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Opower Peak Management

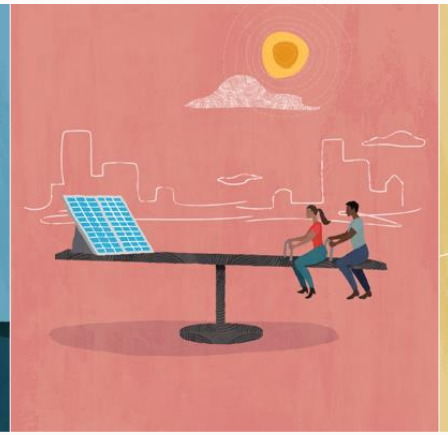
Putting the power of the consumer to work to reduce peak demand

Mary Sprayregen, Global Head, Regulatory Affairs
Opower
May 2024

Opower solutions place the consumer at the center of the energy transition

Energy Efficiency

Reduce emissions faster with energy efficiency innovation



Demand Flexibility

Build system resiliency & avoid dirty peaks with demand flexibility

Electrification

Speed up the time to value of beneficial electrification

Equity + Affordability

Improve equity and affordability in the communities you serve

Digital Engagement

Use AI and behavioral science to connect with customers digitally

Tech & Opower X

Personalize your entire customer experience & influence more action

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Our DSM solutions consistently drive energy and peak savings, high customer satisfaction, and program uplift for our utility partners

119%
Savings compared to Program Goals

5-8%
Increased Customer Satisfaction

32%
Uplift in Program & Product Adoption

73%
Customers Motivated to Take Action

2-3%
Average Peak Savings

36 TWh
Of energy saved

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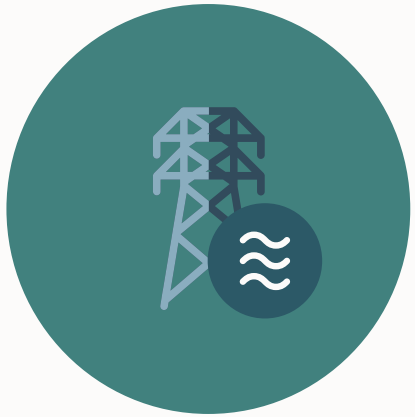
Demand Flexibility

Demand Flexibility

Demand flexibility is the idea that utilities can drive grid and customer benefits by adapting and shifting customer demand so that it aligns with when energy is clean, cheap, or abundant



Deliver load-following "passive" peak reduction

Shifting load from high demand peak intensive times to lower demand non-peak times

Reducing demand during summer and winter system critical peak times

Directly curtailing specific resources when needed to reduce or shape demand

80% of DER capacity will be behind the meter by 2035… But…

8%

Fewer than 8% of US households choose to enroll in residential DR

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Source: https://www.eia.gov/electricity/data/eia861/ and Guidehouse Insights , Global DER Deployment Database 1Q21

Opower's Demand Side Management Platform

Device Control
Curtail and control customer devices

Peak Management
Engage all your customers for cost-effective critical peak reduction

Behavioral Load Shaping
Shape and shift your daily peak load by engaging your TOU customers

Behavioral Energy Efficiency
Home Energy Reports designed to reduce demand, engage customers, drive program, rate, and DER adoption

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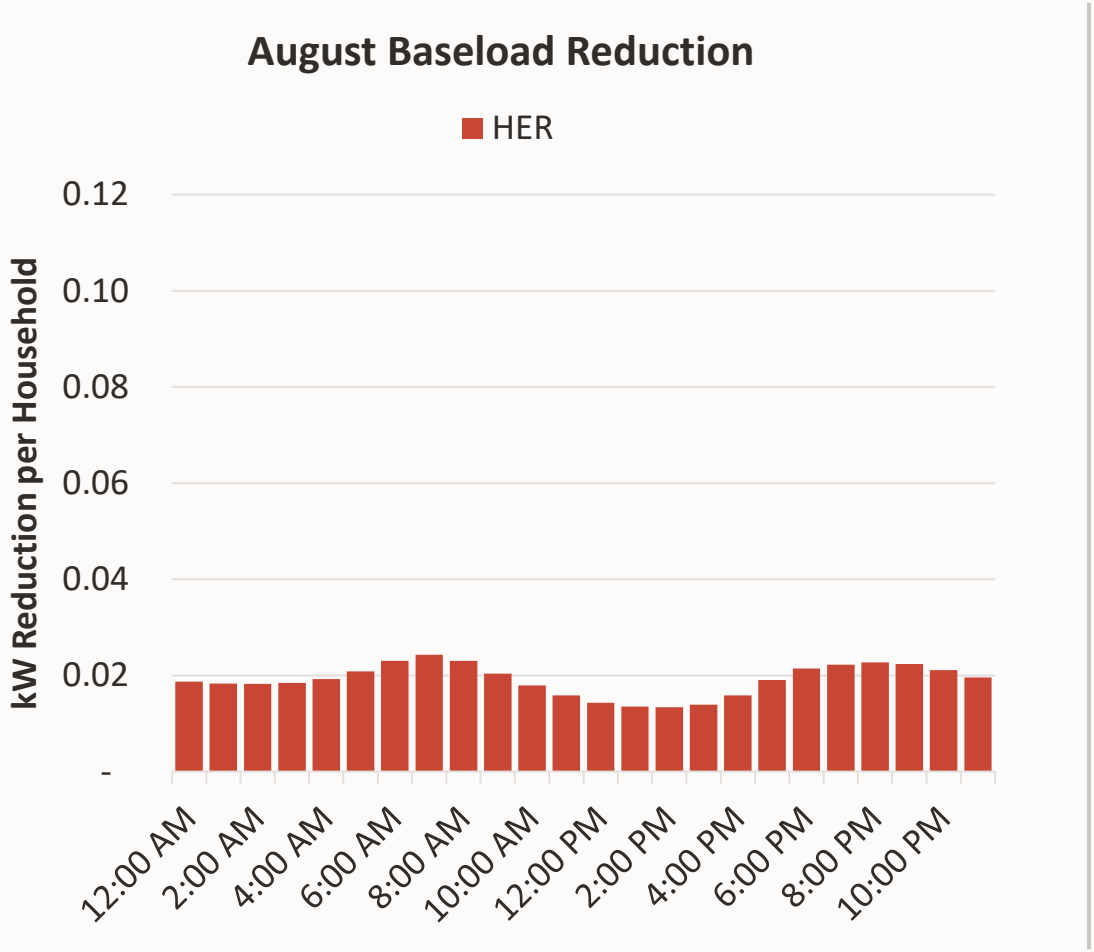
Peak Day Baseload Stack Step 1a: Home Energy Reports (aka HERs)



*Reflects savings post ramp-up

UtilityCo

123 Energy Way, Austin, TX 12345-6789

Home Energy Report: Summer Edition
May 20, 2021
Account #1234567890
1000 Sunshine Blvd, Apt. B
Austin, TX 12345-6789

SARAH CLARK
1000 SUNSHINE BLVD
APT. B
AUSTIN, TX 12345-6789

Feel the warmth in the air? Time to prepare!

Cooling has a big impact on summer energy bills

39% of your total energy use went towards **cooling*** last summer

*Can include window units, central AC, and fans

LAST SUMMER

Nice work! You used **less** on cooling than homes in the Efficiency Zone.

393 kWh
You
450 kWh
Homes in the Efficiency Zone
Homes in the Efficiency Zone are the 20% of similar homes that used the least amount of energy from Jun 6-Aug 30, 2020.

THIS SUMMER

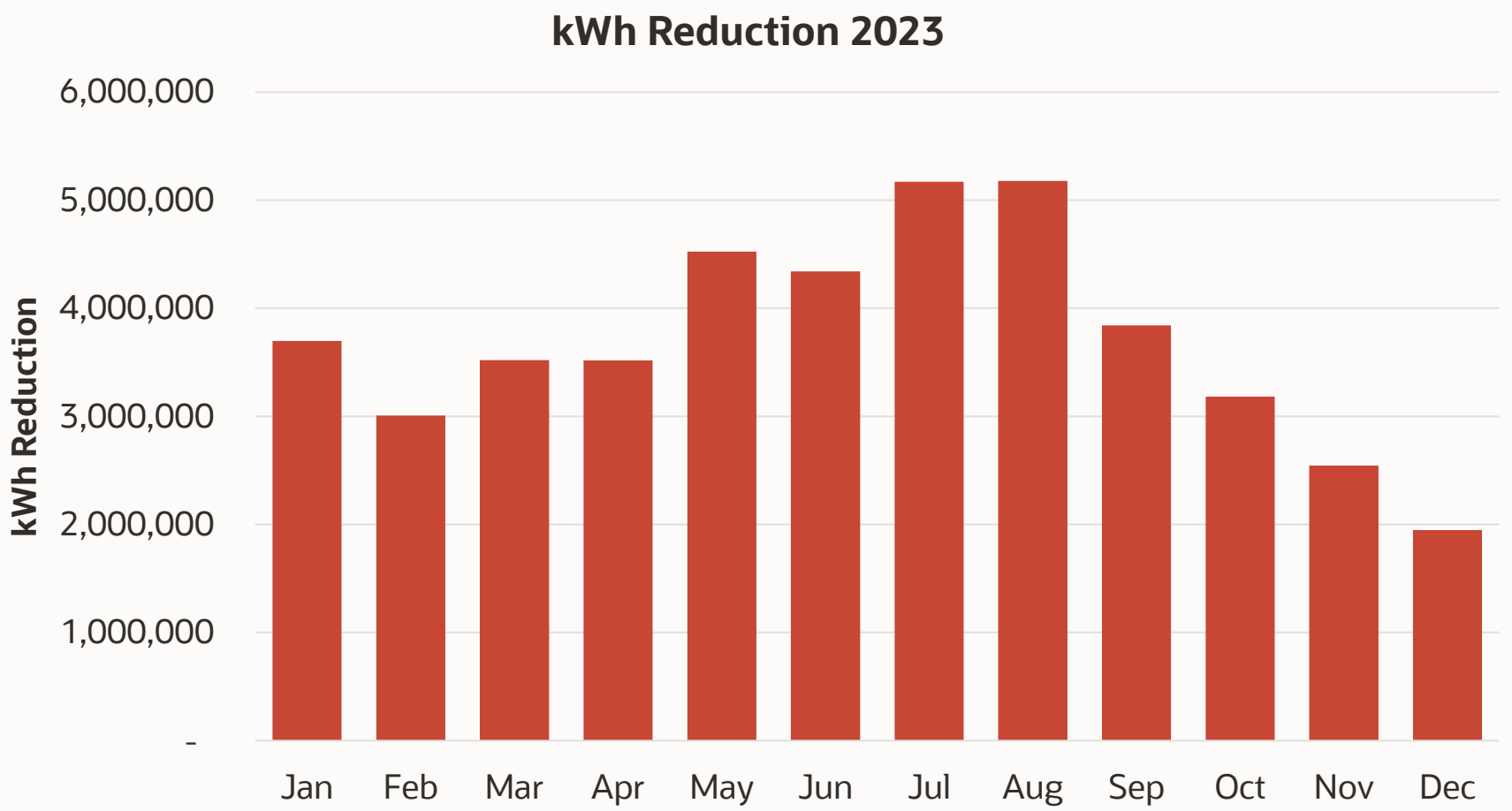
When you're out for a few hours, turn up your thermostat for easy energy savings.

When out, raise it by
5-8°F
Recommended by the US Dept. of Energy

Make it easier: Installing a smart thermostat lets you switch between home and away temperature settings using your smartphone. If you're away at regular times during the week, you can set your thermostat to adjust automatically based on your schedule.

Ready to save more this summer? Turn over for ways to stay cool while you save.

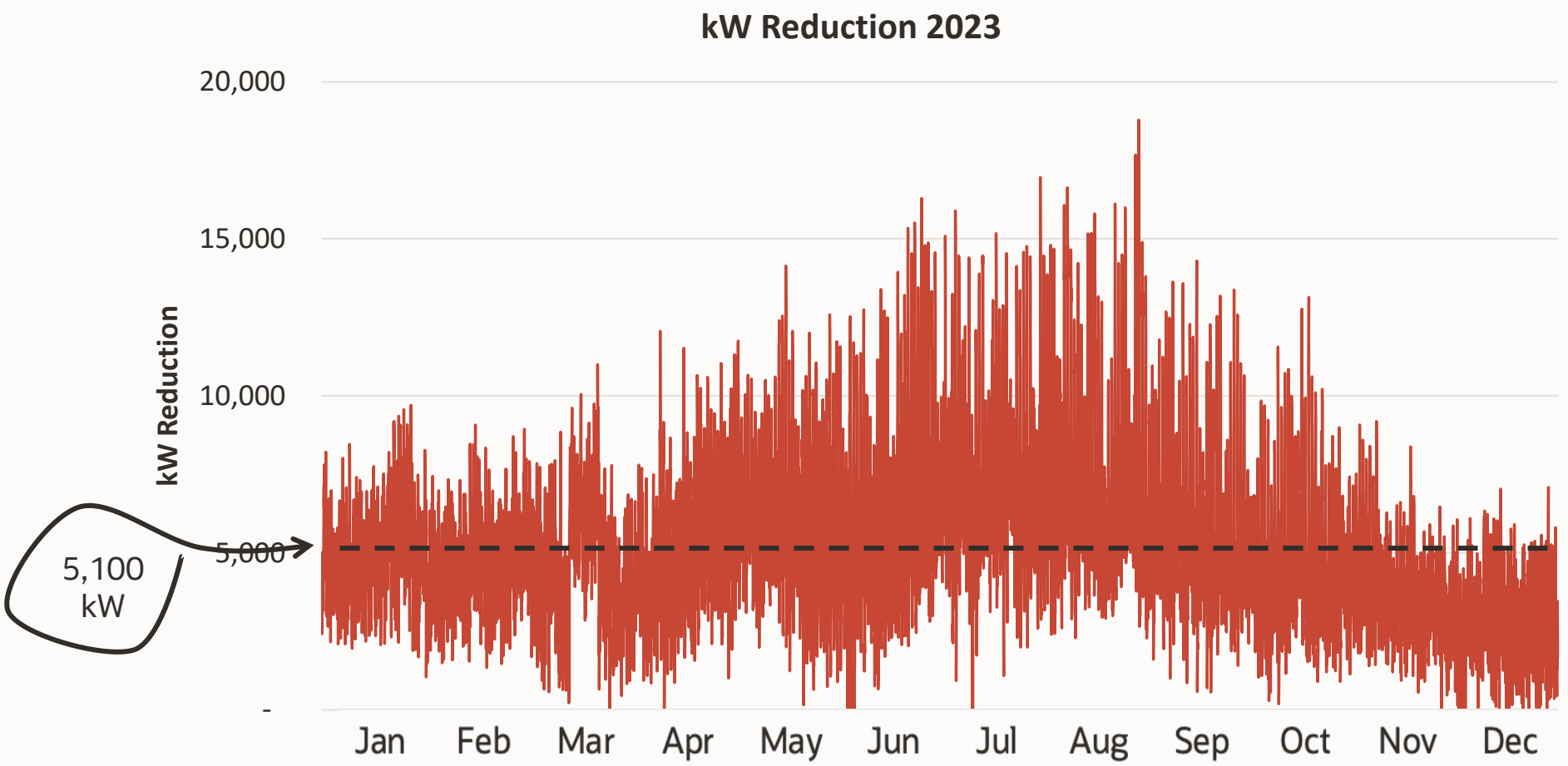
Home Energy Report kWh Reduction
for a Typical HER Program (Southwestern Utility)



Things to Note

- Usage reduction mirrors usage across the year
- Reduction in usage can be substantial – here it's ~1% of Residential usage, 45 GWh of energy savings
- One way to think about our baseload reduction is 45 GWh ÷ 8,760 = ~5,100 kW any hour of the year.

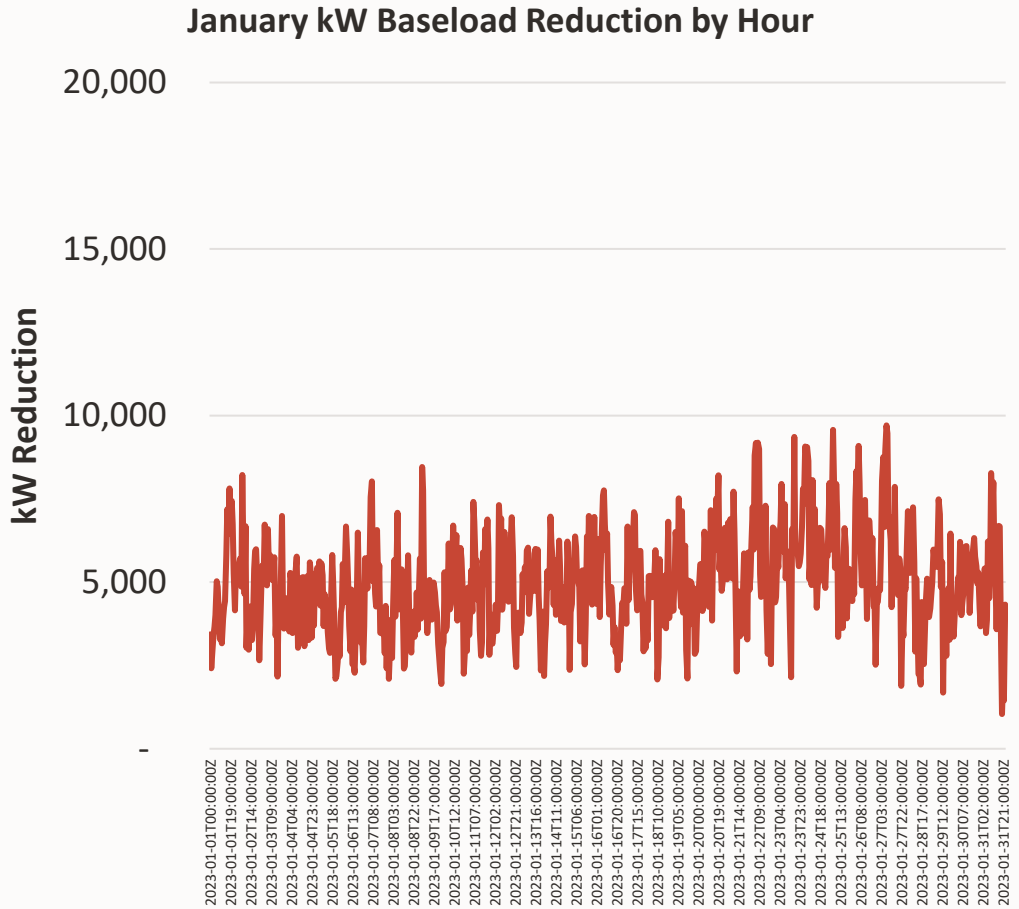
Home Energy Report kW~~h~~ Reduction
for a Typical HER Program (Southwestern Utility)

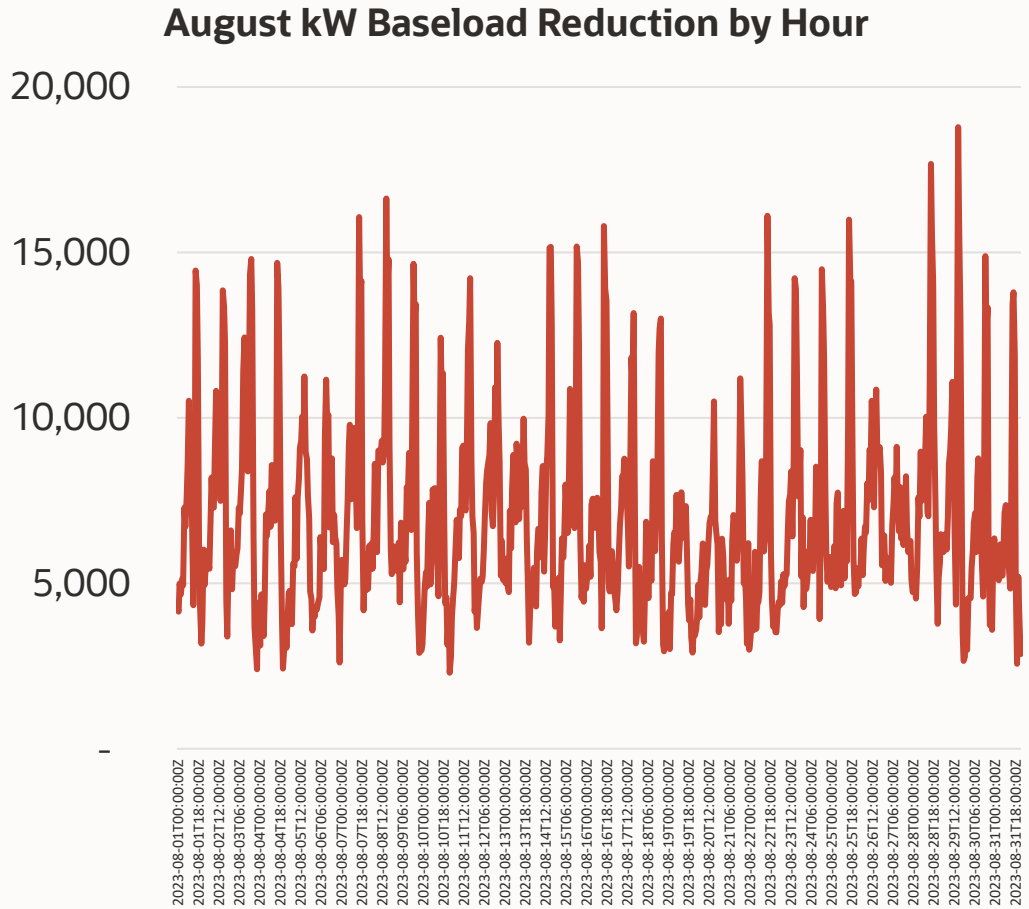


Things to Note

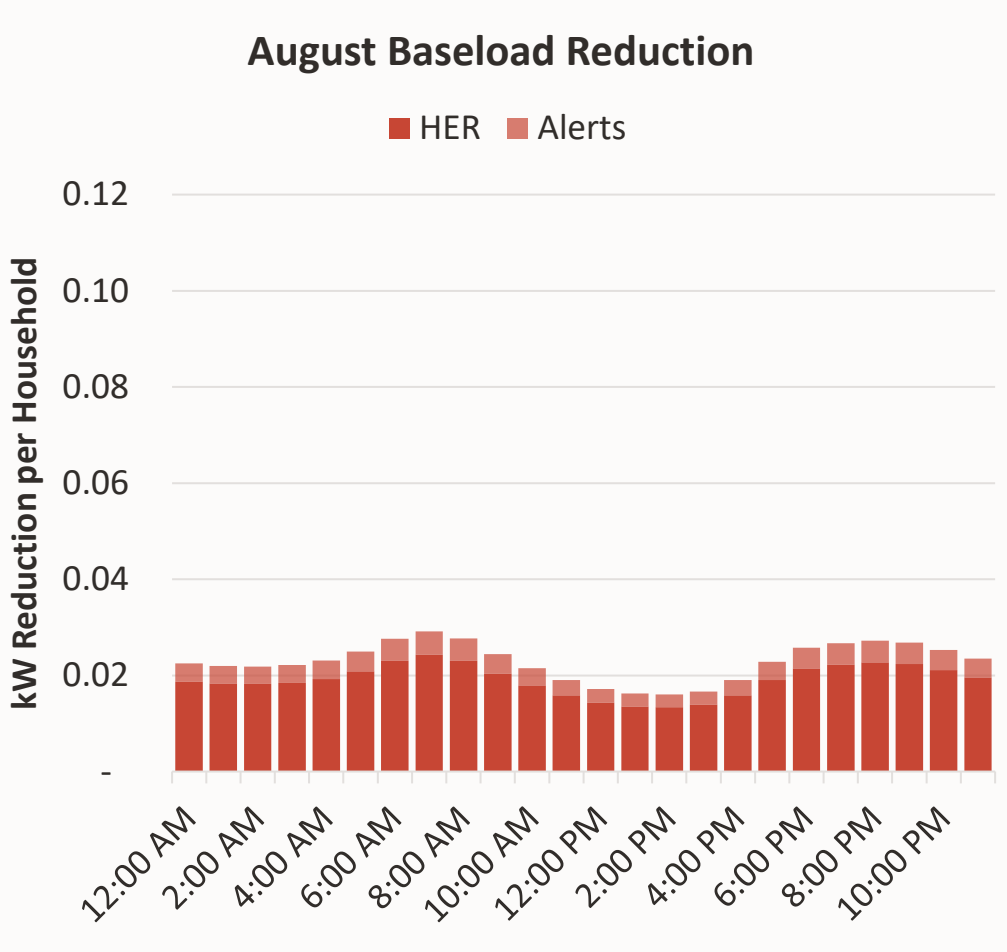
- One way to think about our baseload reduction is 45 GWh ÷ 8,760 = ~5,100 kW any hour of the year.
- But the baseload really changes with usage.
- Our utility partners get the most value in their peakiest times

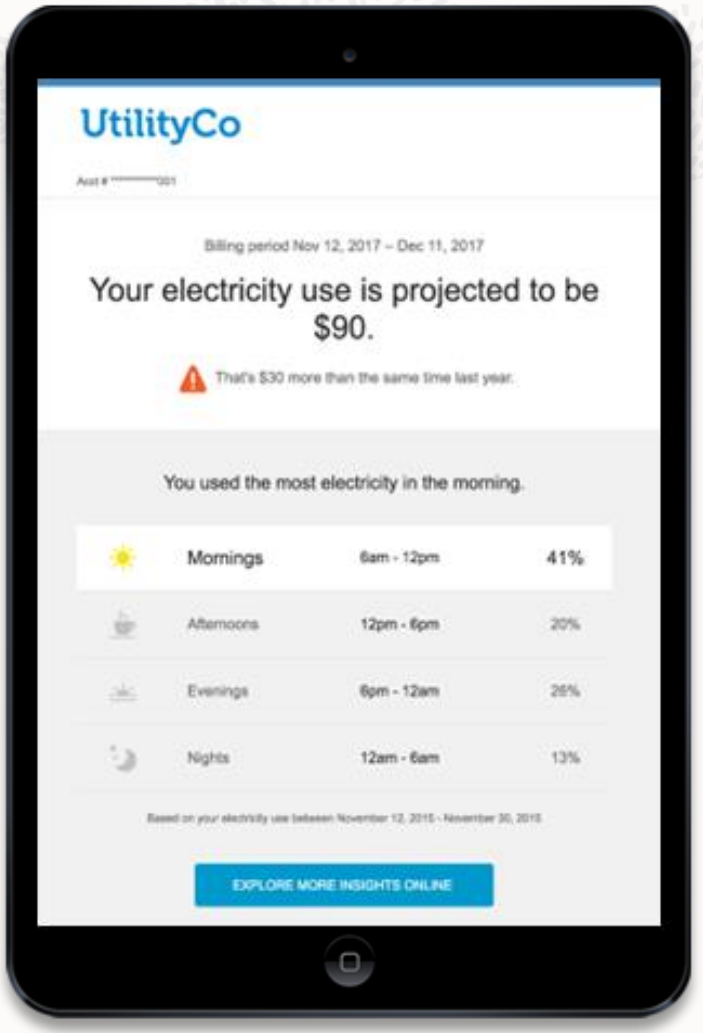
At that utility we are essentially a 4 MW baseload resource in January and a 5 MW resource in August, with 10-18 MW during peak





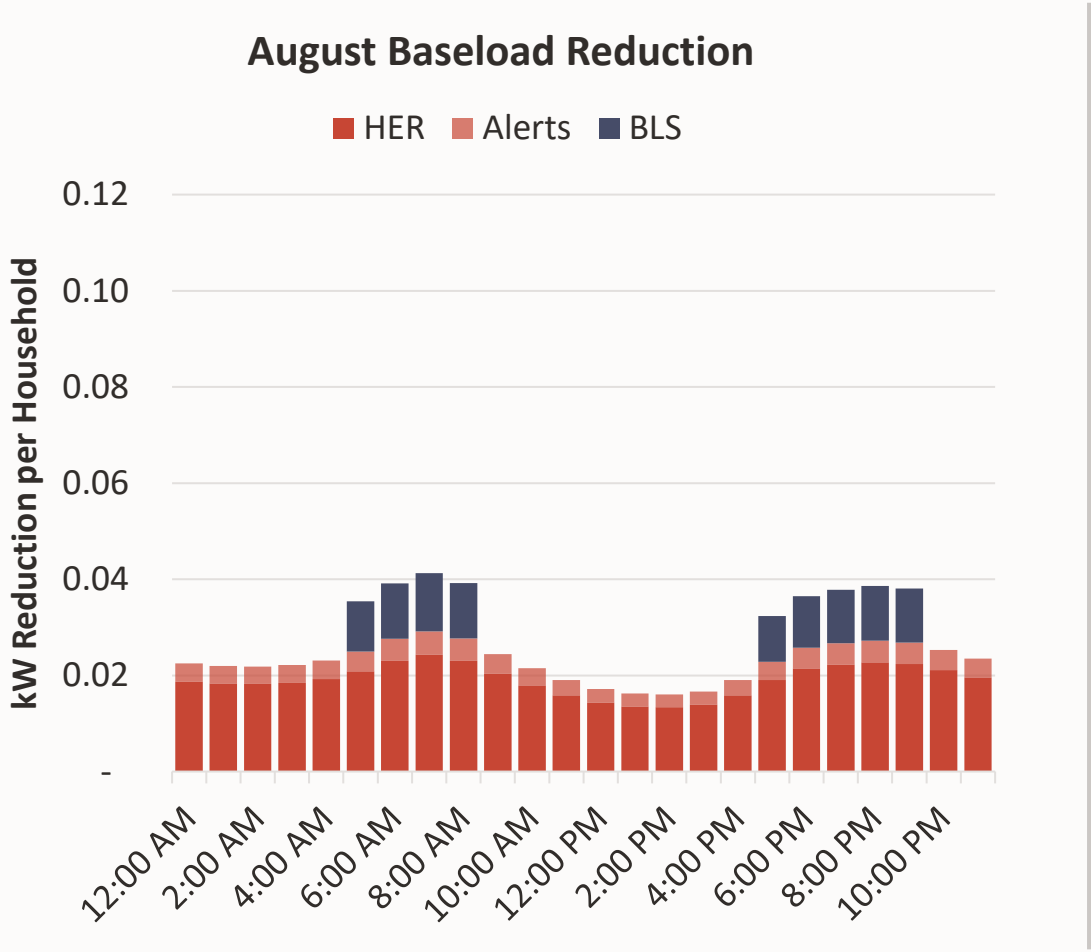
Peak Day Baseload Stack Step 1b: Alerts

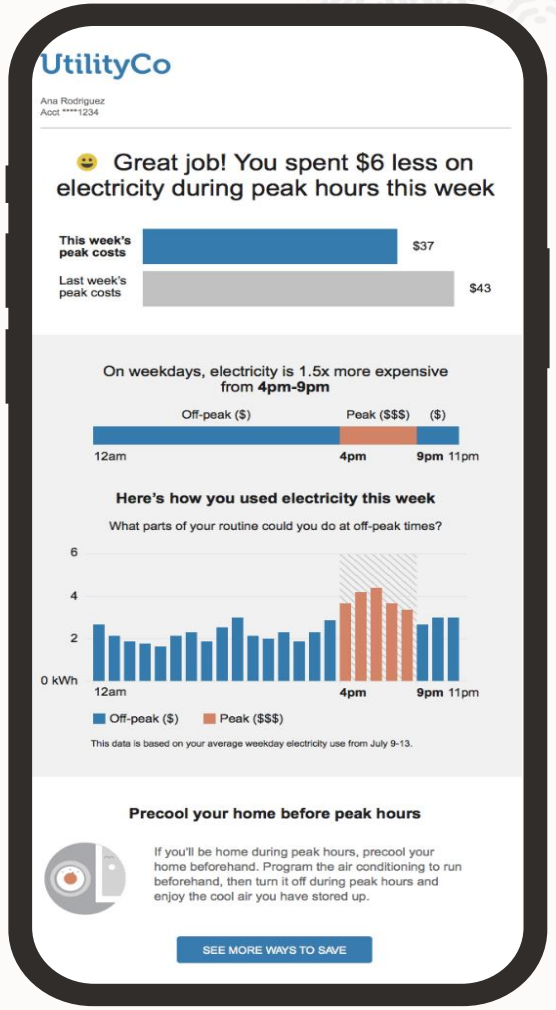




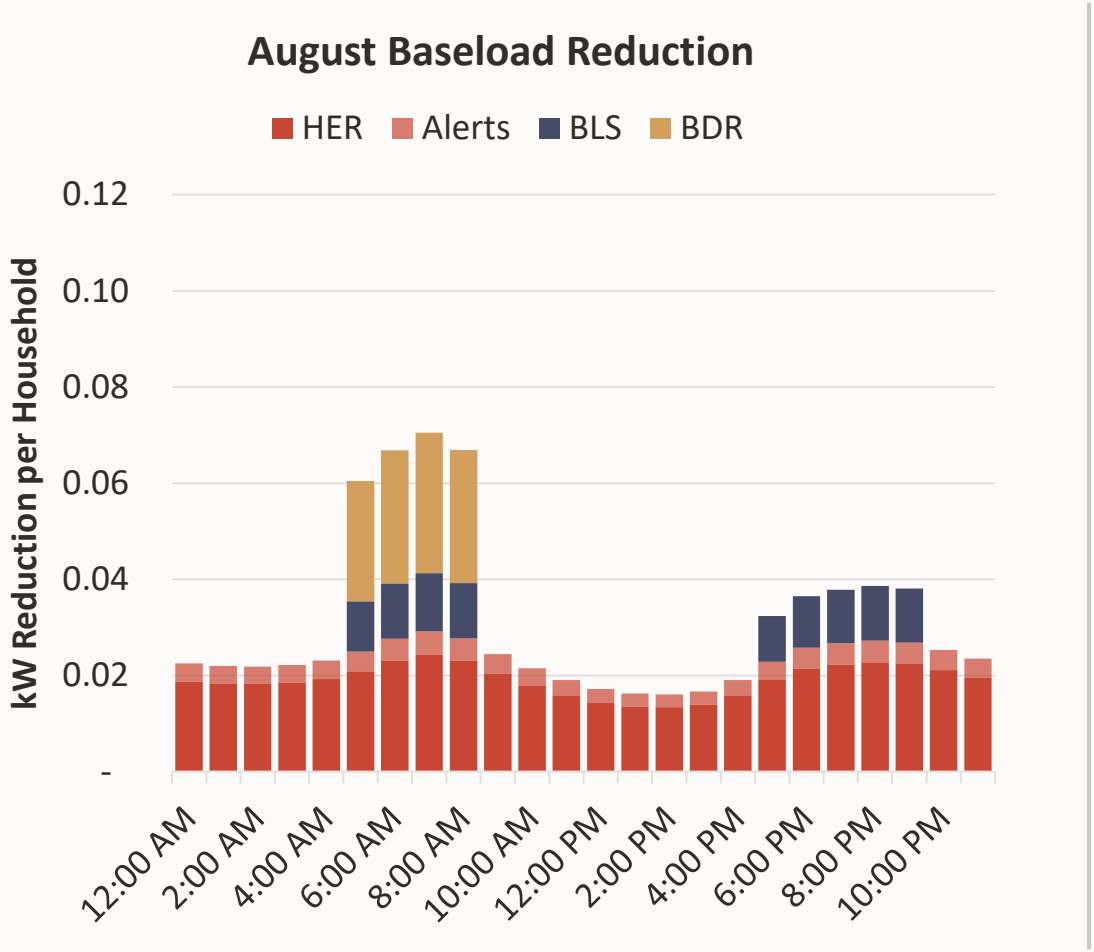
*Reflects savings post ramp-up

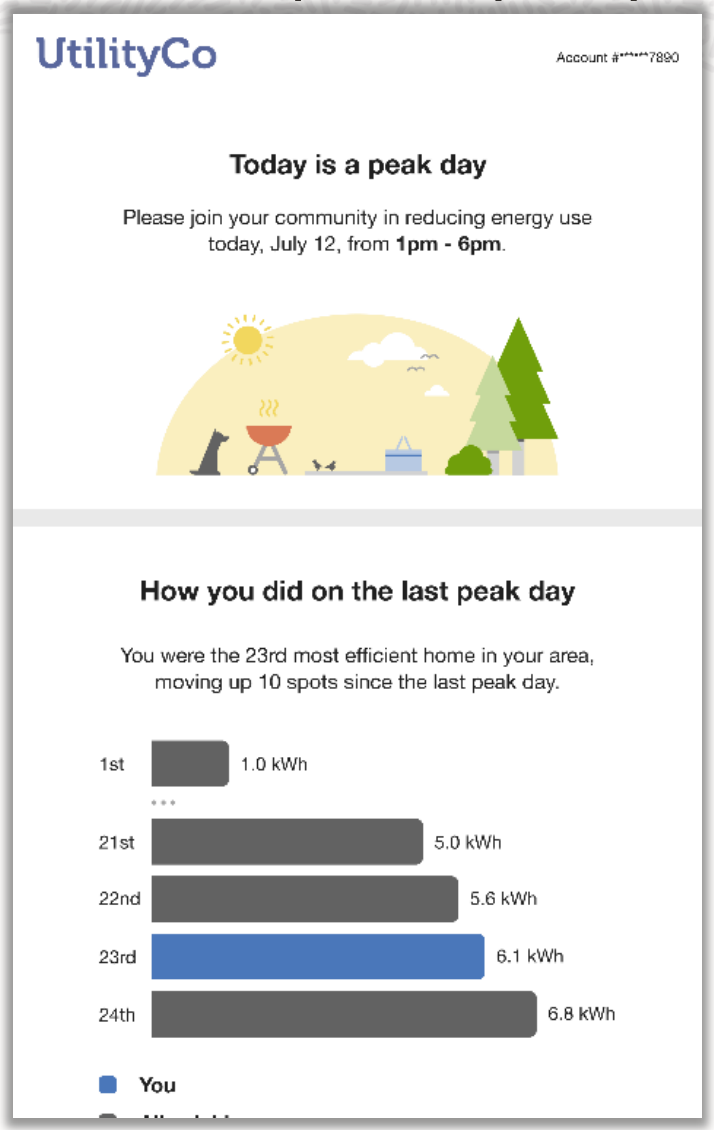
Peak Day Baseload Stack Step 2: Behavioral Load Shaping



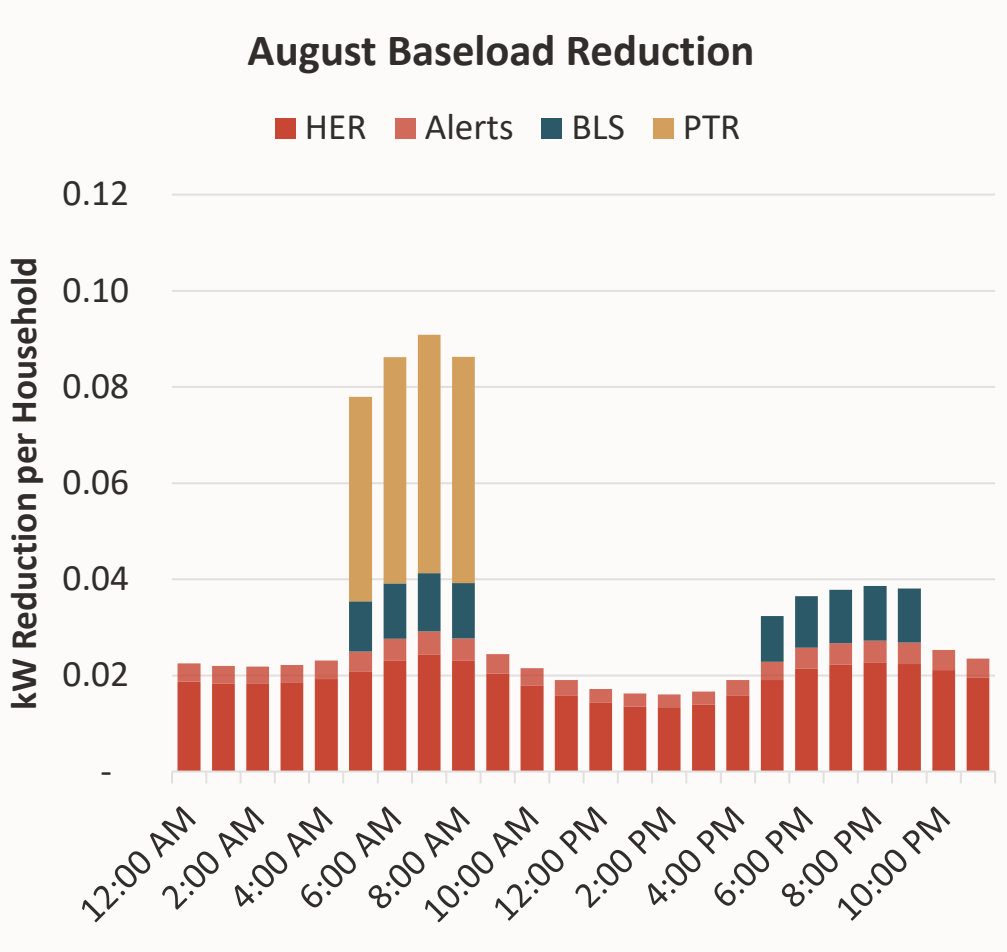


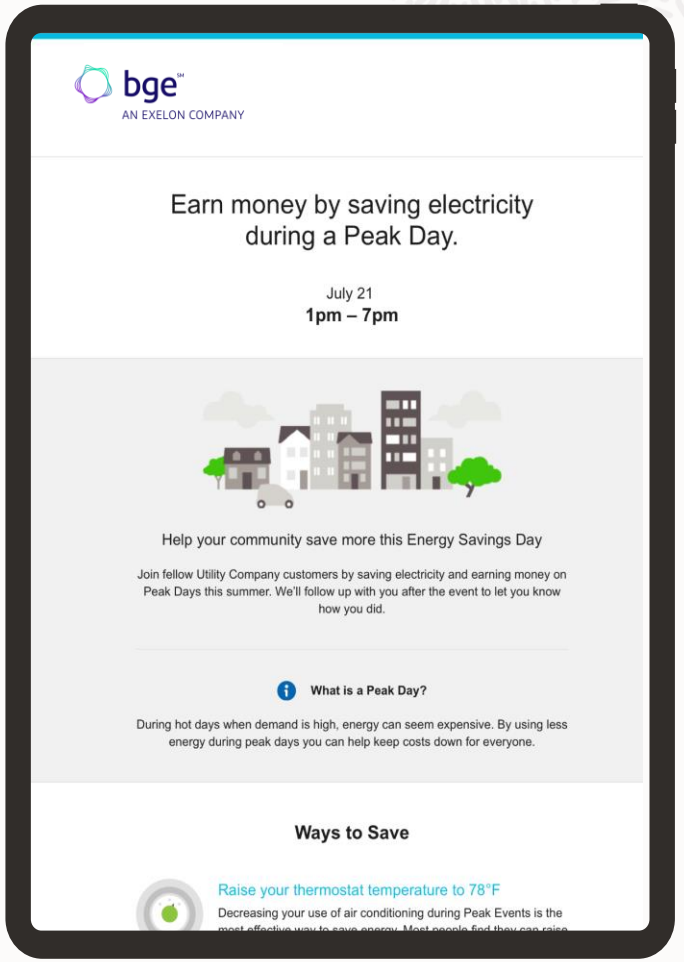
Peak Day Baseload Stack Step 3a: Behavioral Demand Response (BDR)



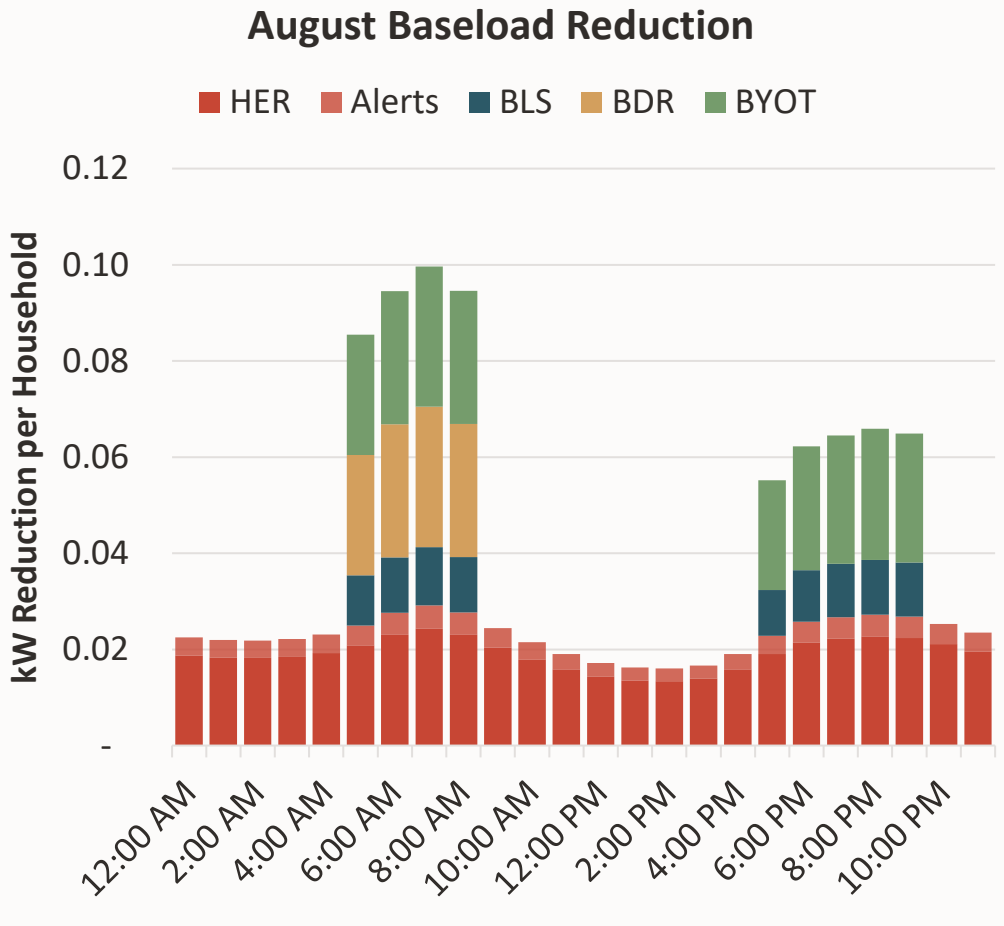


Peak Day Baseload Stack Step 3b: Peal Time Rebates (PTR)





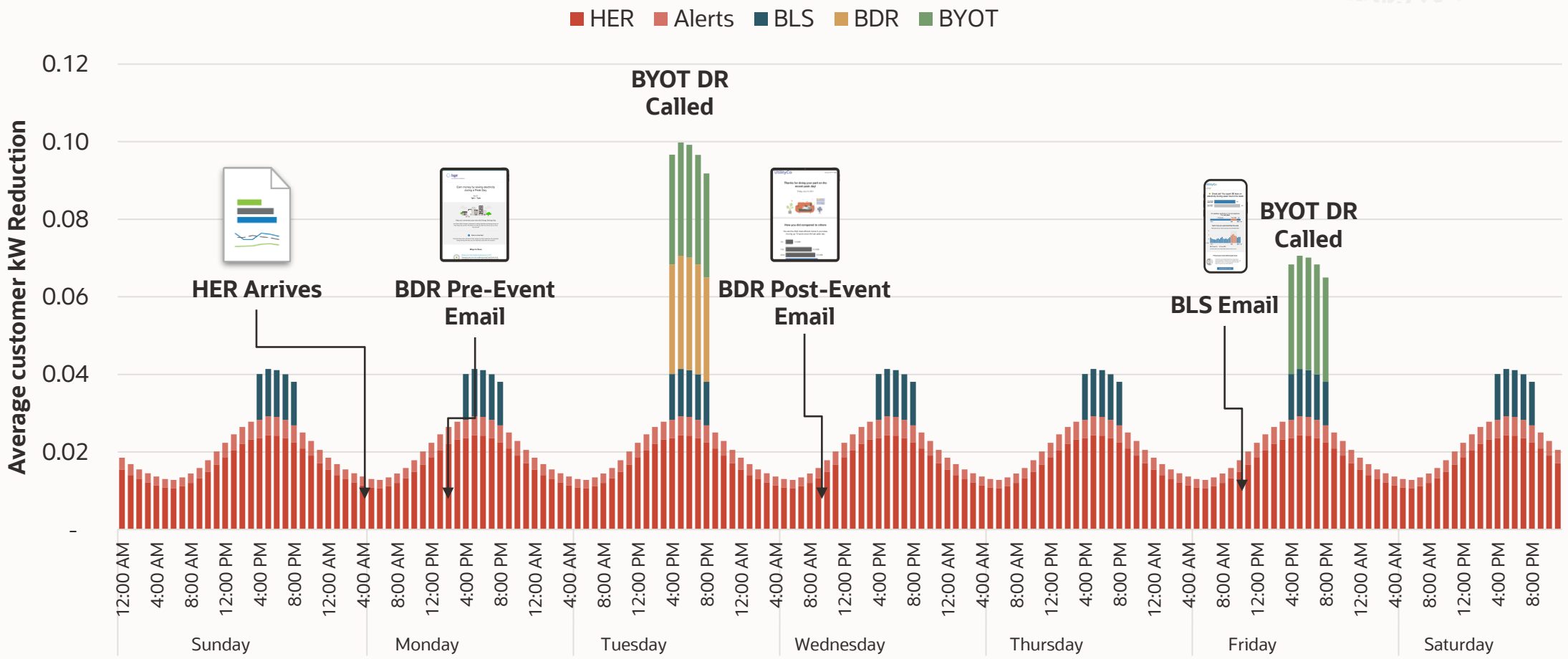
Peak Day Baseload Stack Step 4: BYOT



Key notes on population

- Some snapback associated with BYOT
- **Assumes 8% population coverage**

A summer week in the life of our baseload stack



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Policy Considerations

1. Value Retail Market Reductions in Demand

   → Review IIJA updates to PURPA
   → Create passive demand reduction goals or BCA value

2. Address Consumer Communications Challenges