

Community Energy Services

Incorporating Behavioral and Persuasion
Techniques into a Comprehensive
Residential Program Model

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*Center for Energy
and Environment*



One-Stop
**Community
Energy Services**



Community Energy Services (CES) is a full-service, one-stop residential energy efficiency program designed to help Minneapolis homeowners save energy and money in their homes



Overview

- Program design
- Behavioral components of program
- Preliminary results
- Coming attractions

Center for Energy and Environment (MN)

Building on 30 years' experience to develop program design:

- 40,000 homes served in energy-efficiency programs since 1980s
- Financed 18,000 home improvement loans resulting in \$130 million worth of home improvements
- Completed over 100 energy efficiency research projects
- Recommissioning program for larger commercial buildings
- Served over 8,000 small businesses for a small business lighting efficiency program (an ACEEE “Exemplary Program”)

Context for Program Design

- We need massive savings within residential sector
- Current approaches are insufficient
- New approaches are needed

Program Design Goal

Develop a **high energy savings & cost-effective** whole-house retrofit program that is **scalable** to 50,000+ homes/year

Low-cost measures

Major retrofits

Occupant behavior

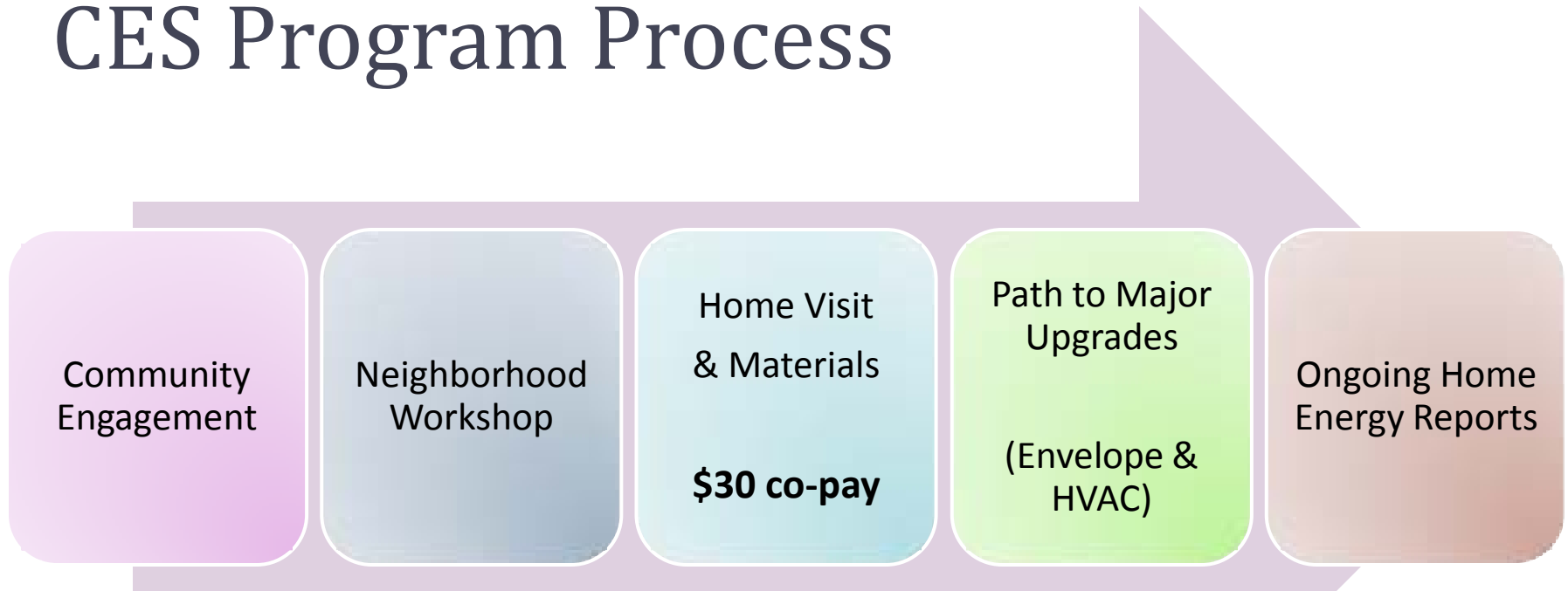
Program Models

“Traditional”
Whole-House
Retrofit programs

“Neighborhood
Sweep” Direct
Install

Feedback/behavior
change program
targeting occupant
behavior

CES Program Process



➔ Conveyor belt to energy savings ➔

2010/2011 Production Goals

- Minneapolis/Apple Valley: 6,000 homes
- Achieve major upgrades in 50% of the homes that receive upgrade recommendations
- Average 10% overall energy savings

Purpose of Behavioral Strategies

- Achieve energy savings through no-cost changes in occupant behavior
- Get people motivated to do more retrofits

Behavior	Strategy
Attending a Workshop	Cues and Commitments
Signing up for a Home Visit	Peer Pressure, Making Conservation Actions Visible, Humor
Good Energy Habits	Feedback, Social Norms, Goal Setting
Major Upgrades	Foot in the Door, Cues

Behavior Benefits of Workshops

- Peer pressure
- Public commitment
- Social norms



Edutainment



- Information alone doesn't motivate
- Cues and Prompts

Foot in the Door

- Getting people to take small steps results in them being more likely to take bigger steps later
- Psychological consistency
- Results and Rewards



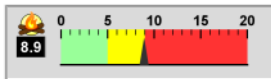
Goal Setting and Social Norms

- Regular feedback



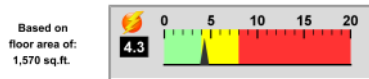
Your Home Energy Snapshot

Flame Index (Btu/sq.ft. - HDD/year)



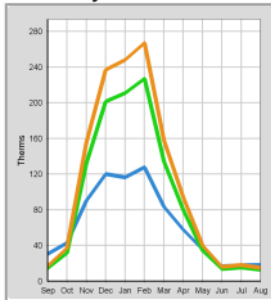
A good value for the Flame Index is 5 or less.

Spark Index (KWh/year/sq.ft.)



A good value for the Spark Index is 4 or less.

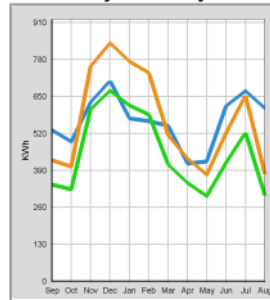
Monthly Natural Gas Use



Usage from 08/07 to 09/08

You
MN Average
Your Target

Monthly Electricity Use



Annual Fuel Cost

	You	MN Average (for 1,570 sq.ft.)	Your Target	Savings Opportunity
Natural Gas	\$1,357	\$786	\$1,153	\$204
Electricity	\$636	\$640	\$489	\$147
Total	\$1,993	\$1,426	\$1,643	\$350



(Reference #46)



Preliminary Results

Community Energy Services

A series of horizontal lines in teal and white colors, extending from the right side of the slide towards the center, positioned below the 'Community Energy Services' text.

Outreach, Workshops and Home Visits

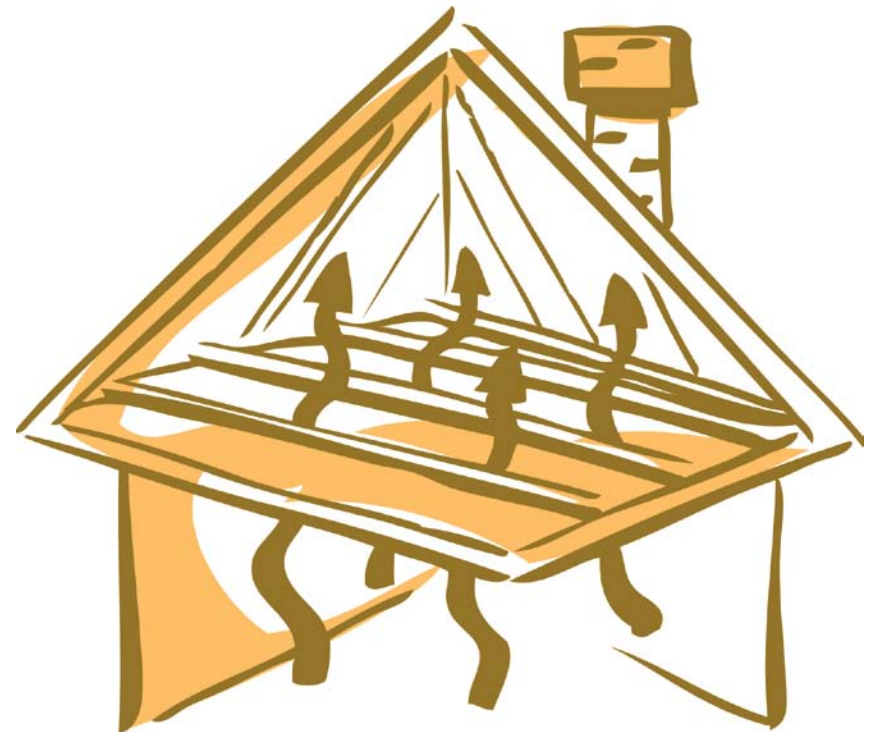
- 28 neighborhoods
- 47 workshops
- 2,479 attendees

95% sign-up rate



Upgrades (In Process)

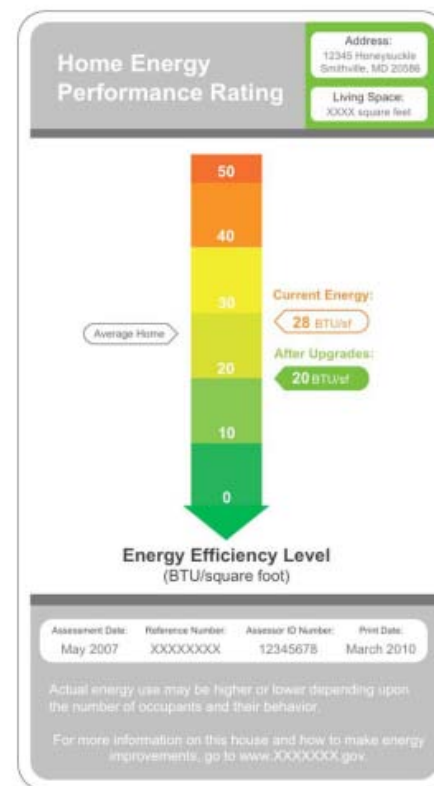
- 179 upgrades completed
- ≈ 300 pending



MARQUEE

Coming Attractions

- Partnering with contractors to streamline bidding process
- Building Energy Label
- Web-based feedback and engagement platform



Questions?

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