



Using Social Norms and Feedback to Achieve Energy Savings in Non-Metered Multi-Family Housing



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Project Team

- Action Research

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- NYSERDA, Behavioral Pilot Program

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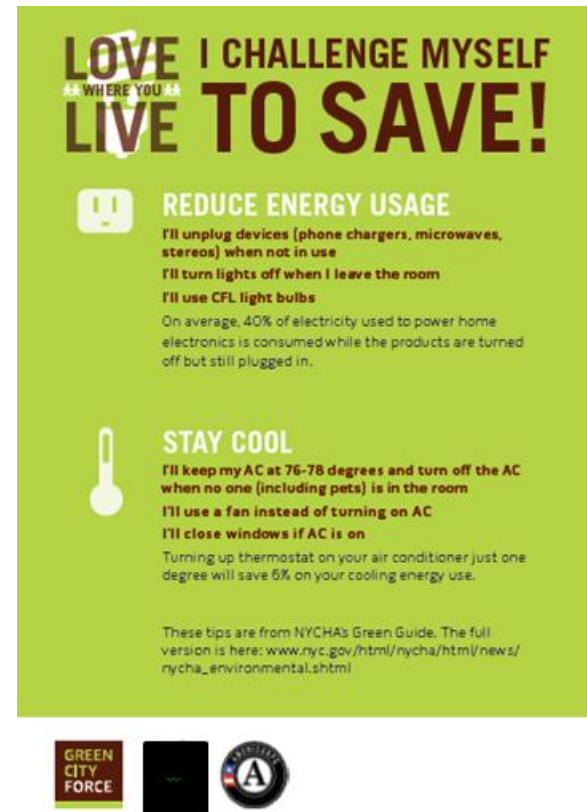
Green City Force

- Love Where You Live Challenge (LWYL)
 - Door-to-door competition
 - Trained Corps members
 - Install CFLs
 - Provide conservation tips
 - Previous results suggest 11% reduction
 - No control group



LWYL Program

- In-Person Visit
 - ▣ Discussion
 - ▣ CFLs
- Materials
 - ▣ Certificate
 - ▣ Magnet
 - ▣ Green Guide
 - ▣ CFL Fact Sheet



Pilot Purpose

□ Purpose

- Reduce energy usage
- Increase energy efficient behaviors
 - Emphasis on cooling
- Evaluate modified LWYL
 - Remove challenge
 - Target randomly assigned apartments

□ Timeframe

- June 2014 to August 2014



Target Audience

- ❑ **Low- to moderate-income people living in a housing development in Downstate New York**
 - ❑ Landlord pays utilities
 - ❑ Wireless energy monitor (WEM)
 - kWh
 - Ambient room temperature

Participants

- Sample Size
 - Minimum 150 per condition
 - 600 residents across 4 conditions
- Sampling
 - Previous LWYL had 70% completion rate
 - Assigned 225 per condition
 - Blocked Randomization Procedure
 - Size
 - Usage

Implementation Materials

- Opt-out letters
 - Sent to all residents
 - Zero opt outs
- Consent form
 - Human subjects
 - Apartment entry
- Treatment scripts
 - Pre-assembled
 - 2-day training



Treatment Conditions

- Four Conditions
 - 1: No Program (Quiz Only)
 - 2: Modified LWYL
 - 3: Modified LWYL + Feedback
 - 4: Modified LWYL + Feedback + Intrinsic Priming

1: No Program (Quiz Only)

- Energy quiz:
 - 2 energy trivia questions
 - 1 general trivia
 - All given a candy prize



2: Modified LWYL

□ Reframed

- Free CFLs, information, and energy quiz
- Commitment certificate

GO

LOVE WHERE YOU LIVE

Behavior change has the potential to significantly reduce energy use.

If neighbors encourage neighbors to love where they live, we can improve the environment together.

Congratulations on taking part in [redacted] Love Where You Live Program

Continue the Program by taking the pledge below.
Just ONE CHANGE can make a BIG DIFFERENCE!

These are the actions I will take:

Keep Cool

- ☐ I will keep my AC at 76-78 degrees and turn off the AC when no one is in the room.
- ☐ I will use a fan instead of turning on AC.
- ☐ I will close my windows if the AC is on.

Reduce Energy Usage:

- ☐ I will unplug devices (chargers, microwaves, stereos) when they are not in use.
- ☐ I will turn off lights when I leave the room.
- ☐ I will use CFL light bulbs.

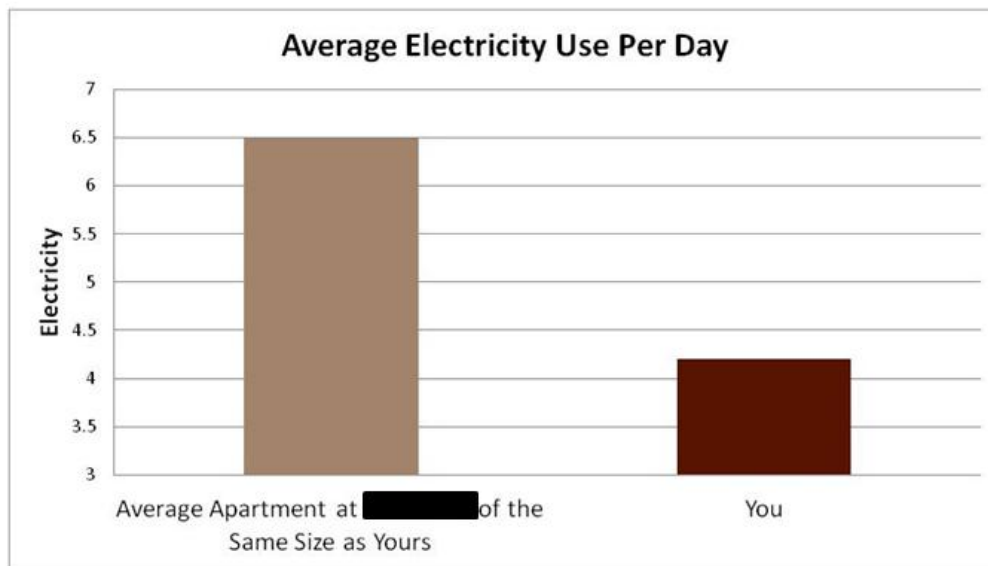
☐ _____

☐ _____

Name _____ Date _____

3: Feedback

- Digital room thermometer
- Personalized normative energy feedback



During the first 2 weeks in June you used 58% LESS electricity than your neighbors living in apartments the same size as yours at [DEVELOPMENT NAME].

4: Intrinsic Priming

- 7 questions
 - LWYL meaning
 - Self-acceptance
 - Community
 - Open-mindedness
 - Climate change
- Recorded resident answers



<http://will.illinois.edu/highlights/story/illinois-public-media-is-focused-on-building-community>

Program Change

- 20% to 25% completion rates
 - Expected 65% to 80%
 - Specific Challenges
 - Fear
 - Less advertising than previous efforts
- Modifications
 - Focus on Feedback condition
 - Use No Visit apartments as Control
 - Robo-call, flyers, raffle, and extended by 2 weeks

Results

Measures

□ Intervention data

- # of plug-in lamps, bulb type, usage
- # of A/Cs and usage
- Engagement with condition elements

□ Electricity data

- 18 months baseline
- 4 weeks post project
- 18 months post project (future)

Sample Disposition

Condition	N	Description
Never Visited	242	Received an opt-out letter; was never visited
Completed	315	Fully completed the assigned condition
No Answer	114	Was visited up to 3 times with no answer
Refusal	222	No adult, no consent, no entry, or refused during
Unknown	7	Data not returned and/or final disposition not recorded
TOTAL	900	

Completes by Condition

Condition	N	Description
Never Visited	242	Never Visited
Feedback + LWYL	209	Fully completed Feedback condition
Quiz Only (Control)	38	Fully completed Quiz Only condition
LWYL	40	Fully completed Modified LWYL condition
Intrinsic Priming + LWYL	28	Fully completed Intrinsic condition

Descriptive Statistics

Average Total AC Units in the Apartment by Condition

	M	SD	N
Modified LYLC	1.11	0.94	37
Feedback	1.14	0.96	208
Intrinsic Priming	1.39	0.79	28



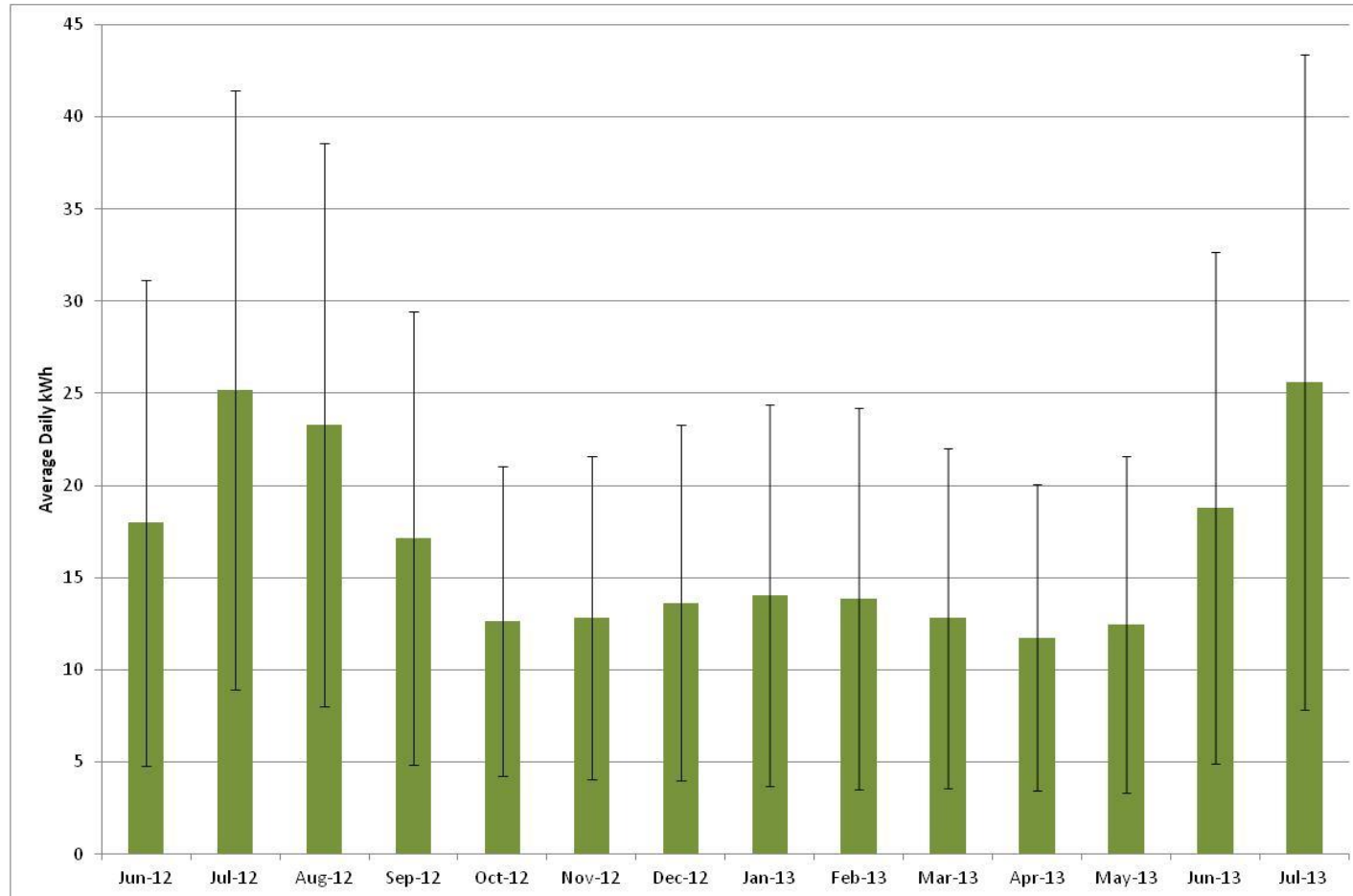
Descriptive Statistics

Average Total Free-standing light fixtures in the Apartment by Condition

	M	SD	N
Modified LYLC	1.80	1.34	40
Feedback	1.89	1.48	209
Intrinsic Priming	2.21	1.47	28

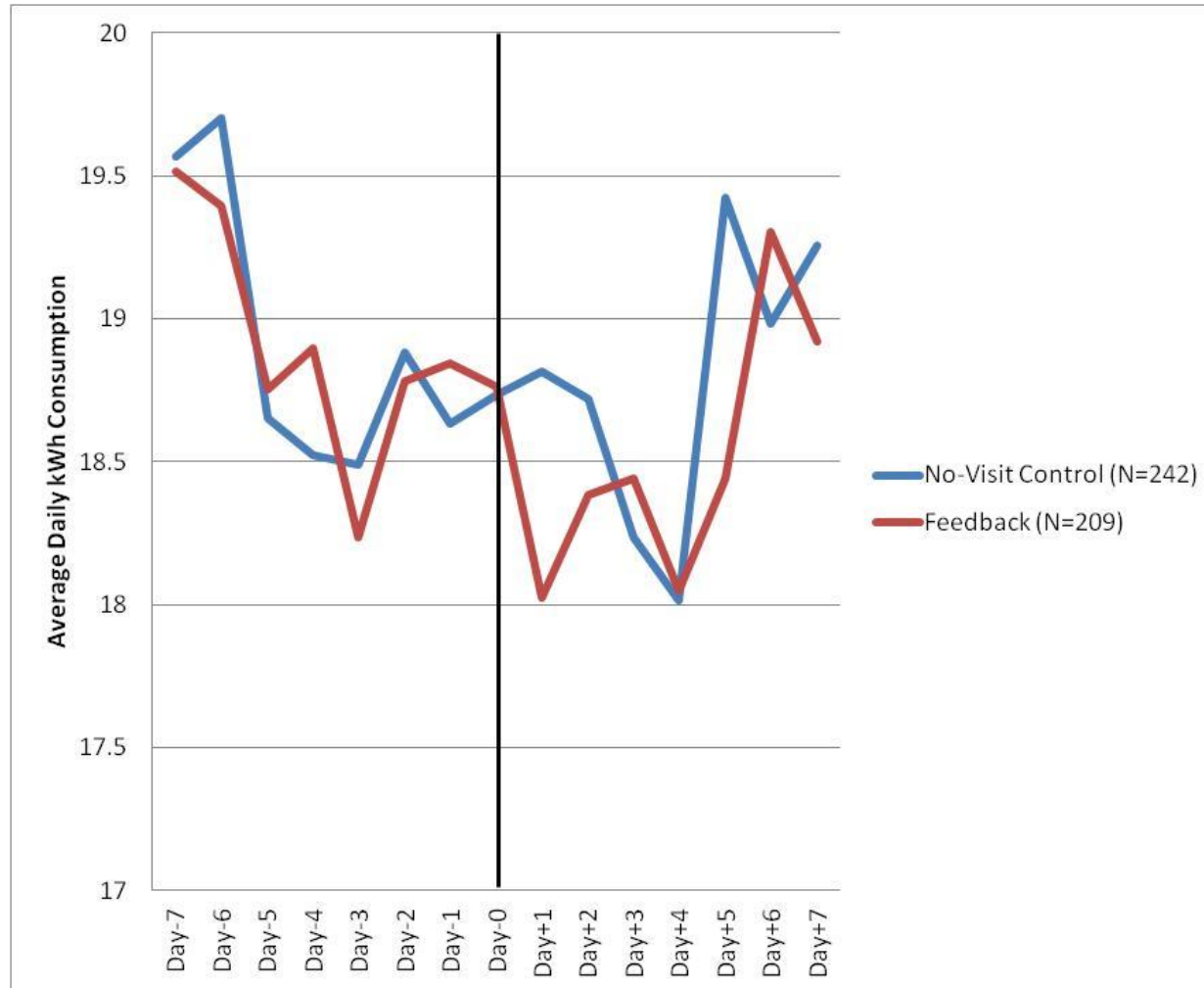


Historical kWh Data

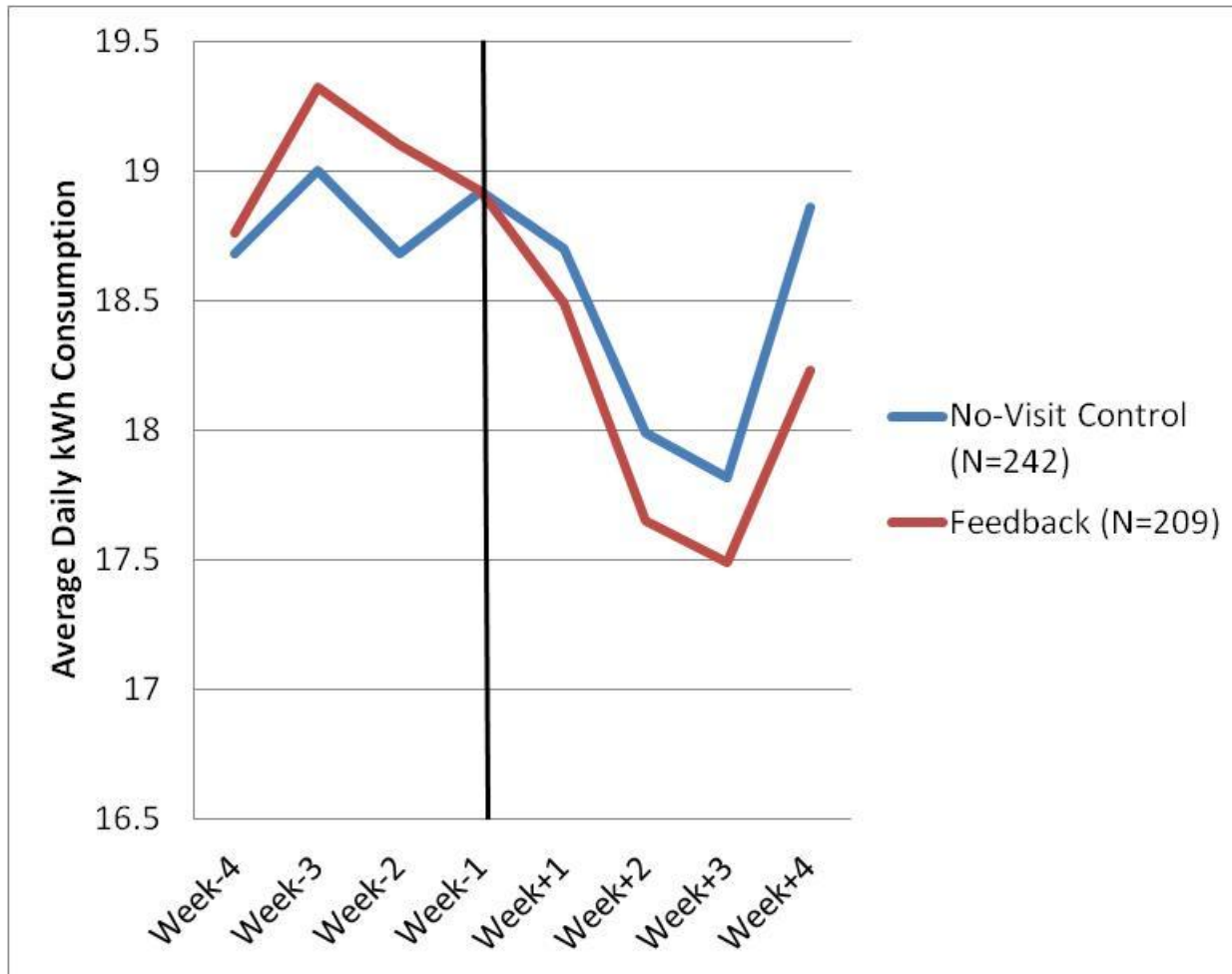


Note: The Figure shows the monthly average daily kWh consumption for each apartment. Error bars represent average daily standard deviations (plus and minus 1 SD).

Short-Term Changes





Longer-Term Changes



Challenges & Lessons Learned

- Doors not Opening
 - Fear
 - Lack of name awareness
- Advertising
 - Previous success
 - Flyers, robo-call, and raffle
 - Competition?
 - Word of mouth




Over the next few weeks, **Green City Force** will be in your building visiting apartments for an **energy-efficiency project!**

- Green City Force prepares [redacted] residents ages 18 to 24 for green jobs while they help the community.
- **Don't miss out on the chance to win an iPad!** Green City Force members are visiting selected [redacted] apartments to provide tips about saving energy. Heads of households of the apartments visited will be entered in a raffle to win an iPad!
- Visits will only take up to 15 minutes.
- Please be assured that if you get a visit from one of our team members, we are not selling anything, all answers are confidential, and participation is voluntary.

Green City Force is also currently **recruiting** for future members!

- Green City Force works on many different kinds of projects, including building an urban farm and installing solar panels.
- You can recognize us around the building in our brown shirts with the green logo.
- To learn more, please see our table or visit our website, www.greencityforce.org



If you do not get a visit and would like to get more information on energy efficiency, you can visit: <http://bit.ly/GreenNYCHA>.

Photograph: Green City Corps Members
Marina Villala Photography

Conclusions

- Preliminary significant effect of feedback
 - Social influence (Graph)
 - Direct feedback (Thermometer)
- Results still in progress
 - 18 month follow-up
- LWYL is viable model
 - Engaged volunteers
 - Successful communicators





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