



The Best Thing Since Tide Pods: Real Life Results from an All-In-One Washer/Heat Pump Dryer Pilot

Mary-Hall Johnson & Lisa Obear, BrightLine Group

Payton Williamson, Southern Company



Georgia Power's Combo Pilot

- ▶ 25 Residences
 - No cost to participate
 - Options for existing equipment
- ▶ Exclusive use for 3 months
- ▶ Appliance energy measured using data loggers
 - Previous metering study conducted in 2014



Samsung Bespoke AI Ventless 5.3 Cu. Ft. All-in-One Front Load Washer & Dryer Combo

What's New Here?

1

1953

First combo appliance offered

2

1970s

Poor performance led to discontinuation

3

1990s

Small capacity combos offered in Europe

4

2010s

Heat pump dryers available in US

5

2023-2024

GE, Samsung, LG release new generation



Game-Changing Features

No transferring wet loads
EnergyStar “Most Efficient”
120V power supply
No external venting
23 different cycles
Auto detergent dispenser

Longer drying time
Required maintenance
routines

How Efficient?

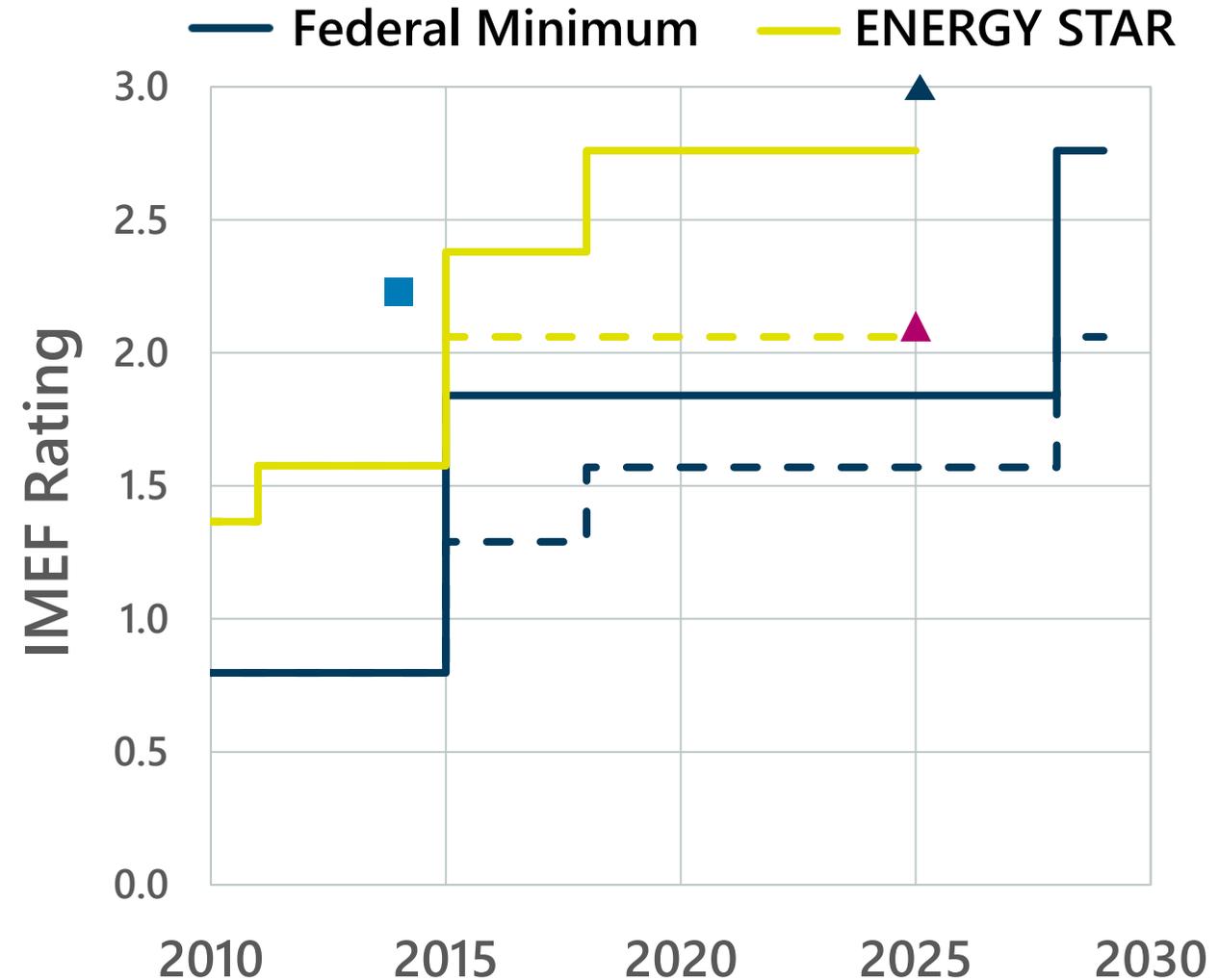
IMEF: Clothes Washer Efficiency

CEF: Dryer Efficiency

Both: Higher number -> More efficient

	IMEF	CEF
Combo	2.92	7.5
Pilot – Existing Equip	2.1	3.4
Nexant 2015	2.2	

Washer IMEF Ratings Through Time



How Efficient?

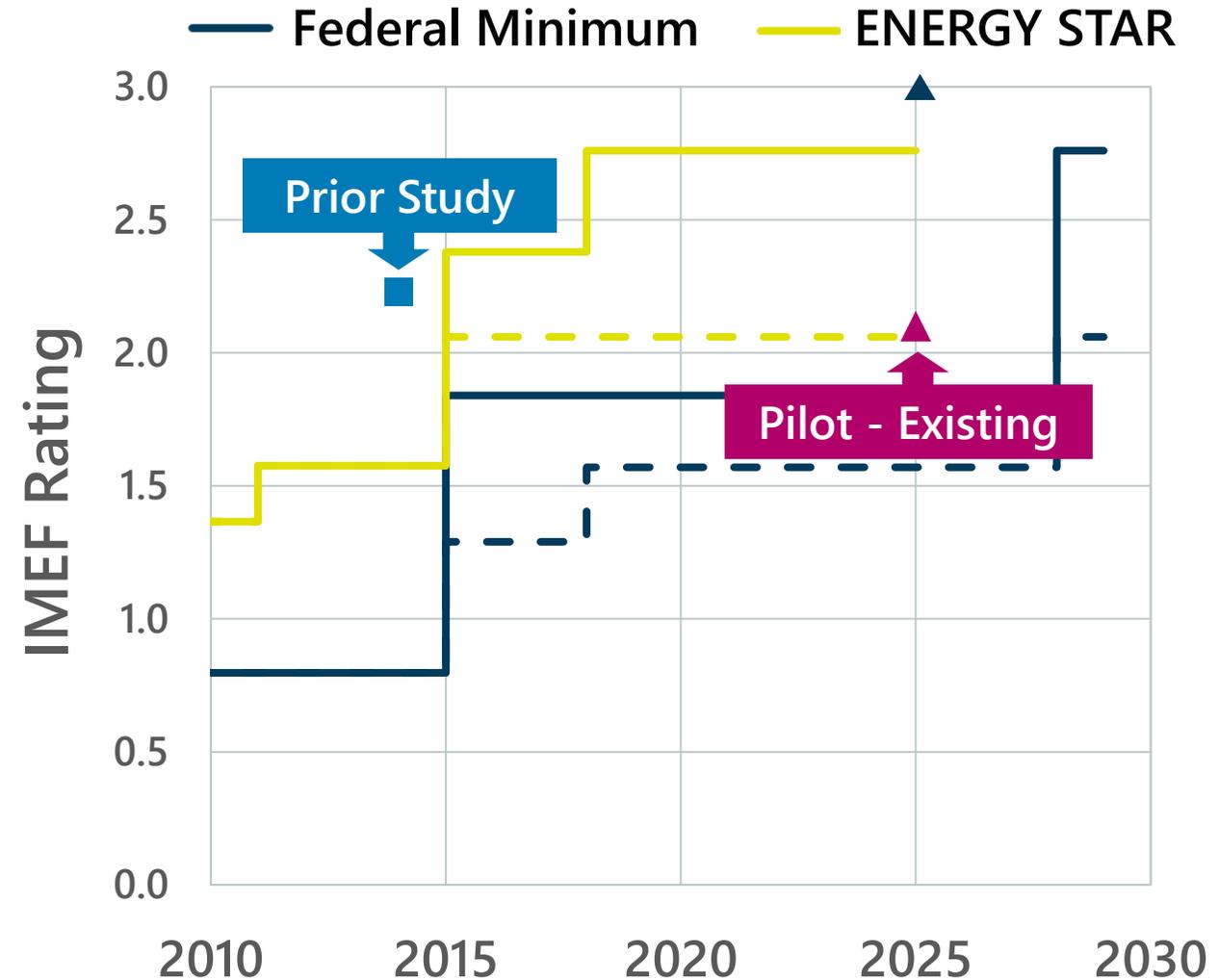
IMEF: Clothes Washer Efficiency

CEF: Dryer Efficiency

Both: Higher number -> More efficient

	IMEF	CEF
Combo	2.92	7.5
Pilot – Existing Equip	2.1	3.4
Nexant 2015	2.2	

Washer IMEF Ratings Through Time



Evaluation Methodology

Direct Energy Metering

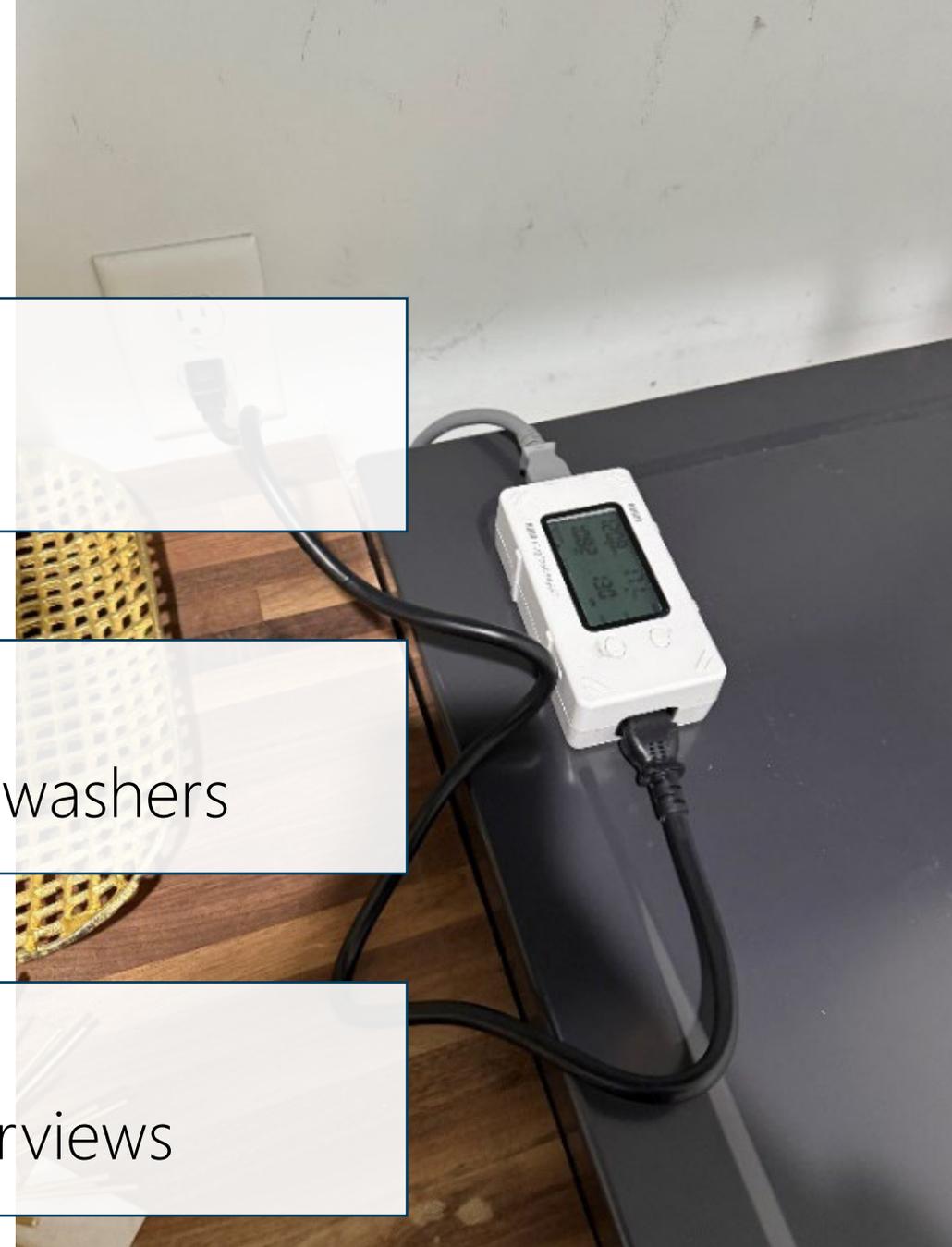
- In-line submeters, 5-minute interval

Baseline Comparison

- Nexant 2015: Study of 42 ENERGY STAR washers

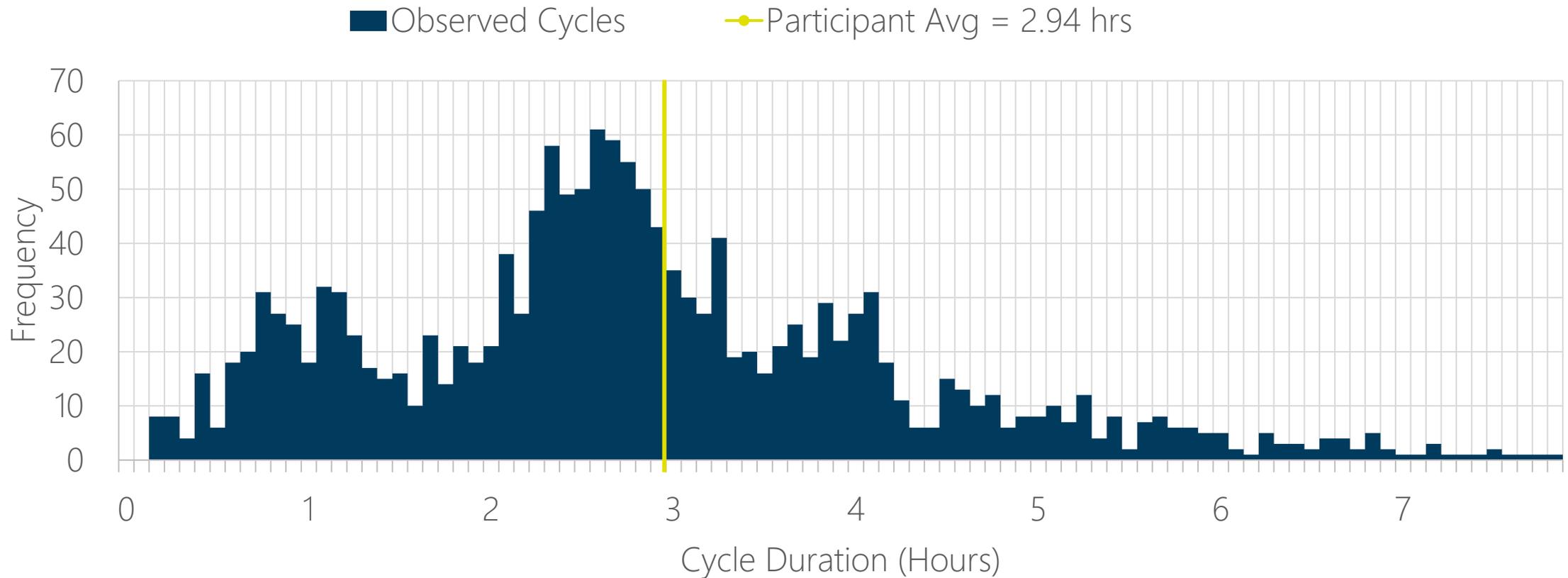
Qualitative Research

- Participant survey and market actor interviews



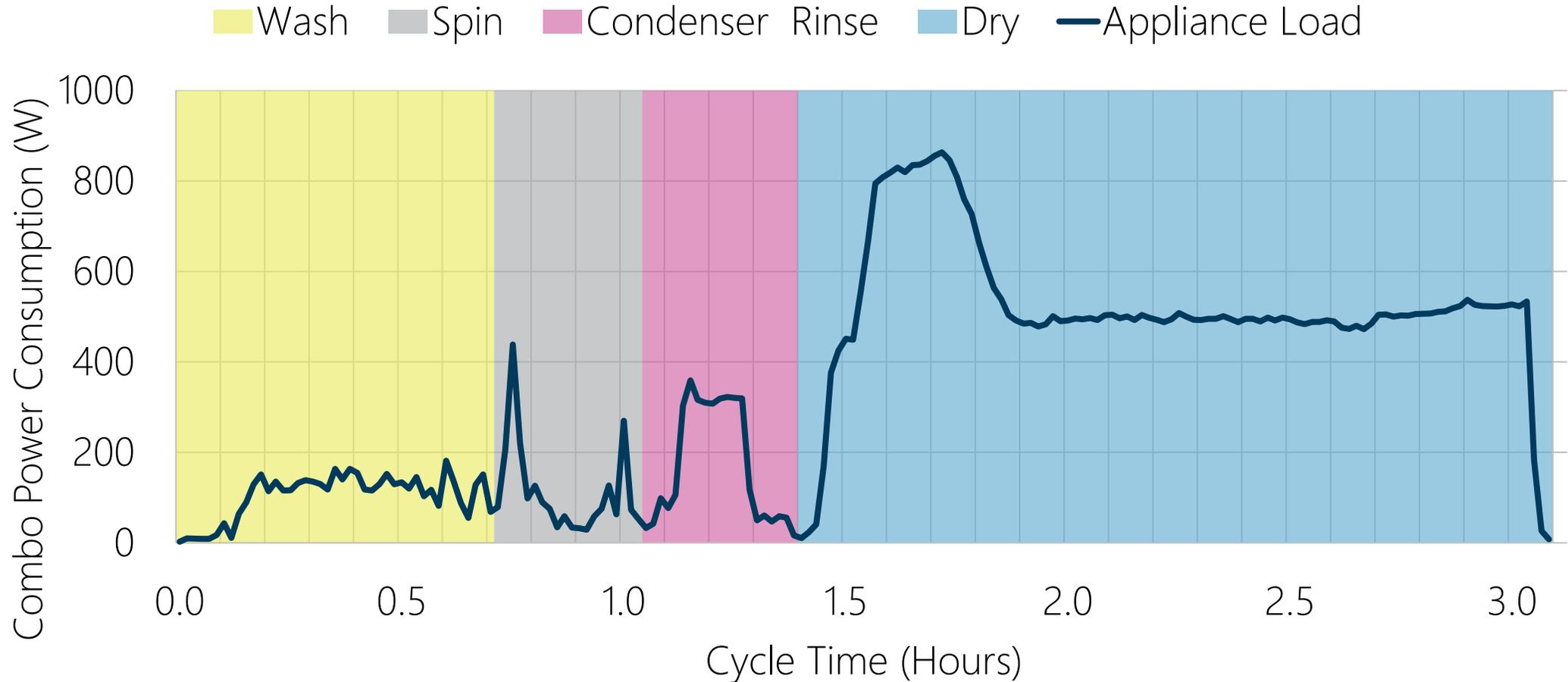
Combo Use

- ▶ Cycles per year unchanged ~ 280 Cycles per Year
- ▶ Average Cycle Length: 2.94 hours



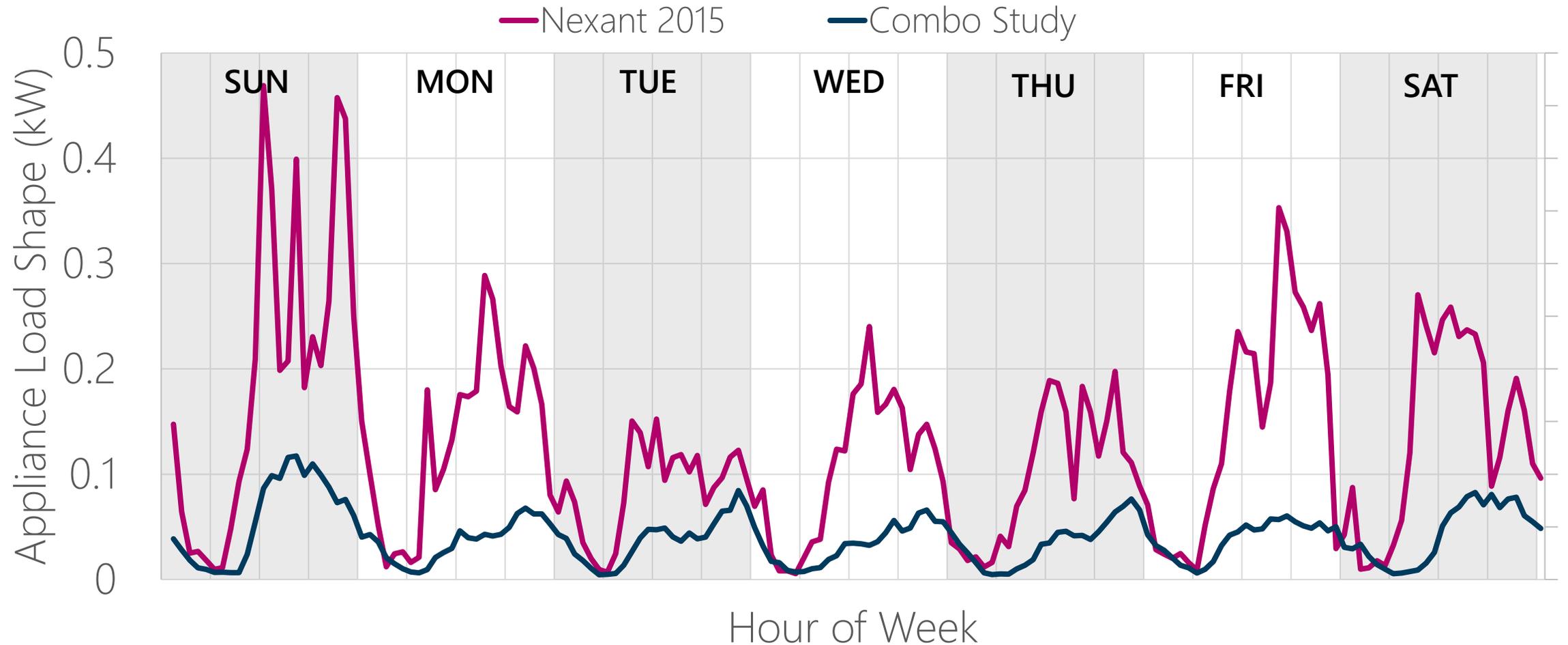
Cycle Characteristics

► Load Profile for Example 3-Hour Cycle



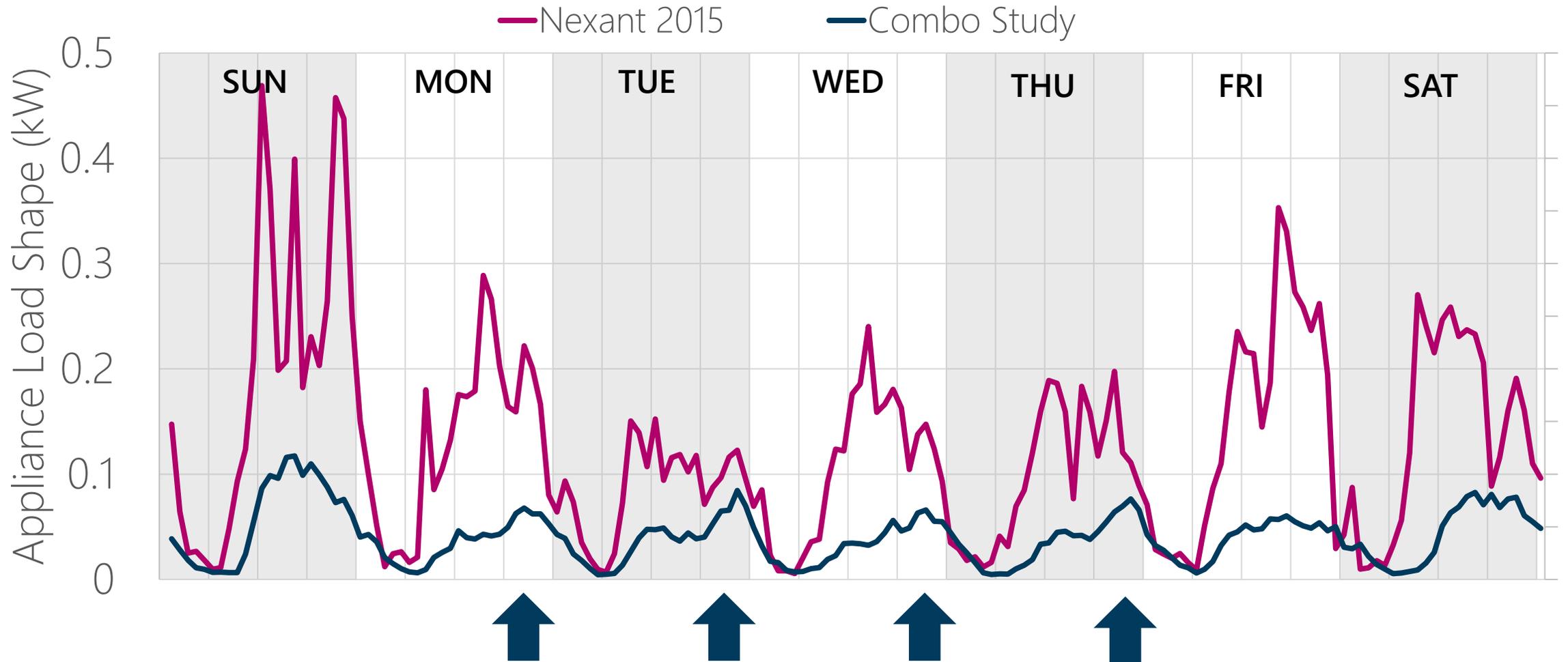
Energy & Demand Savings

▶ 7-Day Load Profile



Energy & Demand Savings

▶ 7-Day Load Profile – Shift to Late Night Usage



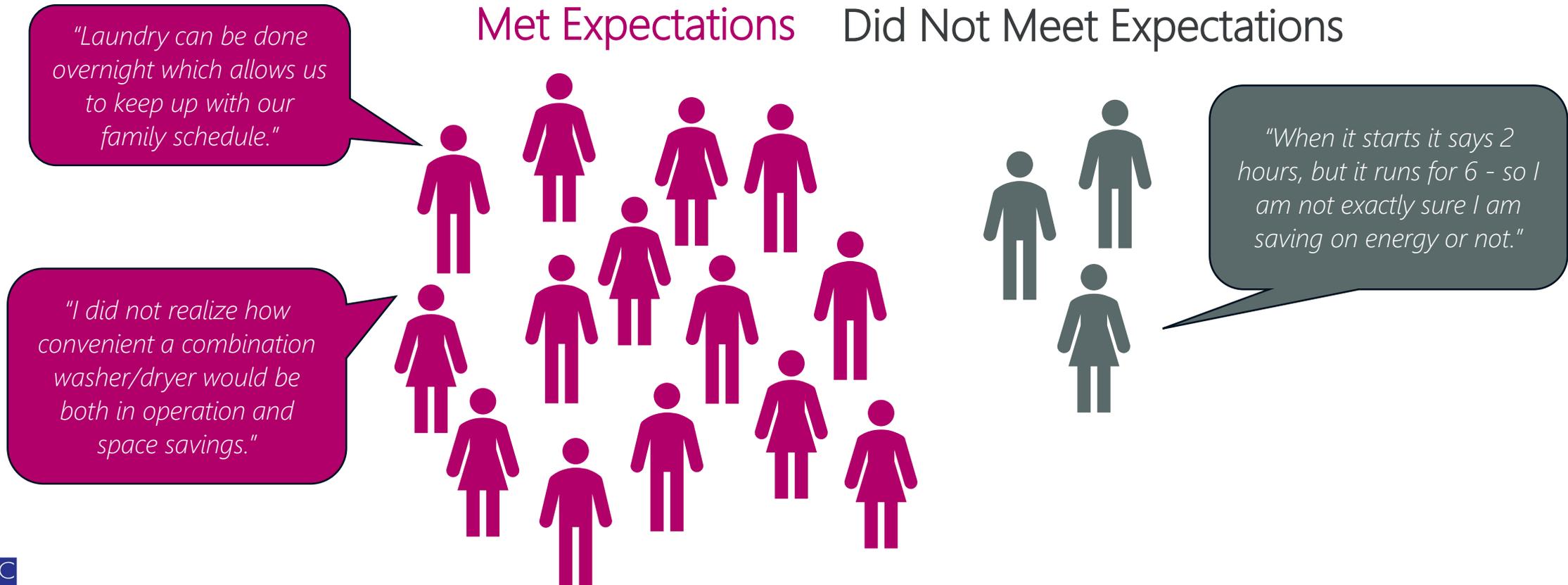
Energy & Demand Savings

	kWh per Load	Annual kWh	Winter Peak kW	Summer Peak kW
Nexant 2015 Study	4.14	952	0.087	0.139
Combo Pilot Including Water Heating kWh Usage	1.25	353	0.020	0.044
Savings Per Unit	2.89	599	0.067	0.095



Expectations of Pilot & Appliance

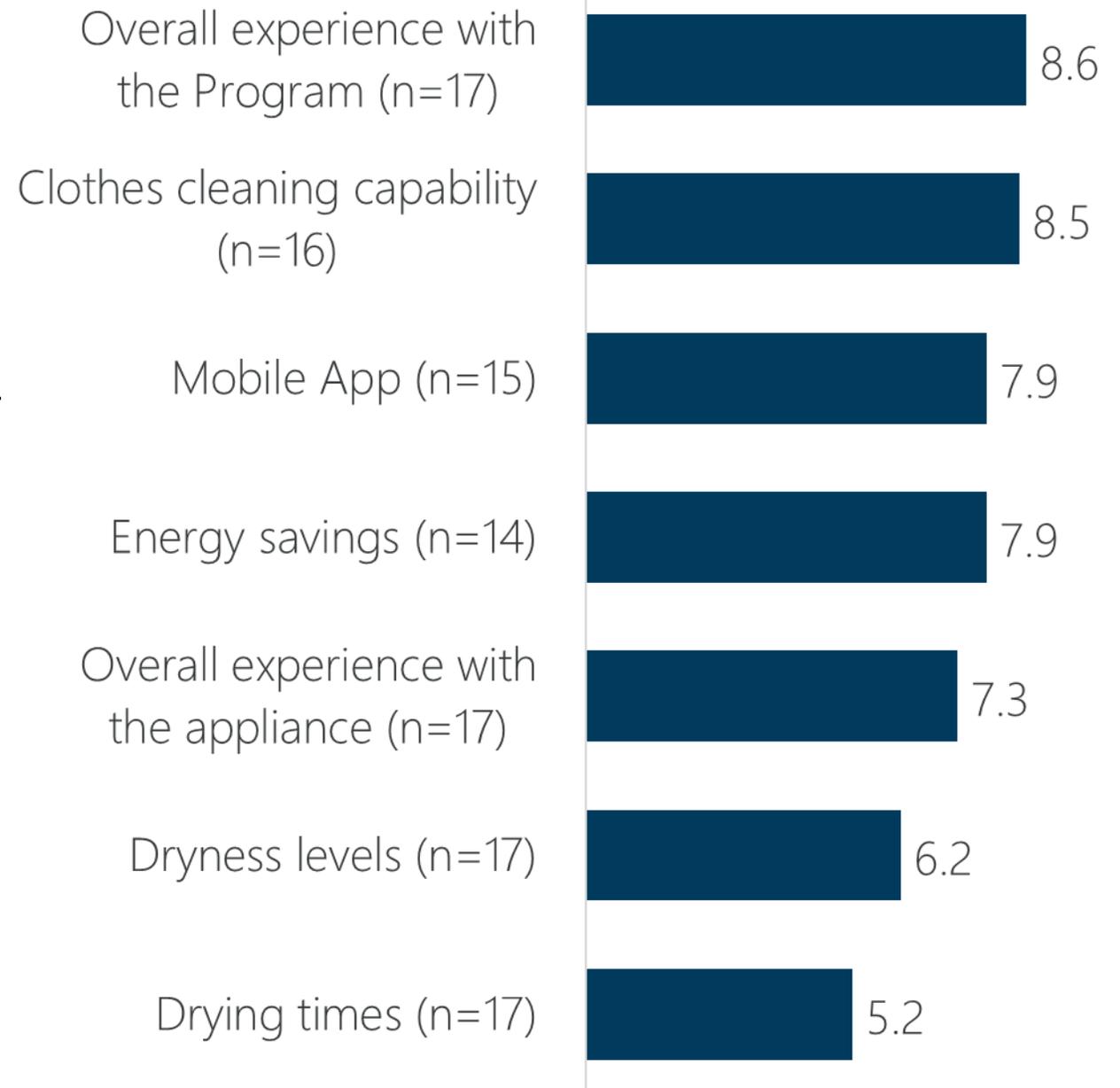
► Overall, most participants said the pilot met their expectations.



Participant Satisfaction

Mixed results:

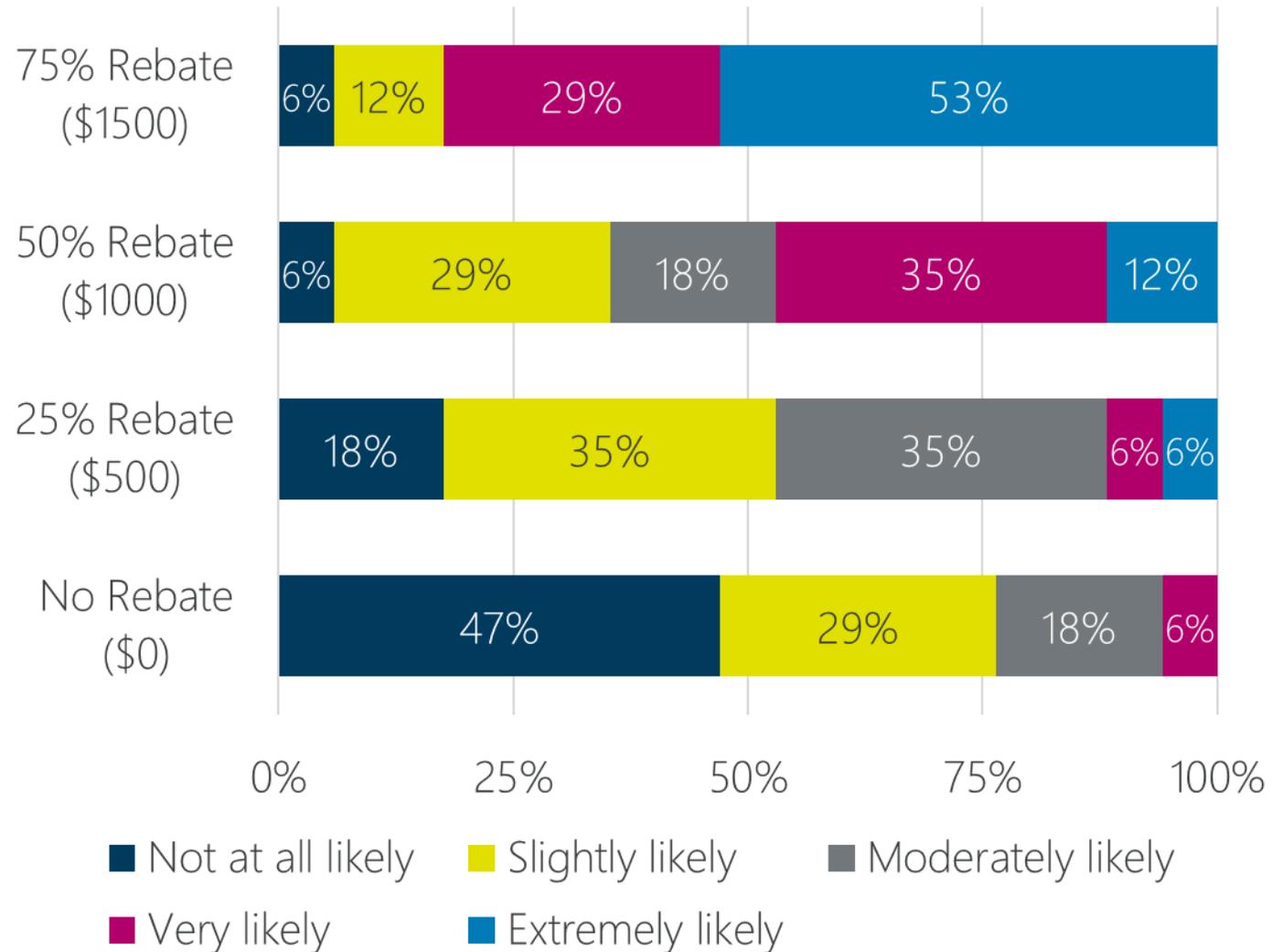
- ▶ 71% would recommend to other
- ▶ Lowest satisfaction with drying times
- ▶ 3 of 17 plan to discontinue use



Likelihood to Purchase

- ▶ Only 1 of 17 likely to pay full price
- ▶ Jump between 25% and 50% rebate levels

Likelihood to Purchase



Conclusion

- ▶ Combo washer/heat pump dryer is a significant energy saver with peak demand benefits.
- ▶ Program opportunities:
 - Address usability and marketing messaging to appeal to the right segments
 - Influence decision-making through incentives to increase likelihood to purchase

