

ENERGY SAVINGS FROM UTILITY CUSTOMER ENGAGEMENT WEB PORTAL

Xcel Energy's My Energy Program

CADMUS

My Energy Pilot Program: Online Engagement



Opt-in residential pilot program in Minnesota and Colorado



Similar to HER

DOES THE PROGRAM RESULT IN ENERGY SAVINGS?

 **ROADBLOCK**

Original design didn't work!



2014 RANDOMIZED ENCOURAGEMENT DESIGN

TREATMENT



CONTROL

2015 NON-RANDOMIZED ENCOURAGEMENT DESIGN

TREATMENT



~~CONTROL~~



Evaluation Methodology

PROPENSITY SCORE MATCHING

- Control for energy consumption, HER participation, account tenure
- Match customers with similar login propensity

Risk: bias

Imbens and Rubin (2015)

REGRESSION

- Post-only regression model
- Consumption = $\beta_0 + \beta_1 * \text{Part} + \beta_2 * \text{Pre-login usage} + \beta_4 * \text{Weather} + \beta_5 * \text{Month-Year} + \epsilon$
- Savings = $-\beta_1 * \text{total days since first login}$

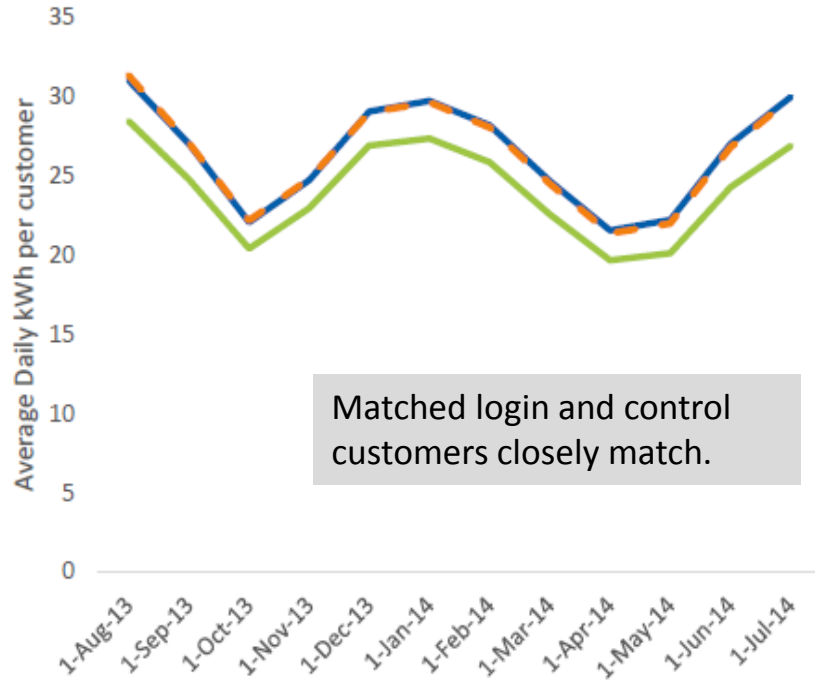


Result: annual savings

Allcott and Rogers (2014)

Matching Results

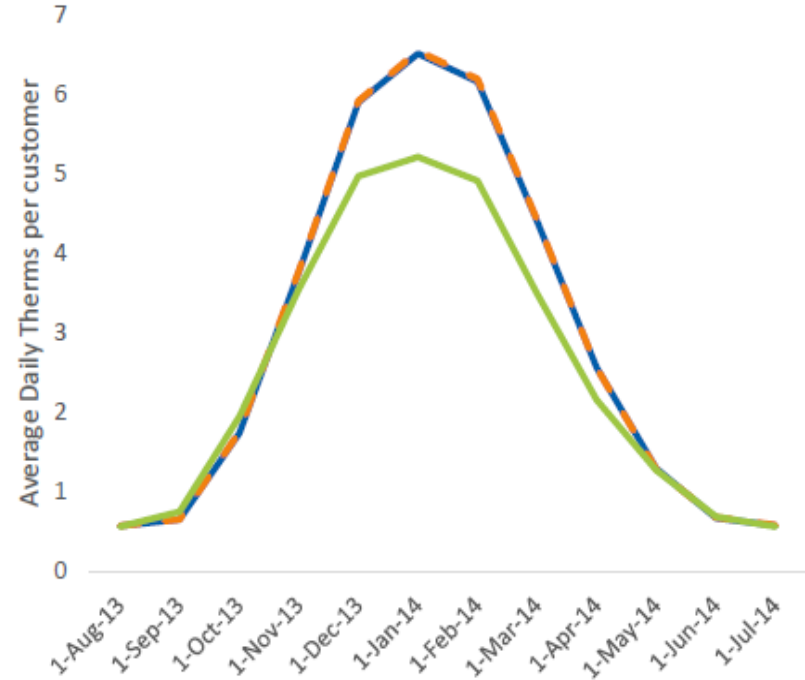
Minnesota Electric



Matched login and control customers closely match.

- Matched Control
- Matched login
- All other non-login customers

Minnesota Gas



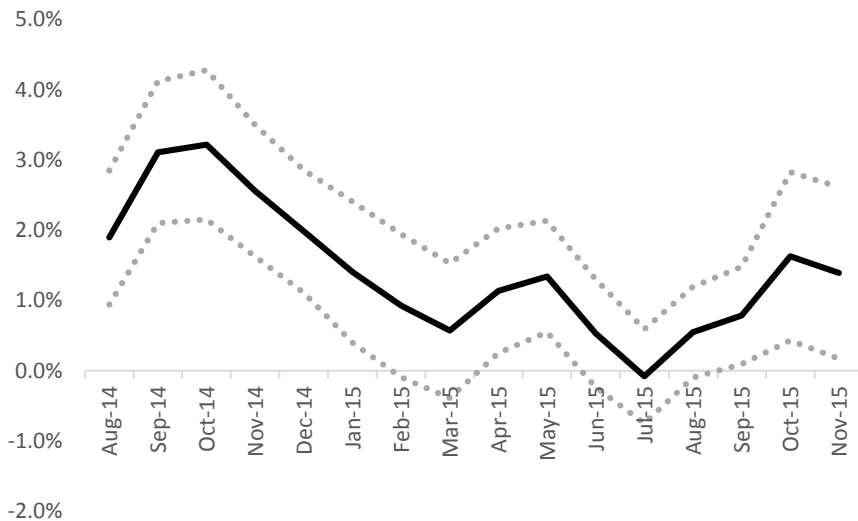
Average daily consumption per customer in 12 months preceding first logins in August 2014

Minnesota Monthly Percent Savings

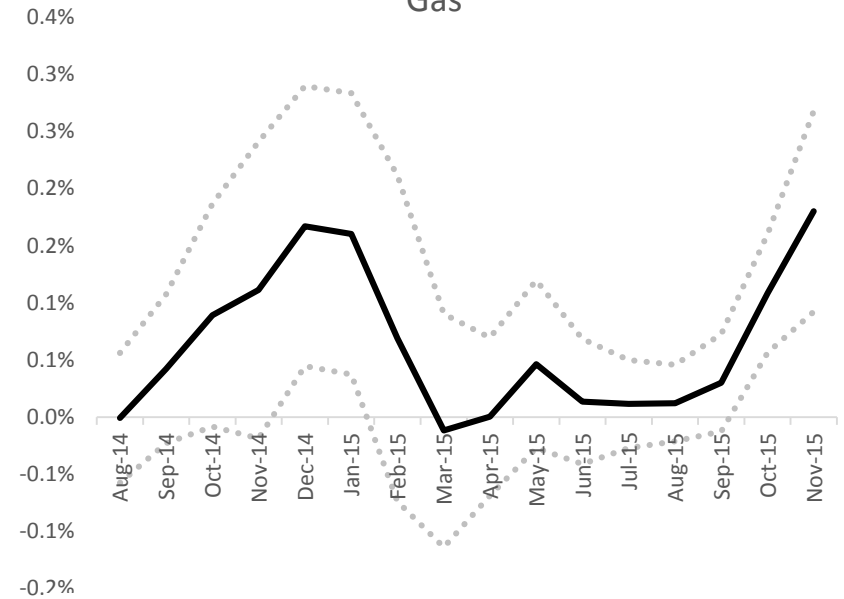
2014: 2.7% total
2015: 0.9% total

2014: 0.9% total
2015: 0.7% total

Electricity



Gas



— % Savings LB 95% Confidence Interval UB 95% Confidence Interval

Notes: Energy savings expressed as a percent of matched control group customer consumption. Confidence intervals estimated with standard errors clustered on matched pairs of login and control customers. Keep in mind that composition of login customers changes over time as new customers log in for the first time.

Take Away

DOES THE PROGRAM SAVE ENERGY?

1% ON AVERAGE

EVALUATION CONSIDERATIONS

Evaluated savings different than implementer savings

Followed similar matching and savings analysis

Non-randomized design: model specifications matter more & can produce differences between savings estimates

RECOMMENDATIONS

Randomized encouragement design

Enhance encouragement to appeal to customers

Questions?

Jennifer.Huckett
@cadmusgroup.com

Senior Associate | Statistics and Economics Team

The logo for CADMUS, consisting of the word "CADMUS" in a bold, blue, sans-serif font, centered within a white rectangular box.

CADMUS