

While waiting for the workshop to start...

Get ready to participate!

- Turn on your camera
- Find the unmute button and say "Hi" to check your audio



- Find the "raise hand" button



Answer our opening question!

What is energy to you?

Answer in chat or raise hand and unmute

JULY 3, 2025

Energy fundamentals: accessing your energy data

Adam Dixon
Knowenergy

By the end of this workshop, you will be able to:

- Understand what interval energy data is and how it differs from traditional bill summaries
- Learn how to access your energy data in Ontario, including Green Button and LDC-specific portals
- Discover tools and Ontario-based programs that support energy data analysis and savings
- Explore best practices for visualizing and analyzing interval energy data
- Identify actionable energy-saving opportunities using real examples

Welcoming our guest speaker

Adam Dixon, *Knowenergy*

Knowing energy since 2013, he brings a new and fresh approach to energy management, specializing in energy performance analysis and residential sector services. He also works behind the scenes as an energy analyst in support of energy audits while also providing support to the development of TdS Dixon's well known energy training services.



Upcoming survey: We want your feedback!



Progress  11%

As someone who recently participated in the *Energy Efficiency in Buildings in 2025 and Beyond: Supporting Decarbonization Efforts* as part of the **Save on Energy | Capability Building Program**, we'd like to know more about your experience. The IESO uses this feedback to monitor the success of the program and improve the offering over time. The survey should take about five minutes to complete.

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Please feel free to email saveonenergy@ieso.ca if you have any questions about the survey.

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- Check your email! A survey is coming your way soon.
- Why? Help us improve our training programs.
- Who? Conducted by Forum Research on behalf of the IESO.
- Time? Takes only 5 minutes to complete.
- Confidentiality: Your responses are anonymous and won't impact participation or incentives.

The survey will be sent from:
surveyinfo@forumresearch.com

Where to get data

- Monthly/interval LDC (local distribution company) data going back 2 years
 - Green Button (15 min, hourly daily)
 - Monthly Data
- Internal (finance – Be careful!)
- Sub Meter Data
- Energy Management Databases (too many to list!)
- Energy Star Portfolio Manager
- Etc...

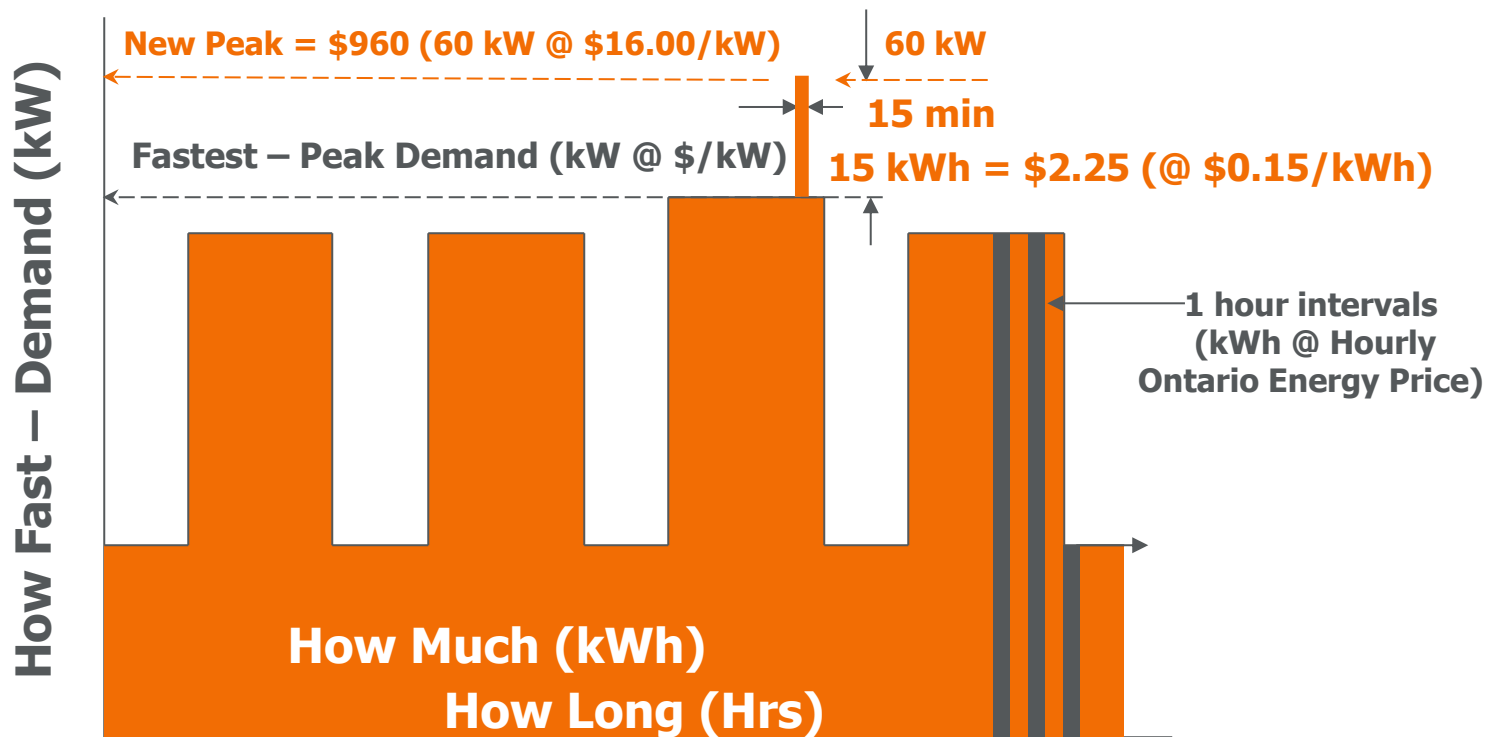
What data frequency is best for me?

- Depends on Organizational goals
 - Are you reporting or analyzing?
 - kWh vs kW analysis
- Higher resolution is not always the best
 - Often monthly data is sufficient

Check The Data!

- #1 error – Dates
 - We want meter read dates/times not payment or billing dates
- Meter data vs consumption data
- Check for kW or kWh in interval data depending on resolution

What the meter sees: A simple demand profile



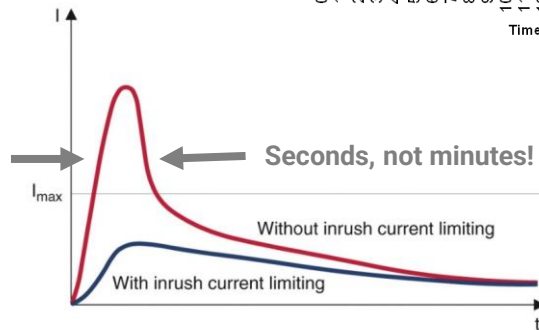
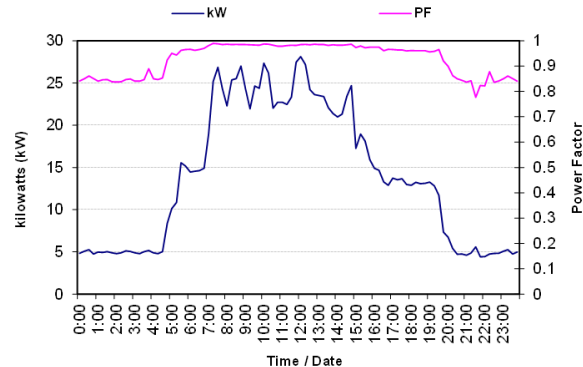
Some demand myths

Start-up of facility sets the peak demand

- Often peaks occur mid-day, end of shift or not significantly at all
- **Let the profile tell you**

Soft start saves demand

- Soft start suppress in-rush current lasting a few seconds, the demand meter uses an average over 15 minutes



Tour an online utility portal

The screenshot displays the Enova MyAccount Dashboard. On the left is a navigation menu with links to Home, Bills, Transactions, Billed Usage, Smart Meter, Compare, Daily Usage, and Profile. The main content area is divided into three sections: Account Details, My Current Bill, and My Recent Usage.

Account Details

Service Location:	[Redacted]
Account Name:	[Redacted]
View Current Bill	\$233.22
Balance:	\$233.22 due May 19, 2025

My Current Bill

Current Balance: \$233.22 due May 19, 2025

[\\$ Pay My Bill](#)

My Recent Usage

Electricity

You used **222.29 kWh** less electricity compared to your previous bill.

Usage on your current bill dated	Usage	Usage on your previous bill dated
Apr 08, 2025	1,538.79 kWh	Mar 10, 2025
	1,761.08 kWh	

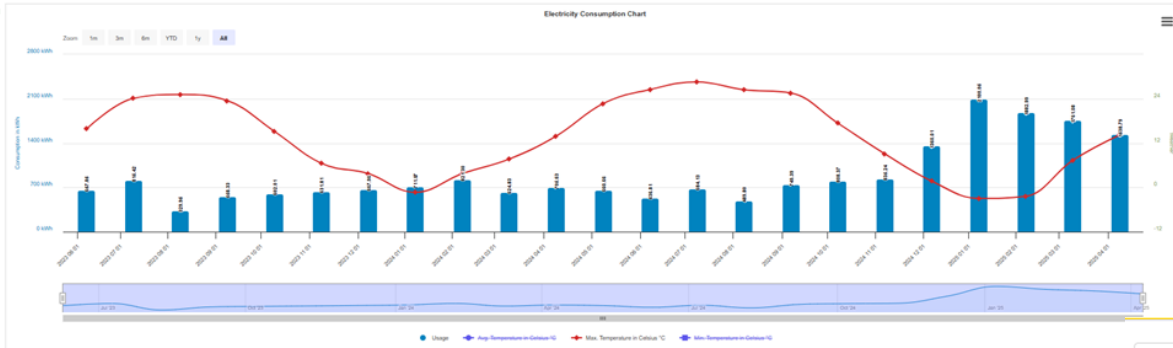
Why was your consumption less?

There were **29** days in your current billing period compared with **31** days in your previous billing period.

The average temperature in your current billing period was **2.0°C** compared with **3.1°C** in your previous billing period.

[View History](#)

Green Button



⚡ DID YOU KNOW: You can turn chart features on and off by clicking the labels in the legend above. You can zoom in the chart by dragging inside the chart area.

Usage Analysis:

329.95 kWh
Lowest Usage on 2023-06-09

892.76 kWh
Average Usage / Read

2,100.05 kWh
Highest Usage on 2023-01-08

Time-of-Use Summary



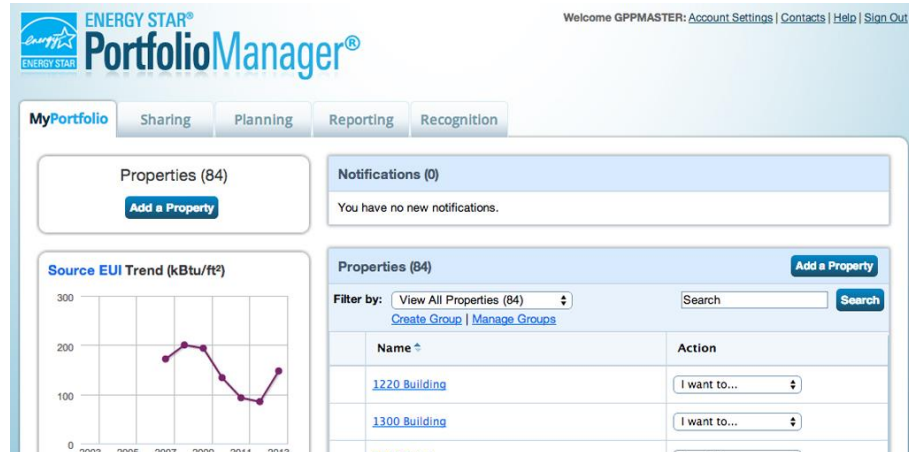
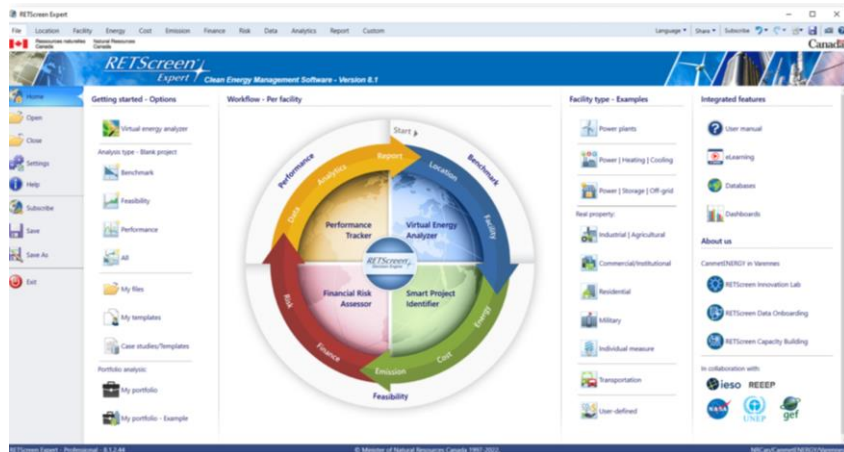
● TOU On-peak ● TOU Mid-peak ● TOU Off-peak

TOU On-peak	171.36 kWh
TOU Mid-peak	167.93 kWh
TOU Off-peak	358.15 kWh
Total	697.44 kWh

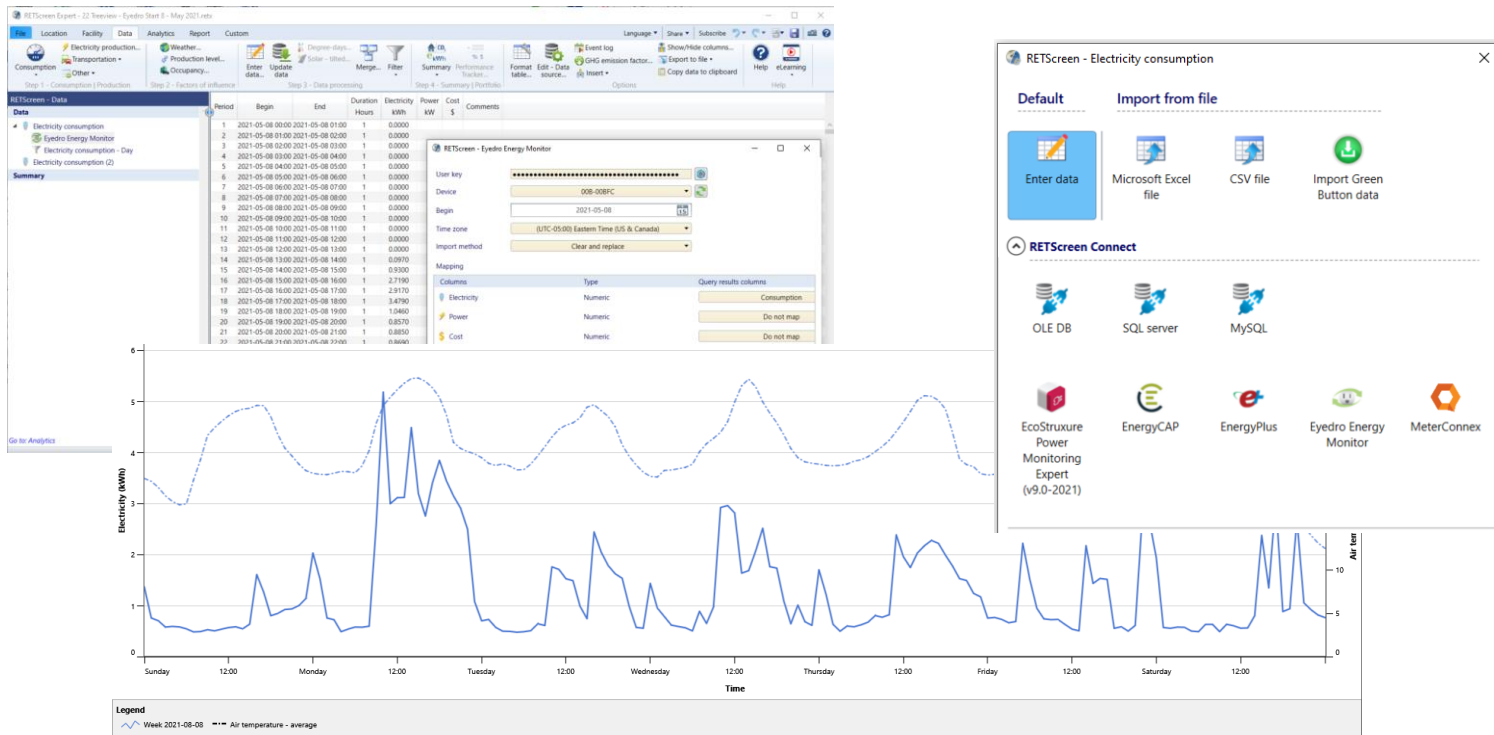
Tour an online utility portal cont'd



Tools that support data analysis and energy savings

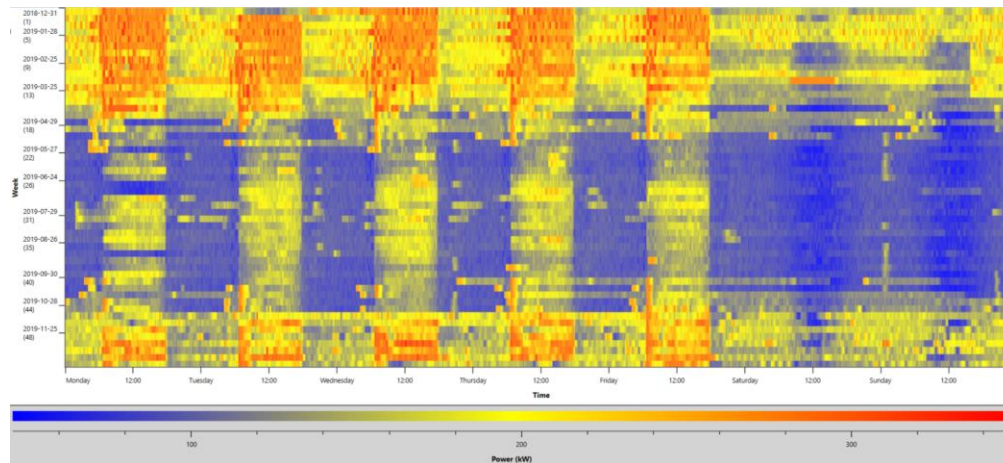
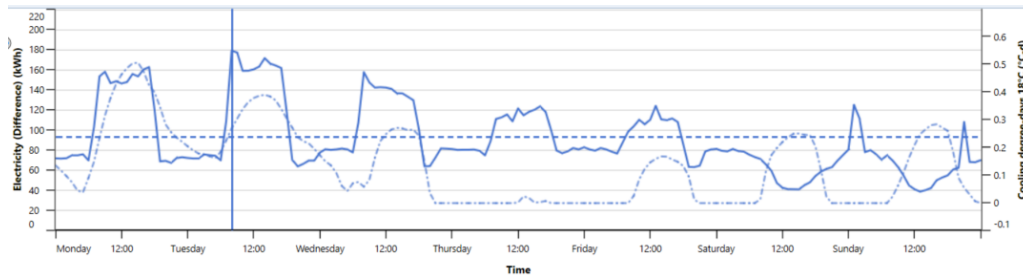


Case: Using RETScreen Expert to analyze meter data

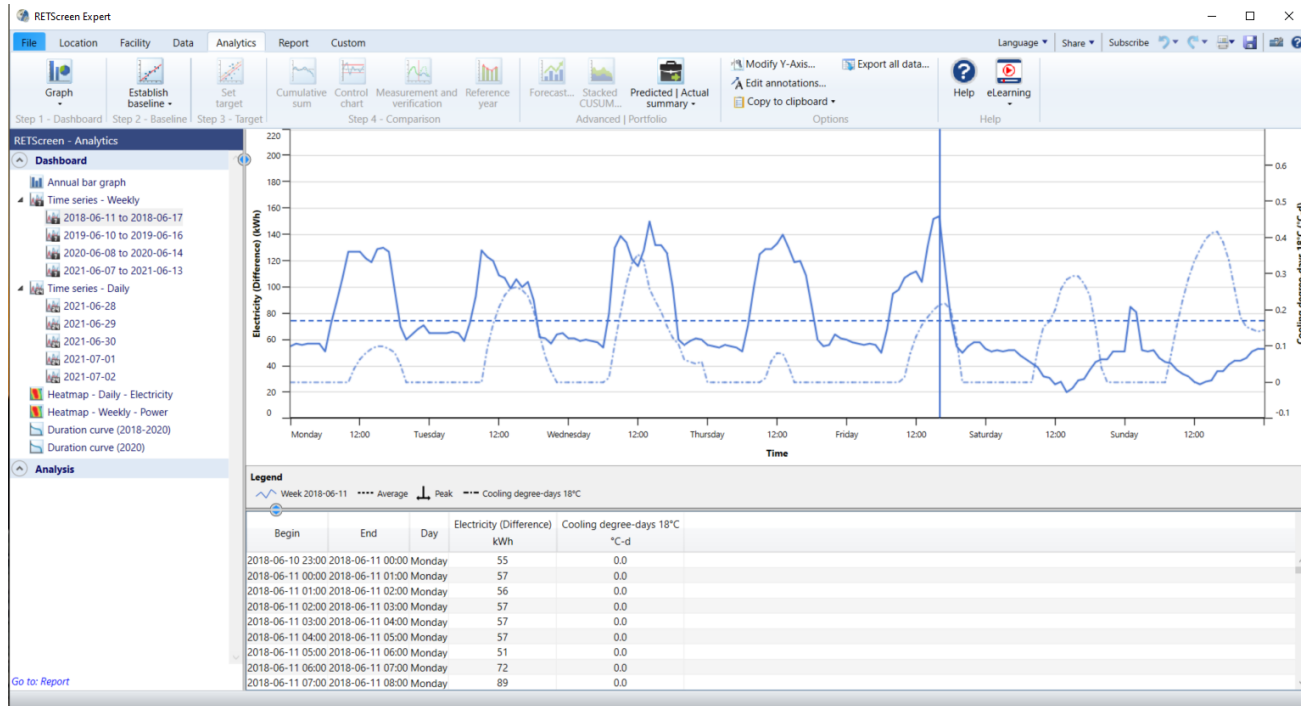


Visualization of 15-minute electric demand data

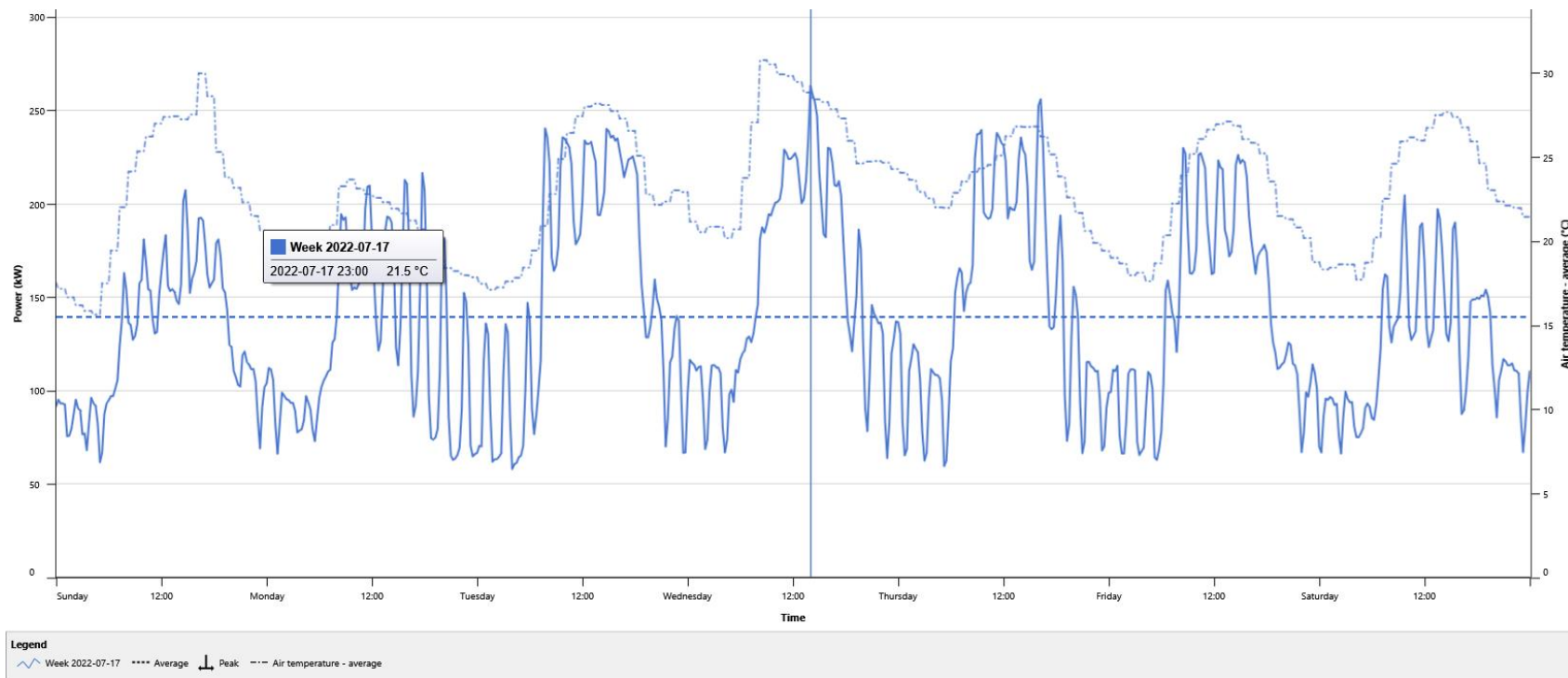
Begin	End	Duration Minutes	Electricity (Meter reading) kWh	Electricity (Difference) kWh	Power kW
2017-12-31 23:45	2018-01-01 00:00	15	7,906,632		207
2018-01-01 00:00	2018-01-01 00:15	15	7,906,674	42	207
2018-01-01 00:15	2018-01-01 00:30	15	7,906,725	51	251
2018-01-01 00:30	2018-01-01 00:45	15	7,906,772	47	239
2018-01-01 00:45	2018-01-01 01:00	15	7,906,810	39	215
2018-01-01 01:00	2018-01-01 01:15	15	7,906,859	49	233
2018-01-01 01:15	2018-01-01 01:30	15	7,906,906	47	221
2018-01-01 01:30	2018-01-01 01:45	15	7,906,944	38	208
2018-01-01 01:45	2018-01-01 02:00	15	7,906,993	49	257
2018-01-01 02:00	2018-01-01 02:15	15	7,907,039	46	246
2018-01-01 02:15	2018-01-01 02:30	15	7,907,077	38	199
2018-01-01 02:30	2018-01-01 02:45	15	7,907,123	46	227
2018-01-01 02:45	2018-01-01 03:00	15	7,907,170	48	220
2018-01-01 03:00	2018-01-01 03:15	15	7,907,206	36	174
2018-01-01 03:15	2018-01-01 03:30	15	7,907,251	46	250
2018-01-01 03:30	2018-01-01 03:45	15	7,907,296	45	209
2018-01-01 03:45	2018-01-01 04:00	15	7,907,335	39	195
2018-01-01 04:00	2018-01-01 04:15	15	7,907,376	42	215
2018-01-01 04:15	2018-01-01 04:30	15	7,907,424	48	231
2018-01-01 04:30	2018-01-01 04:45	15	7,907,461	37	183
2018-01-01 04:45	2018-01-01 05:00	15	7,907,504	43	227
2018-01-01 05:00	2018-01-01 05:15	15	7,907,552	48	224
2018-01-01 05:15	2018-01-01 05:30	15	7,907,594	43	212
2018-01-01 05:30	2018-01-01 05:45	15	7,907,632	38	207
2018-01-01 05:45	2018-01-01 06:00	15	7,907,683	51	258
2018-01-01 06:00	2018-01-01 06:15	15	7,907,727	44	211
2018-01-01 06:15	2018-01-01 06:30	15	7,907,767	40	200
2018-01-01 06:30	2018-01-01 06:45	15	7,907,819	53	257
2018-01-01 06:45	2018-01-01 07:00	15	7,907,878	59	296
2018-01-01 07:00	2018-01-01 07:15	15	7,907,929	51	245
2018-01-01 07:15	2018-01-01 07:30	15	7,907,980	51	240
2018-01-01 07:30	2018-01-01 07:45	15	7,908,035	56	276



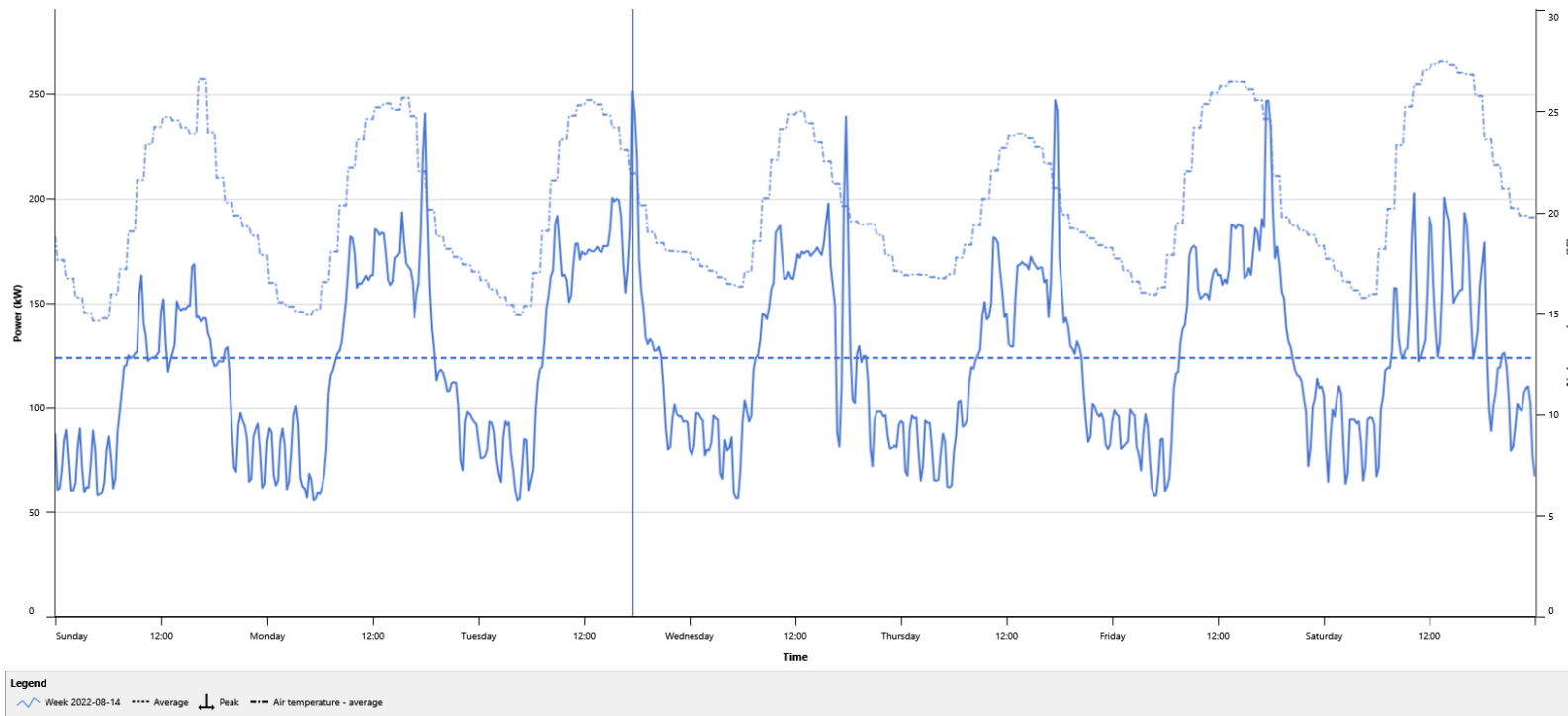
Sub daily demand profile – always an opportunity!



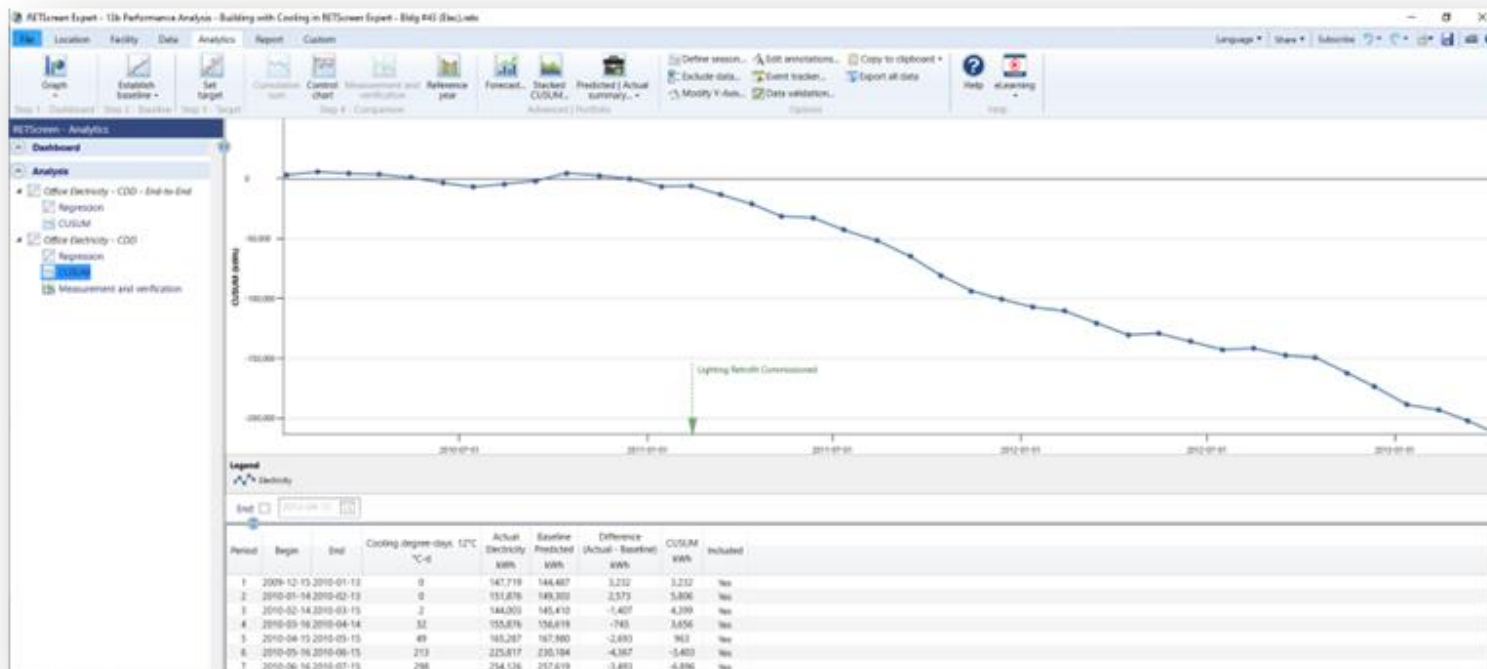
15min data reveals compressor cycling problem



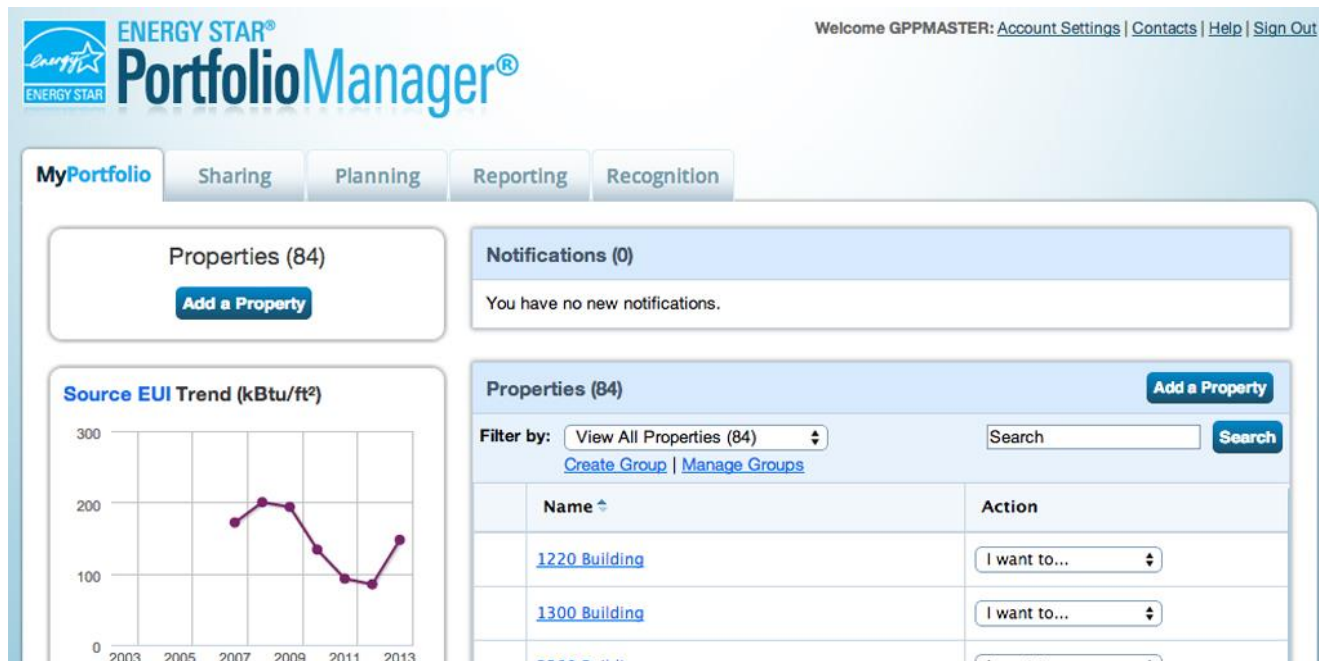
15 min data reveals HVAC control conflict



Monthly Data – Measuring and Verifying Savings



Energy Star Portfolio Manager tour



Key Takeaways:

- We have access to many forms of data
- Develop a plan to get data
- Identify goals of data analysis
- Often the easiest data to get is the best data (Monthly)

Remind: Always Check The Data!

Stay connected with tools and resources

- Virtual one-on-one coaching: [Post-webinar support intake form](#) for tailored support for organizations to manage energy resources effectively
- Monthly bulletin: [Sign up](#) to receive monthly training updates on all Save on Energy training and support for new tools and resources
- [Live training calendar](#): Visit this page to easily register for upcoming events and workshops
- [Training and support webpage](#): Visit this page to access all training and support materials

Post-webinar support

One-on-one coaching: Tailored support for managing energy resources effectively

Post-webinar support intake form

Coaching sessions conducted virtually: Phone, video calls, and email
Designed for organizations, new or old, seeking guidance

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Thank you!

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