



# Working Together to Save Energy: Employee Engagement Strategies

December 9, 2021

ENERGY STAR Learn From the Best  
Webinar Series



# Partner of the Year Award

- ✓ Excellence in Energy Management
  - Robust energy management practices & program
  - Address all areas of the ENERGY STAR Guidelines for Energy Management
  - Help define best practices
- ✓ Leverage ENERGY STAR tools
- ✓ Excellent internal & external communications
- ✓ Active in the Partner community
- ✓ Strong energy performance
- ✓ Awarded annually



[Energystar.gov/awards](https://energystar.gov/awards)

# Today's Speakers



- **Chris Goddard**, Regional Energy & Environmental Manager for Nissan



- **Kyle Wilkes, P.E.**, Director of Energy and Facility Maintenance for JCPenney



- **Charley Haupt**, President of New Energy Technology (NET)



# Nissan Employee Engagement Strategies: Working Together to Save Energy

ENERGY STAR Training Webinar

December 9, 2021



# Nissan U.S. Facilities

## Nissan Smyrna

Vehicle Assembly Plant

Square feet **6.3 Million**  
Annual Capacity: **650,000 Vehicles**  
Campus: **857 Acres**  
Jobs: **12,000**



## Nissan Canton

Vehicle Assembly Plant

Square feet **5.0 Million**  
Annual Capacity: **500,000 Vehicles**  
Campus: **1440 Acres**  
Jobs: **6,400**

## Nissan Decherd

Powertrain Plant

Square feet **1.6 Million**  
Annual Capacity: **1.5 million Engines**  
Campus: **968 Acres**  
Jobs: **2,400**



## Nissan Non-Production

Aftersales & Support Operations

Square feet **7.8 Million**  
No. of Sites: **50**  
Jobs: **6,000**



# Nissan Green Program 2022

## Climate Change

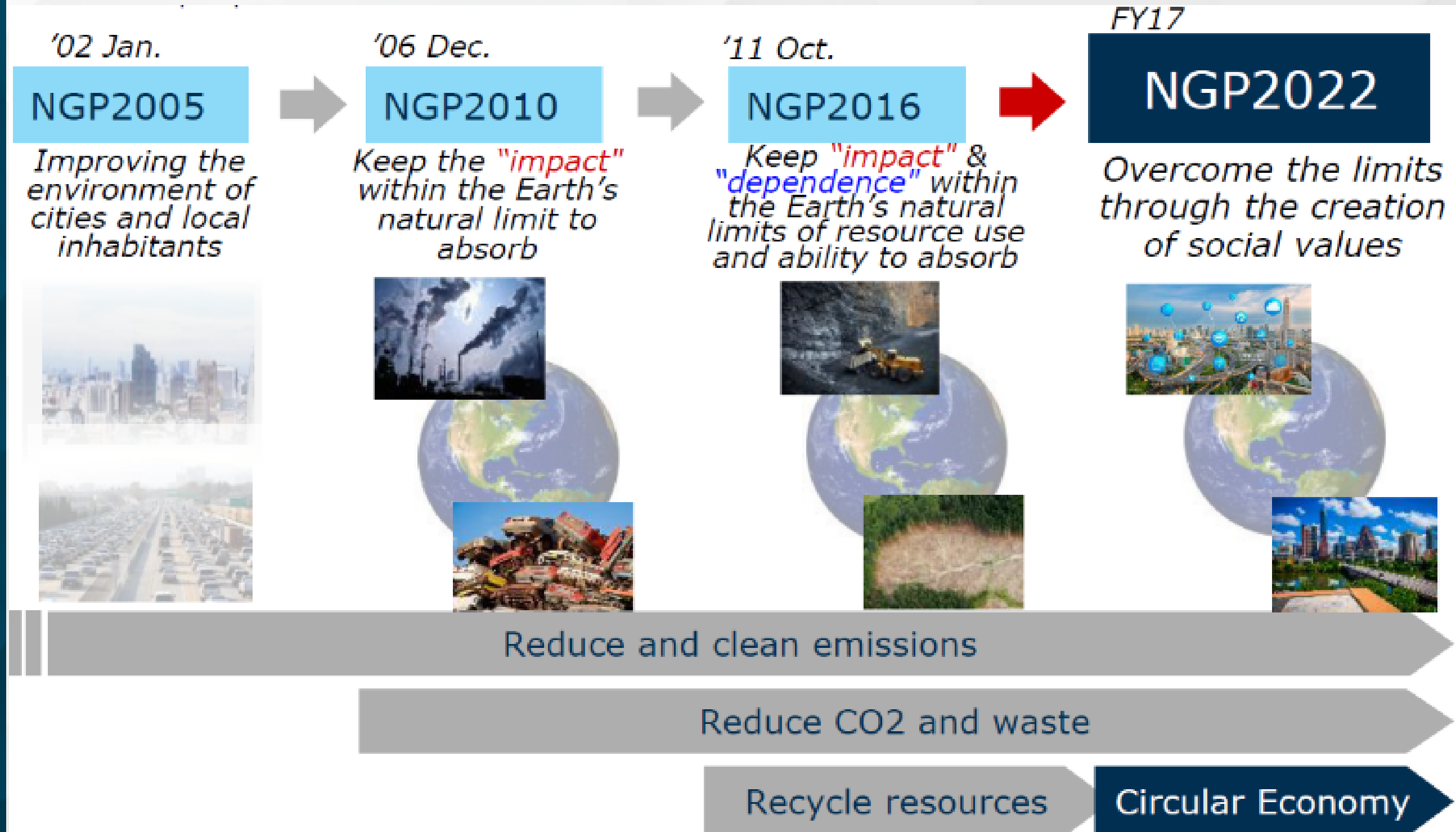
- 30% CO<sub>2</sub> reduction from corporate activity (vs. 2005)

## Water Scarcity

- 21% reduction of water withdrawal in manufacturing sites

## Resource Dependency

- Waste reduction
- Landfill reduction



# Nissan Carbon Neutrality 2050

## Nissan sets Carbon Neutral goal by 2050

- Battery innovations including solid-state and related technology
- Further development of Nissan's e-POWER
- Development of a battery ecosystem
- Manufacturing process innovations

## Accelerating toward carbon neutrality

**NISSAN**  
MOTOR CORPORATION

Battery innovations for cost-competitive and more efficient EVs

Greater energy efficiency of our e-POWER electrified powertrains

Electrifying every all-new vehicle offering in key markets by early 2030s

Develop a battery ecosystem to support decentralized renewable energy generation

Greater energy and material efficiencies during the manufacturing process

2050 Carbon neutrality across vehicle life cycle

Jan 27<sup>th</sup>, 2021

[Nissan sets carbon neutral goal for 2050 \(nissannews.com\)](https://www.nissannews.com)

# Nissan Carbon Neutrality 2050

## Nissan EV36ZERO in UK

- Renewable electricity microgrid  
132MW solar generation  
saves 55,000 MT-CO<sub>2</sub>/year

## Race to Zero

- Nissan attends "The Race to Zero" campaign supported by the UN as the first Japanese automaker
- Nissan signs "The Business Ambition for 1.5°C" campaign
- Nissan joins the Science Based Targets initiative

**NISSAN EV36Zero**

Nissan unveils EV36Zero, a £1bn Electric Vehicle (EV) Hub to accelerate the company's journey to carbon neutrality.

This world-first EV manufacturing ecosystem, based at Nissan's Sunderland Plant in the UK, will bring together three interconnected initiatives, setting a blueprint for the future of the automotive industry.

**ALL-NEW NISSAN ELECTRIC CROSSOVER**

- Up to £423m investment
- Over 5,000 new direct and indirect jobs
- Production capacity of up to 100,000 units

**ENVISION-AESC GIGAFACTORY**

- £450m investment
- 750 new jobs created and 300 safeguarded
- 75GW plant, with the potential to grow to 35GW

**RENEWABLE ELECTRICITY MICROGRID**

- £80m investment
- Saves 55,000 tonnes of carbon annually
- Total of 132MW solar generation, as well as incorporation of existing 12.5MW wind and solar farms at Nissan factory

Building on its pioneering role in the development of electric vehicles, EV36Zero heralds the next phase of Nissan's electrification plan.

Envision AESC City of Sunderland IAMP INTERNATIONAL ADVANCED MANUFACTURING PARK



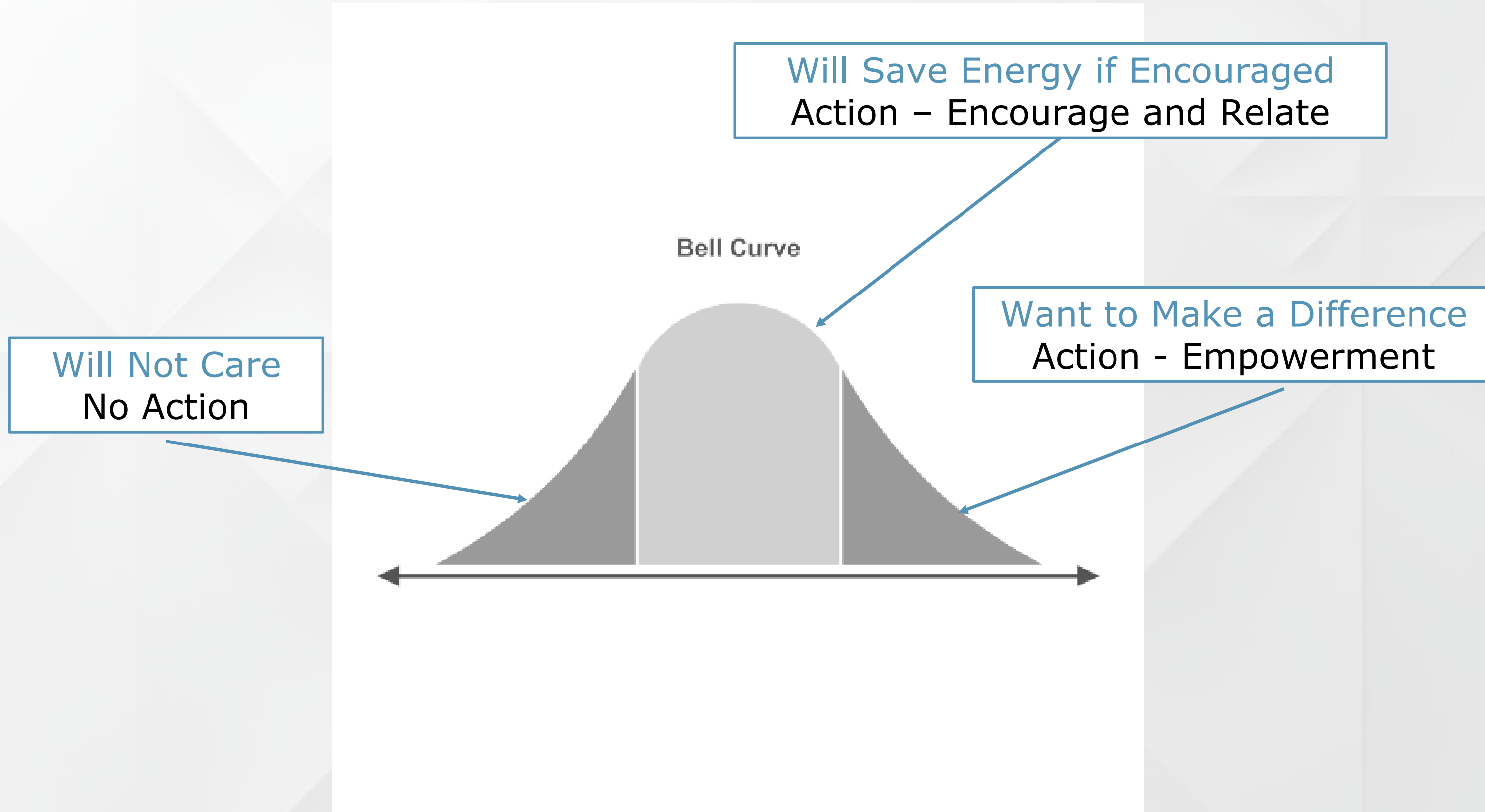
Jul 1<sup>st</sup>, 2021 [Nissan unveils EV36Zero – a £1bn Electric Vehicle Hub \(nissannews.com\)](https://nissannews.com)



Aug 26<sup>th</sup>, 2021 [Nissan brings its innovation and excitement to the 'Race to Zero' \(nissannews.com\)](https://nissannews.com)



# Engagement in Energy Management



# Behavior-Based Energy Management

## Intro Video

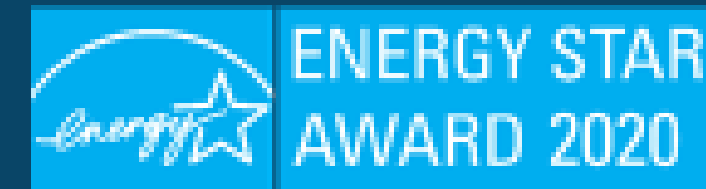
- SVP to lead video challenging each person to save
- Relate energy to things that people know

## Nissan TV & This Week @ Nissan

- How to save with various end uses that individuals control
- Translate into what you do at your house
- Rotate slides on NTV monthly
- Share progress towards objectives

## Save at Home! Save at Work!

Energy Campaign



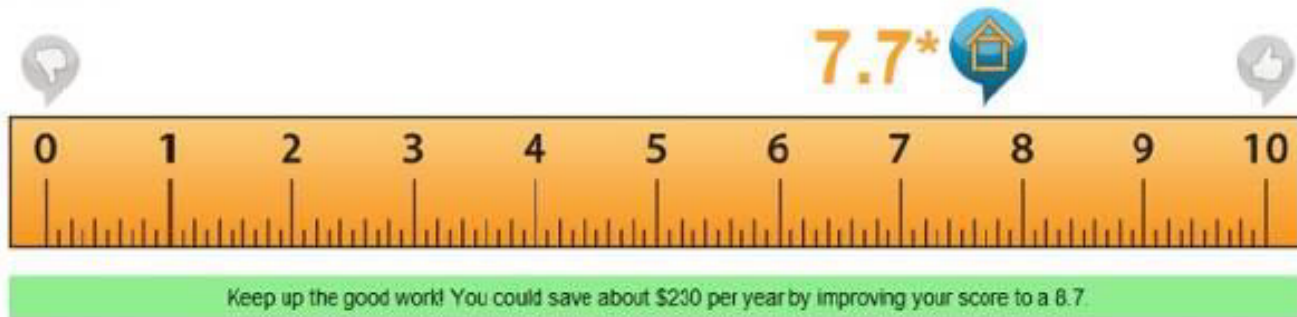
**PARTNER OF THE YEAR**  
Sustained Excellence

# Soft Launch & All Employee Video



## Energy: Save at Work, Save at Home!

Did you know that in one year the combined plants of Smyrna, Decherd and Canton can consume enough energy to power New York City for two months? The Energy Team works to find ways to reduce energy use in the plants, and now you can find ways to save energy at home.



ENERGY STAR has developed the "Home Energy Yardstick" to show how your house compares to similar homes.

To assess your home's energy use, go to [tinyurl.com/Yardstick2019](http://tinyurl.com/Yardstick2019)



November 6, 2019

## Save at Home, Save at Work!

As Senior Vice President **Heath Holtz** discussed in a recent video, saving energy is a great habit at work AND at home. Here are some handy home energy-saving tips you can use today:

- Change your light bulbs to LEDs.
- If possible, wash your clothes in cold water.
- Sealing cracks, gaps, leaks, and adding insulation can save up to 10% on home heating and cooling costs.
- Clean or replace all filters in your home regularly. Dirty filters make your system work harder and run longer than necessary.

Look for more energy-saving tips here, on NTV and at [energystar.gov](http://energystar.gov).

# Example NTV and TWAN Comms

## How is your Energy Performance?



- Decherd Plant 2 and Smyrna achieved ENERGY STAR® Plant Certification in 2019

- Decherd Plant 1 and Canton are within reach

- What ideas do you have to save energy to help achieve 2020 Plant Certification?

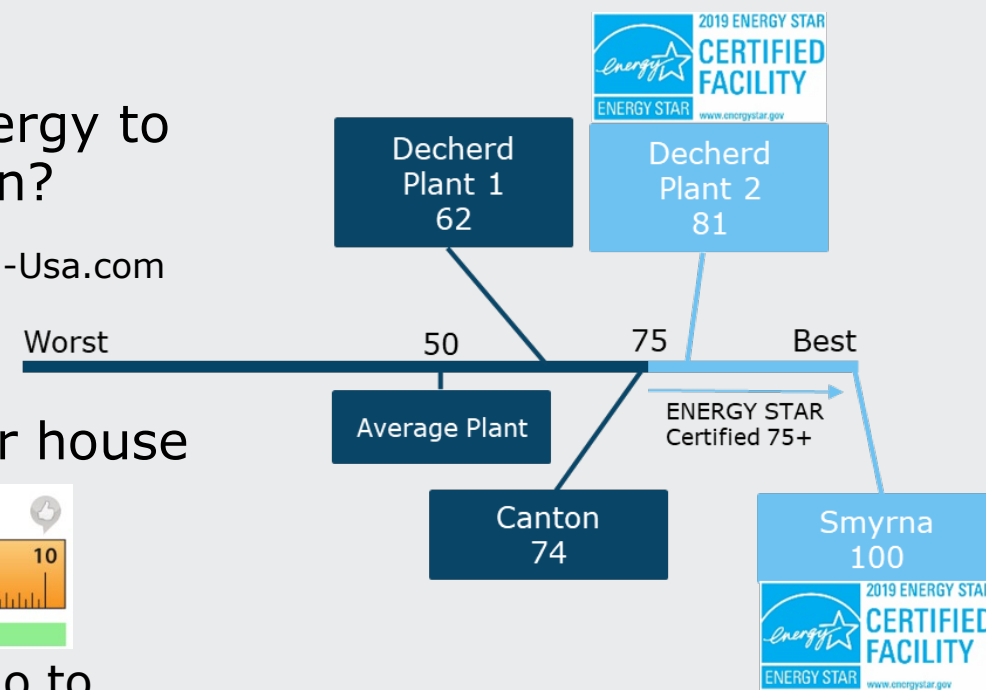
- Submit your ideas to [NissanEnergyTeam@Nissan-Usa.com](mailto:NissanEnergyTeam@Nissan-Usa.com)

- Check the Yardstick to see how your house compares



- To assess your home's energy use, go to [tinyurl.com/Yardstick2019](http://tinyurl.com/Yardstick2019)

### ENERGY STAR Performance 2019 Scores for Nissan Plants



## Would this be on if you were paying the bill?

- Ask yourself:
  - Does this need to be on?
  - Who can turn it off?
    - If you, then turn it off
    - If not you, please ask the responsible party
- Do you leave your TV on when you go to bed?
  - A 65" LED would cost \$190 per year if on 24/7
- Turning Off 1 Personal Fan during breaks =
  - \$4 per year
  - Now multiply that by several thousand



**Save at Home!**  
**Save at Work!**



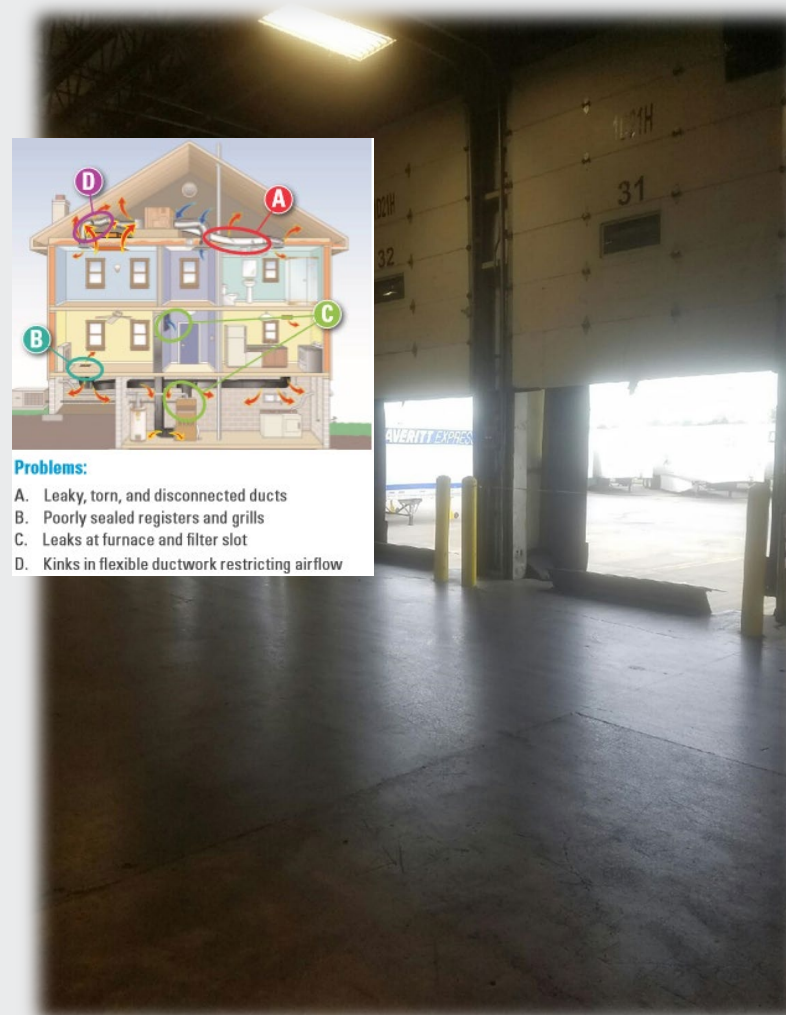
**Save at Home!**  
**Save at Work!**



# Example NTV and TWAN Comms

## Do you heat your house with the windows open?


- Seal and insulate your heating and cooling ducts
  - Can reduce your bill by up to 20%
- What size heater would we need to heat the town of Smyrna?
  - Not very effective and very costly
- 1 Dock Door Left Open Costs \$3,500 per year
  - How many do you see open?



## Repair Compressed Air Leaks



If your faucet at home was leaking, what would you do?

- Compressed Air is our most expensive utility
  - Only 1/7 of input power translates into output
- New compressed air leaks form every day
- A compressed air leak the size of a pencil tip is \$136 per year 
- If you notice an air leak, please **repair it**, or notify your **supervisor**, or call **your maintenance team**



Save at Home!  
Save at Work!



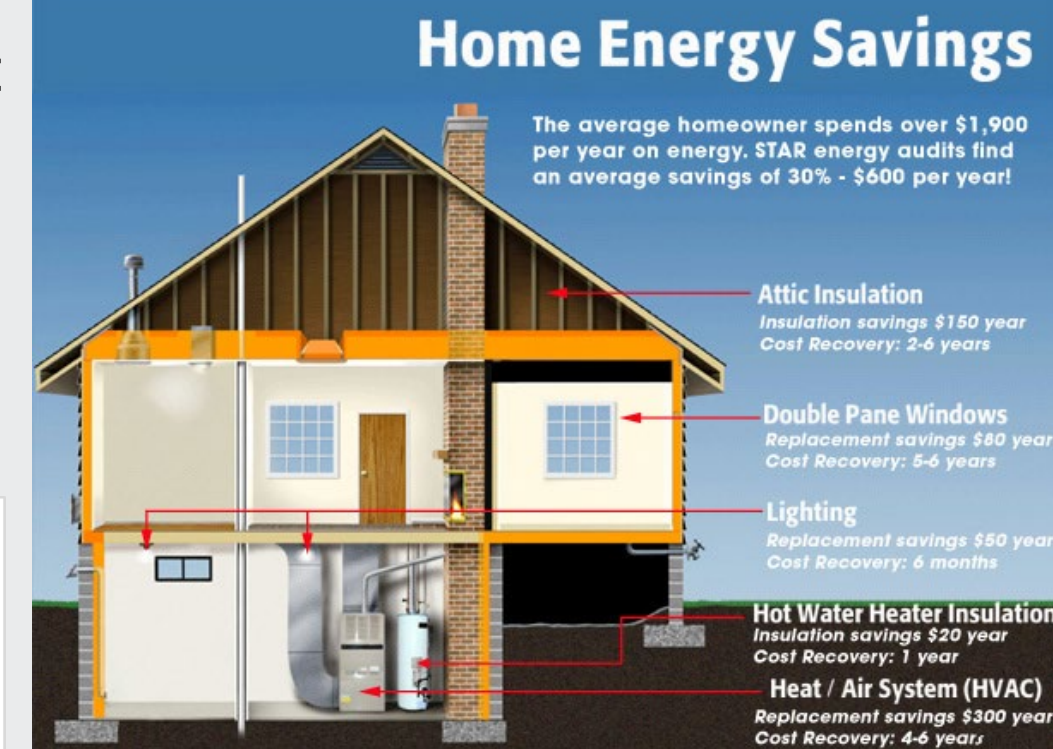
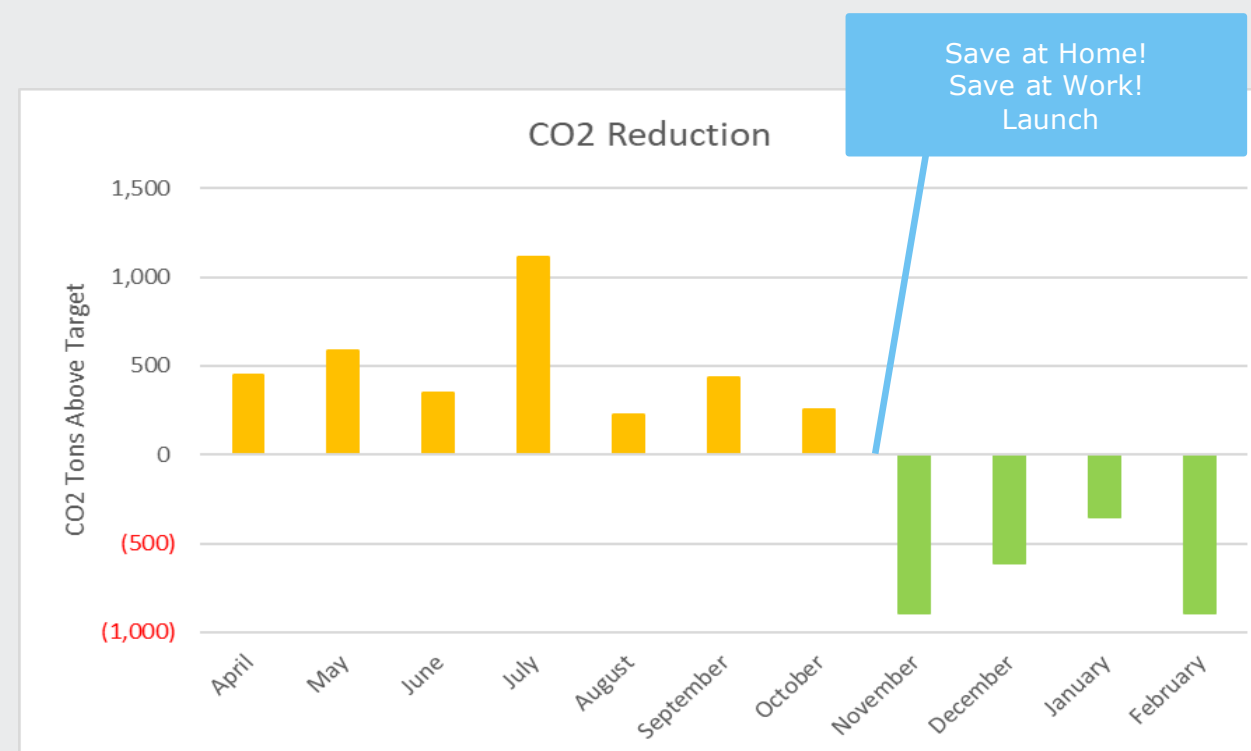
Save at Home!  
Save at Work!



# Example NTV and TWAN Comms

## Share Your Energy Reductions

- What have you done to save energy at home and work?
- Share your energy reductions at [NissanEnergyTeam@Nissan-usa.com](mailto:NissanEnergyTeam@Nissan-usa.com)

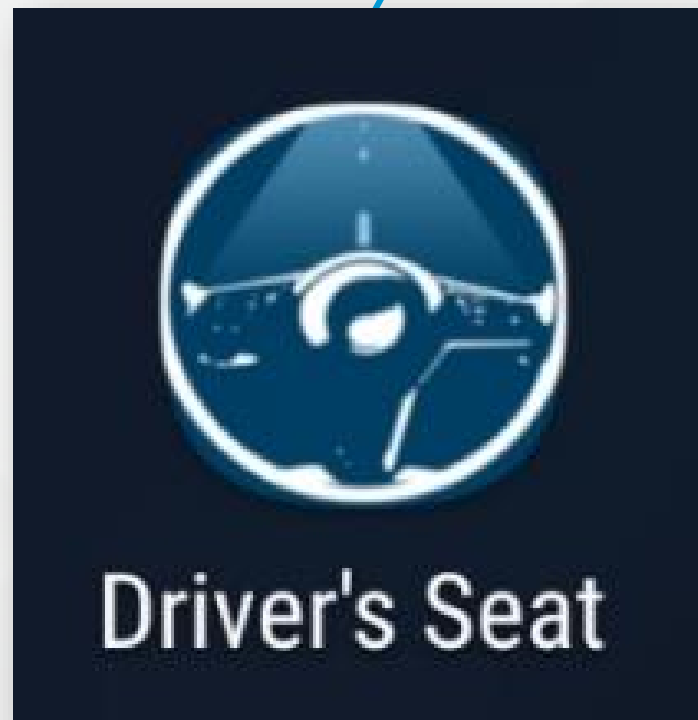


Save at Home!  
Save at Work!



# Driver's Seat App

All employees encouraged to use the Driver's Seat App for Plant News & Updates (Schedule/Safety)



SAVE TODAY. SAVE TOMORROW.  
**SAVE FOR GOOD.**

ENERGY STAR

With ENERGY STAR certified products, you can save today with rebates and other offerings, save tomorrow with energy savings, and save for good—for all the good things you want in your life and for a healthier planet for you and your family. The typical household spends about \$2,000 a year on energy bills. With ENERGY STAR, you can save 30% or about \$575 in household energy costs. Look for the label on lighting, appliances, electronics, heating and cooling equipment, and more. #ENERGYSTARday [energystar.gov/SaveForGood](https://energystar.gov/SaveForGood)

Congrats to **Shantanik Patterson** and **Quentin Shines**! They entered our Energy Awareness Month drawing for a new Honeywell T5 Smart Thermostat!



## Honeywell Smart Thermostat Drawing Winners

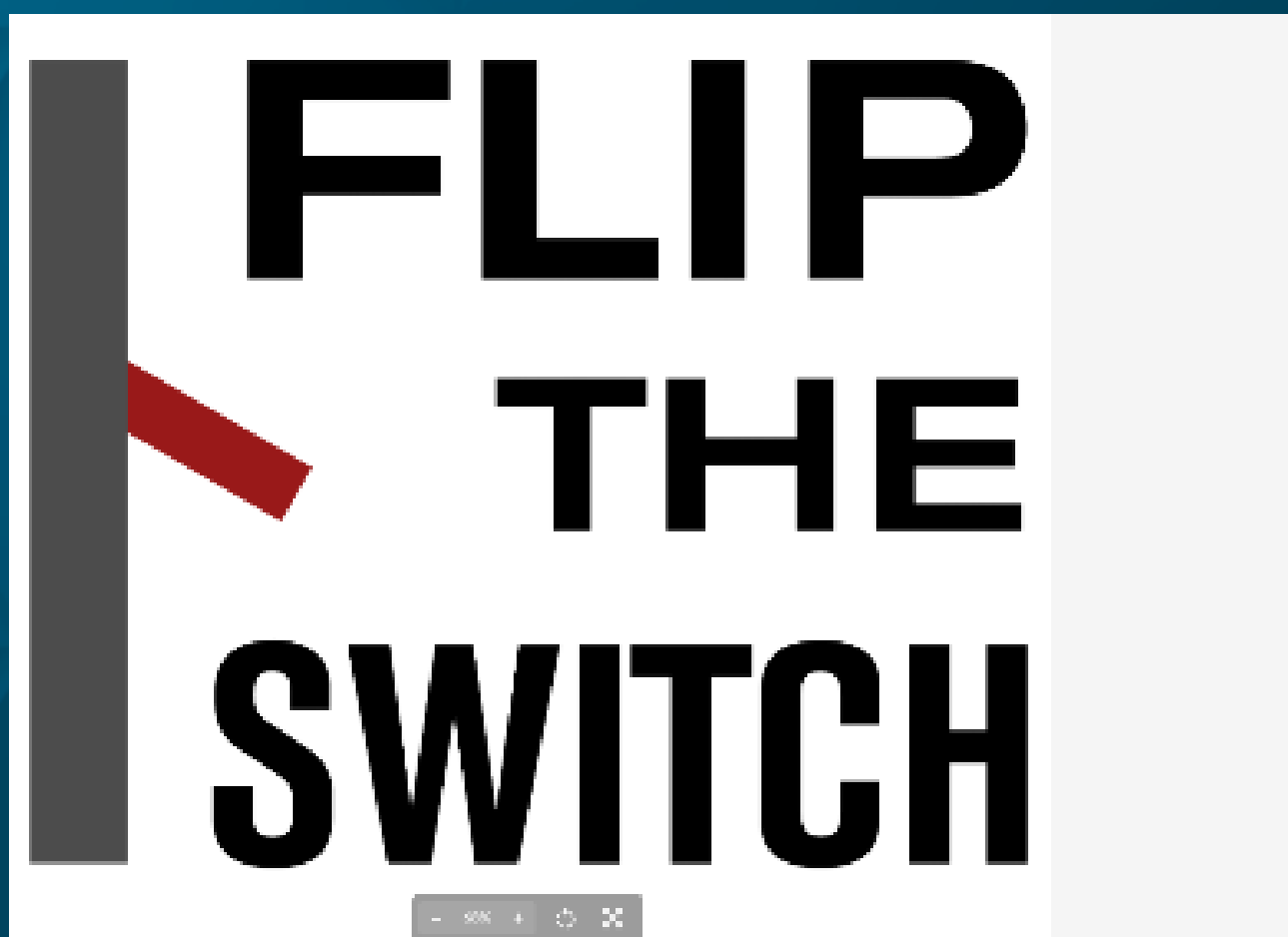


Congratulations to Quintin Shines (Paint 2) & Shantanik Patterson (Truck Trim) who won a smart thermostat in our Energy Awareness Day drawing on Driver's SEAT!

# Flip the Switch

## Recent Behavior-Based Messaging

- Plant Video
- Driver's SEAT App



**Brett Rasmussen**  
*Senior Energy Engineer  
Nissan Canton*



**FLIP THE SWITCH** A 5-million square foot facility like Nissan Canton requires a lot of power for everything from robots and equipment to heating, cooling, and lighting. Every day, energy engineers throughout Nissan's facilities work to identify areas to save energy and energy-related costs.

One of those areas is lighting. "Flip the Switch" is a new idea aimed at raising awareness of the costs related to leaving lights on over the weekend and even in between shifts. Even though it might not seem like much, the costs add up!

Did you know:

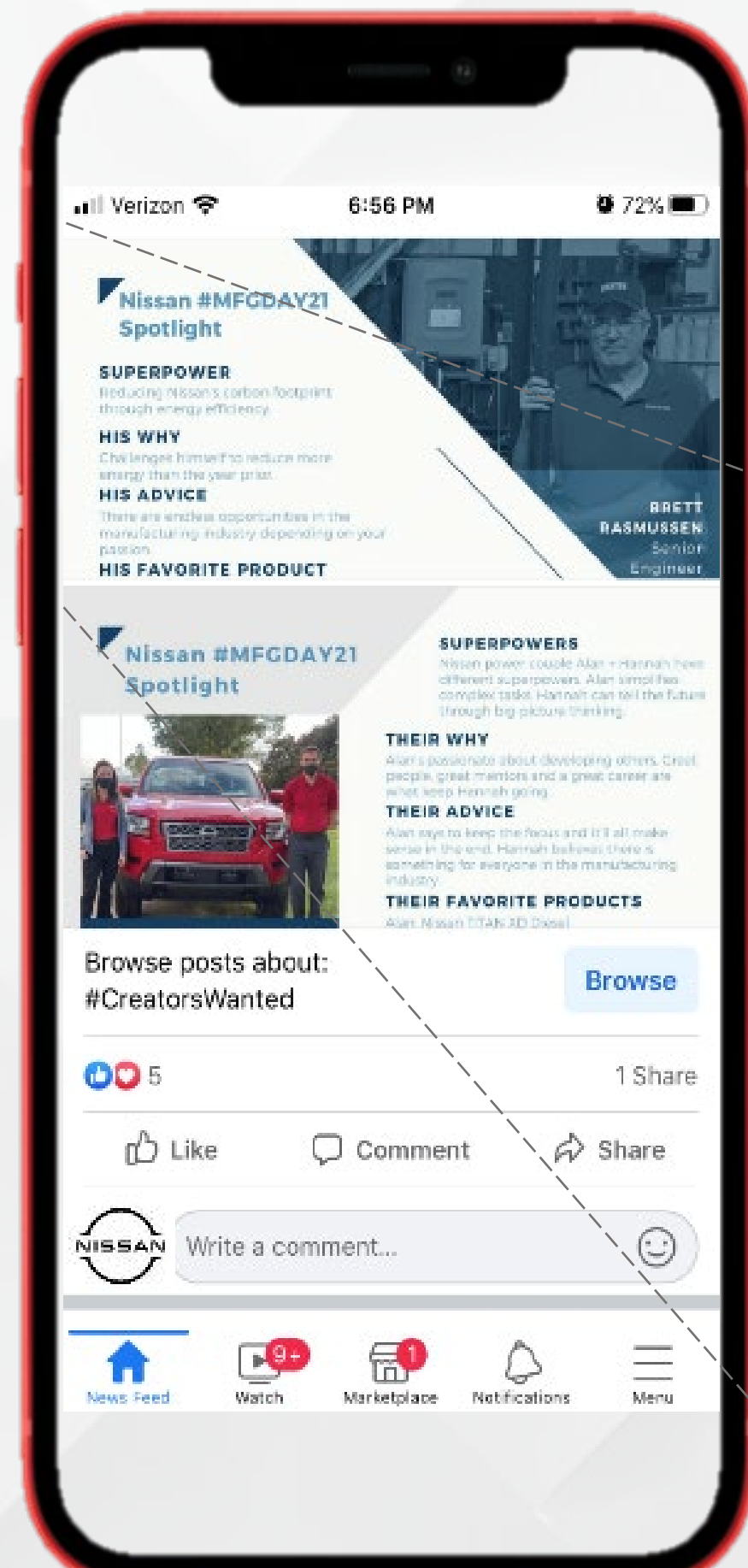
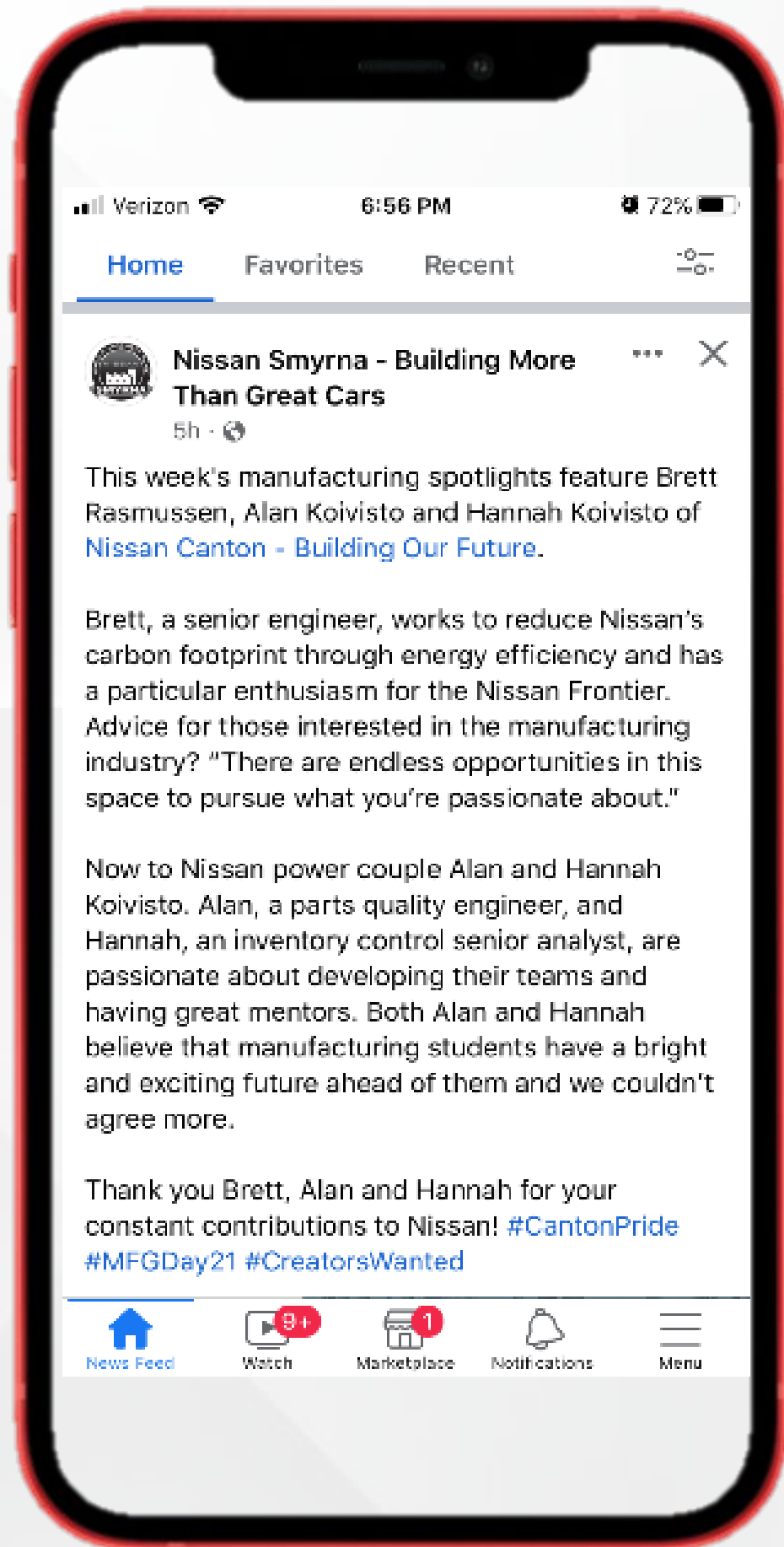
- A single work area with roughly 150 lights left on over the weekend costs **\$10**.
- The plant has about 5,000 work areas, which equals **\$333**.
- If they're left on every weekend, the cost to light areas where no one is working skyrockets to **\$17,000**.
- Leaving lights on between breaks drives the cost to more than **\$30,000** a year!

What can you do? It's easy. If you're the last one out of a work area at the end of your shift, Flip the Switch. It saves energy and helps everyone's bottom line.

Questions or comments? Email us at [DriversSeat@nissan-usa.com](mailto:DriversSeat@nissan-usa.com).



# Recognition – Social Media



**Nissan #MFGDAY21 Spotlight**

**SUPERPOWER**  
Reducing Nissan's carbon footprint through energy efficiency.

**HIS WHY**  
Challenges himself to reduce more energy than the year prior.

**HIS ADVICE**  
There are endless opportunities in the manufacturing industry depending on your passion.

**HIS FAVORITE PRODUCT**  
Nissan Frontier

**BRETT RASMUSSEN**  
Senior Engineer



# Minimize Energy During Shutdown

- Turn off machines that are not required;
- Unplug personal fans, coffee pots and heaters;
- Turn off TVs, computers, monitors and copiers/printers;
- Turn off all lights (desk, break areas, bathrooms, task and high-bay);
- Turn off HVAC units (offices, conf. rooms);
- Turn off hydraulic pumps not in use;
- Keep dock and outside doors closed;
- Turn off process control chillers/heaters to prevent cycling (where applicable);
- Turn off air pumps/motors that aren't needed.
- Turn off any unnecessary water fixtures.



# Dashboards & KPI's

## Energy Tracking

- Shop Energy Dashboards
- Customizable KPI's
- Budgets & CPUs
- Scorecards

## Future

- Additional metering / changes
- On-Site Suppliers
- "Metering" other operations



Plant Weekend Energy Use Scorecard (07/26 - 08/01)

	Electricity (kW)	Compressed Air (cfm)	Water (gpm)	Natural Gas (MCF/hr)
Body	65%	62%	100%	100%
Fascia Paint Line 1	65%	65%	100%	100%
Fascia Paint Line 2	86%	72%	100%	100%
Paint Line 1	73%	86%	100%	100%
Paint Line 2	75%	74%	100%	100%
Stamping	78%	59%	100%	100%
Trim & Chassis/PQA	59%	NA	NA	100%

Where:

Weekend reduction target is a % reduction from usage during production. The targets for each utility are listed to the right.

Electricity and Compressed Air:  
**Target (Green) = 75% reduction**  
**Threshold (Yellow) = 65% reduction**

Water and Natural Gas:  
**Target (Green) = 99% reduction**  
**Threshold (Yellow) = 95% reduction**

Thank you



**PARTNER OF THE YEAR**  
Sustained Excellence



ENERGY STAR Webinar Series: Learn from the Best

## Working Together to Save Energy: Employee Engagement Strategies

*December 9<sup>th</sup>, 2021*

*"JCPenney will discuss how empowering their employees with the right information on energy and environmental management, along with fostering a culture that values energy conservation and environmental stewardship, has delivered long-term sustainable results."*



**Kyle Wilkes**

*JCPenney's Energy & Facilities  
Maintenance Director*

**&**

**Charley Haupt**

*New Energy Technology's  
President*



# The Chapters of our Story

Thank You **ENERGY STAR**® for this opportunity and our 30-year partnership



## Our Story

Our partnership with ENERGY STAR has been the most powerful and effective relationship in helping us grow our high-performance energy conservation culture that has truly empowered our people to the highest level of performance.

## Chapters to this JCPenney Story:

**Chapter 1:** Commitment and Performance with ENERGY STAR – Three Decades

**Chapter 2:** Promotion and Educating Future Leaders with ENERGY STAR – Key to the Future

**Chapter 3:** 1<sup>st</sup> and 2<sup>nd</sup> Energy Strategy over 11-years - Achieved

**Chapter 4:** 2021 – The Year of Our People – Unbelievable Performance

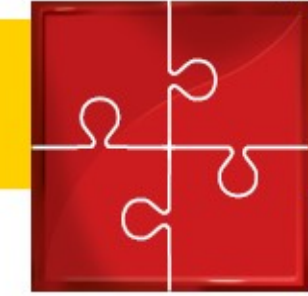
# JCPenney's Participation

- 1995



401 M STREET, SW (6202J), WASHINGTON, DC 20460  
ENERGY STAR FAX LINE SYSTEM • 202 233-9659  
GREEN LIGHTS/ENERGY STAR HOTLINE 202 775-6650 • FAX 202 775-6680

JCPenney



WINNING TOGETHER

## 2004 MUM CASE STUDY

The Corporation



Participation:  
2004: 63%

In the Spring of 2004, JC Penney started a store-wide energy reduction campaign called March Utility Mania (MUM). To make the campaign fun, it was set up around a basketball theme - Final Four, Top 64, Three Point Shots, etc. Although the campaign was set-up for store managers to reduce energy consumption, they were careful to protect their customers' shopping experience.

The JC Penney Energy Team provided each store with a list of "plays" (energy conservation measures) that could greatly affect the usage at each store and would be critical to the store's chances at winning. This initiative created very colorful and effective "cartoon" characters which conveyed the not-so-exciting conservation measures in a highly entertaining fashion offering posters, playbooks, stickers and other promotional presentations.

The top performers for saving energy during March had their utilities paid for by the corporate office, which in turn helped each winner improve its bottom line for



**MUM 2004 Energy Savings Summary:**

# Year by Year Summary

JCPenney's 15 Partner of the Year Awards

Count	Year Won	ESTAR POY Award	Page # in ESTAR Packet (pdf)
1	2007	Energy Management	22
2	2008	Energy Management	37
1	2009	Sustained Excellence	12
2	2010	Sustained Excellence	15
3	2011	Sustained Excellence	19
4	2012	Sustained Excellence	21
5	2013	Sustained Excellence	23
6	2014	Sustained Excellence	23
7	2015	Sustained Excellence	Web-Page
8	2016	Sustained Excellence	Web-Page
9	2017	Sustained Excellence	Web-Page
10	2018	Sustained Excellence	23
11	2019	Sustained Excellence	30
12	2020	Sustained Excellence	29
13	2021	Sustained Excellence	33

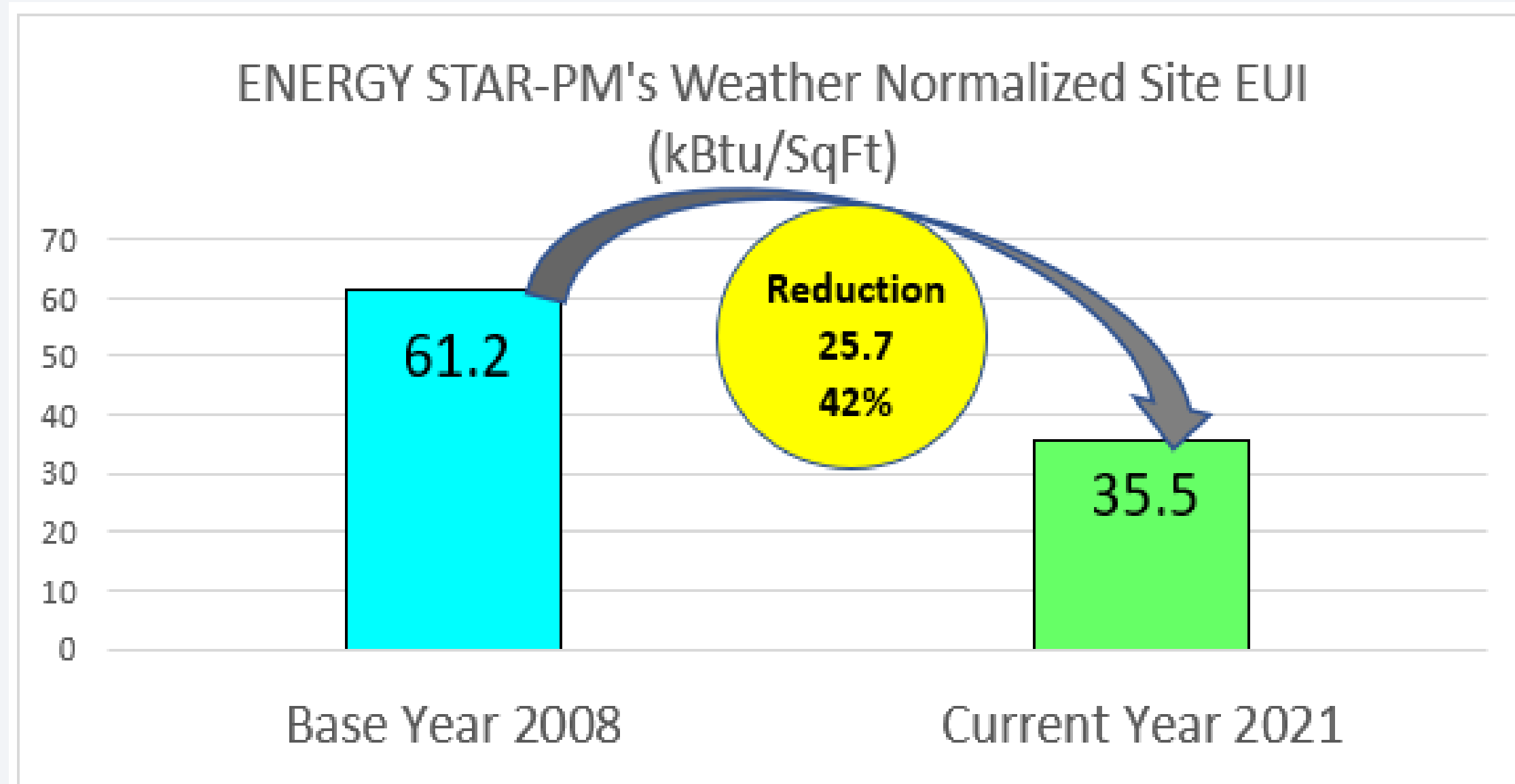


With **15 POY wins**,  
 JCPenney is currently in  
**10th place** for having the  
 most ENERGY STAR Partner  
 of the Year Awards



# Huge Savings!

1<sup>st</sup> and 2<sup>nd</sup> Energy Strategy + The Year of Our People



Report Data is from Portfolio Manager's POY Report

2021 Avoided Cost / Savings compared to Base Year 2008:

over

**\$ 60,000,000**

623 stores – 75 million Sq/Ft

GHG Emission Reduction compared to 2008:

CO2 Pounds Reduced:

**830,025,644**

Trees Planted:

**6,274,953**

Cars off the Road:

**81,847**

Homes Powered:

**68,392**

# JCPenney's Participation

- EnergyCenter Engaging Associates

Promotion of ENERGY STAR  
is the Cornerstone of our  
Success



**1,000+** Stores  
ENERGY STAR Commitment

The screenshot shows the EnergyCenter website header with the EnergyCenter logo and JCPenney logo. The navigation menu includes: Home (Welcome), People (Involved), Leaderboard (Performance), Program (Descriptions), Energy (Training), Contact Us (Inquiries), Energy Bulletins (Monthly), AEM (Investigation App), and Login (Here). The main content area features a large banner for 'emap - Recognizing ENERGY STAR!' with a speedometer graphic showing an 83 ENERGY STAR RATING. Below the banner are logos for JCPenney 9X Winner, ENERGY STAR AWARD 2015 PARTNER OF THE YEAR Sustained Excellence, and Bring Your GREEN TO WORK with ENERGY STAR. To the right of the banner are two call-to-action boxes: 'Tell us your emap story!' with a 'Submit' button and 'Bookmark This Page!' with a star icon. Below the banner is a section titled 'July emap is here!' with a sub-header 'What's Your ENERGY STAR Score?' and text encouraging store associates to assess their store's performance. Below this is a 'Special Story: ENERGY STAR 2015' section with a sub-header 'JCPenney Wins its 9th ENERGY STAR Partner of the Year Award for Sustained Excellence in Energy Management.' To the right of the main content area is a 'Energy Buzz on Twitter' section showing 'No tweets found.' and a 'Share' section with a 'g+1 Recommend this on Google' button.

**2017**

– Kim Stargell, JCPenney's Senior Energy Manager



Promoting **ENERGY STAR**  
Video produced with ENERGY STAR



Receiving the **ENERGY STAR POY**  
9<sup>th</sup> year for Sustained Excellence

2009

– ENERGY STAR

Heather Schneider, General Manager



The 100th JCPenney Store to become **ENERGY STAR Certified** in Glenwood Springs, Colorado



Students  
Make the  
Difference

Alexandra – Lead Software  
Architect of **Portfolio Manager**



2011

– ENERGY STAR



Students  
Make the  
Difference



JCPenney, Gresham-Barlow School District, Carbondale Middle School  
Students and NET celebrating at the 2011 ENERGY STAR Awards Ceremony

2014

– ENERGY STAR



NET's Intern Program

The beginning of NET's **AEM Intern** Program



Take **5 minutes** and be inspired by **Alex's work with JCPenney:**  
[JCPenney Energy Internship Alex Marquardt Briefing - Bing video](#)

2016

– ENERGY STAR

2016 ENERGY STAR Partner of the Year Awards Ceremony



NET's Intern Program



**Gina McCarthy**, Administrator of EPA under **Barack Obama**, currently 1st Climate Advisor on **President Joe Biden's** Cabinet

**Gina** and JCPenney Energy Captain Interns

## 2017 – Store 1960-Riverside

CA's Energy Captain Intern - student in Bellevue, WA

*"I am so grateful to Joanne, our AEM Energy Captain, and her team for providing our store's Weekly Financial Report, which is now the center of our weekly conservation efforts. I love this program!"*

**- Judy Jackson**  
General Manager



**Judy Jackson**, General Manager (middle row, right) and her winning team



**Joanne**  
AEM Energy Captain



**Kyle Wilkes, Energy and Facilities Maintenance Director and Kim Stargell, Sr. Energy Manager JCPenney**  
Surrounded by JCPenney Energy Captain Interns at the 2017 ENERGY STAR POY Awards Ceremony



NET's Intern Program



# JCPenney's Fundamentals

Comprehensive Energy Management Program

## 1<sup>st</sup> Energy Strategy:

2009 through 2014 - *Original Base Year 2008*

**20% reduction by 2015**

## 2<sup>nd</sup> Energy Strategy:

2015 through 2020 - *New Base Year 2014*

**15% reduction by 2020**

**Conservation**  
empowered by **Data** is  
the focus of this Story



# 2012 – Massive Corporate wide Construction Project (over \$2,000,000,000)

Innovative Strategy and Tool Developed to Manage Excess Energy Costs during Construction



## Store Schedule

Schedule matches Activity = Eliminates Energy Waste and reduces expenses



## Store Leader

### Energy Budget

Participation in setting Budget and tracking Monthly Performance (Budget vs. Actual)

### Avoided Energy Expense

Operating at Best Practice (Avoided Use = Cost Savings) (Extra Expense due to Weather)



## Construction Schedule

Schedule matches Activity = Contractor Time in Store is tracked and assigned a \$/hour and transferred to Construction Account



## Energy Expense

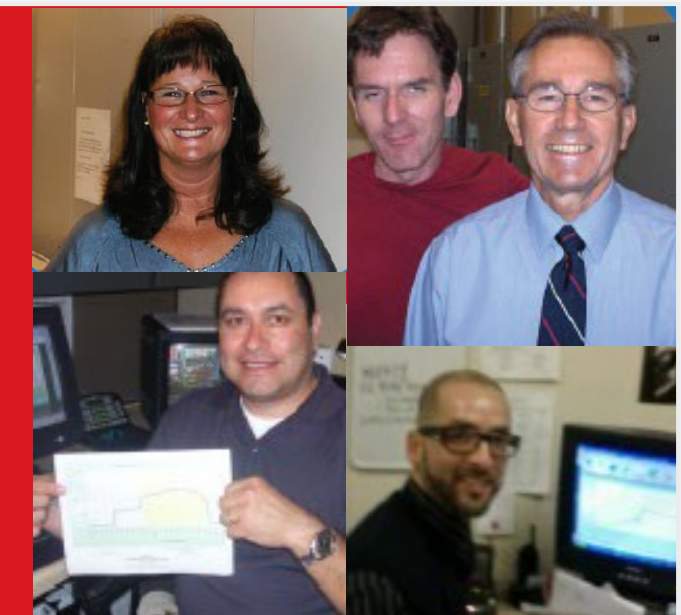
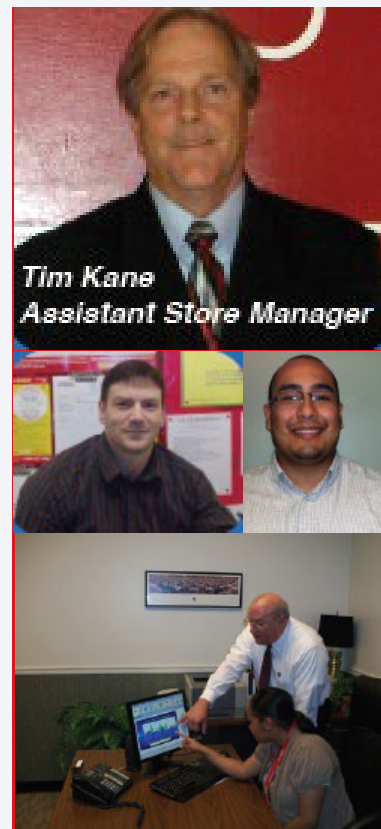
The Store Manager owns the daily operating expenses.

Additional Expense due to Incorrect Construction, Maintenance and/or Equipment Deficiency



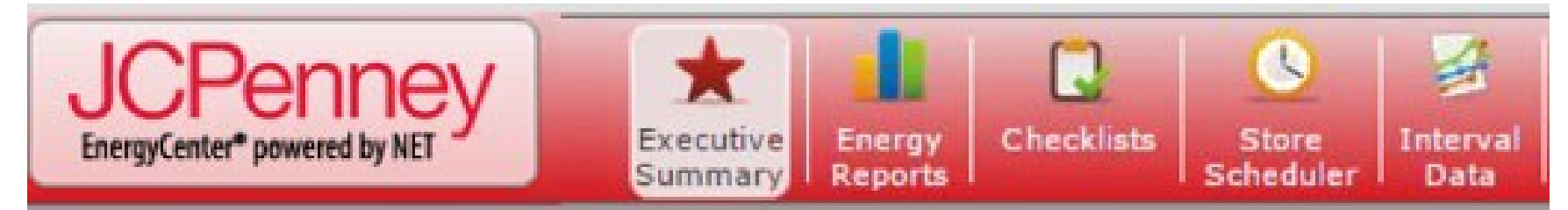
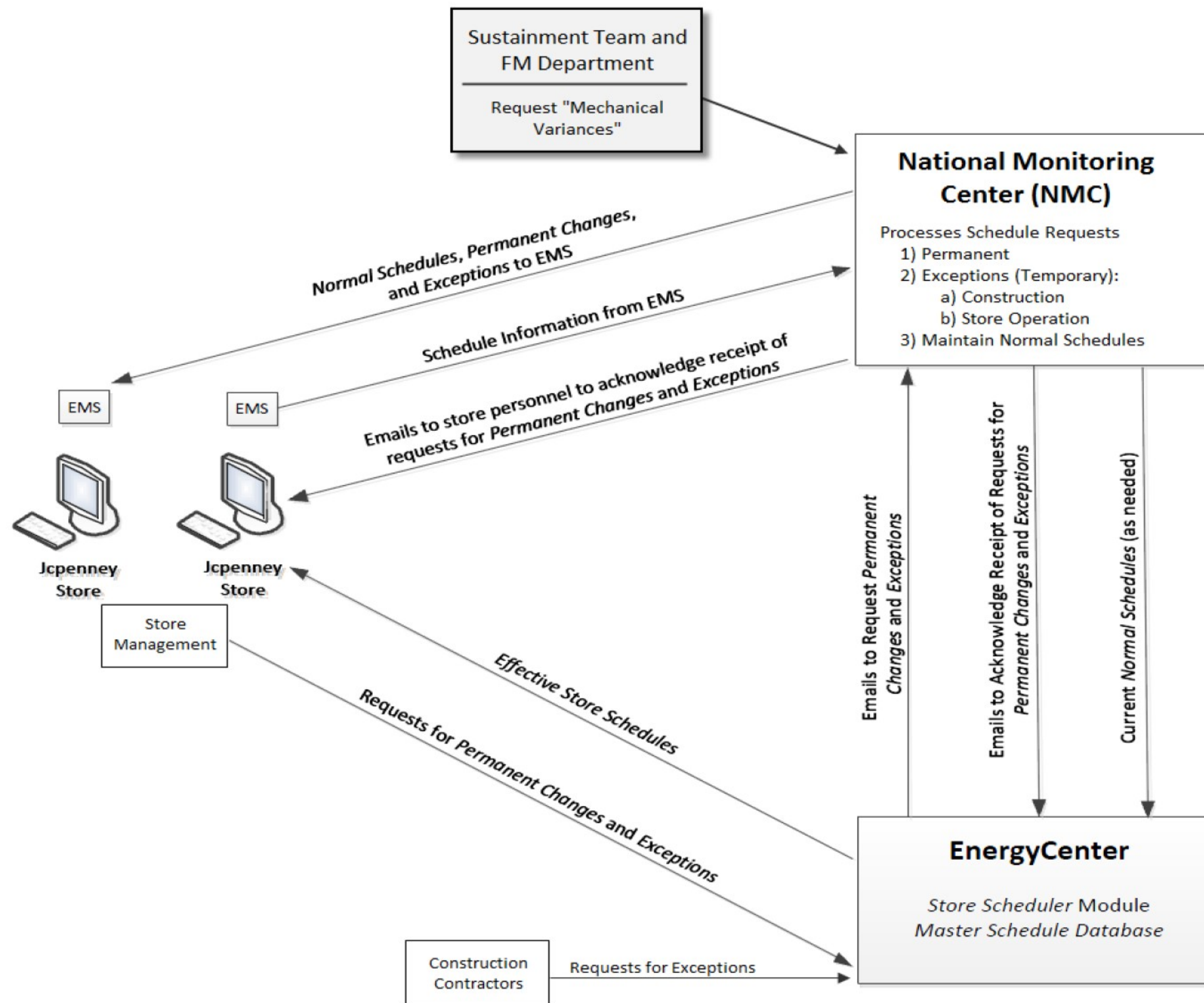
## Energy Expense

The Store Manager avoids Scheduled Construction Expense (Expense Reduction)

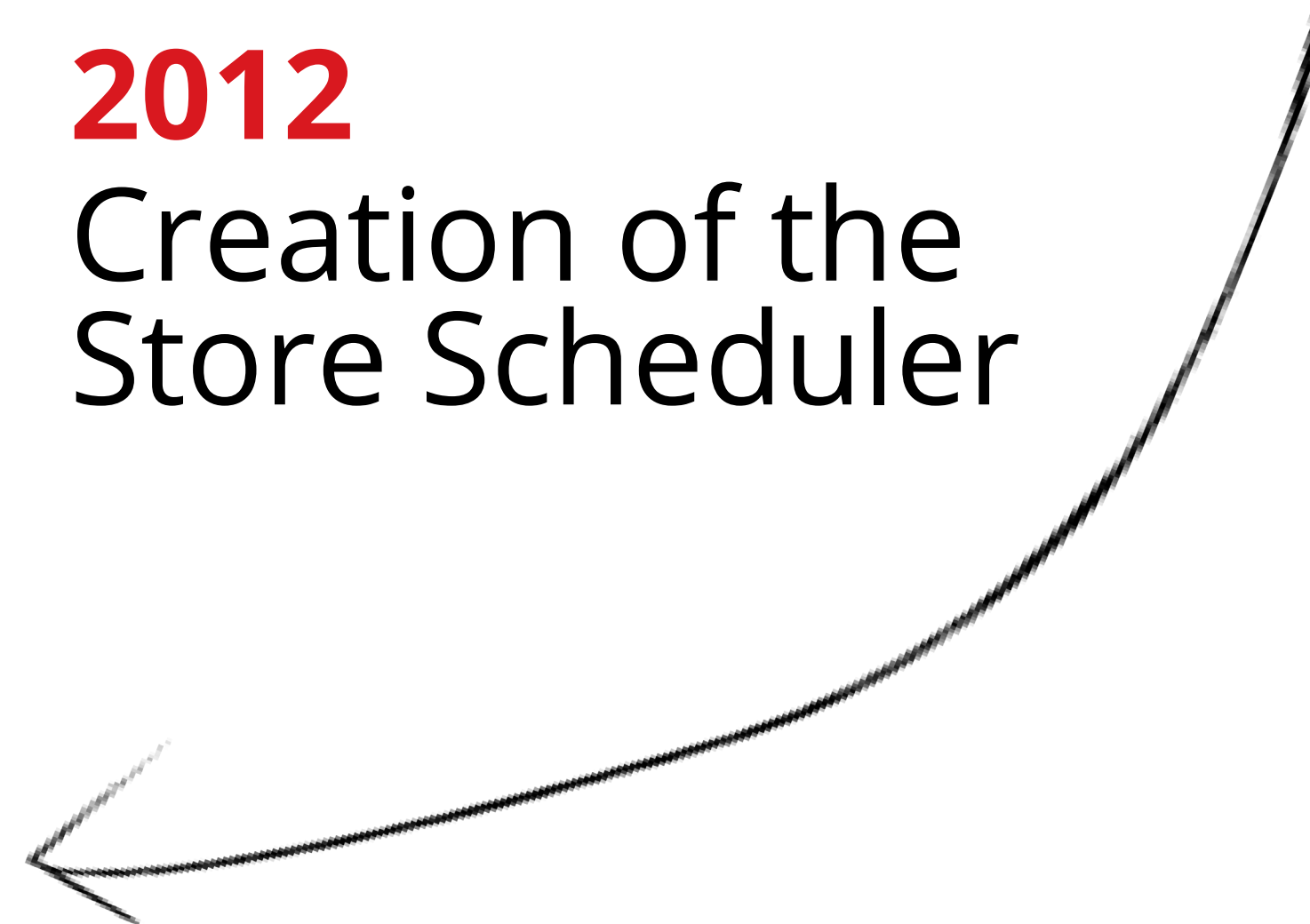


# 2012 – Massive Corporate wide Construction Project (over \$2,000,000,000)

Tool Developed and Implemented to empower Store Managers and Facility Operations




## 2012 Creation of the Store Scheduler



# 2012 - 2013

## Full Implementation of the Store Scheduler





# Store Scheduler

An online calendar for Store Leadership to quickly and easily align the building's equipment "run-time" with the store's activity and know the cost impact associated with making schedule changes.

**850 Stores** are on the Store Scheduler

**Store Scheduler**

Facility: 0427-Cupertino,CA

Year: 2014

Month: **October**

[Click Here to View Your Normal Schedule or Make a Permanent Change](#)

- [Last Schedule Review](#)
- [Show Announcements](#)
- [Tutorial](#)
- [QuickGuide \(English\)](#)
- [QuickGuide \(Spanish\)](#)
- [Playbook](#)
- [Reschedule Inventory](#)

### October 2014 0427-Cupertino,CA

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	1 Truck Delivery: 6am	2 10am - 9pm	3 Truck Delivery: 6am	4 10am - 9pm
5 11am - 8pm	6 Truck Delivery: 6am	7	8 10am - 9pm	9 10am - 9pm	10 Truck Delivery: 6am	11 10am - 9pm
12 11am - 8pm	13 11am - 8pm	14 11am - 8pm	15 11am - 8pm	16 11am - 8pm	17 11am - 8pm	18 11am - 8pm
19 11am - 8pm	20 Truck Delivery: 6am	21 <b>Peak Day</b>	22 Truck Delivery: 6am	23 11am - 8pm	24 10am - 9pm	25 10am - 9pm
26 11am - 8pm	27 10am - 9pm	28 10am - 9pm	29 10am - 9pm	30 10am - 9pm	31 10am - 9pm	

**When the Store Manager request a change to the established corporate schedule, they are presented with a "Cost Impact Alert" notifying them of the financial impact of the proposed schedule change**

**ESTIMATED COST IMPACT - PERMANENT SCHEDULE CHANGE**

	Runtime Increase (Hr/Week)	Annual Cost per Hour of Runtime per Week	Annual Cost Impact
<b>HVAC</b>			
Office	0	\$79	\$0
Stock	0	\$66	\$0
Salon	0	\$106	\$0
Sales	*	*	\$812
<b>Lighting</b>			
Housekeeping	1	\$404	\$404
Replenishment	0	\$112	\$0
General	9.33	\$180	\$1,679
Accent	0	\$440	\$0
Exterior	-1	\$33	-\$33
<b>TOTAL</b>			<b>\$2,862</b>

\* Cost of Sales HVAC is proportional to lighting runtime hours.

This schedule change will result in a cost increase of \$2862 per year. Click Yes to continue. Click No to cancel or revise this request.

Yes
No

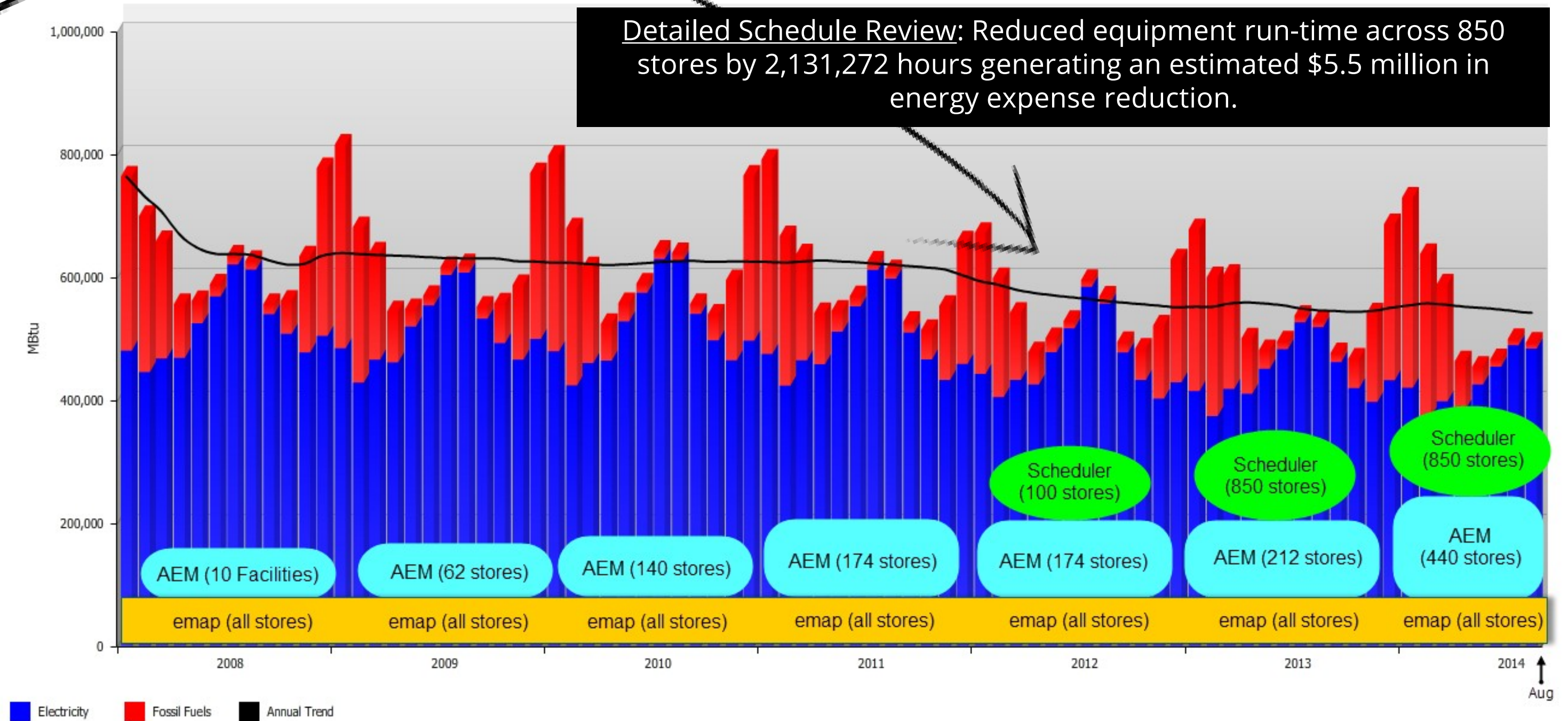


# Store Scheduler

1. Leadership Change
2. \$2 Billion in Renovations
3. Management Restructure

Previous Leadership Restored April 2013

JCPenney All Facilities Combined Energy Use Trend  
Monthly Consumption and Annual Trend



Annual Trend is the current month plus the previous 11 months divided by 12.

# Pilot - Advanced Energy Management (AEM) with PSE in 2008

Empowering the Right People at the Right Time with Actionable Data

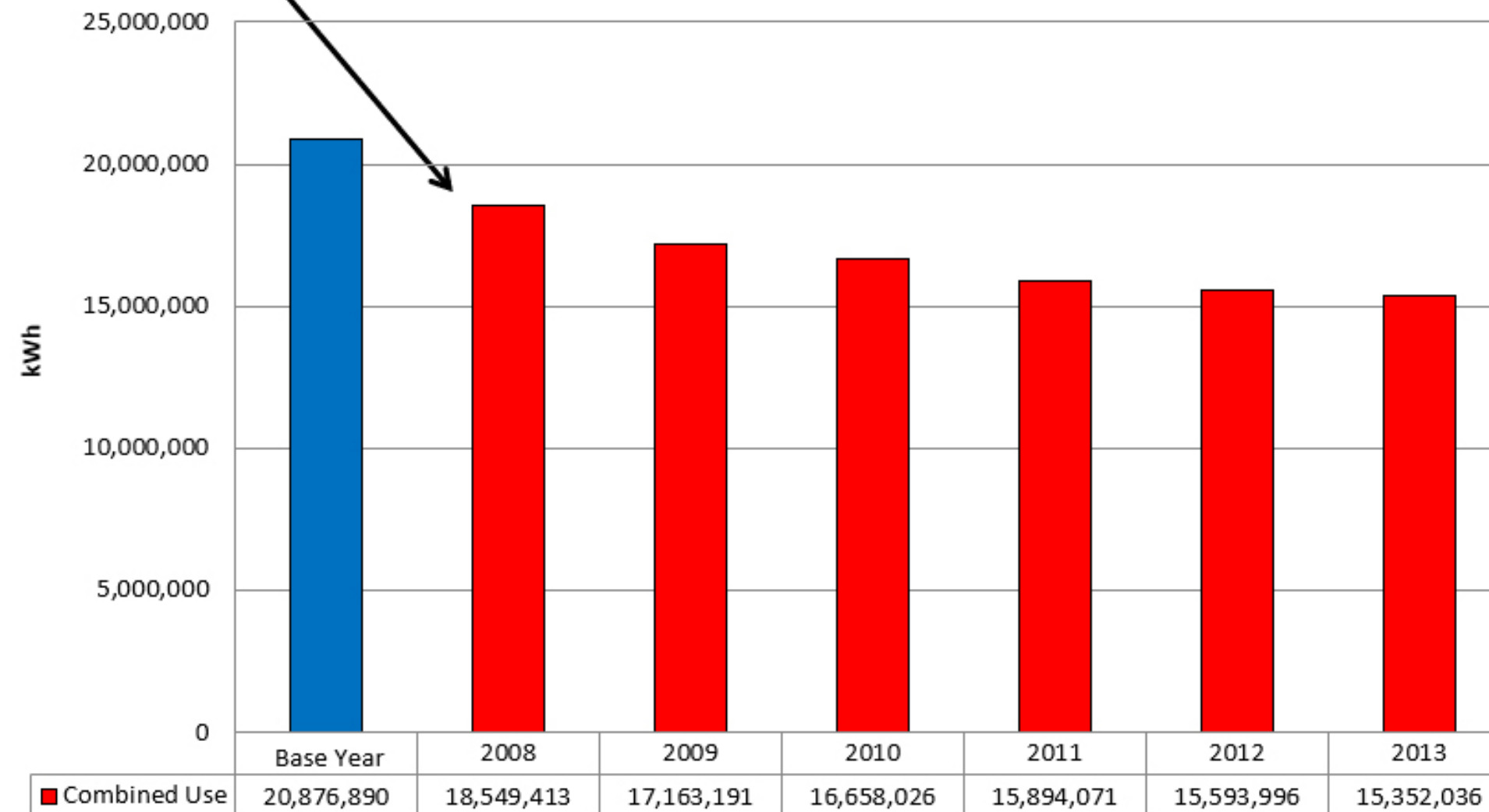


2014 Presentation

JCPenney's RCM Program starts with PSE's grant in 2008

10 - JCPenney Facilities served by PSE - Usage by Year (kWh)

Weather Normalized



	2008	2009	2010	2011	2012	2013
kWh Reduction against Base Year	2,327,477	3,713,699	4,218,864	4,982,819	5,282,894	5,524,854
% Reduction against Base Year	11%	18%	20%	24%	25%	26%



## 10 JCPenney Facilities in PSE's RCM Program

1	0232-Tacoma, WA
2	0696-Seattle, WA
3	0841-Olympia, WA
4	1800-Snohomish, WA
5	2011-Lynnwood, WA
6	2109-Bellevue, WA
7	2327-Bellingham, WA
8	2353-Silverdale, WA
9	2391-Burlington, WA
10	9018-Sumner, WA

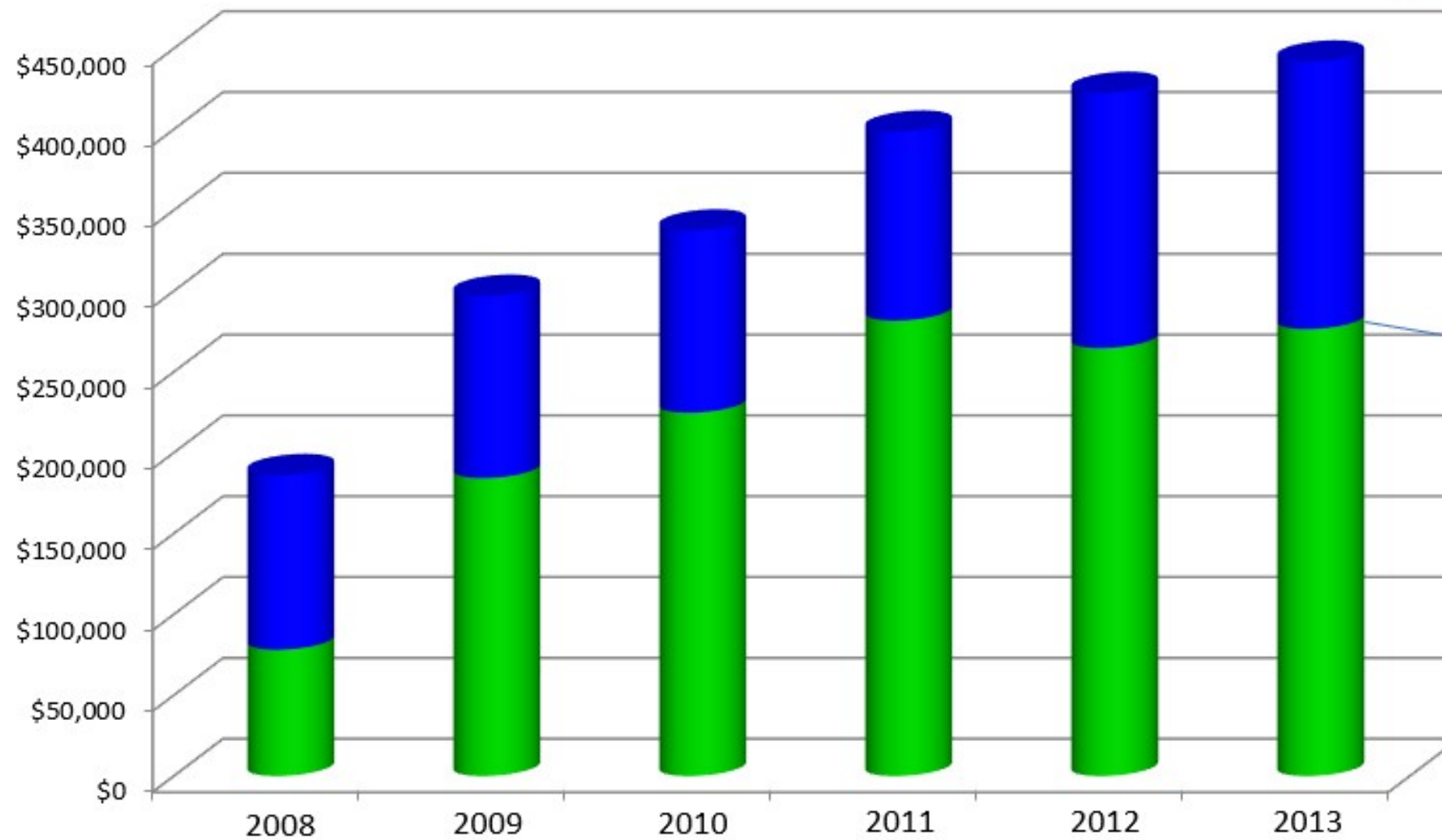
PSE's Resource Conservation Management (RCM) was the start of NET's and JCPenney's AEM program

# AEM with PSE (continued)

Measuring the Effect of Conservation – JCPenney's Culture

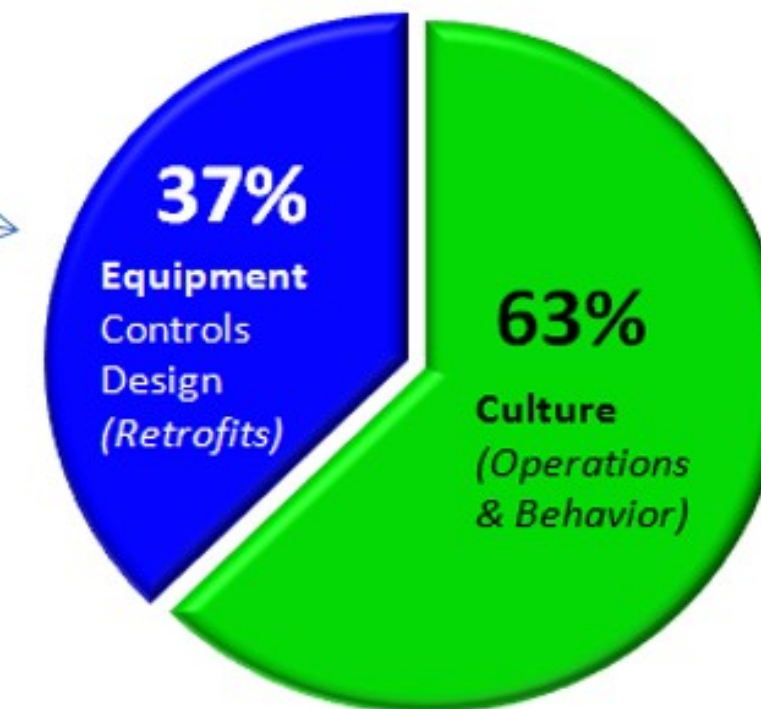
	2008	2009	2010	2011	2012	2013
kWh Reduction against Base Year	2,327,477	3,713,699	4,218,864	4,982,819	5,282,894	5,524,854
Avoided Cost Savings (Unit Cost \$0.08 kWh)	\$186,198	\$297,096	\$337,509	\$398,626	\$422,632	\$441,988
PSE Funded Equipment / Retrofit Savings	\$108,052	\$112,790	\$112,790	\$116,919	\$157,941	\$165,530
Culture / Operations & Behavior Savings	\$78,146	\$184,306	\$224,719	\$281,707	\$264,691	\$276,458

26%



## JCPenney

JCPenney Facilities in PSE's RCM Program delivered over **\$440,000 in electricity reduction cost avoided** for 2013. General Retrofits are responsible for 37% and Culture is responsible for 63% of the savings.



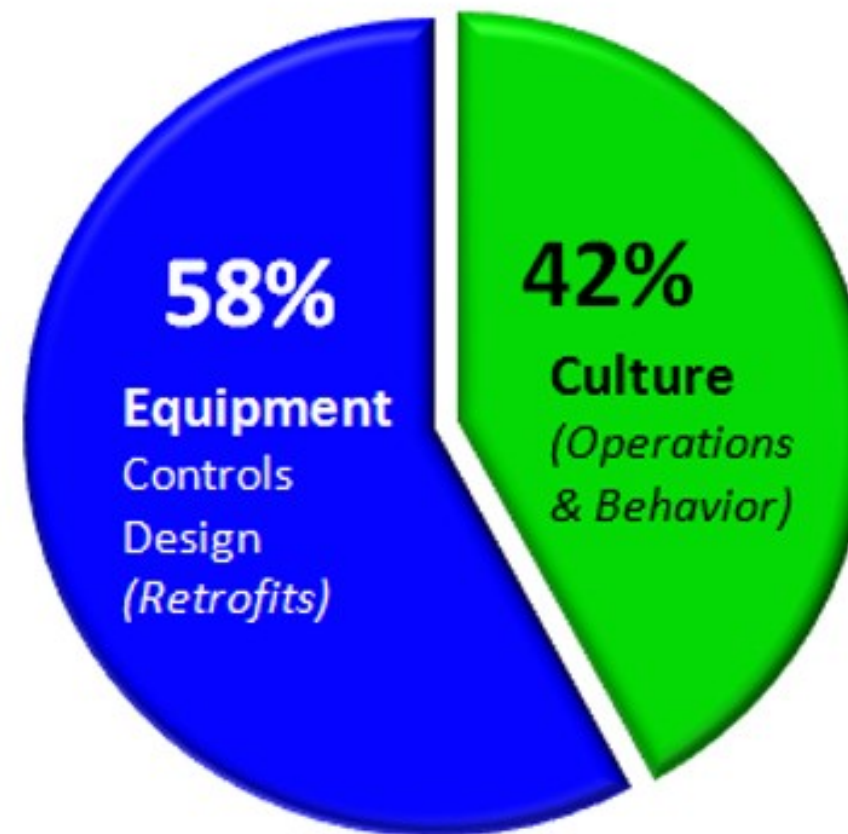
# Pilot that started with PSE - Expanded across JCPenney

Financial impact of Conservation - JCPenney's Culture at over 1,000 stores in 2013

**General Energy Management Business Model**  
Promoted by Department of Energy and support by Utility Companies



**JCPenney**  
**Comprehensive Energy Management Business Model**  
Operating in 1,064 Stores



Equipment (Retrofits)	<b>\$20.8</b>
Culture (Operations & Behavior)	<b>\$15.1</b>

**The Financial Results in millions of dollars our Comprehensive Energy Management Program delivered in the year of 2013:**

**Accounting (energy only)**

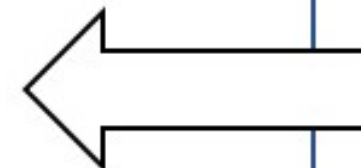
2008 energy spend	\$202.8
2013 energy spend	\$177.8
Actual Hard Dollar Reduction	\$25.0

**Impact of Adjustments**

Rate Increase	\$5.9
Weather Normalization	\$1.3
Merchandising Load Increase	\$3.7
Total for Adjustments	\$10.9

<b>Total Cost Avoided</b>	<b>\$35.9</b>
---------------------------	---------------

SqFt remained approximately the same





# JCPenney's Performance: 1<sup>st</sup> and 2<sup>nd</sup> Energy Strategy with ENERGY STAR

Comprehensive Energy Management Program is a Big Success



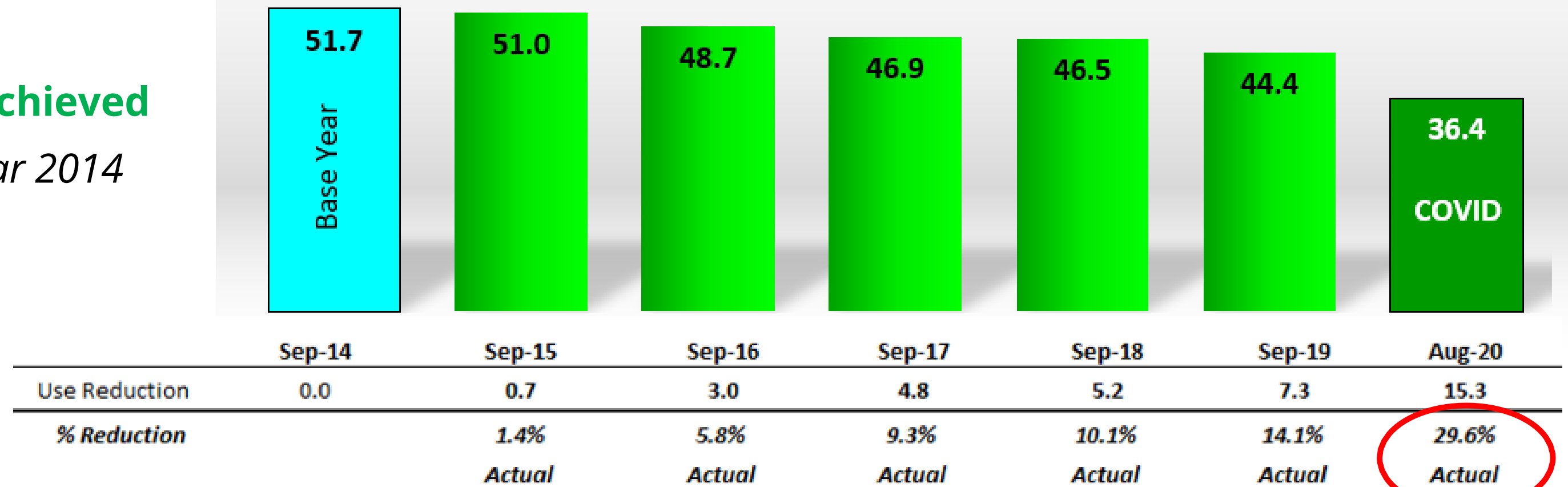
## 1<sup>st</sup> Energy Strategy: 20% Goal Achieved

2009 through 2014 - Original Base Year 2008  
**20% reduction by 2015**

## 2<sup>nd</sup> Energy Strategy: 15% Goal Achieved

2015 through 2020 - New Base Year 2014  
**15% reduction by 2020**

ENERGY STAR-PM's Weather Normalized Site EUI  
 (Annual kBtu/SqFt)



**JCPenney Achieves its 2<sup>nd</sup> Energy Strategy – exceeding our Goal two-fold.**  
 Note: This exceptional drop in energy use was the result of being shutdown for approximately 3-months



## UNBELIEVEABLE Performance

Due to COVID, JCPenney Stores were completely shut down from March 18<sup>th</sup> to May 20<sup>th</sup>, and didn't completely reopen for another 60 days (middle of July 2020)

**Make no mistake about it, this year's dramatic results were driven 100% by our people.**

### Partner of the Year Report

Date Downloaded: 11/16/2021 01:03 PM EST

Date Generated: 11/16/2021 01:03 PM EST

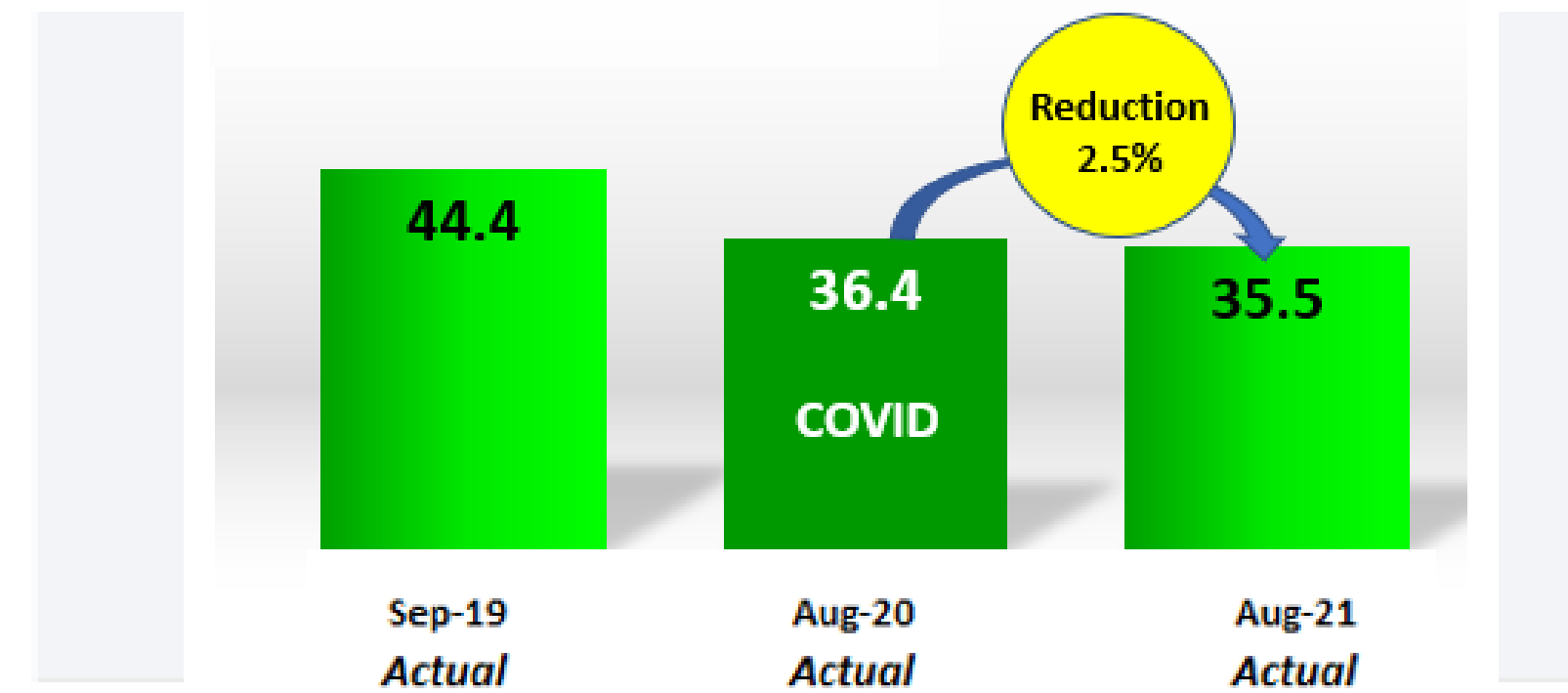
Number of properties in portfolio: 1,148

Number of properties in report: 685

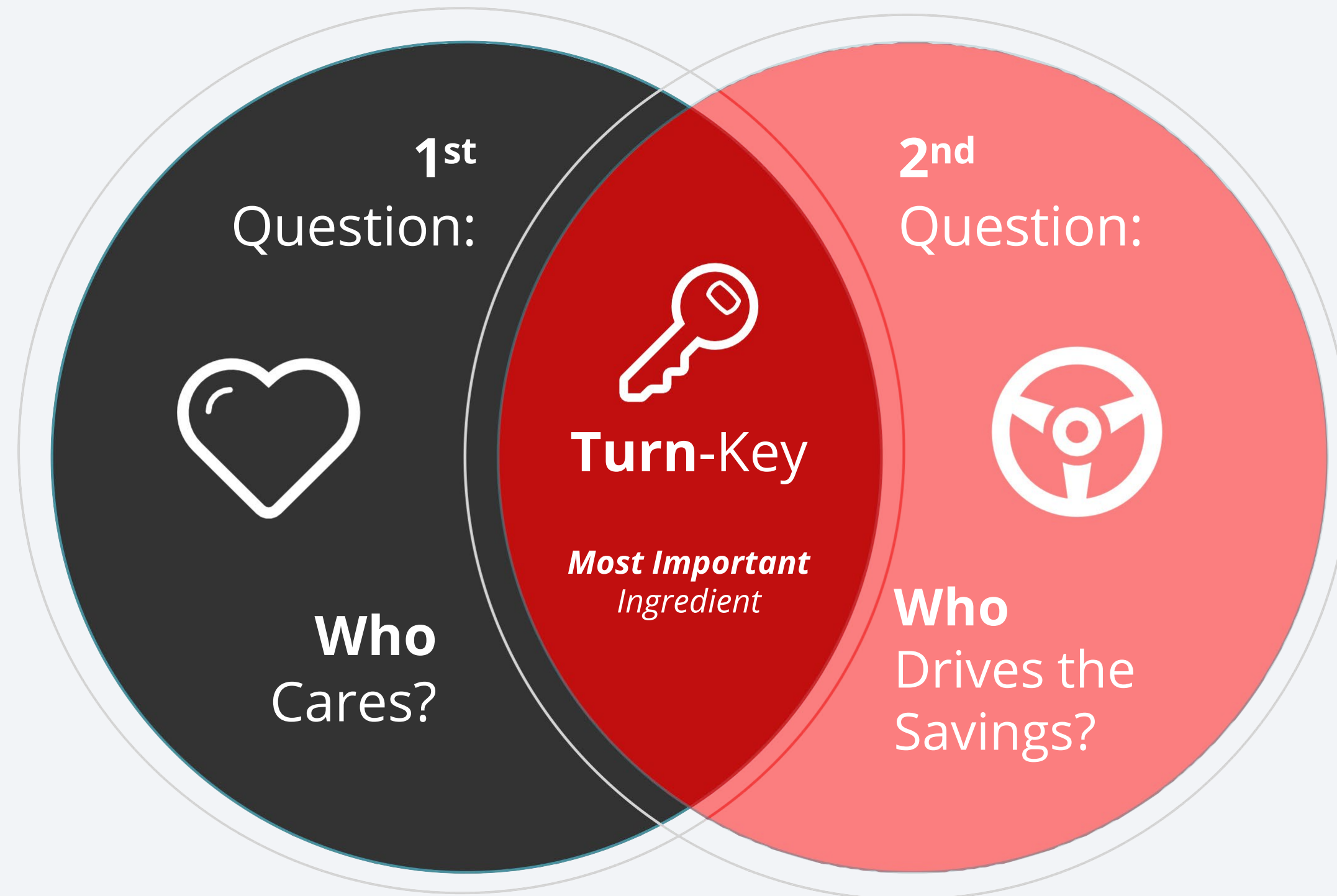
Number of properties in summary tables: 623

**623** Stores  
**75 Million** Sq/Ft

Energy Intensities			
	Aug 2020	Aug 2021	Percent Change
Site EUI (kBtu/ft <sup>2</sup> )	36	35.1	-2.5%
Weather Normalized Site EUI (kBtu/ft <sup>2</sup> )	36.4	35.5	-2.5%
Source EUI (kBtu/ft <sup>2</sup> )	88.7	86.8	-2.1%
Weather Normalized Source EUI (kBtu/ft <sup>2</sup> )	89	87.3	-1.9%



## Two Essential Questions:



## 1st Question

Who Cares?



**Senior VP**  
*Of Store Operations*



**Chief**  
*Finance Officer*



**District**  
*Manager*



**Store**  
*Manager*



**Director**  
*Of Energy & Maintenance*



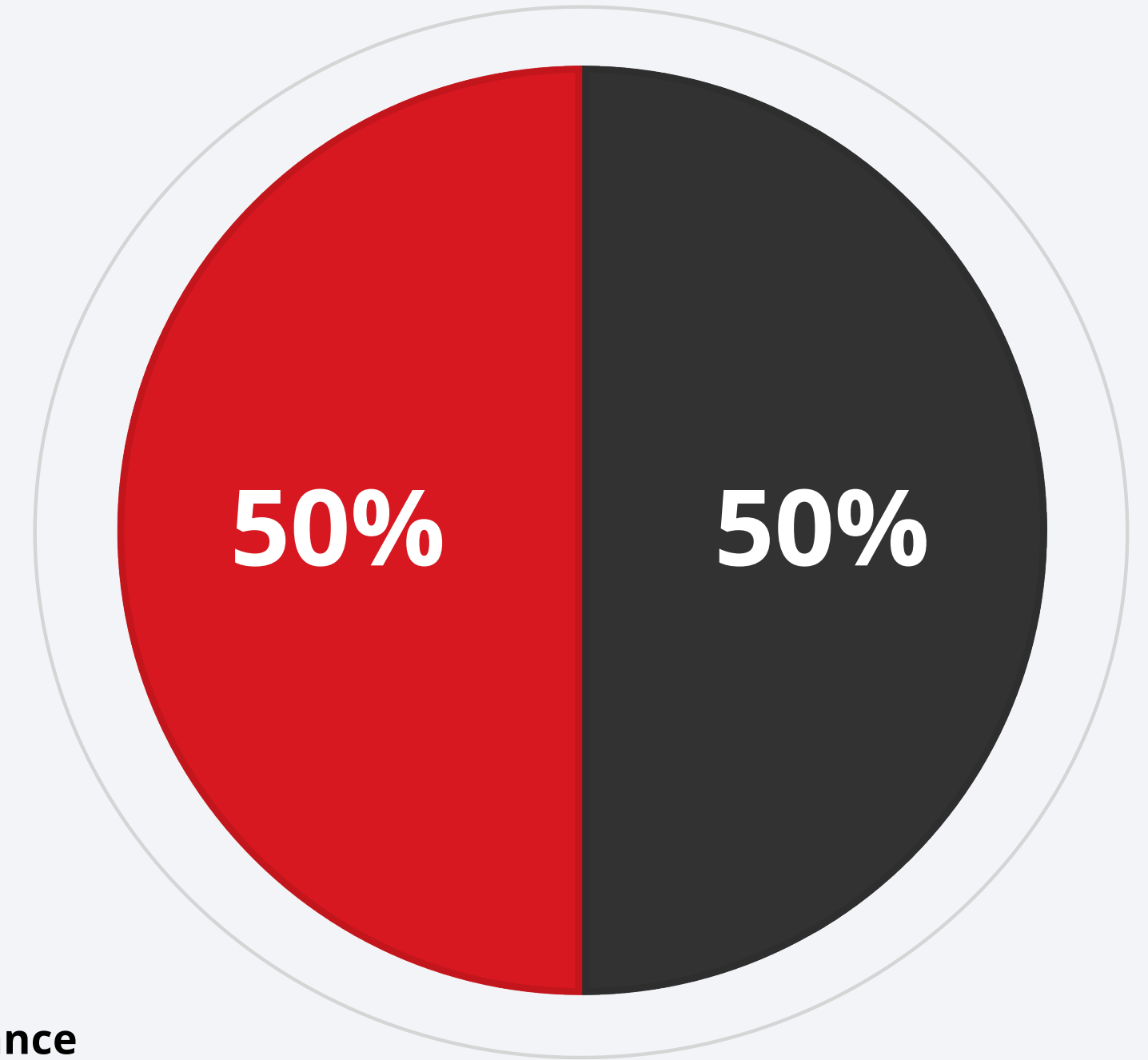
**Energy**  
*Manager*



**Maintenance**  
*Personnel*

### Same Budget

Spend **less on Energy** and you can **spend more on maintenance**



## 2<sup>nd</sup> Question

Who drives the Savings?



### Daily/Weekly Monitoring

15-minute Interval Data of Electricity

### Identification of Quantifying

(Cost Impact) Energy Wasting Events

### Supporting/Facilitating

Resolution of Energy Wasting Event

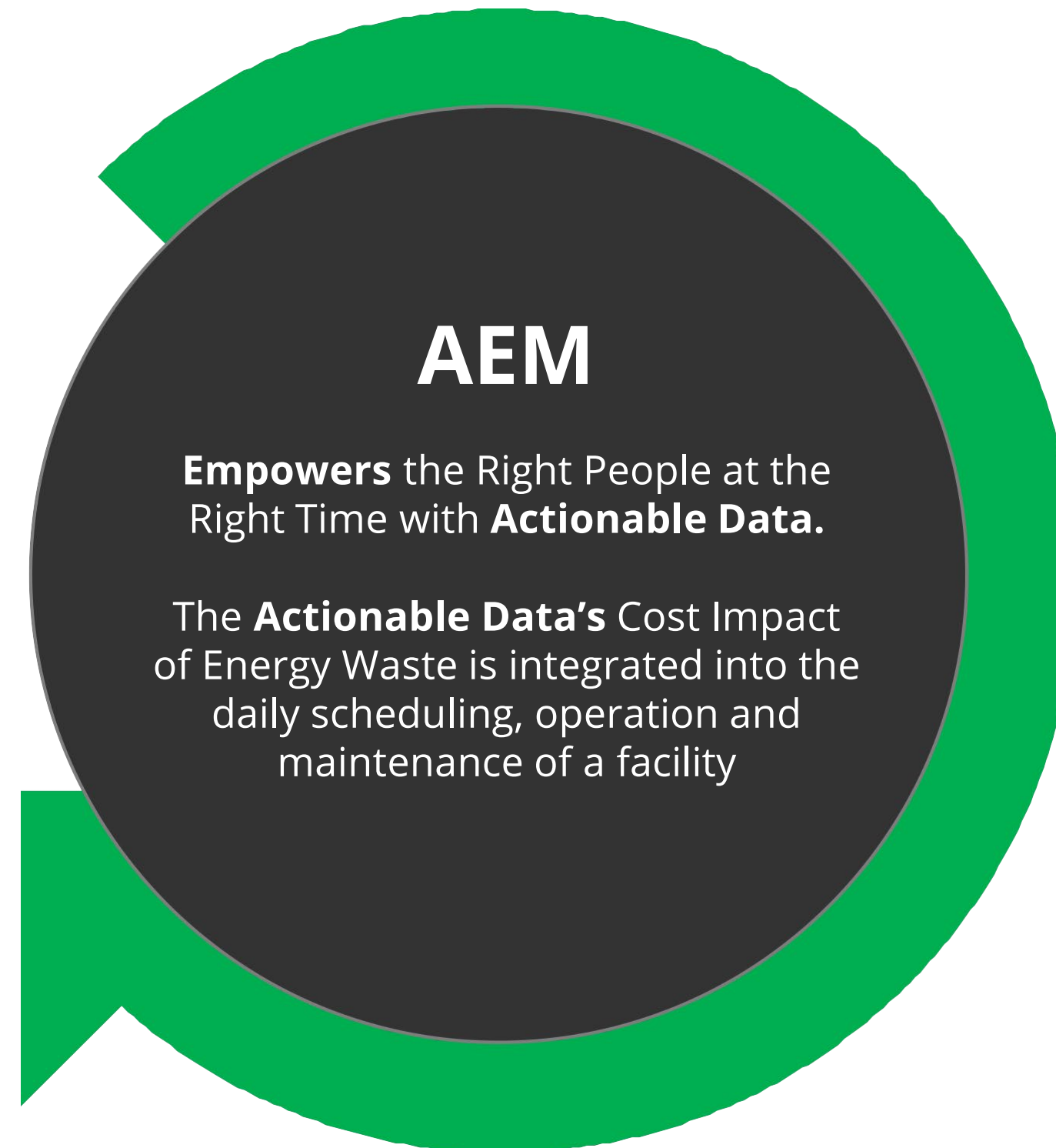
### Verifying the Resolution

Determine Elimination & Savings



### Facility Maintenance

Generation and completion of Work Orders



## EMS Controls



### All Trane BAS Systems

Building Scheduling and Controls

Generation of Work Orders



### Call Center

NOVAR Building Scheduling & Controls

Generation of Work Orders



## Store Manager

### Store Management

Correcting operational and behavior changes as needed

## AEM Step 1 - Monitor Use & Identify Energy Waste

Most Important Ingredient: "Turn-Key"



Week for November 15th  
AEM Hot List - JCP Stores

Report Period:  
11/08/2021 thru 11/11/2021

For Unoccupied Average kW use  
the hours from Midnight to  
5:00am Monday thru Thursday

Facility	General Manager	Unit Cost	Heating Target	Unoccupied Avg kW			
			Target BP Base Load (kW)	MOI	TUE	WE	THI
0219-Mobile,AL	Katina Snider	\$0.10	38	-6	-8	-9	-9
0220-UnionGap,WA	Matt Santi	\$0.09	12	-30	-29	-30	-26
0224-San Bernardino, CA (47)	Jasmin Martinez	\$0.21	32	12	2	3	16
0231-Sandy,UT	Lisa Guizado	\$0.12	25	2	2	2	2
0232-Tacoma,WA	Syed Rizvi	\$0.10	44	-36	-14	-14	-14
0237-OrlandPark,IL	Julie Lundstedt	\$0.09	65	-113	-125	-134	-118
0241-CherryHill,NJ - Solar	Kathleen Riddle	\$0.13	88	-32	0	20	-8
0246-Carson,CA	Mardoqueo Salazar	\$0.18	33	-10	-12	-19	-59
0249-Jacksonville,IL	Kevin De Frain	\$0.08	11	4	4	0	0
0250-Lakewood,CA	Jeff Barnes	\$0.18	31	-15	-13	-13	-15
0251-Glendale-MS,AZ	Veronica Yates	\$0.11	40	0	-2	1	-1
0258-Farmington,MO	Victoria Bollman	\$0.10	12	1	1	1	2
0268-Bridgeport,WV	Randy Klepsky	\$0.08	19	-34	-34	-34	-34
0270-Cortland,NY	Brandy Lundy	\$0.11	12	4	5	6	5
0288-Portland-MS,OR	Fred Brockmann	\$0.08	39	-7	-6	-7	0
0334-Fairfield,CA	Rosalva Edwards	\$0.13	22	7	5	0	0

**Negative values is** the kW amount above the Base Load Target Best Practice

0237-Orland Park's example is on next slide

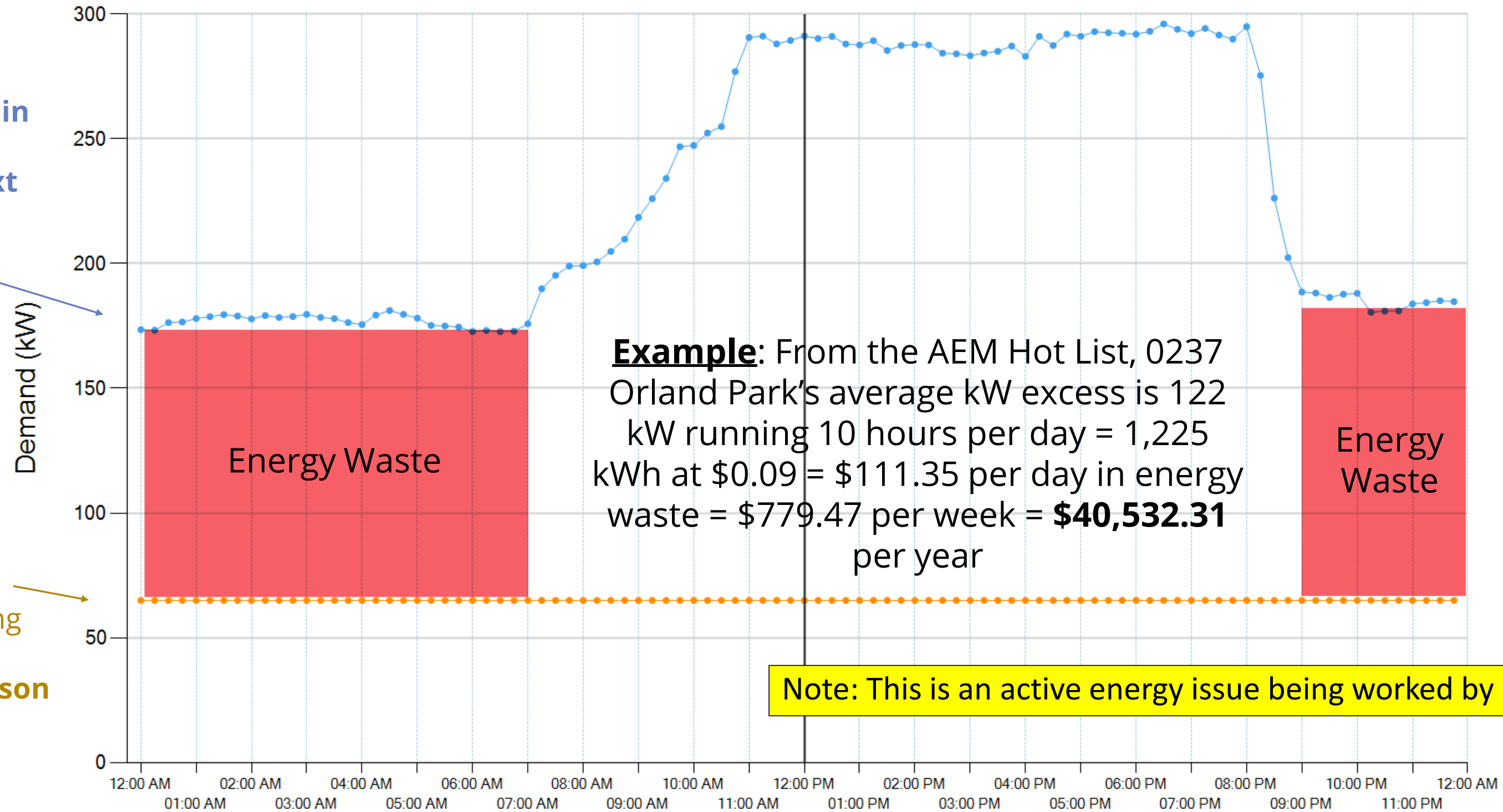
## AEM Step 1 – Example: Quantify Energy Waste with Actionable Data

Most Important Ingredient: “Turn-Key”



0237-OrlandPark,IL  
Monday - 11/08/2021

Current electricity use in 15-minute intervals harvested daily for next day profiling



Base Load Target Best Practice is 65kW - Building at Rest (Unoccupied) during the Heating Season

Note: This is an active energy issue being worked by CBRE

# AEM Step 2 – EMS/Controls act on Actionable Data

Most Important Ingredient: “Turn-Key”



**From:** JCPenney Feedback <JCP\_Feedback@trane.com>  
**Sent:** Tuesday, January 19, 2021 1:52 PM  
**To:** Levi Hickman <Levi@newenergytech.net>; JCPenney Feedback <JCP\_Feedback@trane.com>; James, Kyle <Kyle.James@trane.com>  
**Cc:** Charlton Haupt <Charlton@newenergytech.net>; wdhopson@jcp.com  
**Subject:** RE: Trane EMS 1/19/21

See table below for findings.

NET's Ticket #	Facility	Issue Title	Issue Start	TRENDS during Unoccupied (starting around the issue start date)	Resolution by EMS
20058	2507-LakeCharles, LA:	UnOccupied +40 kW	12/30/2020	Sales AHU-1,2,3 and 4 were running 24/7	Sales AHU-1,2,3 and 4 were overriden locally, overrides released and control was verified. Units will now turn off at the correct time.
20059	1958-Beaumont, TX:	UnOccupied +36 kW	WO completed around 12/30	Accent lights are on 24/7 and Salon AHU-8 and Sales AHU-9 are in comm loss.	The accent area had been overridden by a user, I released the override. Requested WO 1958002817 to investigate comm issues on the units.
20060	2168-Ridgeland, MS:	UnOccupied +17 kW	1/11/2020	No issues found	No issues found with lighting or HVAC equipment.

NET notified Trane of energy waste at 1958-Beaumont, TX on Monday, January 18<sup>th</sup>, 2021, from that Monday's AEM Hot List.

Trane fixed the problem the **next day** (see January 19<sup>th</sup> profile on next slide).

**Levi Hickman**  
 New Energy Technology (NET)  
 Advanced Energy Management  
 Cell: 801-979-0672

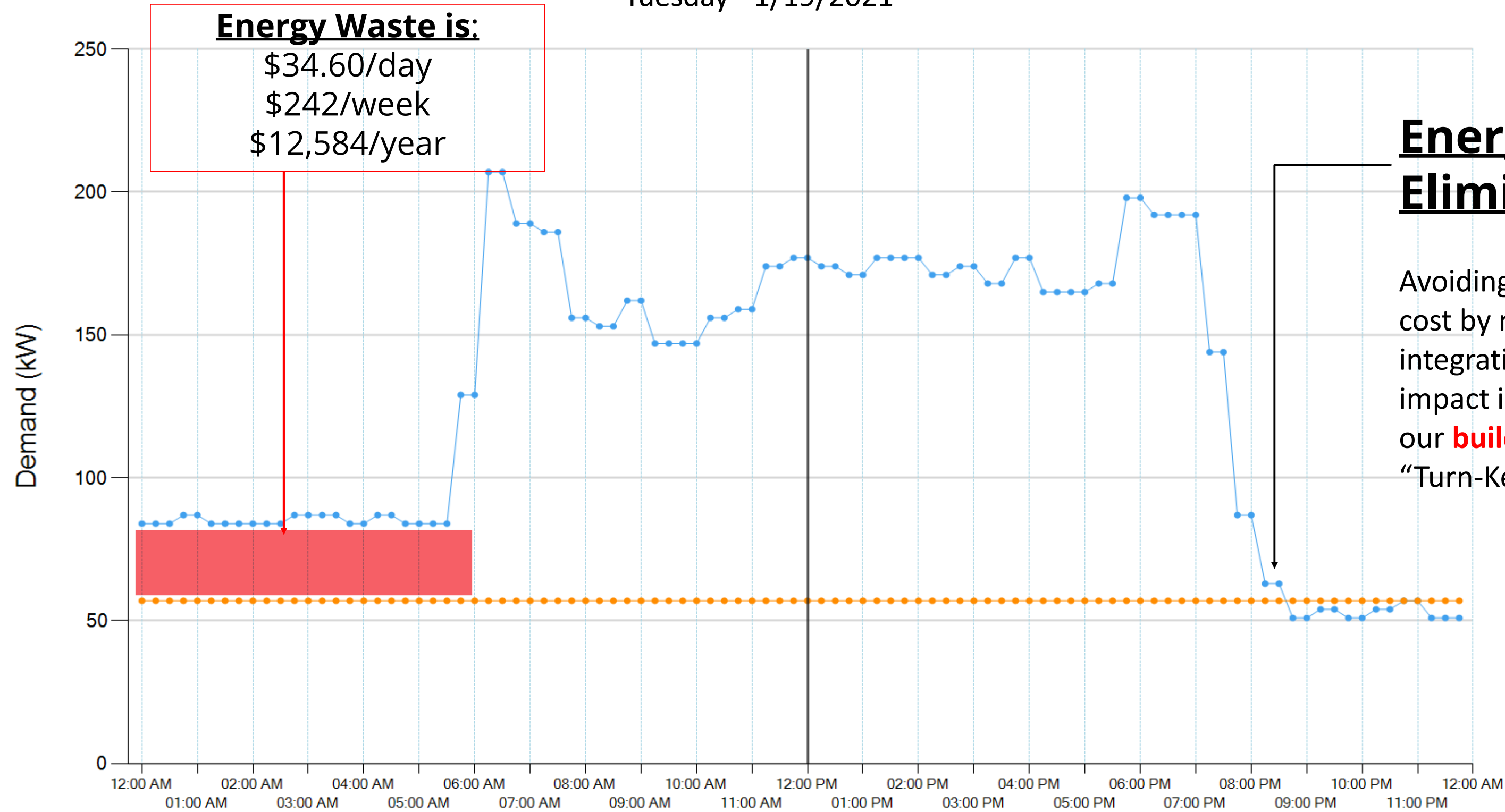


# AEM Step 2 – EMS/Controls act on Actionable Data (continued)

Most Important Ingredient: “Turn-Key”



1958-Beaumont, TX  
Tuesday - 1/19/2021



# AEM Step 3 – Store Manager acts on Actionable Data

Most Important Ingredient: “Turn-Key”

**From:** Pete Dorsey <pete@newenergytech.net>  
**Sent:** Thursday, October 7, 2021 1:04 PM  
**To:** Bob Henderson <bob@newenergytech.net>  
**Cc:** Charley Haupt <charley@newenergytech.net>; Levi Hickman <Levi@newenergytech.net>  
**Subject:** 2400 Tupelo MA, EMSI-Lighting Plus 35 kW, CI = \$323/wk.

**Store:**  
2400 Tupelo, MS

Bob,

Here are the findings from my call with Heather Ross, GM and her completed checklist.

10/7/21, Checklist was completed on 10/1/2021 by Heather Ross (GM)

EMS: Local-Manual lights, Trane Summit HVAC.

LMO: Works (2 separate switches), openers/closers have keys.

1. Interior Lights Illuminated 24/7: Only things illuminated were the monitors on the register and the Fire Exit signs and 1 set of lights inside the store at the doors where we enter/leave.

Mall Sign Illuminated 24/7: Interior: 1 and Exterior: 3

Parking Lights ON 24/7: 3 – LL controlled

Canopy Lights ON 24/7: 0

Known HVAC Operating 24/7: “The air was on”; “I think it’s our HVAC Unit staying on, due to our issues with both chillers this summer and the temperature of our store staying anywhere from high 70’s and up into the 80’s. I created numerous WO’s over this summer(2021) and the previous summer(2020) for our Store Unit and our Salon Unit. (We have separate units in our store.)”

SITE INFO: Data Vendor: Melrok; Rev 6 added 8/22/12 - lighting is controlled by 3 switches for Housekeeping, Headers and Spots.

Row 59 Question: N/A – Local-Manual lights

➤ **Recent Energy WO History of this Store:**

8/10/21, WO# 2400000760 opened for.... SALES FLOOR: Heating/Air Conditioning - Sales Floor (Monitored):\*Too Hot/Too Cold - Entire Sales Floor: Per Dylan of Engie please dispatch an HVAC tech to site to review/repair Chiller 1/Chiller 2. Chiller 1 is off due to an alarm. Review Chiller 2 for normal operation. Please contact Engie when onsite 866-338-1575.... **WO COMPLETED 8/12/21... CLOSING NOTES ARE... “Completed”**

GOD Bless,  
Pete Dorsey  
New Energy Technology (NET)  
AEM Store Advocate



## Important Note

**Step #3** – Only for high energy wasting events. Store Manager is notified and asked to complete a simple **Lighting Review** after the store is closed (Unoccupied) filling out a simple checklist that is provided to NET.

# AEM Step 4 – FM acts of Actionable Data

Most Important Ingredient: “Turn-Key”

**From:** Bob Henderson <[bob@newenergytech.net](mailto:bob@newenergytech.net)>  
**Sent:** Thursday, October 7, 2021 12:24 PM  
**To:** Metcalf, Michael <[mmetcal4@contractor.jcp.com](mailto:mmetcal4@contractor.jcp.com)>  
**Cc:** White, Toby <[twhit65@contractor.jcp.com](mailto:twhit65@contractor.jcp.com)>; Charley Haupt <[charley@newenergytech.net](mailto:charley@newenergytech.net)>  
**Subject:** 2400 Tupelo MA, EMSI-Lighting Plus 35 kW, CI = \$323/wk.


**Store:**  
2400 Tupelo, MS

Michael, the store is + 35 kW and has just completed a lighting review. Please open a work order for the following lights not turning off after the schedules time out. Also the store noted HVAC ON see item 4 below. Please provide the WO number, so we can track to completion. Thanks, Bob

**Lights outlined below are remaining illuminated after they are scheduled OFF. Please repair the lights so they are controlled by stores lighting controls.**

1. Interior Mall Sign- (1) ... ,
2. Exterior Signs- (3) ... ,
3. Parking lot lights – (3- LL controlled. Non issue if Security lights are needed.)
4. Other- “The air was on”; “I think it’s our HVAC Unit staying on, due to our issues with both chillers this summer.. See image below. IDR shows something on (35 kW) until 4 AM each morning

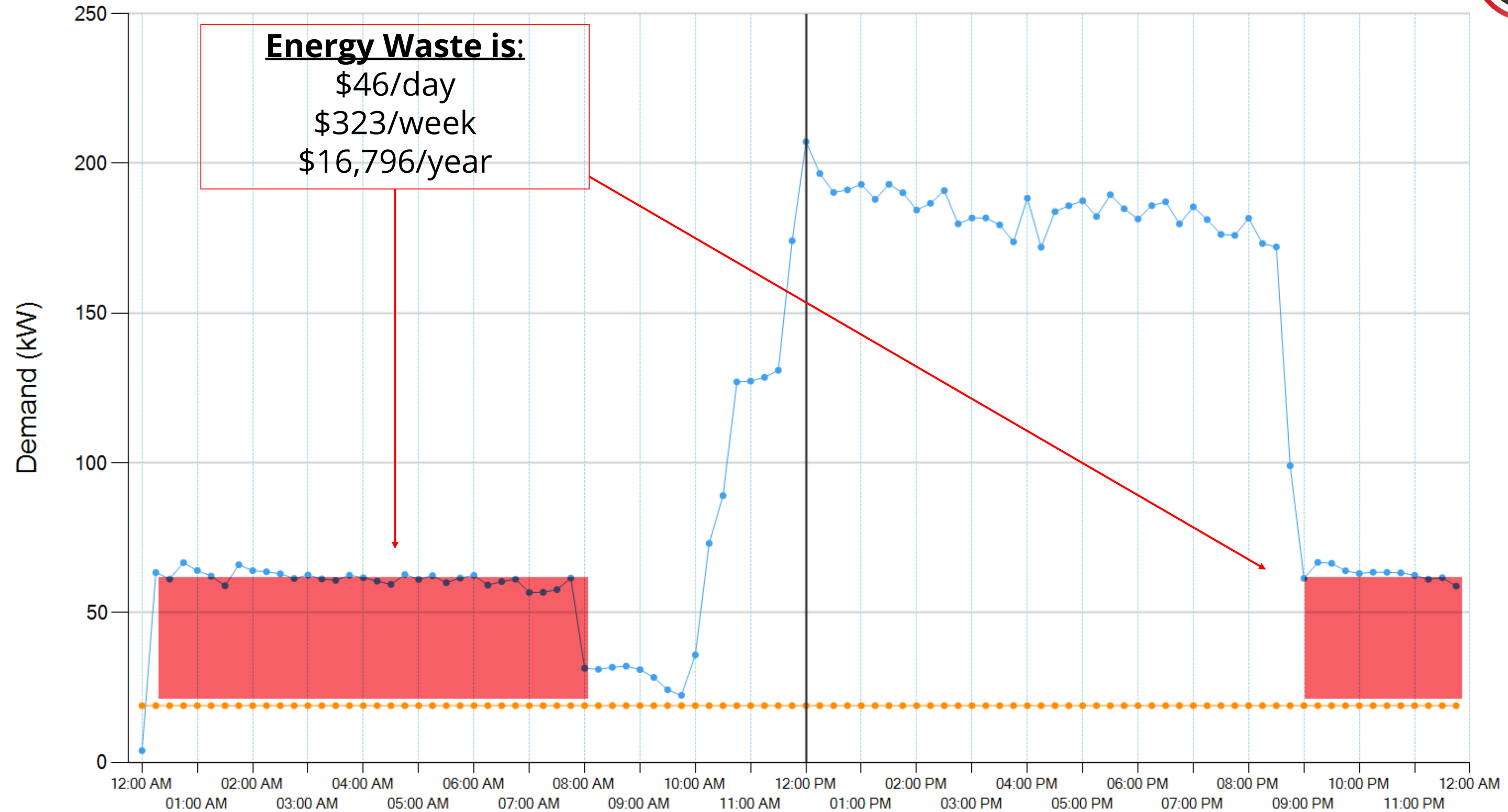
**If lights are controlled by EMS, after repairs are completed, contact Engie @ 866-338-1575 to verify they have control of the equipment. If Engie is unavailable, and store is a Trane site, after 7/8 AM contact Trane Sustainment Engineer @ 817-838-1346.**

Cost Impact = \$323/wk – see image below.  **Next Slide**

## AEM Step 4 – FM acts of Actionable Data (continued)

Most Important Ingredient: “Turn-Key”

2400-Tupelo, MS  
Thursday – 9/30/2021



## AEM Step 4 – FM acts of Actionable Data (continued)

Most Important Ingredient: “Turn-Key”

JCPenney AEM



Store:  
2400 Tupelo, MS

**From:** Metcalf, Michael <[mmetcal4@contractor.jcp.com](mailto:mmetcal4@contractor.jcp.com)>

**Sent:** Friday, October 8, 2021 9:30 AM

**To:** Buckner, Mike <[mbuckne2@contractor.jcp.com](mailto:mbuckne2@contractor.jcp.com)>

**Cc:** White, Toby <[twhit65@contractor.jcp.com](mailto:twhit65@contractor.jcp.com)>; Bob Henderson <[bob@newenergytech.net](mailto:bob@newenergytech.net)>; Simmons, Andrea <[asimmo72@jcp.com](mailto:asimmo72@jcp.com)>

**Subject:** RE: 2400 Tupelo MA, EMSI-Lighting Plus 35 kW, CI = \$323/wk.

Good morning Mike,

Per the request below I have created PRJ115 WO #2400000774. This work order has been assigned to you and placed in your DFM needs attn for review.

Thanks,

Michael Metcalf

RM Facility Coordinator - Region 2

CBRE | Global Workplace Solutions | JCPenney

C +1 214 244 2671

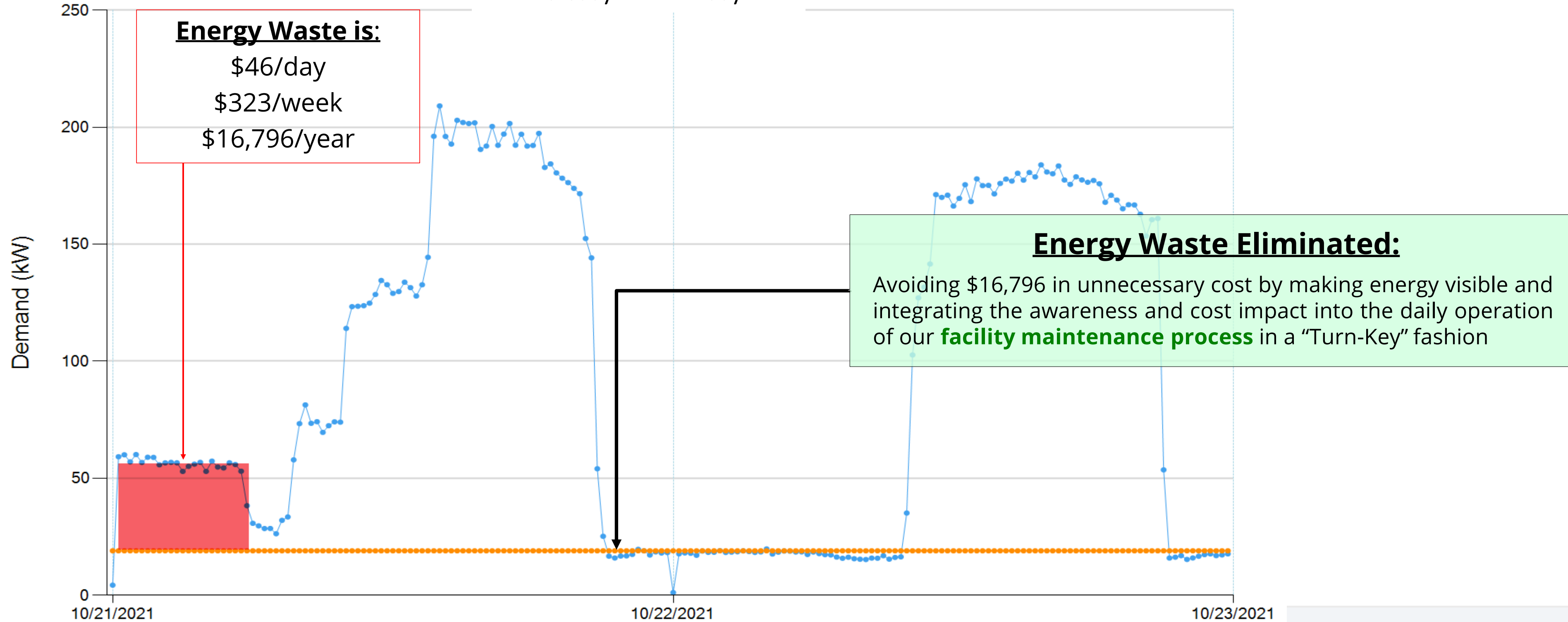
[mmetcal4@jcp.com](mailto:mmetcal4@jcp.com) | [michael.metcalf@cbre.com](mailto:michael.metcalf@cbre.com) | <http://www.cbre.com>

# AEM Step 4 – FM acts of Actionable Data (continued)

Most Important Ingredient: “Turn-Key”

2400-Tupelo, MS  
10/21/2021 - 10/22/2021

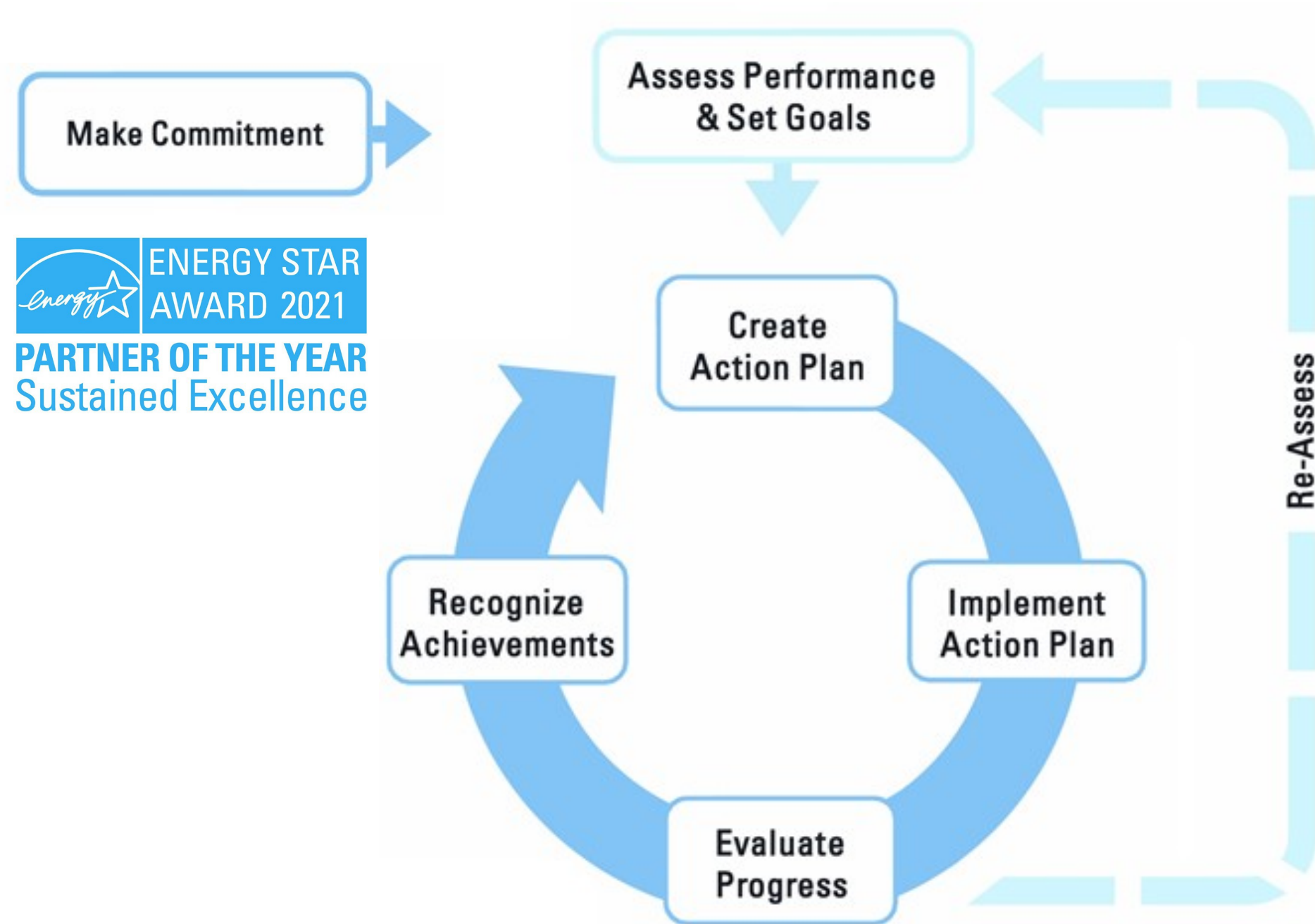
Thursday Friday



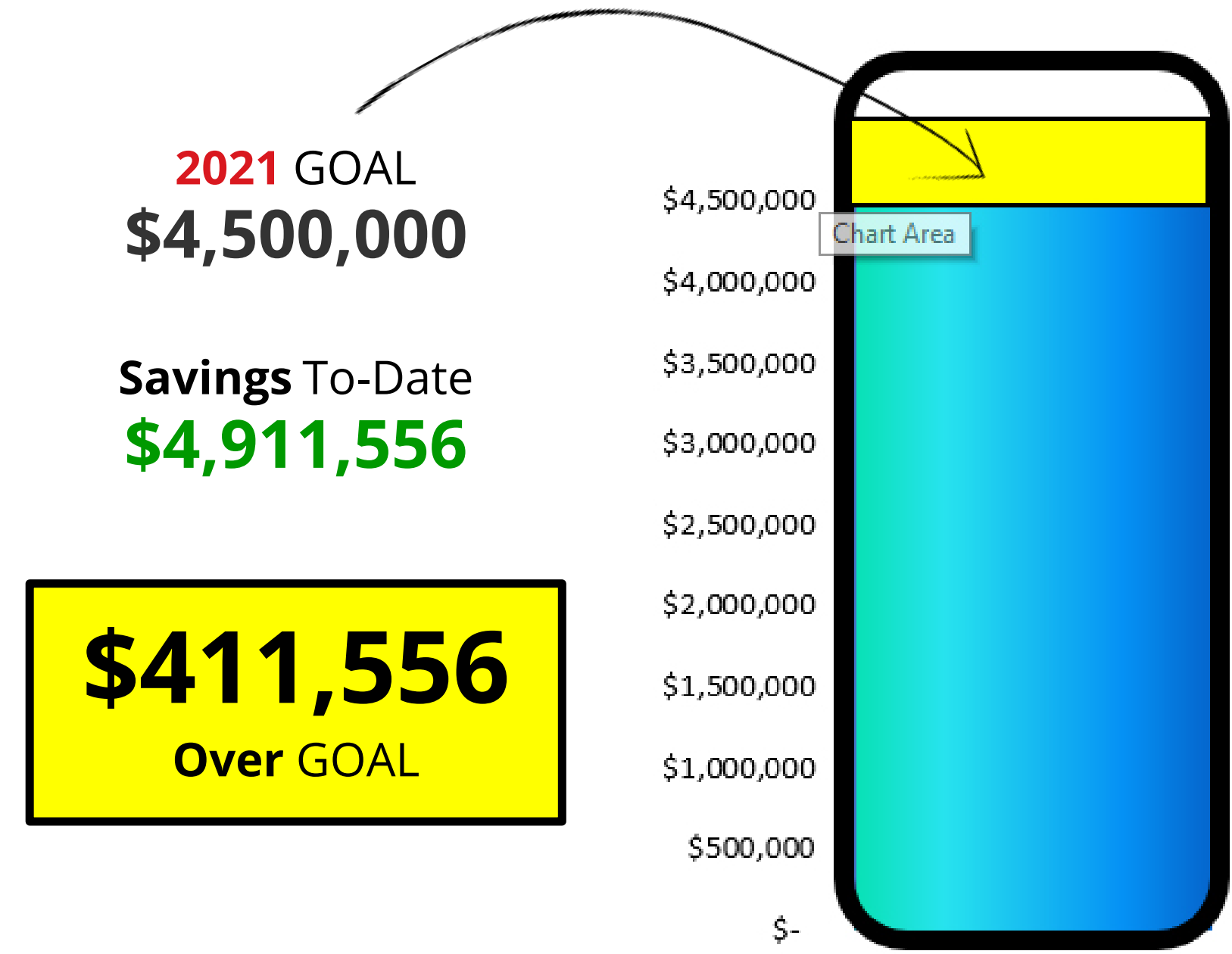
# AEM Performance

First 10-months of our 2021 Fiscal Year

## 🏆 UNBELIEVEABLE Performance



 ENERGY STAR  
AWARD 2021  
PARTNER OF THE YEAR  
Sustained Excellence



## Year-to-Date (10-months) AEM Team Player's Performance

Closed Tickets (Cost Avoided & Cost Incurred)

		Annual Waste-Cost Avoided (next 12-months)				
Players	% of Total	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
Store	5%	\$72,804	\$69,458	\$80,401	\$22,915	\$245,577
Tutenlabs	7%	\$101,925	\$97,242	\$112,561	\$32,082	\$343,808
Trane	23%	\$334,896	\$319,509	\$369,843	\$105,411	\$1,129,658
CBRE	65%	\$946,446	\$902,960	\$1,045,207	\$297,900	\$3,192,513
<b>Total</b>	<b>100%</b>	<b>\$1,456,070</b>	<b>\$1,389,169</b>	<b>\$1,608,011</b>	<b>\$458,308</b>	<b>\$4,911,556</b>

		Annual Waste-Cost Incurred (Cost Incurred until Resolved)				
Players	% of Total	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
Store	5%	\$10,623	\$11,696	\$11,779	\$4,229	\$38,326
Tutenlabs	7%	\$14,872	\$16,374	\$16,490	\$5,921	\$53,658
Trane	23%	\$48,865	\$53,800	\$54,183	\$19,455	\$176,304
CBRE	65%	\$138,098	\$152,043	\$153,126	\$54,983	\$498,249
<b>Total</b>	<b>100%</b>	<b>\$212,458</b>	<b>\$233,912</b>	<b>\$235,578</b>	<b>\$84,589</b>	<b>\$766,536</b>



# Upcoming ENERGY STAR Award Winner Webinars

**December 13 @ 2 PM  
EST**

**Mature your Energy Program for the  
Decisive Decade**

Register here:

[https://www.energystar.gov/buildings/training/learn\\_best](https://www.energystar.gov/buildings/training/learn_best)



# Questions?

