

# Savings at Scale: Effects from the first Statewide Behavioral Program

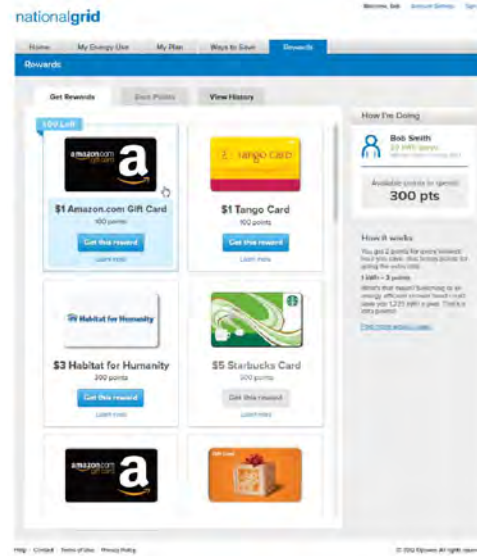
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# An ambitious undertaking



nationalgrid



**Last Month Neighbor Comparison** | You used **40% MORE** natural gas than your efficient neighbors.



\* Therm: Standard unit of measuring heat energy.

- All Neighbors:** Approximately 100 occupied, nearby homes (avg 0.20 mi away)
- Efficient Neighbors:** The most efficient 20 percent from the "All Neighbors" group



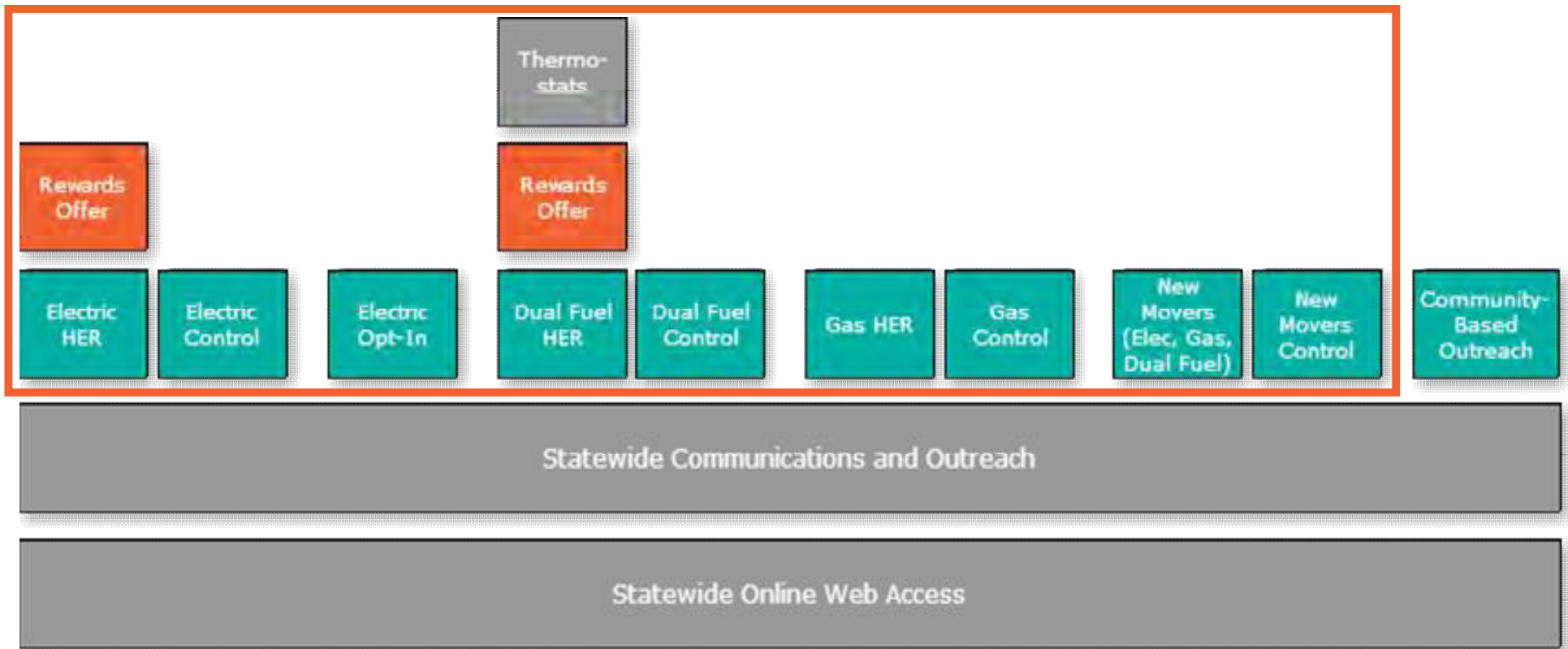
**Are we comparing you correctly?**  
 Tell us more about your home:  
[www.nationalgridus.com/energyreports](http://www.nationalgridus.com/energyreports)





ILLUME

# Mass-market experimental design



# The program achieved electric savings

	<b>Dual Fuel- Electric</b>	<b>Electric Only</b>
Treatment Period	April 2013 - May 2014	April 2013 - May 2014
First Report Date	2-Apr-13	2-Apr-13
Total Evaluated Participants	114,228	105,139
Baseline Usage (average daily kWh)	19.23	27.87
Net Savings (kWh per HH per day)	0.18	0.31
<b>Net Program Savings from PPR (% per HH)</b>	<b>0.92%</b>	<b>1.10%</b>
90% Confidence Interval Lower Bound	0.54%	0.75%
90% Confidence Interval Upper Bound	1.30%	1.45%
Incremental Savings from Other Programs (% per HH)	0.00%	0.06%
<b>Final Adjusted Net Savings (% per HH)</b>	<b>0.92%</b>	<b>1.04%</b>
Final Adjusted Net Savings (kWh per HH per day)	0.18	0.29
<b>Total Adjusted Net Savings (kWh)</b>	<b>7,781,637</b>	<b>12,284,906</b>

# . . . and gas savings

	<b>Dual Fuel - Gas</b>	<b>Gas Only</b>
Treatment Period	Apr 2013 - May 2014	Sep 2013- May 2014
First Report Date	2-Apr-13	9-Sep-13
Total Evaluated Participants	114,228	16,191
Baseline Usage (average daily therms)	2.4115	3.3387
Net Savings (therms per HH per day)	0.0083	0.0224
<b>Net Program Savings from PPR (% per HH)</b>	<b>0.34%</b>	<b>0.67%</b>
90% Confidence Interval Lower Bound	0.12%	0.31%
90% Confidence Interval Upper Bound	0.56%	1.02%
Incremental Savings from Other Programs (% per HH)	0.00%	0.02%
<b>Final Adjusted Net Savings (% per HH)</b>	<b>0.34%</b>	<b>0.66%</b>
Final Adjusted Net Savings (therms per HH per day)	0.01	0.02
<b>Total Adjusted Net Savings (therms)</b>	<b>359,233</b>	<b>84,031</b>





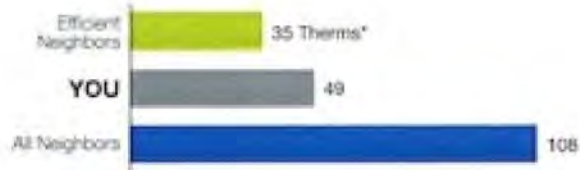
How will savings be impacted if we focus on different targets?



# Recommendations for future pilot testing

~.3% - 1% savings per household

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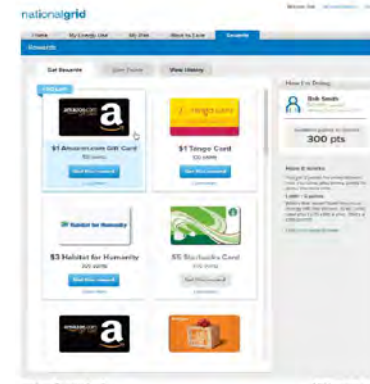


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2.35% gas savings in the heating season



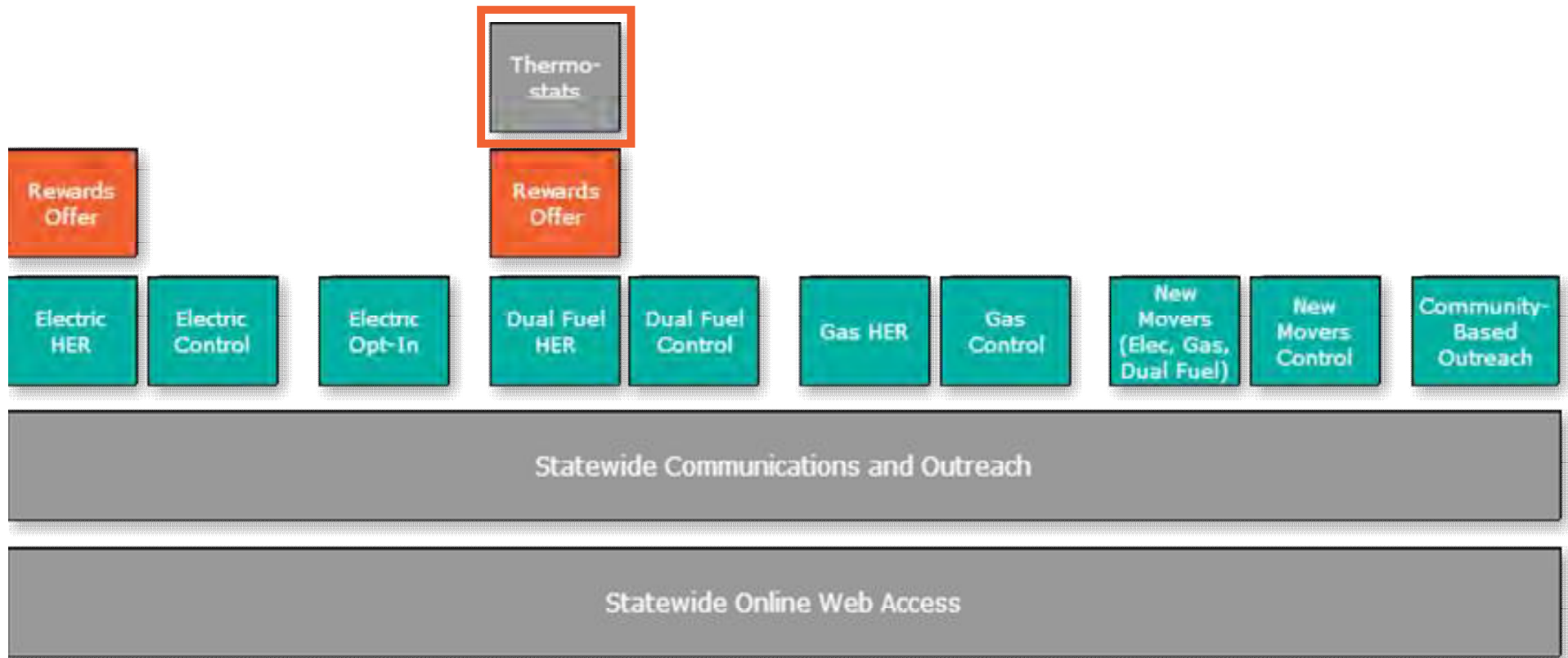
1.35% annual electric savings via rewards



**Am I using the best tools  
for the job?**



# The thermostat pilot





# The thermostat pilot



	Dual Fuel Electric Cooling Season	Dual Fuel Electric Non-Cooling Season
		Apr 2013 - May 2013 & Sep 2013 - May 2014
Treatment Period	June 2013 - August 2013	
Total Evaluated Participants	123	123
Baseline Usage (average daily kWh)	38.0214	24.1331
Incremental Net Savings (kWh per HH per day)	0.9411	0.0259
<b>Incremental Net Program Savings from PPR (% per HH)</b>	<b>2.42%</b>	<b>0.11%</b>
90% Confidence Interval Lower Bound	-0.60%	-2.89%
90% Confidence Interval Upper Bound	5.25%	2.93%
Total Savings (kWh)	10650	943

# The thermostat pilot

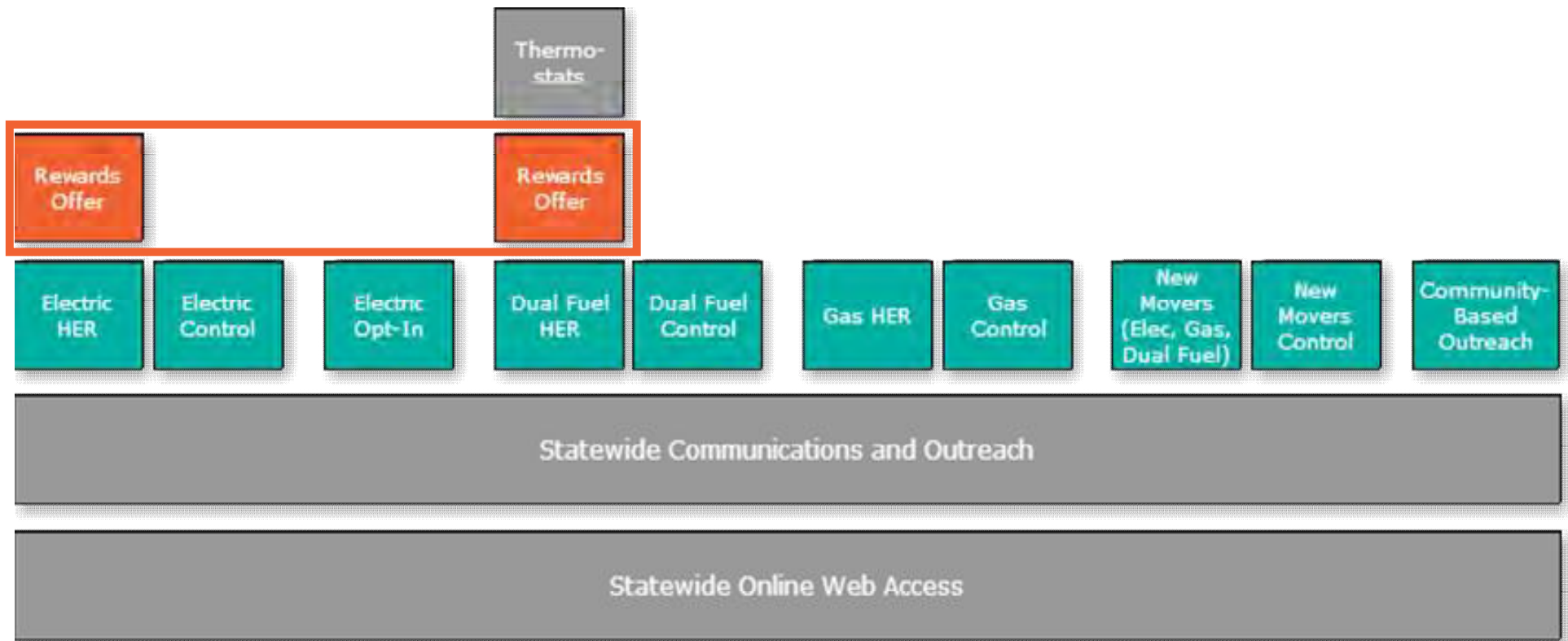


	<b>Dual Fuel Gas Heating Season</b>	<b>Dual Fuel Gas Non-Heating Season</b>
Treatment Period	Apr 2013 & Sep 2013 - Apr 2014	May 2013 - Aug 2013 & May 2014
Total Evaluated Participants	123	123
Baseline Usage (average daily therms)	3.7485	1.1005
Net Savings (therms)	0.0902	0.0237
<b>Net Program Savings from PPR (% per HH)</b>	<b>2.35%</b>	<b>2.11%</b>
90% Confidence Interval Lower Bound	0.62%	-1.04%
90% Confidence Interval Upper Bound	4.02%	5.06%
Total Savings (therms)	2662	430



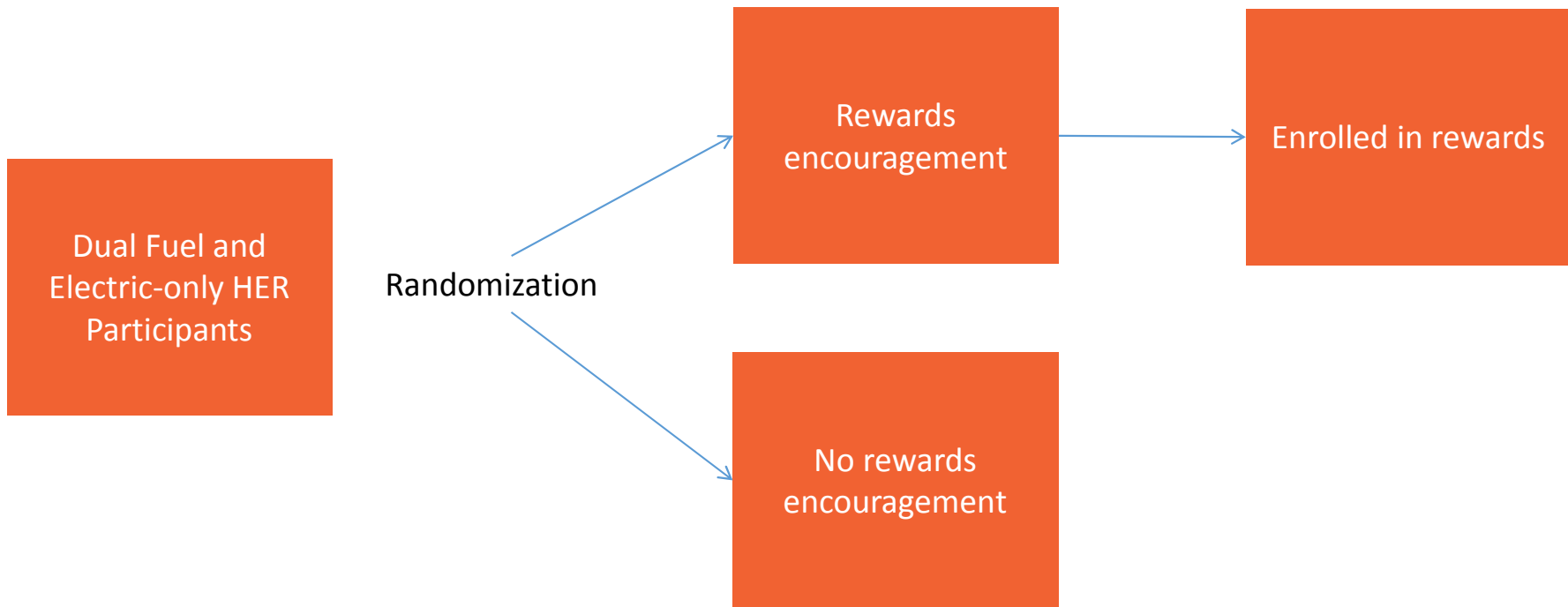
Ask – do I have the power?

# The rewards pilot

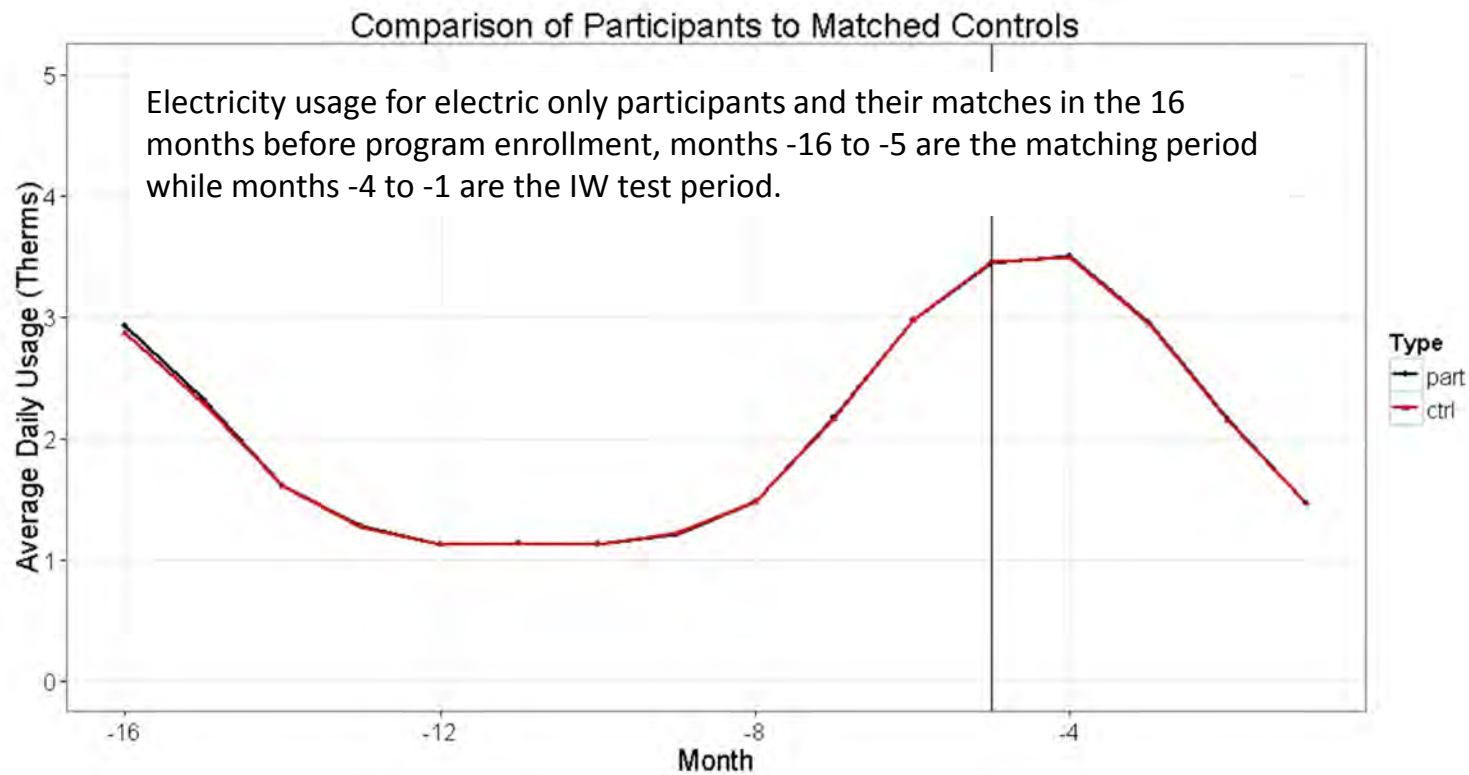




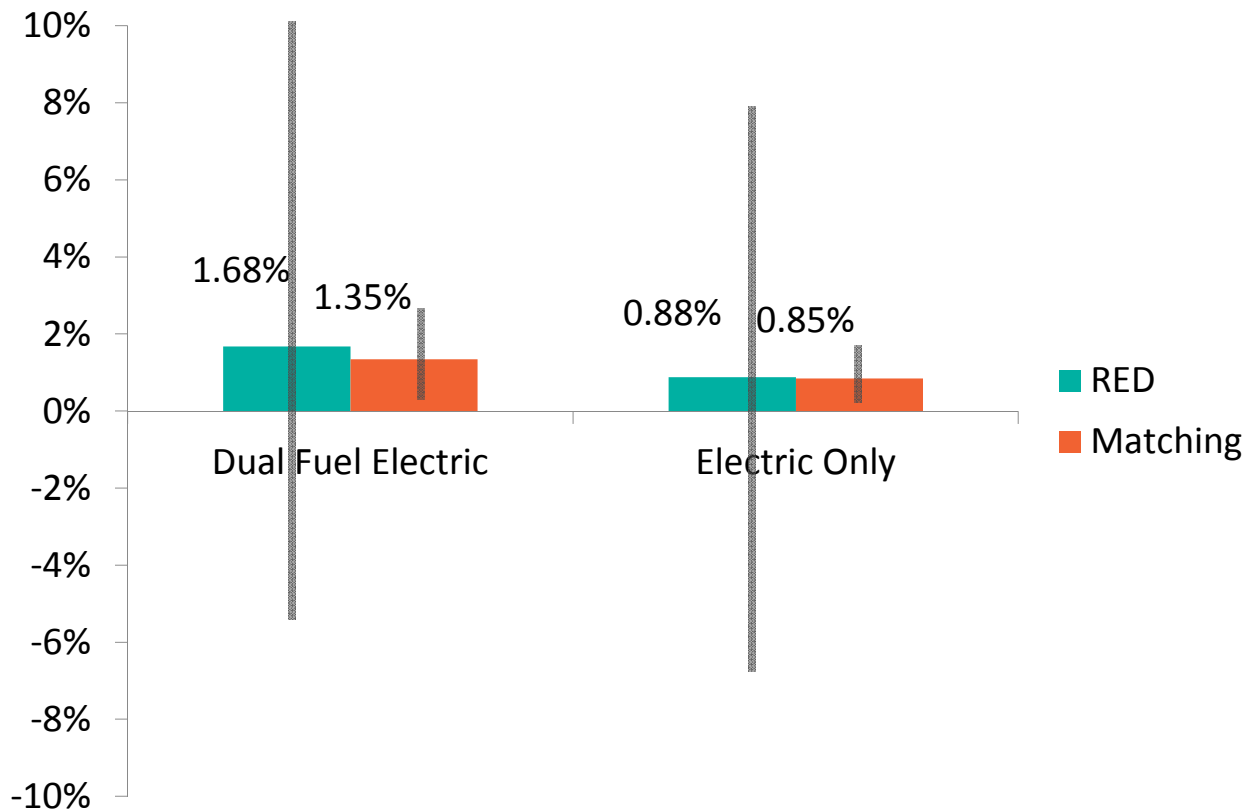
# Experimental design (Random Encouragement Design)



# Quasi-experimental design (matching)



# Comparing results across evaluation designs





**Sometimes, is  
fancy just fancy?**

# What did we learn about implementing behavioral programs at scale?

- Relative and absolute savings per household may be lower when engaging mass market
- Consider the practical trade-offs between experimental and quasi-experimental design
- If establishing test groups, make sure you have the sample sizes (and power) to estimate savings
- Where possible, explore how to strategically implement various program offerings

# Why scaling these programs matters to me?



Questions?

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