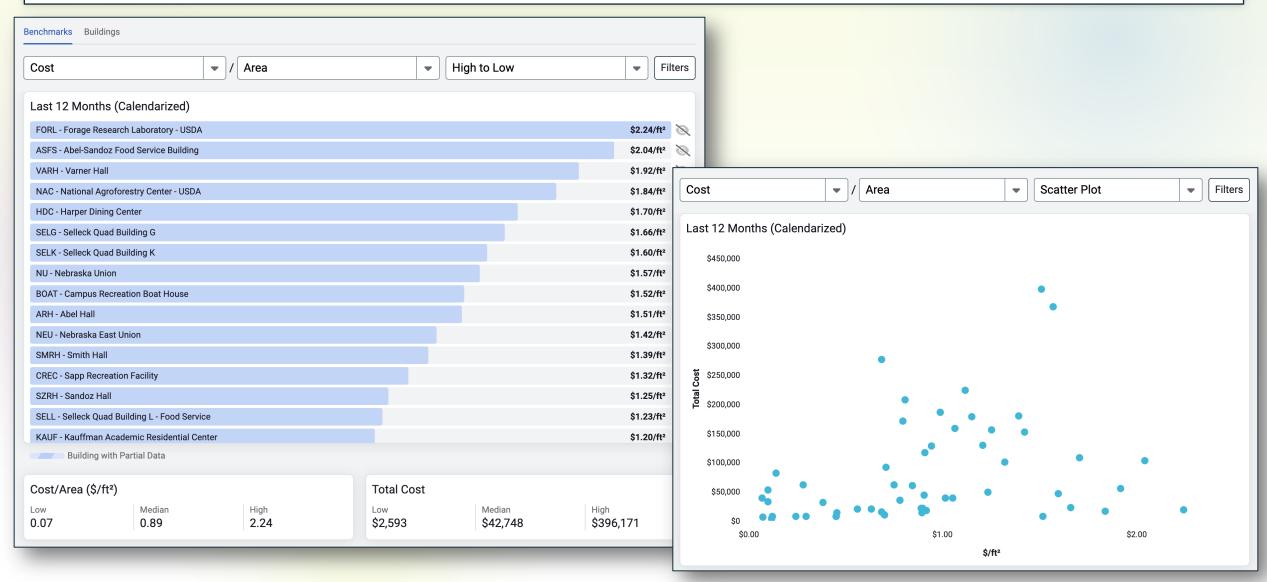
Dashboards – infinite flexibility and possibilities



Dashboards – infinite flexibility and possibilities



Building & Meter Benchmarking – find outliers and opportunities



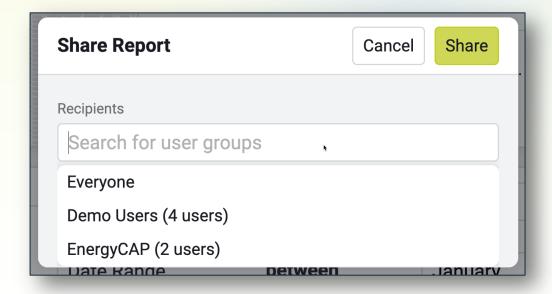
Demonstration

Share: Curate Your Story

Easily share reports with other EnergyCAP users

Share Report

- Share with one or more User Groups
- Each user can show/hide the report
- Reports always run with the user's Topmost permissions

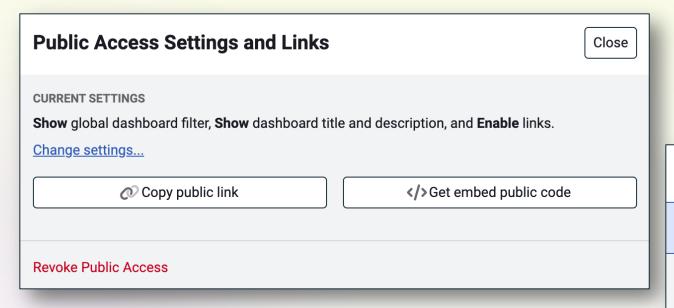


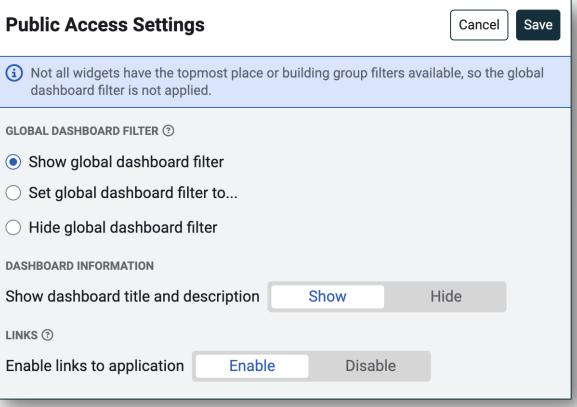
Automatically email reports to anyone

Report Distributions

- Configure a report to be sent via email on a regular basis (daily, weekly, monthly, quarterly)
- Can be sent to existing or new UtilityManagement users
- Each user receives the report based on their permissions
- Emails are not sent if report is "empty"
- Each email is logged to verify recipients and information sent

Public/Embedded Dashboards – easily & centrally manage settings





School District

Welcome to the Get2Green Energy Dashboard 3

This dashboard contains data on energy use, including electric, natural gas, water, and greenhouse gas emissions for each school and center in FCPS.

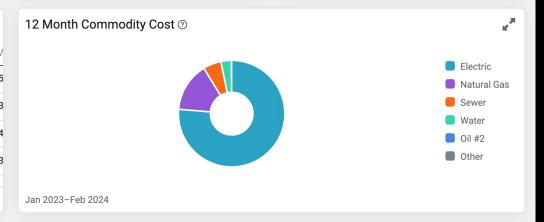
- Because data is generated from FCPS' utility bill information, the most recent 90 days of data may be incomplete. Most electricity and natural gas bills are recorded within the previous 30 to 60 days, and water bills recorded within the previous 90 days. Annual data for the current year is for the year to date (so far), please keep that in mind as you compare years.
- · Hover your computer's curser over pie, bar, and line charts to display data.
- · You may use the slider bar with the circles on either end to adjust the time range displayed in bar charts.
- · Please read the graphs carefully notice the labels and scale. The scale does not always start at zero.

Type a new location name in the "Topmost Place" menu to display data for a different location.

View data for the district as a whole on the District Overview Dashboard.



ENERGY STAR ③					n M
Building	Submission type	Area	Month	Score	EUI (kBtu/
Annandale High School	Manual	340,055 ft ²	Aug 2023	71	5
Annandale Terrace Elementary School	Manual	101,044 ft ²	Dec 2023	90	3
Archer Elementary School	Manual	115,973 ft²	Oct 2023	68	4
Armstrong Elementary School	Manual	80,000 ft ²	Dec 2023	91	3
Pailada Prinsera Flancastana Oakaal		110 405 62	1-196 of 1	96 linked	l buildings



ELECTRIC INFORMATION 3



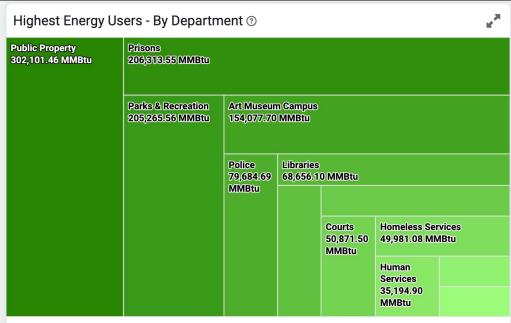
Electricity is used to power our computers, lights, air conditioning, and more.

Electricity is measured in kilowatt hours (kWh). A kilowatt hour (kWh) is a measure of how much energy is being used. It doesn't mean how many kW you use in an hour. It is the amount of energy you would use if you left a 1,000 watt appliance plugged in for an hour.

What's the difference between kW and kWh? A killowatt is 1,000 watts, which is a measure of power (the rate that electricity is used). A kWh is a measure of energy. So a 1,000 watt air conditioner needs 1,000 watts of power to run and uses 1 kWh of energy in an hour.

How could you design a campaign to encourage people at your school to reduce their electricity use? Learn more about energy and factors that affect energy data on the Energy Information page.

City of Philadelphia



Feb 2023-Jan 2024 (Billing Period Data)

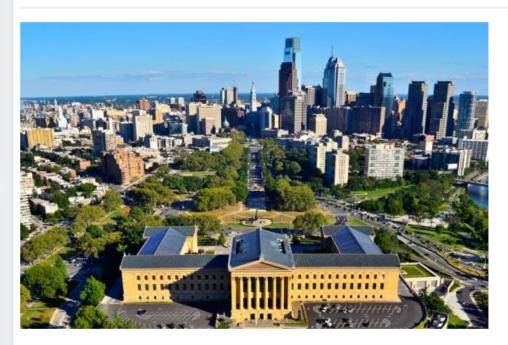
Highest Energy Users - By Individual Building ③	w ²⁰
Art Museum Main Bldg & Perelman Bldg	139,238.74 MMBtu
Curran Fromhold Correctional Facility	75,662.81 MMBtu
Public Services Building (PPSB)	56,432.64 MMBtu
City Hall	49,454.37 MMBtu
Criminal Justice Center (CJC)	44,906.09 MMBtu
One Parkway Building	39,922.86 MMBtu
Family Court (Arch St)	37,447.99 MMBtu
Municipal Services Building (MSB)	34,277.84 MMBtu
Philadelphia Nursing Home (OHS Operated)	32,960.42 MMBtu
Philadelphia Industrial Correction Center (PICC)	32,126.57 MMBtu

Highest Energy Users - Description 3

The charts on the left display the highest energy consumers first broken down by Department and then by building.

The building chart displays the top 10 energy users.

Disclaimer: This data is live and shows usage as utility bills are received. It may take 3 months to accurately reflect use.



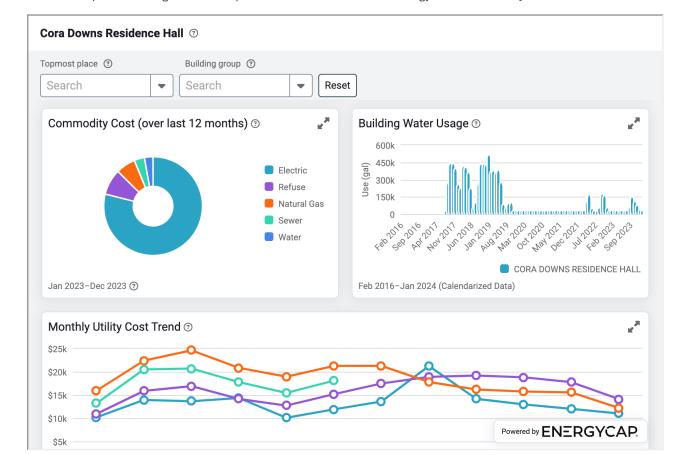
Through a unique private/public partnership, the Philadelphia Museum of Art (PMA) Energy Project brings Philadelphia closer to its energy and climate goals. The deep energy retrofit at the Philadelphia Museum of Art was completed in late 2020. The retrofit reduced the energy use of the PMA through major investments in the building's air conditioning, heating, and lighting systems. The combined \$11.3 million investment will reduce the overall energy use of the PMA by 23 percent. In addition, it will generate \$750,000 in annual savings and reduce carbon emissions by 2,400 MT of CO2e.

University of Kansas - Embedded Dashboard

Central District

Cora Downs Residence Hall	~
Edwards Campus	
Please select a location	~
Lawrence Off-Campus	
Please select a location	~

Select a campus or building from the drop down menus above to see its energy use over the last year.



CATALYST

Thank you! Questions?