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

ieso Connecting Today. Powering Tomorrow.
SAVE ON ENERGY POWER WHAT'S NEXT

JULY 3, 2025

Energy fundamentals: accessing your energy data

Adam Dixon
Knowenergy

ieso
Connecting Today.
Powering Tomorrow.

SAVE ON ENERGY
POWER WHAT'S NEXT

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

ieso Connecting Today. Powering Tomorrow.
SAVE ON ENERGY POWER WHAT'S NEXT

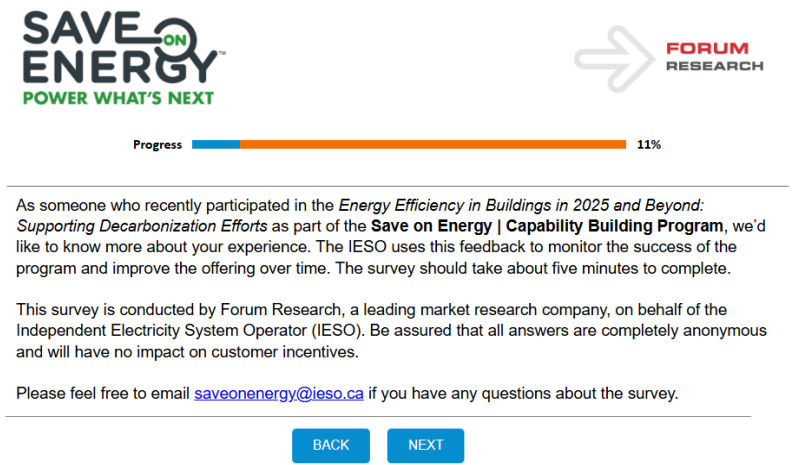
Welcoming our guest speaker

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.

ieso Connecting Today. Powering Tomorrow.
SAVE ON ENERGY POWER WHAT'S NEXT

Upcoming survey: We want your feedback!



- 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...

ieso Connecting Today. Powering Tomorrow.
SAVE ON ENERGY POWER WHAT'S NEXT

What data frequency is best for me?

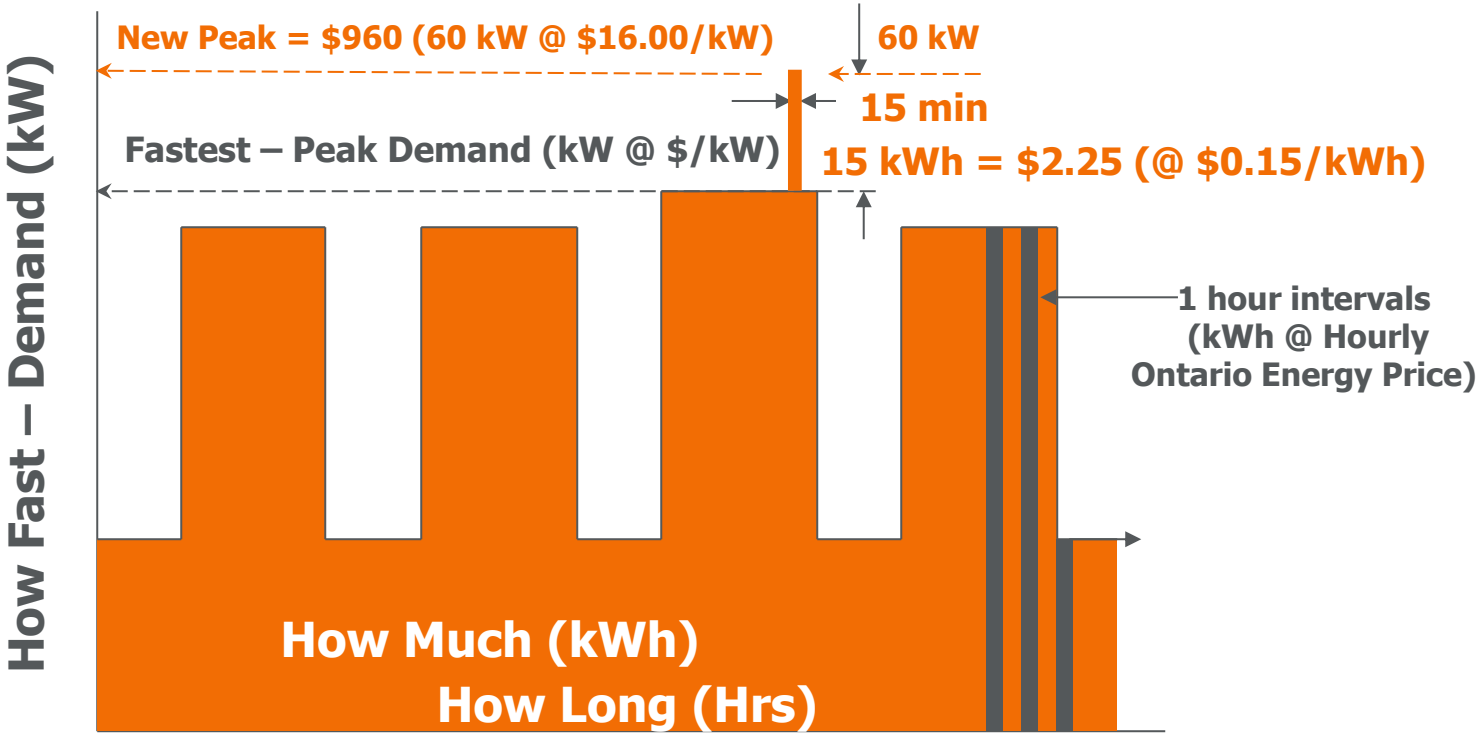
- Depends on Organizational goals
  - Are you reporting or analyzing?
  - kWh vs kW analysis
- Higher resolution is not always the best
  - Often monthly data is sufficient

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

ieso Connecting Today. Powering Tomorrow.
SAVE ON ENERGY POWER WHAT'S NEXT

What the meter sees: A simple demand profile



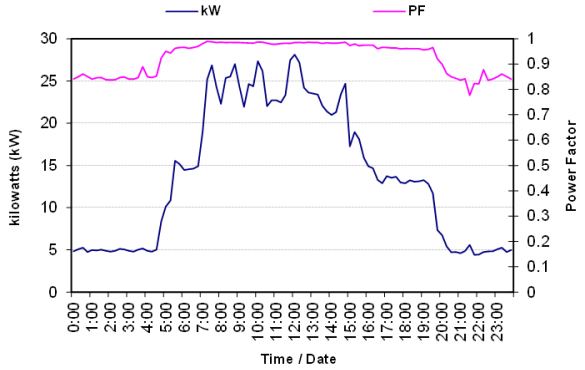
Some demand myths

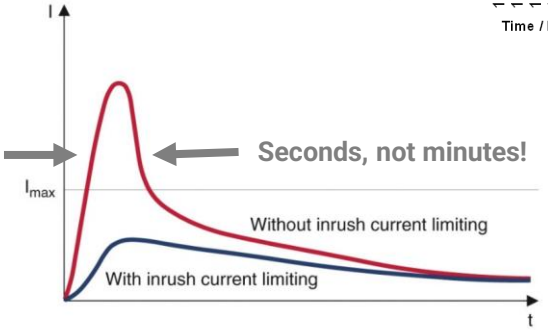
Start-up of facility sets the peak demand

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

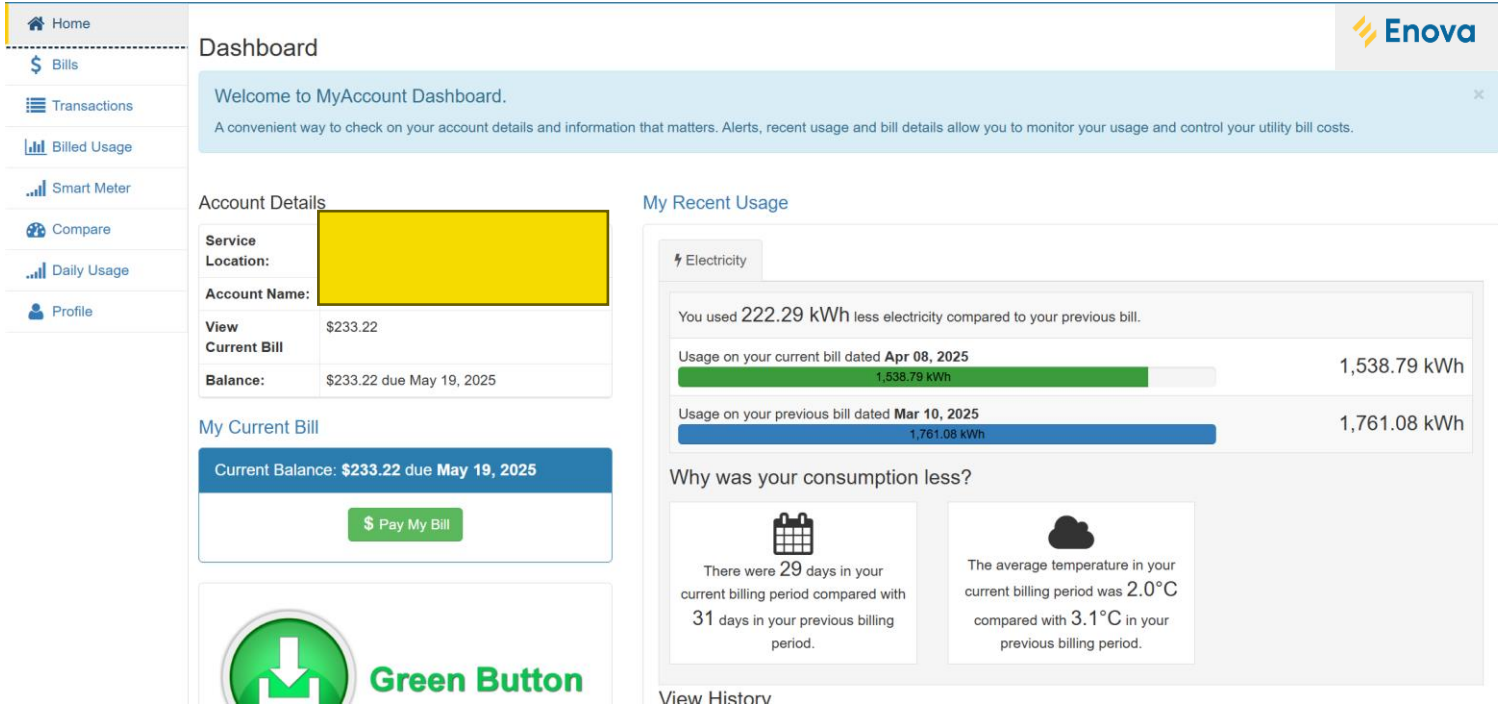
Soft start saves demand

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

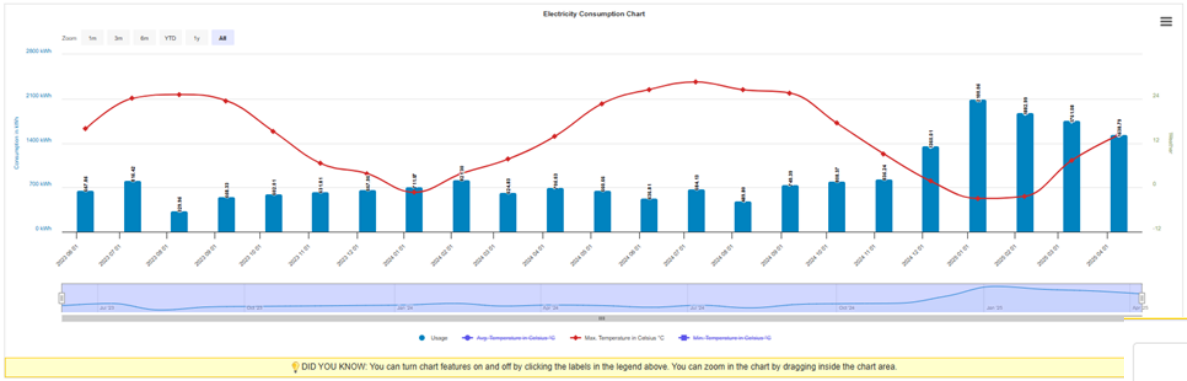




Tour an online utility portal



ieso Connecting Today. Powering Tomorrow.
SAVE ON ENERGY POWER WHAT'S NEXT



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 2023-08-09	892.76 kWh Average Usage / Read	2,100.05 kWh Highest Usage on 2025-01-08

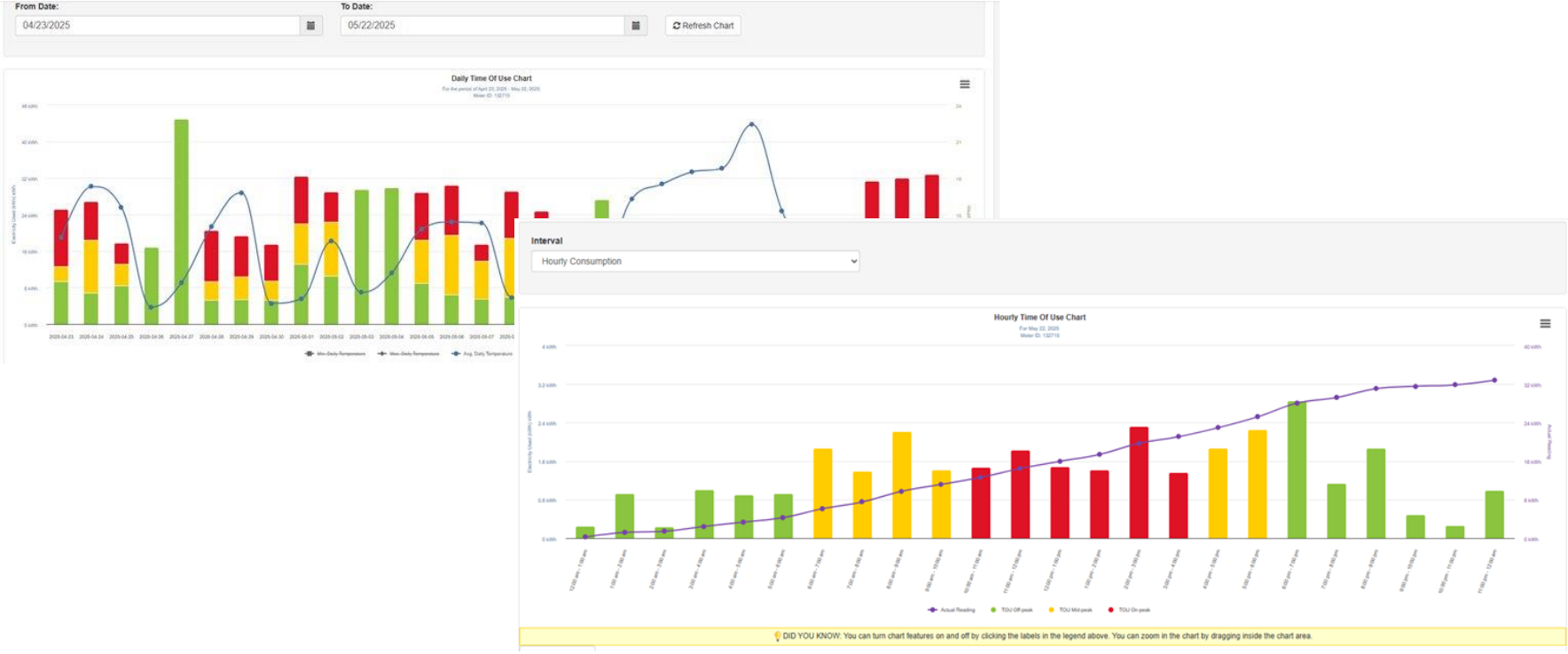
Time-of-Use Summary

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

ieso Connecting Today. Powering Tomorrow.
SAVE ON ENERGY POWER WHAT'S NEXT

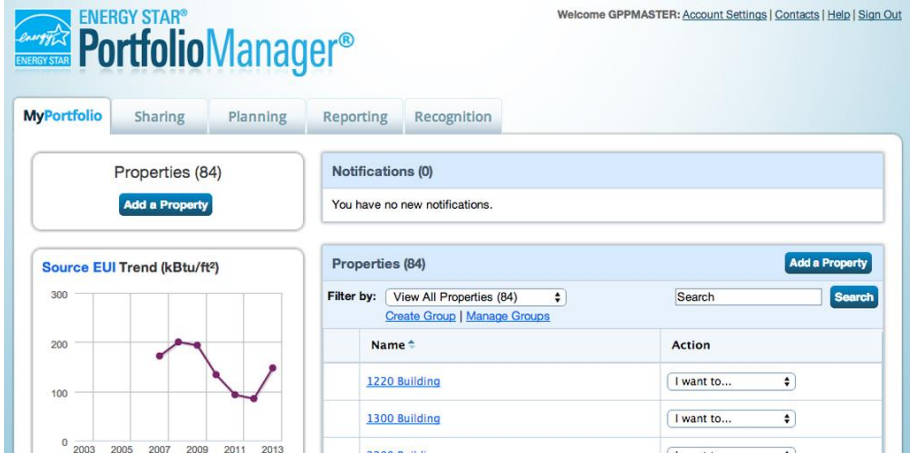
Tour an online utility portal cont'd



ieso Connecting Today. Powering Tomorrow.

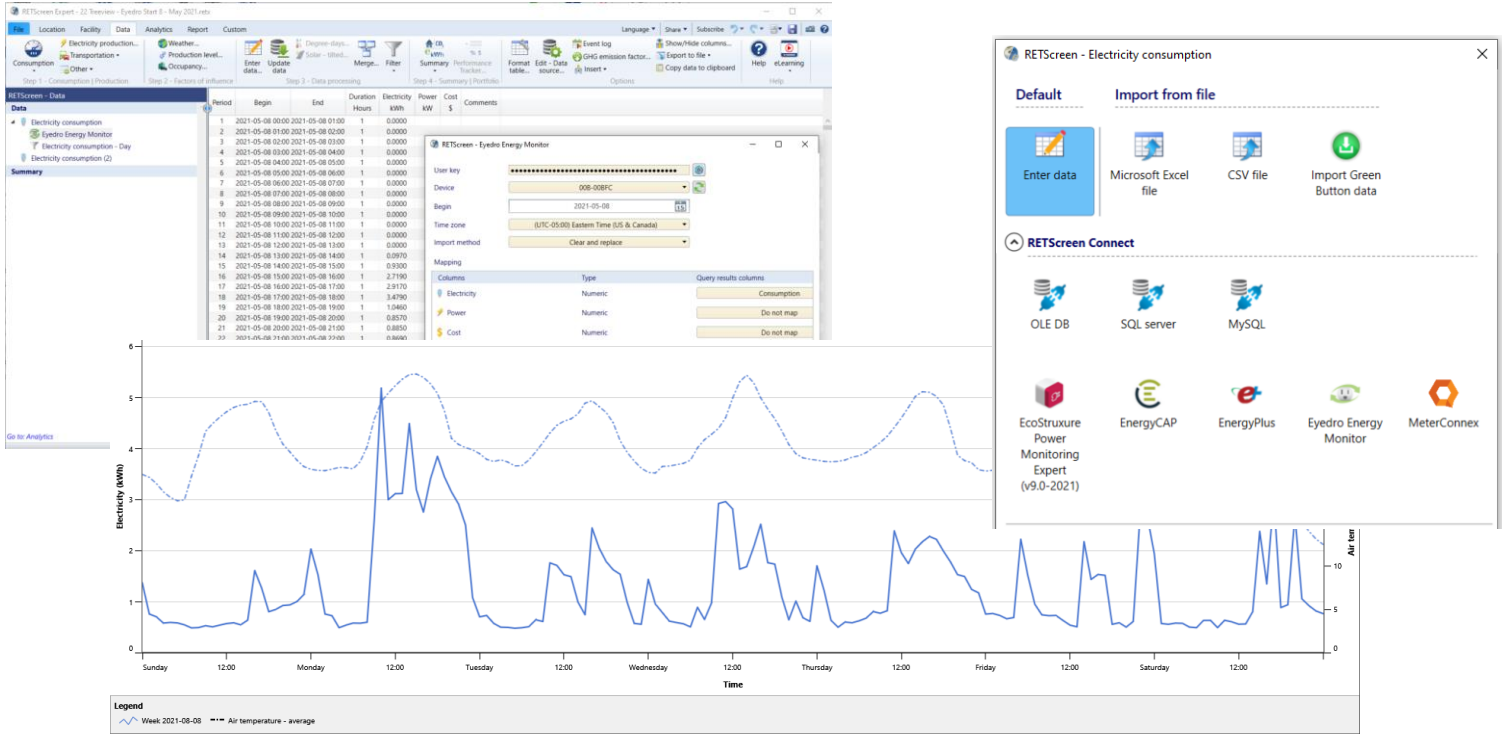
SAVE ON ENERGY POWER WHAT'S NEXT

Tools that support data analysis and energy savings



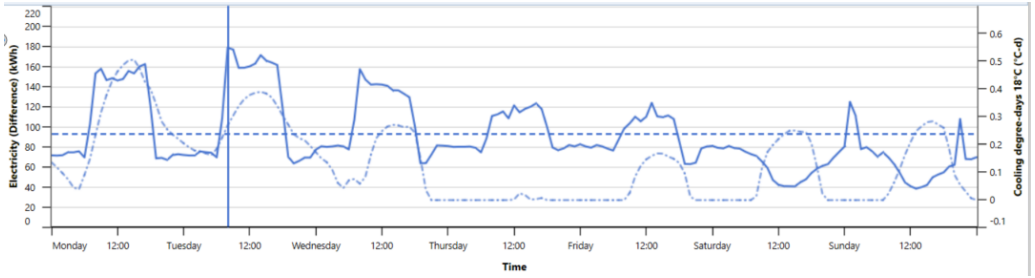
ieso Connecting Today. Powering Tomorrow.
SAVE ON ENERGY POWER WHAT'S NEXT

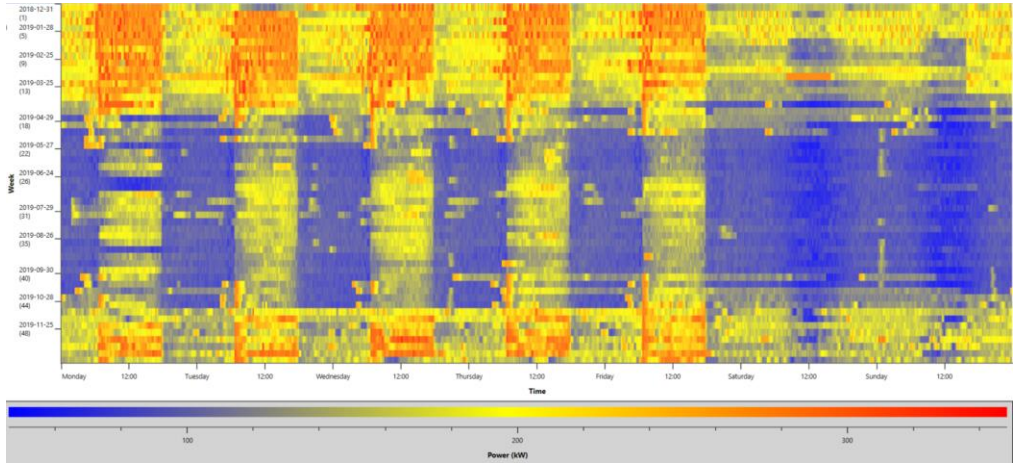
Case: Using RETScreen Expert to analyzes meter data



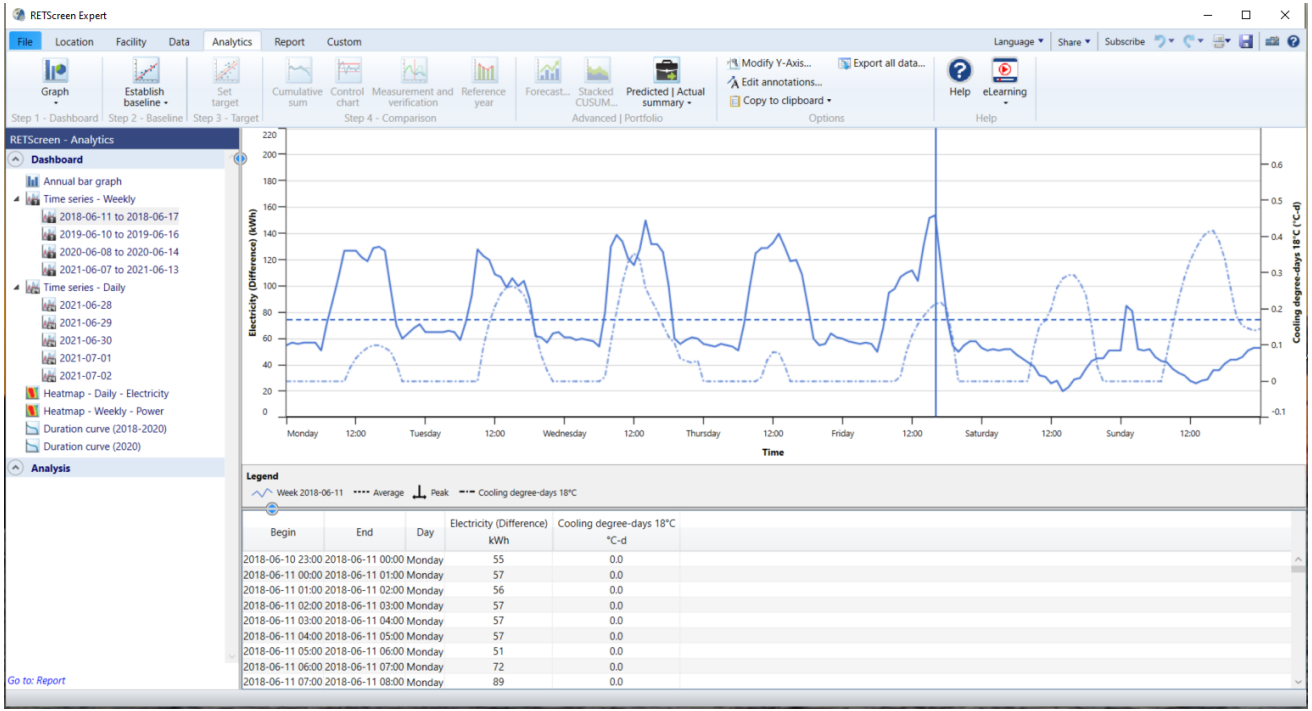
Visualization of 15-minute electric demand data

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



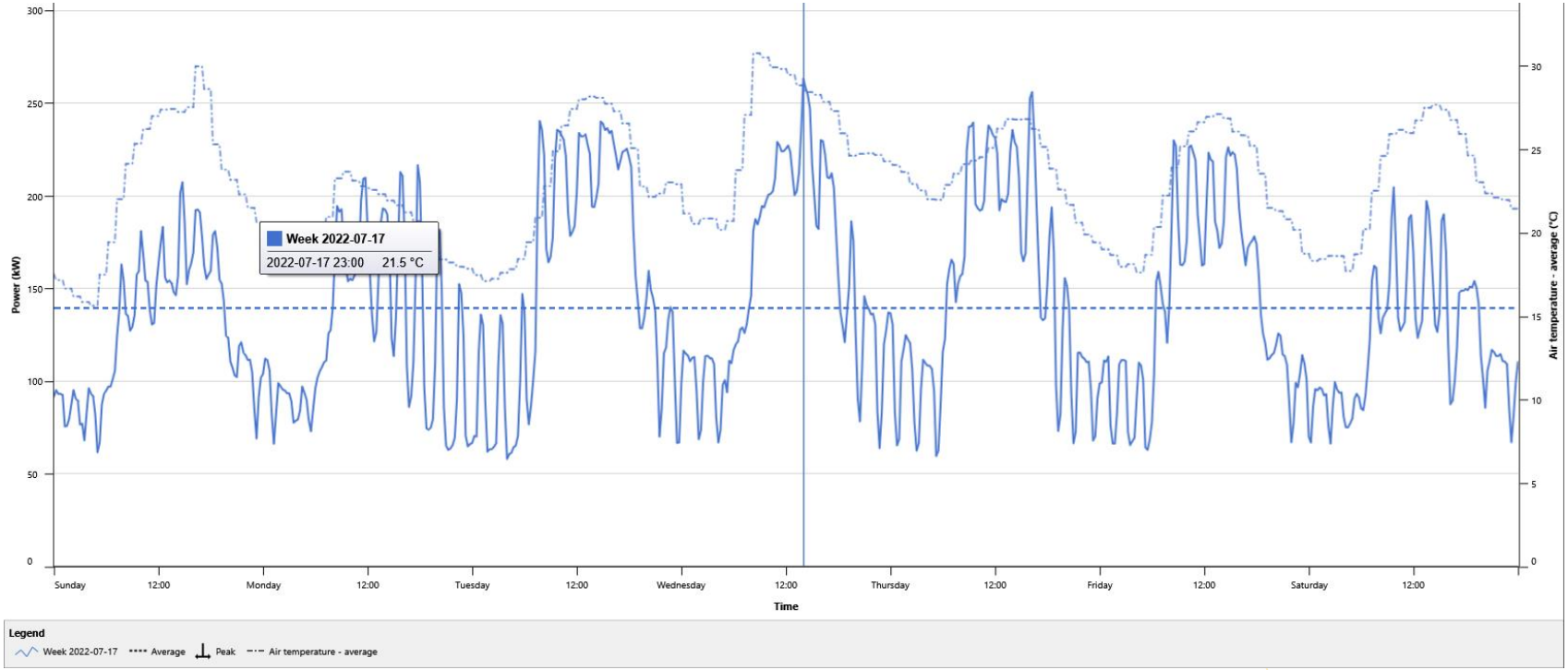


Sub daily demand profile – always an opportunity!



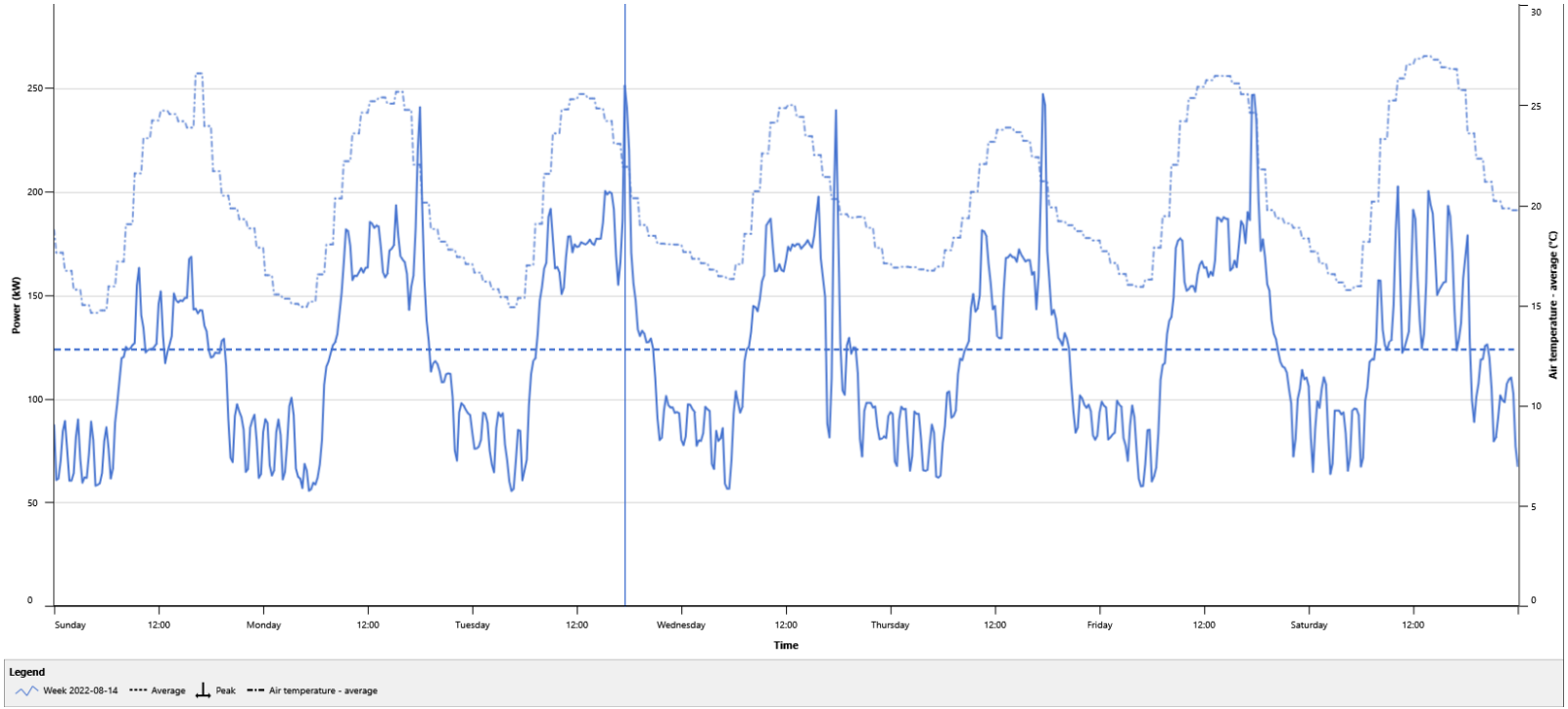
ieso Connecting Today. Powering Tomorrow.
SAVE ON ENERGY POWER WHAT'S NEXT

15min data reveals compressor cycling problem



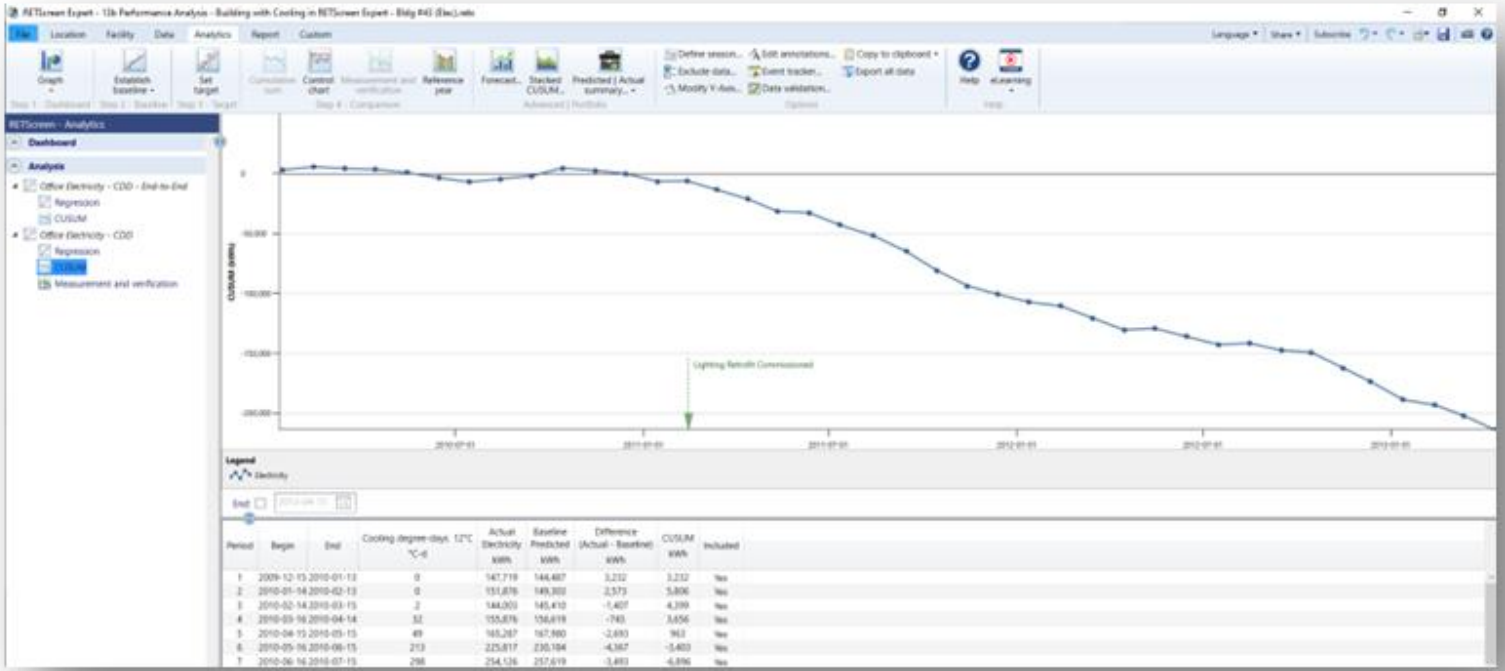
ieso Connecting Today. Powering Tomorrow.
SAVE ON ENERGY POWER WHAT'S NEXT

15 min data reveals HVAC control conflict



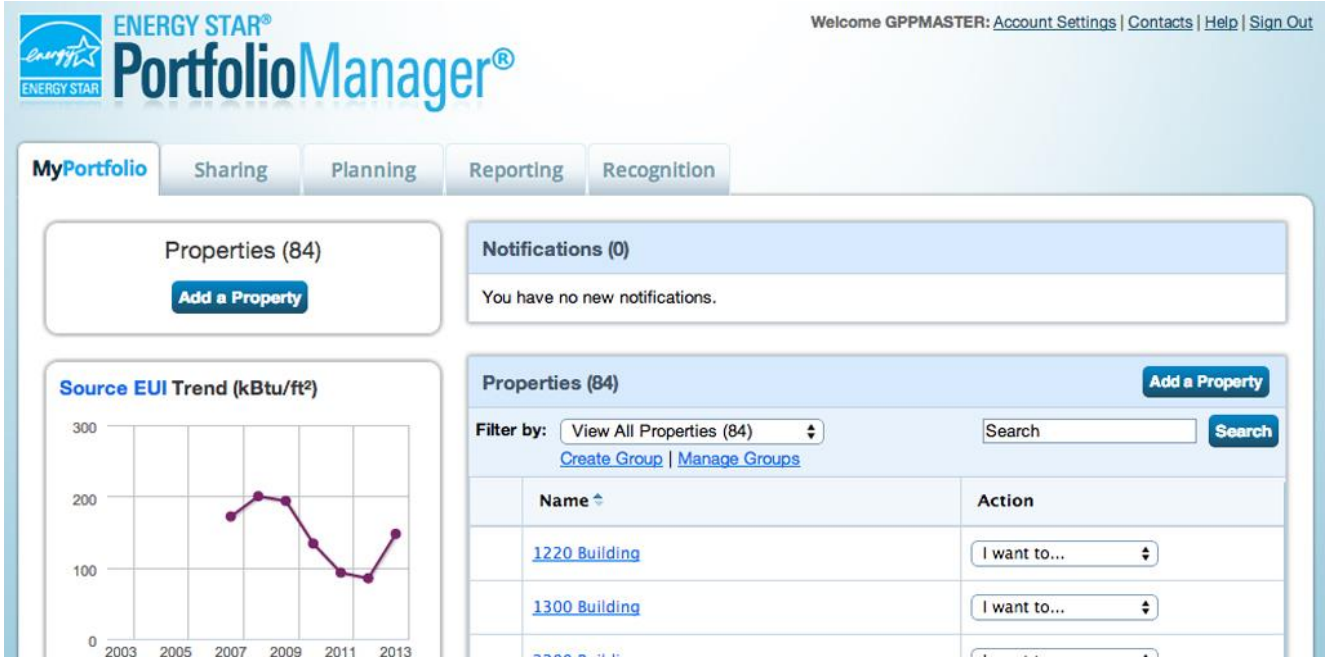
ieso
Connecting Today.
Powering Tomorrow.
SAVE ON ENERGY
POWER WHAT'S NEXT

Monthly Data – Measuring and Verifying Savings



ieso
Connecting Today.
Powering Tomorrow.
SAVE ON ENERGY
POWER WHAT'S NEXT

Energy Star Portfolio Manager tour



ieso
Connecting Today.
Powering Tomorrow.
SAVE ON ENERGY
POWER WHAT'S NEXT

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!

ieso Connecting Today. Powering Tomorrow.
SAVE ON ENERGY POWER WHAT'S NEXT

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

ieso Connecting Today. Powering Tomorrow.
SAVE ON ENERGY POWER WHAT'S NEXT

Post-webinar support

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

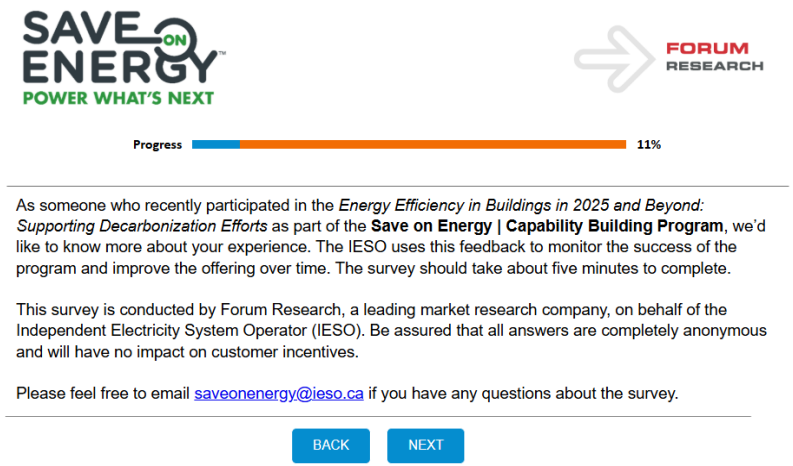
Post-webinar support intake form

Coaching sessions conducted virtually: Phone, video calls, and email

Designed for organizations, new or old, seeking guidance

ieso Connecting Today. Powering Tomorrow.
SAVE ON ENERGY POWER WHAT'S NEXT

Upcoming survey: We want your feedback!



- 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

ieso Connecting Today. Powering Tomorrow. | SAVE ON ENERGY POWER WHAT'S NEXT

Thank you!

SaveOnEnergy.ca/Training-and-Support

trainingandsupport@ieso.ca

@SaveOnEnergyOnt

facebook.com/SaveOnEnergyOntario

linkedin.com/showcase/
SaveOnEnergy-Ontario

Sign up for Save on Energy's quarterly business newsletters for the latest program, resource and event updates

ieso
Connecting Today.
Powering Tomorrow.

SAVE ON ENERGY
POWER WHAT'S NEXT