



Predictions with Restrictions: C&I Metered Energy Consumption

August 20, 2019

2019 IEPEC Conference
Denver, CO

Sarah Monohon,
Evergreen Economics



Introduction





Objective

Demonstrate the prediction error of baseline models for individual sites:

1. Advanced Metering Infrastructure Customer Segmentation (AMICS)
2. Temperature and Time of Week (TTOW)

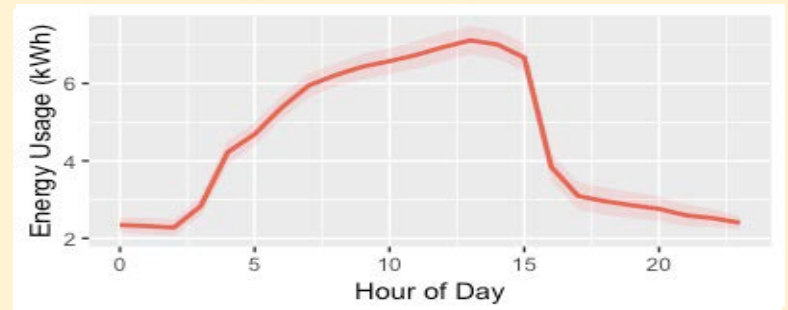
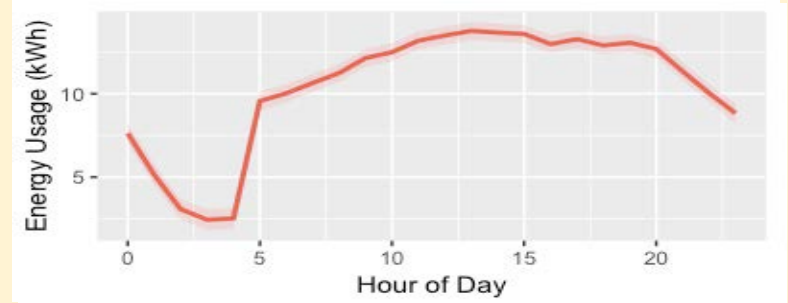


Comparison of Modeling Approaches

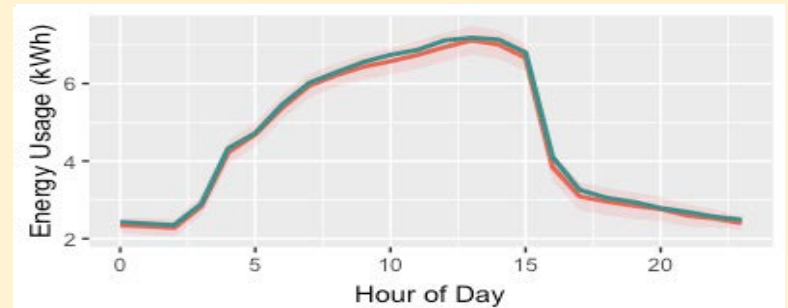
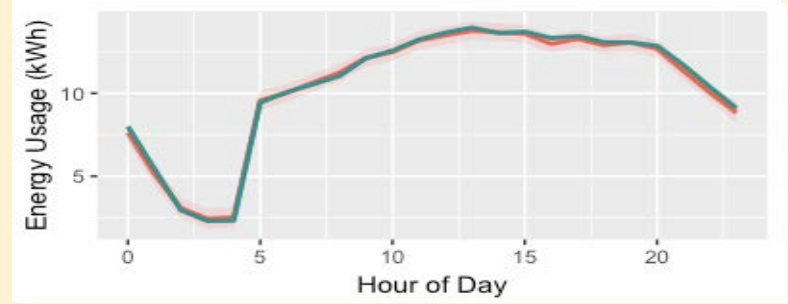
	AMICS	TTOW
Developer	Evergreen Economics	Lawrence Berkeley National Laboratory
Temperature	Non-linear. Portfolio of load shapes.	Piecewise linear. Separating occupied vs. unoccupied periods.
Time	Time-of-day adjustments. Separating weekdays vs. weekends.	Time-of-week adjustments.
For each...	Customer segment or individual	Individual



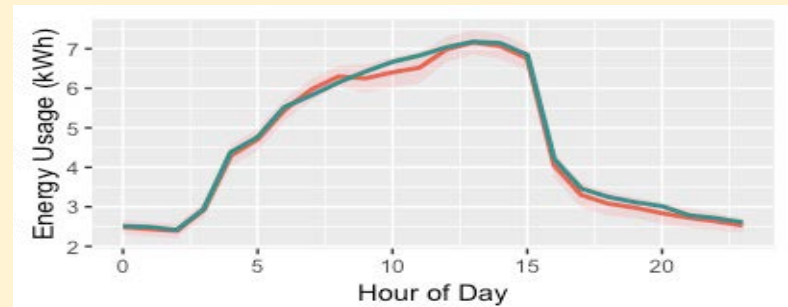
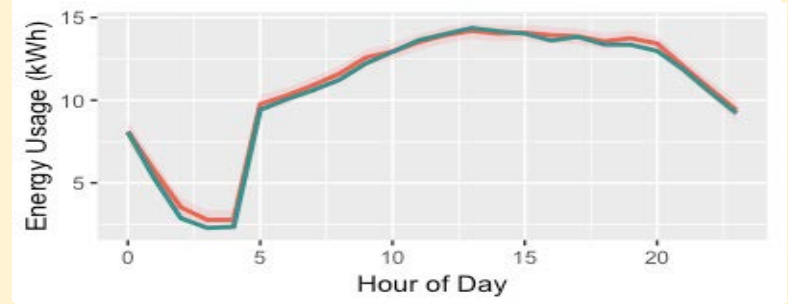
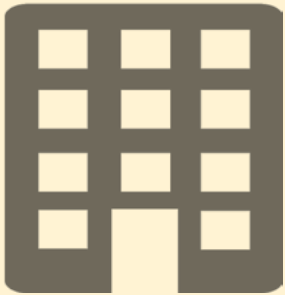
Holdout Test #1



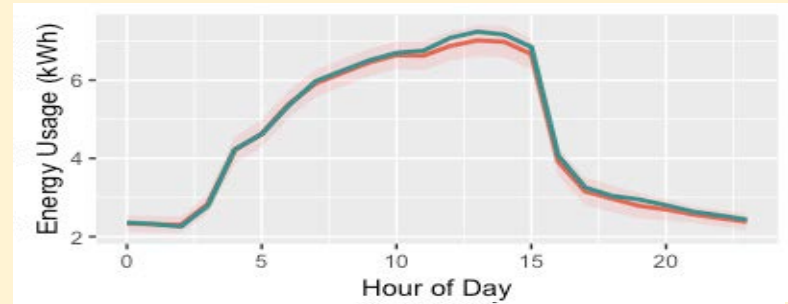
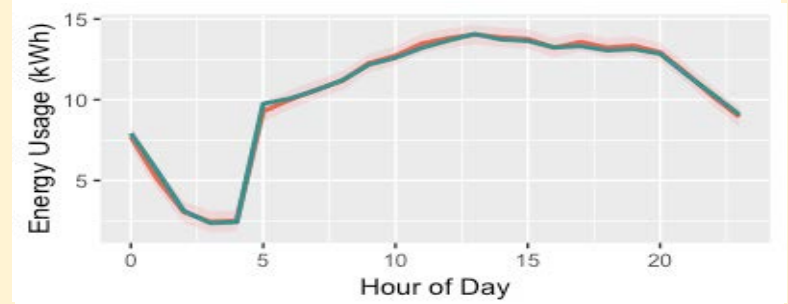
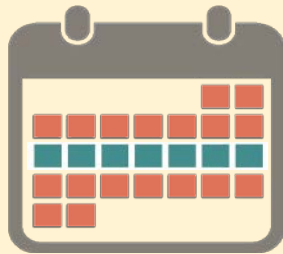
Holdout Test #1



Holdout Test #2

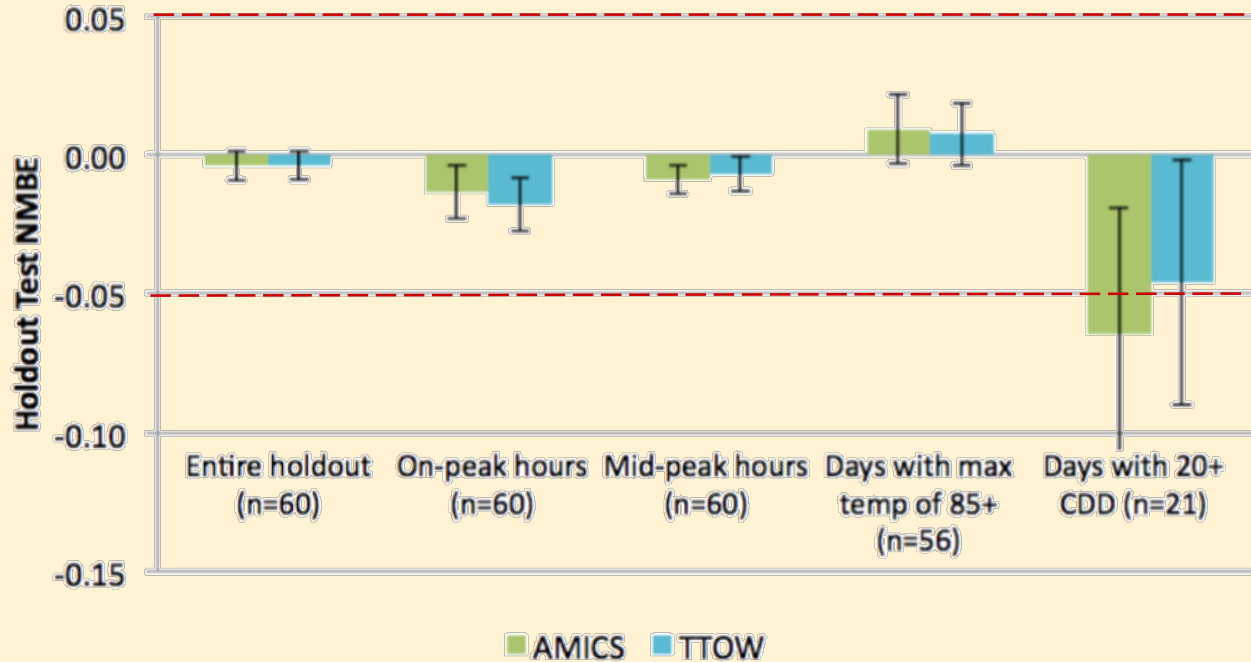


Holdout Test #3



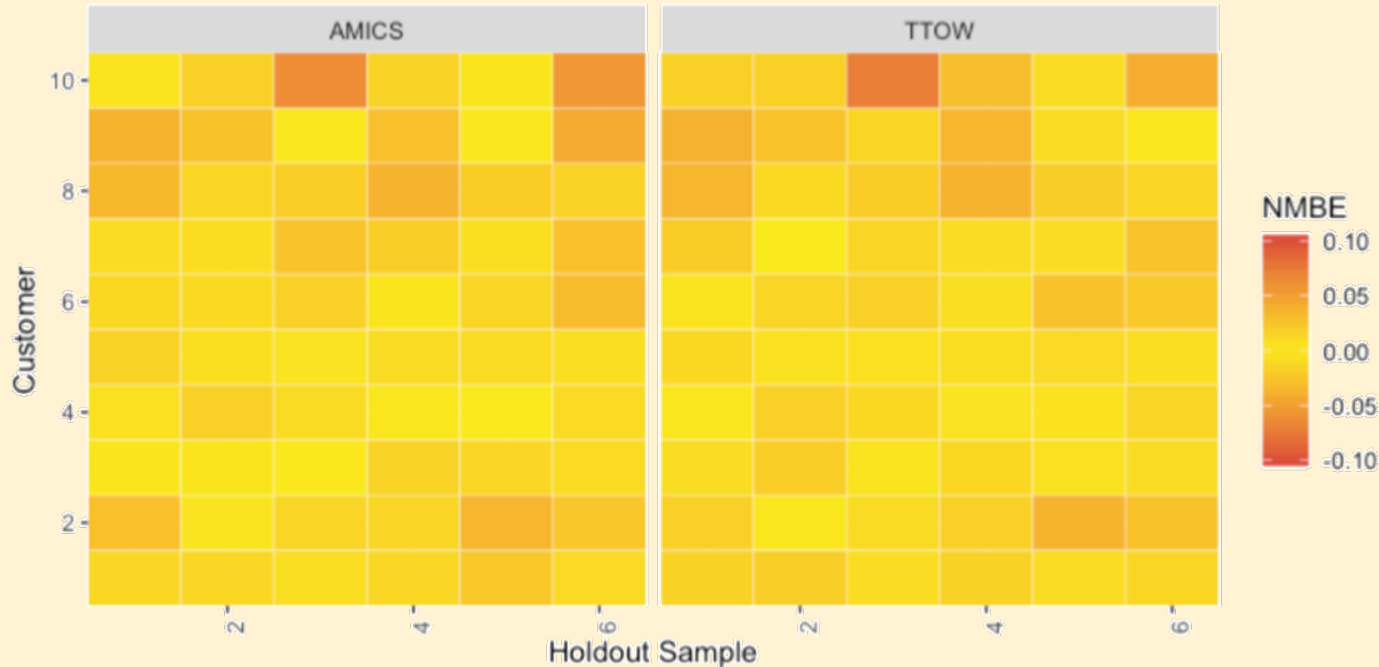
Normalized Mean Bias Error

Holdout Test Comparisons

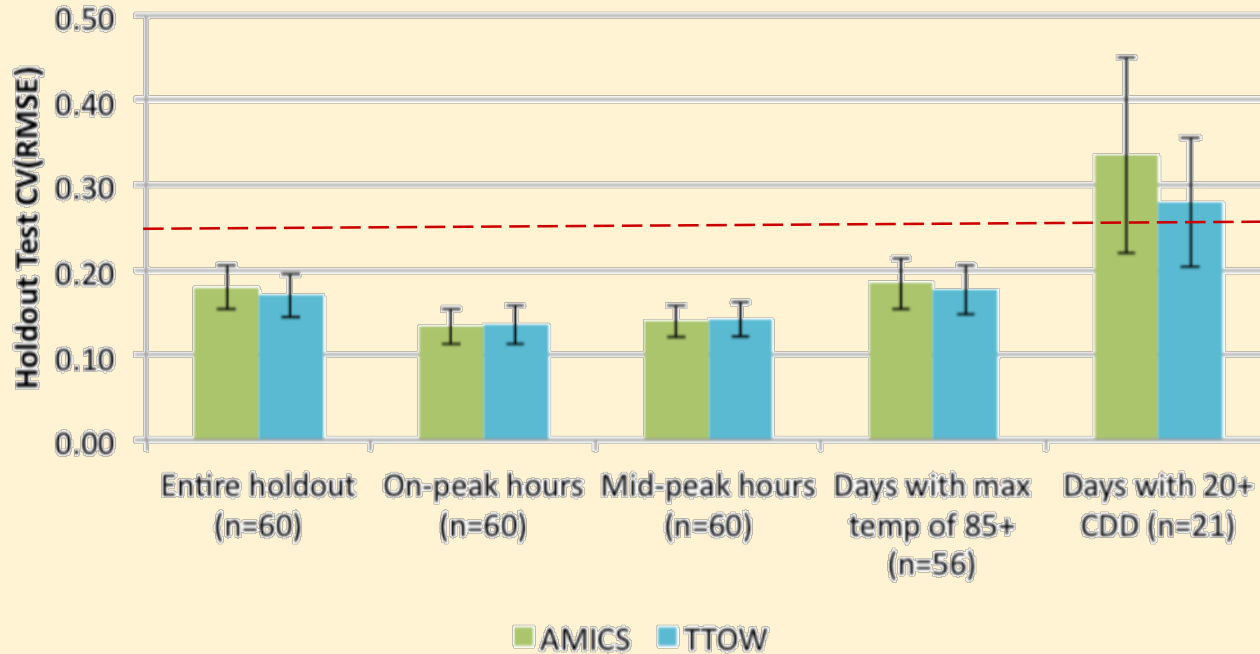


Normalized Mean Bias Error

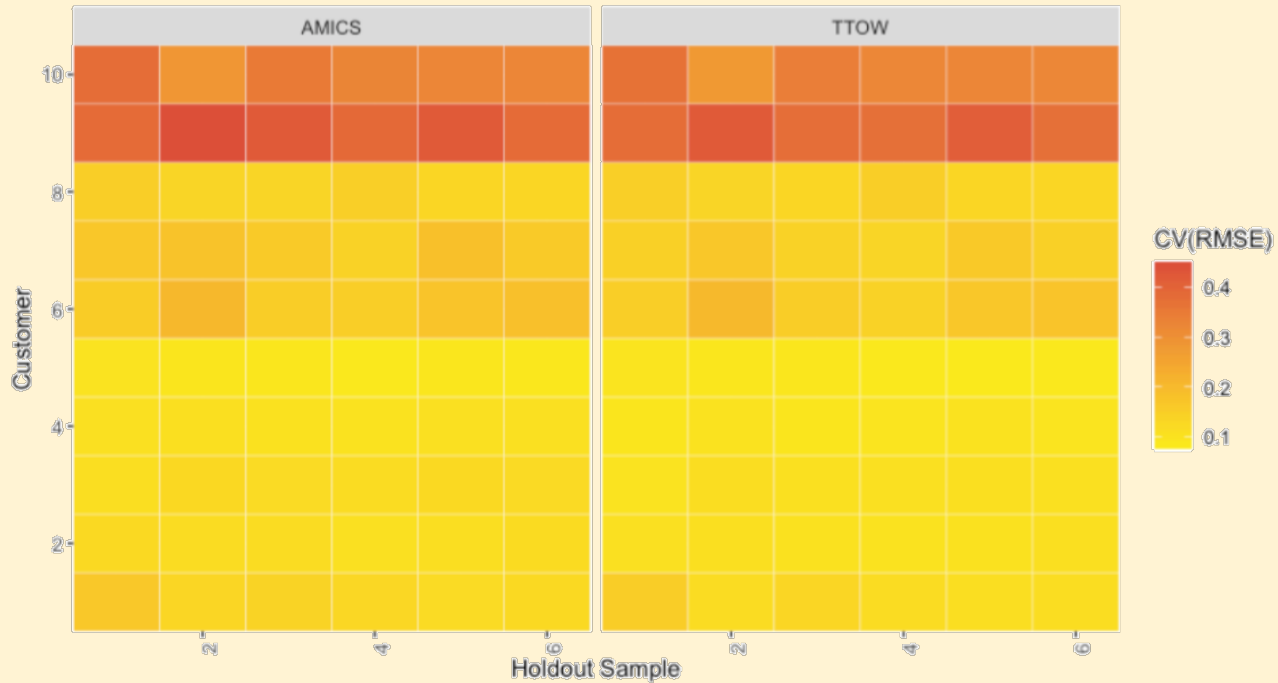
Heat Table of NMBE by Customer



Holdout Test Comparisons



Heat Table of NMBE by Customer



What did we learn?



No significant differences in error between AMICS and TOW

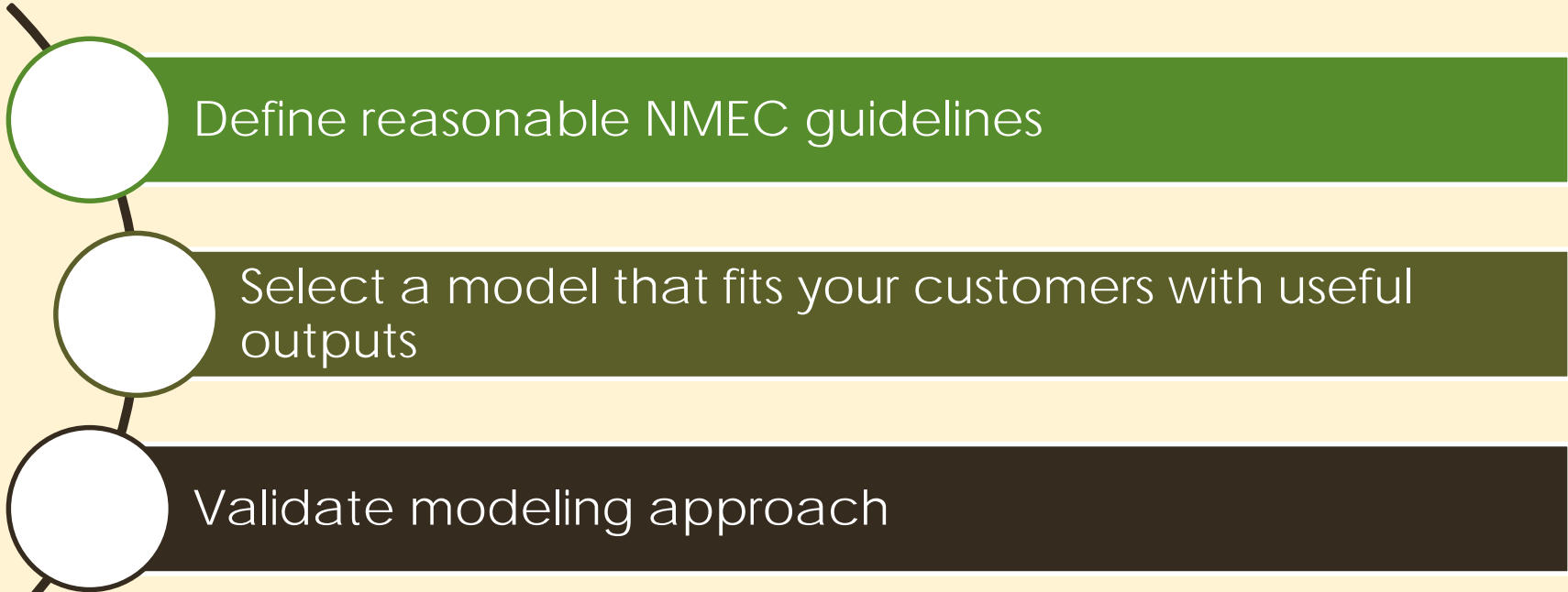


A single approach may not be the best fit for everyone



AMICS pinpoints the conditions that produce savings

Where do we go from here?





Contact Info

Sarah Monohon
Consultant, Evergreen Economics

monohon@evergreenecon.com
(971) 888-7478
www.evergreenecon.com

