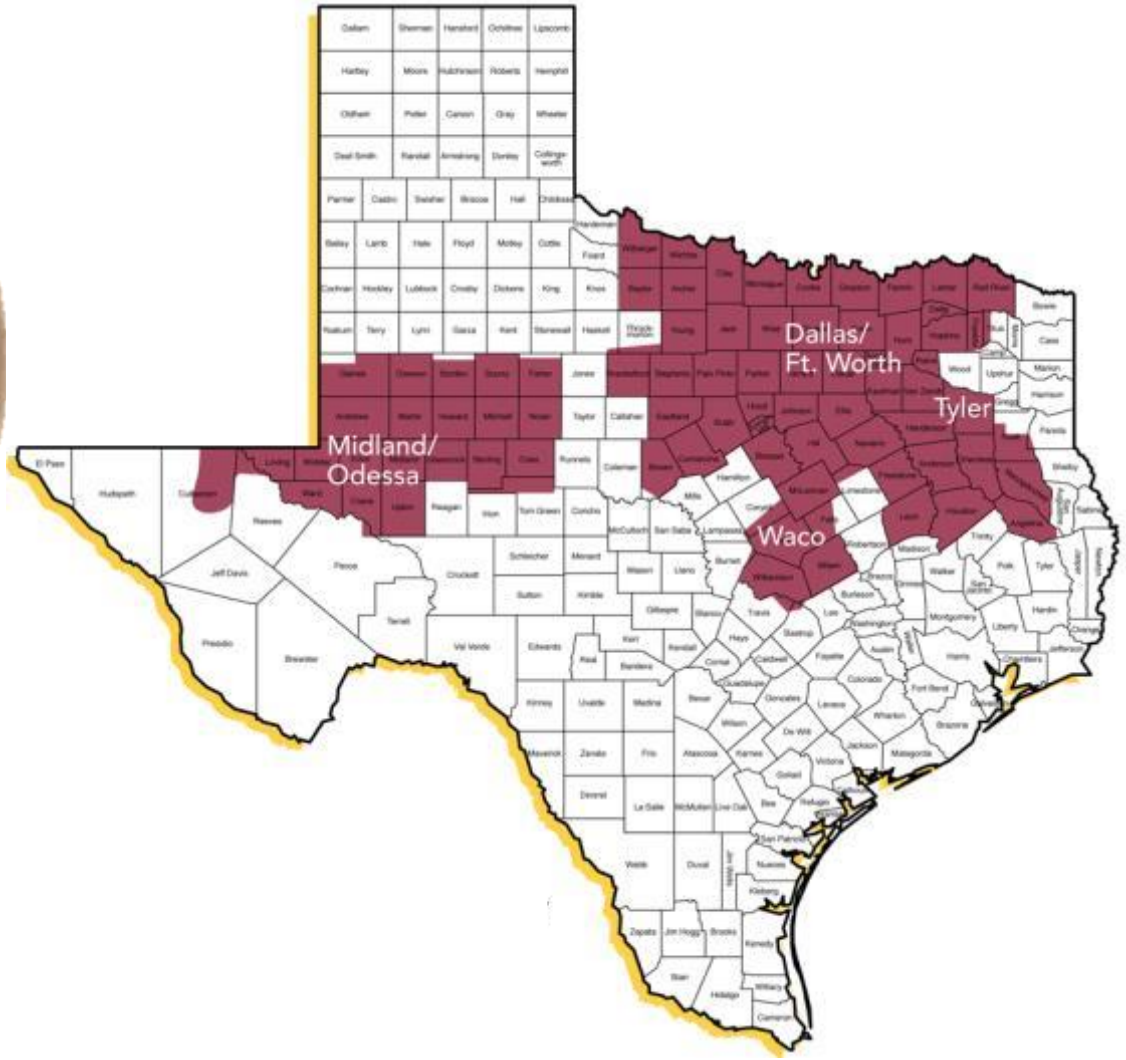
Residential Demand Response

Program Opportunities in the Texas Deregulated Market

Wi-Fi Enabled Thermostats



Texas Deregulated Electricity Market

Competitive Rules - TDUs

- Energy efficiency - 30% of average load growth
- No competitive services
- Use 3rd parties to provide energy efficiency services
- Remain market neutral

Residential Market Enablers

LOWE'S

Direct Energy

THE HOME DEPOT

Wi-Fi

nest

ALARM.COM

reliant.
an NRG company

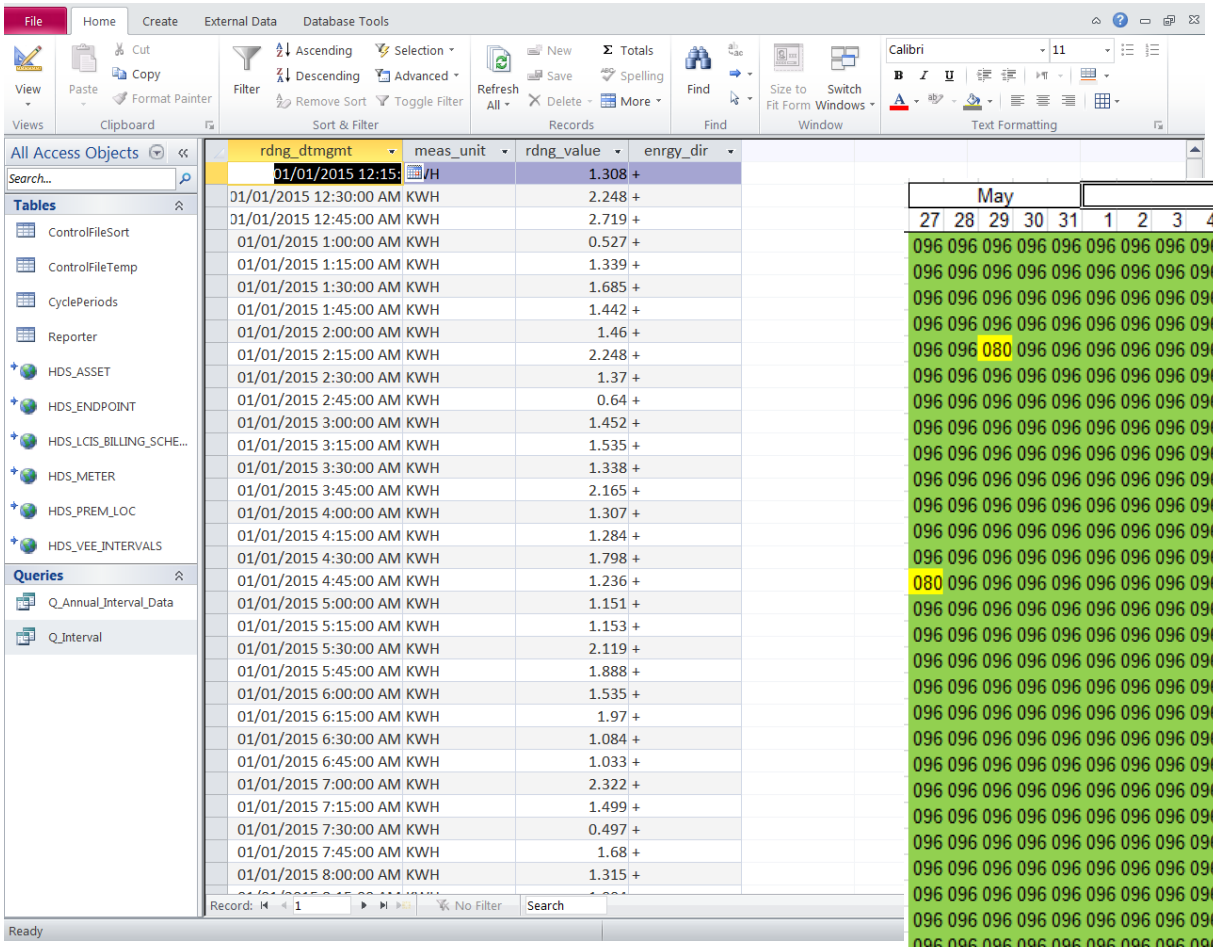
Earth Networks

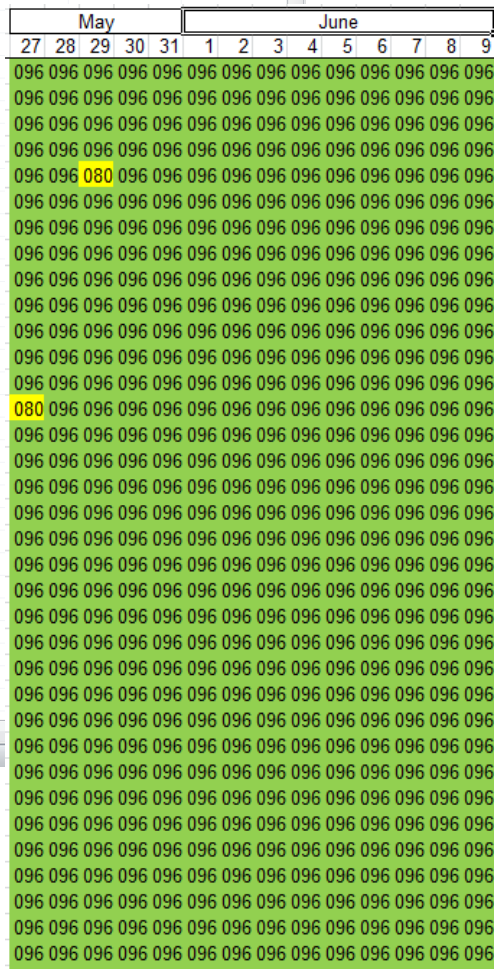
PUBLIC UTILITY COMMISSION OF TEXAS

RDR Pilot Program

- Can we retrieve and analyze the data?
- How do we measure savings?
- The program should be scalable to meet energy efficiency portfolio needs
- Cost effective
- Deploy only during ERCOT EEA Level 2 grid emergency

AMI Data Management

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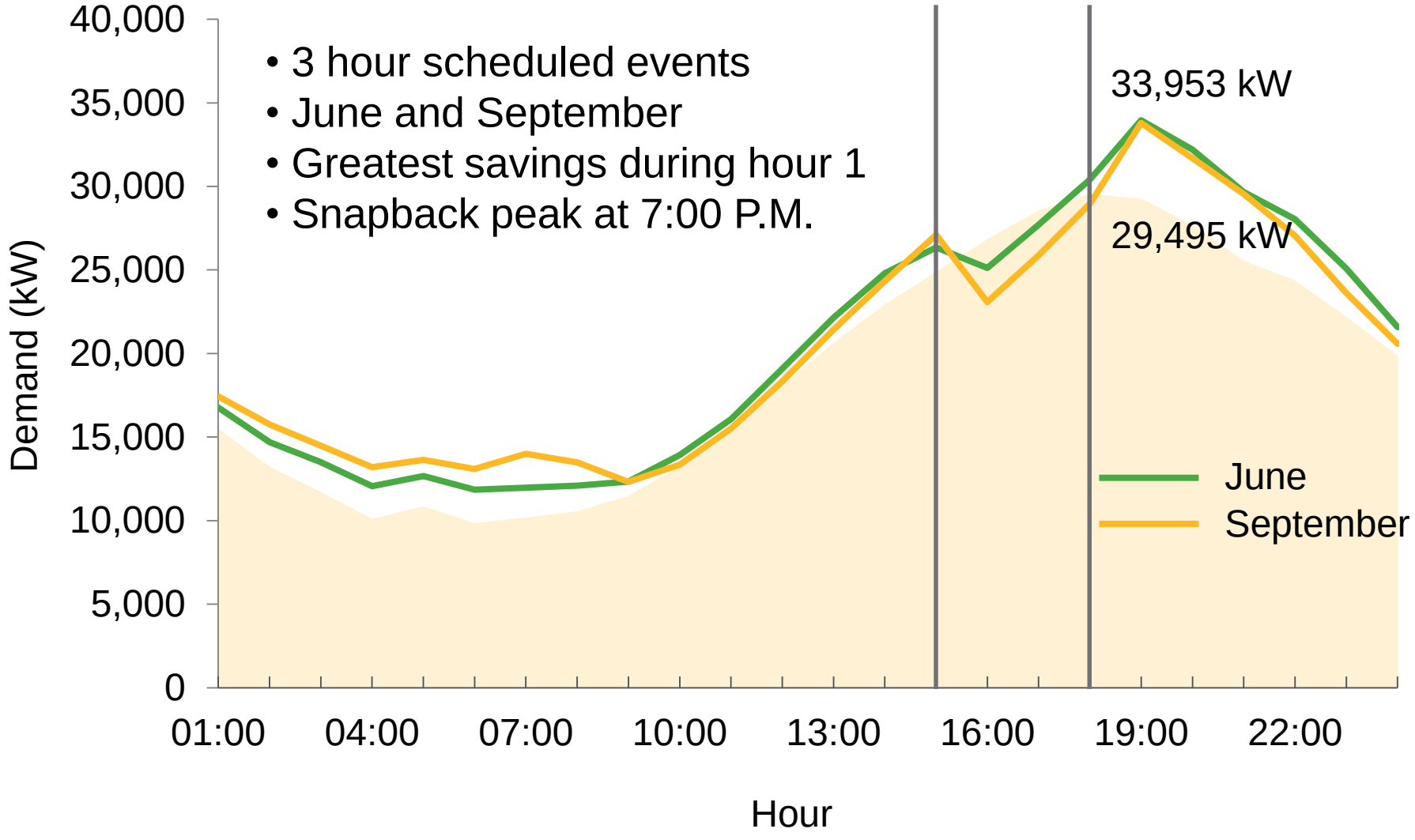
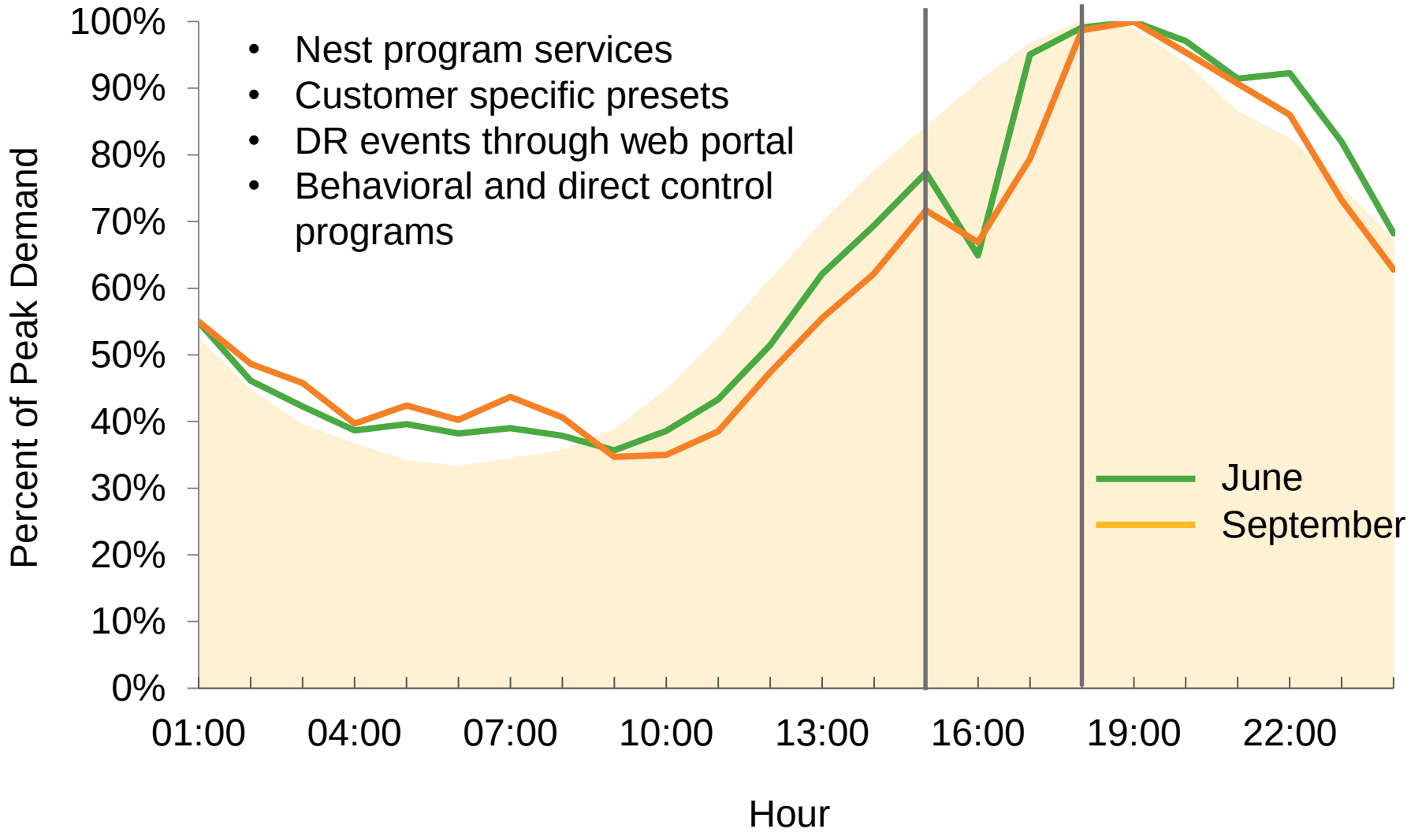
Portfolio Results



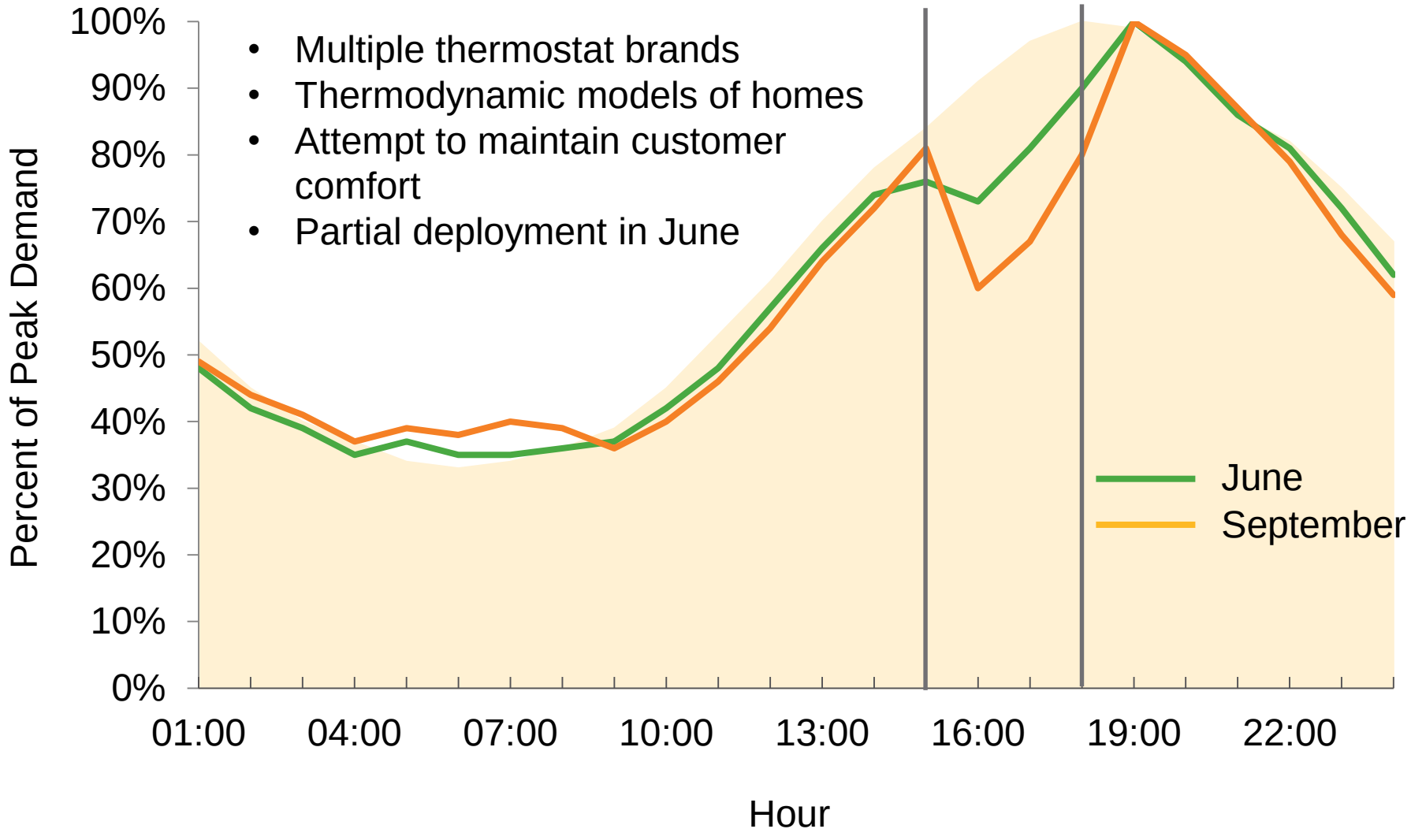
Portfolio Results

Year	Participants	Customers	Reported Savings (kW)	Average kW / Customer
2015	1	3,960	6,886	1.72
2016	4	6,958	4,775	0.69

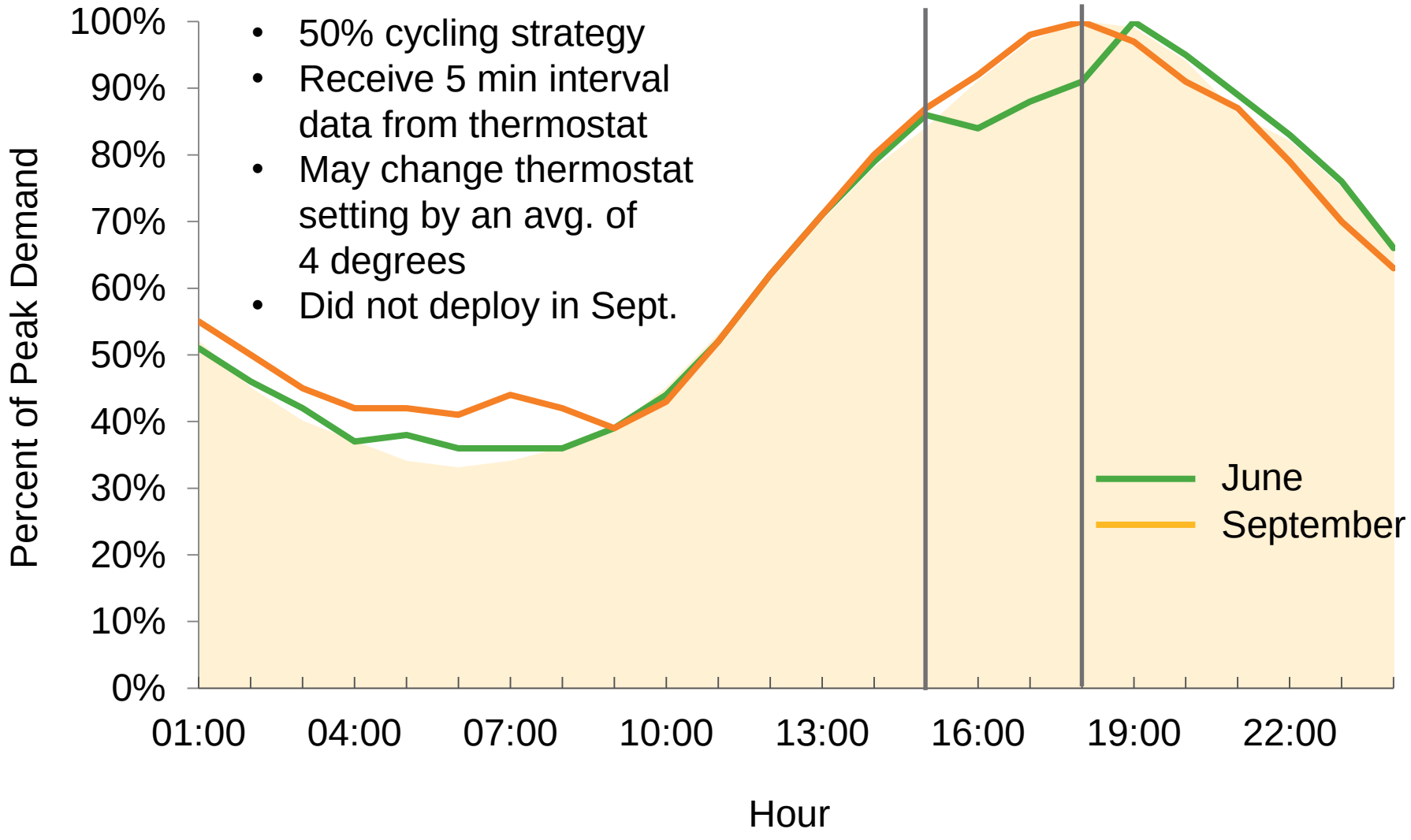
Participant 1



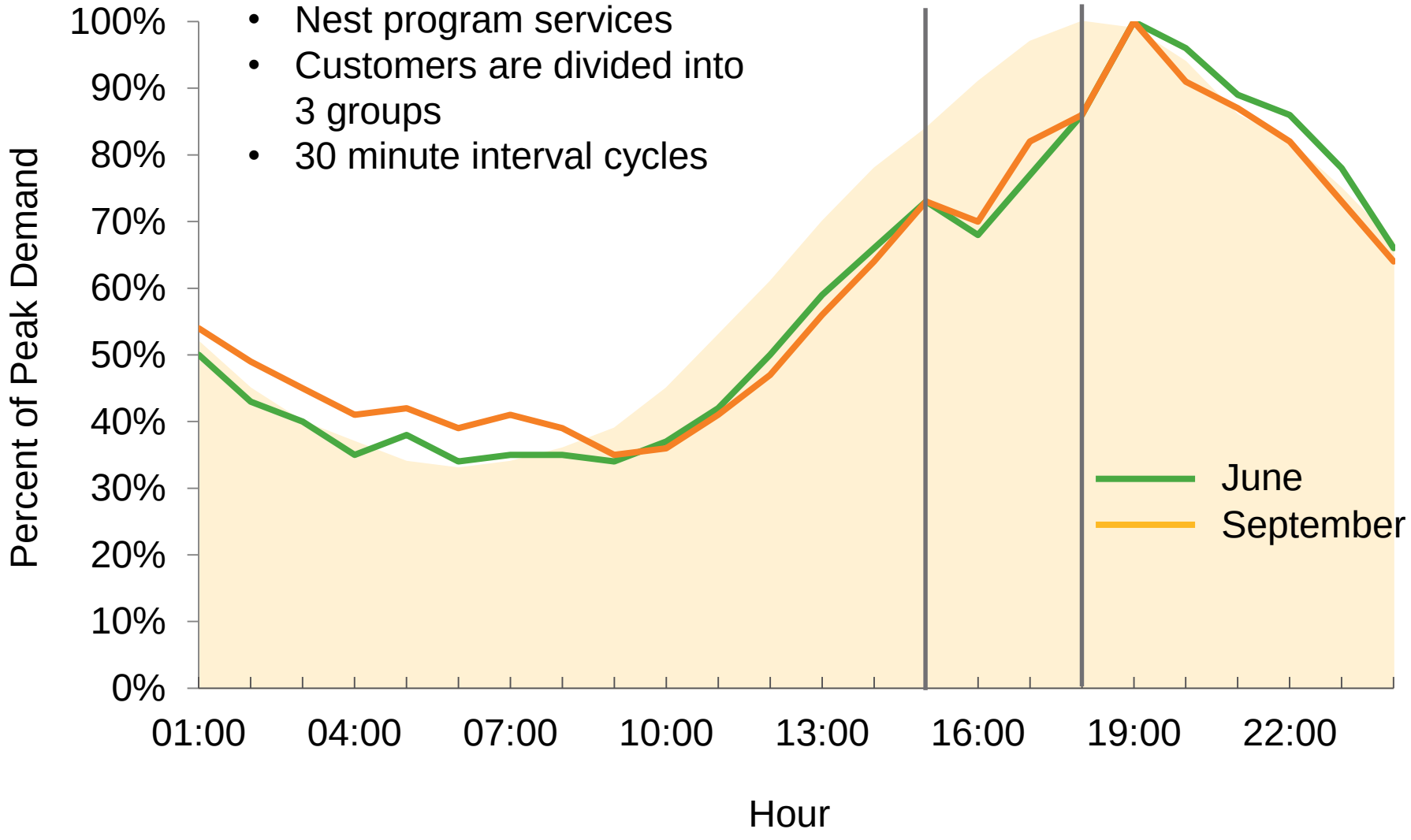
Participant 2



Participant 3

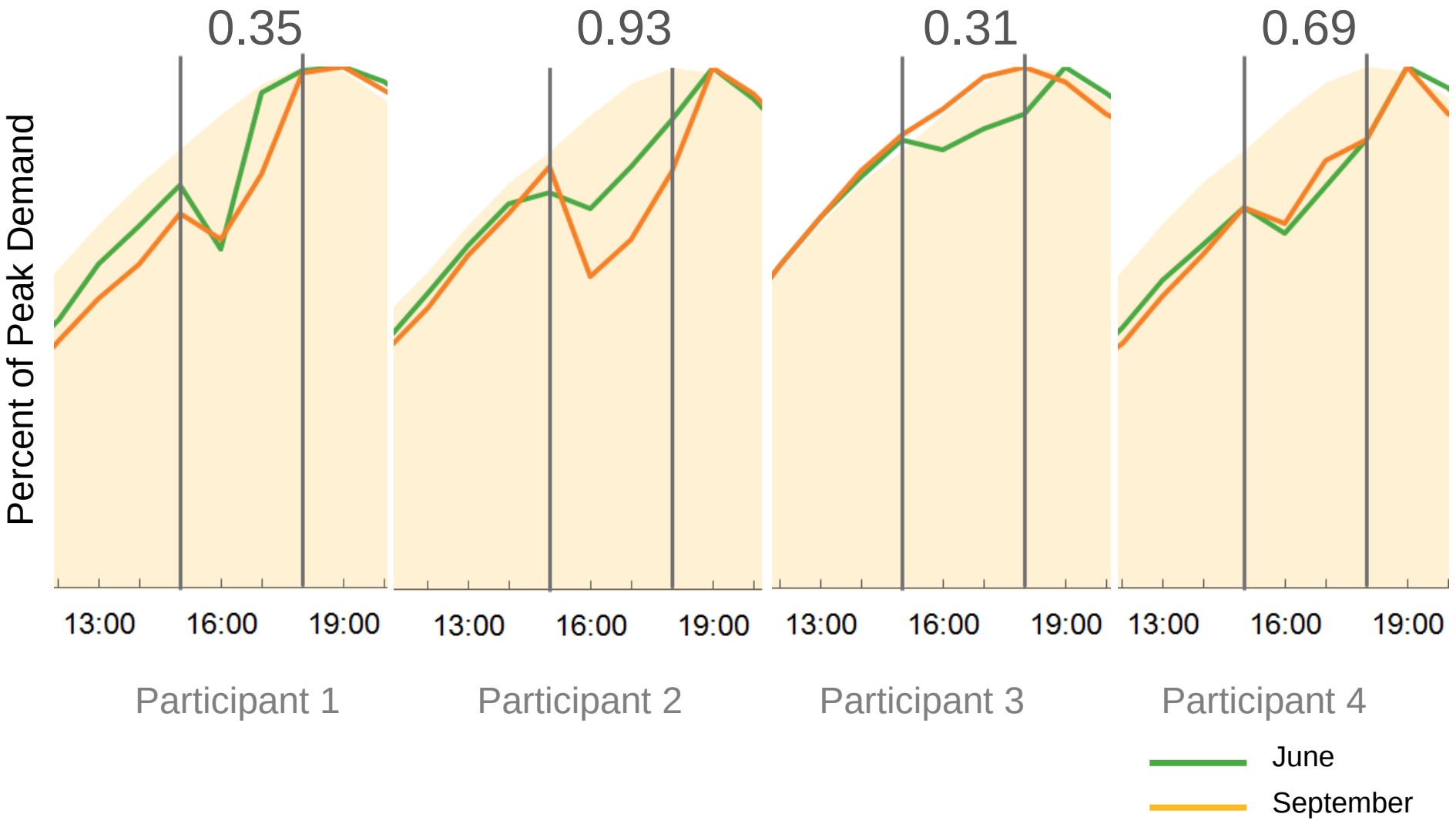


Participant 4



Participant Performance

kW /customer



Lessons Learned

Performance

- Participants with active thermostat management programs have better results
- Event timing and duration has an impact on overall performance and creates a secondary peak
- Methods to manage deployment issues

Internal capabilities

- Processes to manage AMI data anomalies
- Software and analytic capabilities for large datasets

Where are We Going?

- Move from Pilot to Standard Offer Program in 2017
- Expand program to 20,000 customers
- Increase analytic capabilities

Opportunities

- Evaluate potential annual energy savings for actively managed thermostats?
- Add devices such as water heating and pool pumps?
- Feeder level demand response?

Thank You!

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