



Better Buildings Residential Network Peer Exchange Call Series: *Using Mobile Applications to Generate Customer Demand*

Call Slides and Discussion Summary

March 12, 2015

Call Participants

AFC First
Affordable Comfort Inc.
AM Associates
Andelman and Lelek Engineering
Applied Performance Technologies, Inc
Austin Energy
Boulder County, Colorado
Build Hero
Building Media Inc.
Building Performance Institute
California Department of Community Services
and Development (CSD)
Cedar Falls Utilities
Center for EcoTechnology, Inc.
Center for Energy and Environment (CEE)
Chai Energy
City of Farmington Hills
City of Kansas City, Missouri
City of Phoenix
City of Plano
Clean Energy Works Oregon
CLEAResult
Columbia Water & Light
Community Software Group
Conservation Services Group
Cool Choices
Cool the Earth
Denton Municipal Electric
Department of Natural Resources Canada
Dr. Energy Saver
E Source
Ecodrain, Inc.
Ecova
Efficiency Nova Scotia
Elevate Energy
emPower Central Coast
Energy Coordinating Agency of Philadelphia
Energy Efficiency Specialists
Environmental Design / Build
Eversource
Frontier Associates
Go Green New Mexico, LLC
Greater Cincinnati Energy Alliance
green|spaces
Harcourt Brown Carey
Holy Cross Energy
Home Energy Analytics, Inc.
Honeywell
Lincoln Electric System
LogCheck
National Rural Electric Cooperative Association
(NRECA)
NeighborWorks of Western Vermont
Neil Kelly Co.
OmStout Consulting
OptiMiser LLC
Performance Systems Development (PSD)
Philadelphia Gas Works
Puget Sound Energy
Residential Science Resources
Sacramento Municipal Utility District (SMUD)
Sealant Technologies, Inc.
Simple Energy
Smart Grid Consumer Collaborative
Snohomish County PUD
Solar and Energy Loan Fund (SELF)
Sonoma Clean Power
Southern Energy Management
Spirit Foundation
Sunnovations Inc.
Tempo, Inc.
The Environmental Center
Trehab
Ulster County Community Action Committee
Umatilla Electric Cooperative
Union Gas
University of Nebraska Omaha (NBDC)
Utah Energy Conservation Coalition
Washington State University Energy Program
Wisconsin Energy Conservation Corporation
(WECC)

Opening Poll Results (#1)

- Are you (i.e., is your organization) a member of the Better Buildings Residential Network?
 - **No—44%**
 - **Yes—36%**
 - **I'm not sure—20%**

Opening Poll Results (#2)

- Which of the following best describes your organization's experience with using mobile applications to generate demand for energy efficiency upgrades?
 - **Thinking about it—48%**
 - Currently implementing—22%
 - Haven't thought about it—13%
 - Planning to implement—10%
 - Not applicable—7%

Better Buildings Residential Network

- **Better Buildings Residential Network**: Connects energy efficiency programs and partners to share best practices to increase the number of American homes that are energy efficient.
 - Membership: Open to organizations committed to accelerating the pace of existing residential upgrades. Commit to providing DOE with annual number of residential upgrades, and information about benefits associated with them.
 - Benefits:
 - Peer Exchange Calls
 - Tools, templates, & resources
 - Newsletter updates on trends
 - Recognition: Media, materials
 - Optional benchmarking
 - Residential Solution Center

For more information & to join, email bbresidentialnetwork@ee.doe.gov.

- **Better Buildings Residential Network Group on Home Energy Pros**

Join to access:

- Peer exchange call summaries and calendar
- Discussion threads with energy efficiency programs and partners
- Resources and documents for energy efficiency programs and partners

<http://homeenergypros.lbl.gov/group/better-buildings-residential-network>

Better Buildings Residential Network Group on Home Energy Pros Website



Better Buildings Residential Network

Created by Better Buildings Support

[Send Message](#) [View Groups](#)

Information



The Better Buildings Residential Network connects energy efficiency programs and partners to share best practices and learn from one another to increase the number of American homes that are energy efficient.

Website: <http://betterbuildings.energy.gov/bbm>

Latest Activity: 8 hours ago

Join the conversation in the discussion forum below. You can use the "Follow" link at the bottom of the forum to receive an email whenever a new discussion is posted.

Open the table of contents below and follow the links to access topical materials and resources.

Helpful Links

- Table of Contents
- Better Buildings Residential Network
- Better Buildings Neighborhood Program Website
- Home Performance with ENERGY STAR
- Home Energy Score



Table of Contents



+New Discussion



Peer Exchange Call Archive



Better Buildings Network View



Tools



Related Events

Discussion Forum



Attend Today's Peer Exchange Calls on Program Sustainability and on Workforce

Don't miss today's calls. "Collaborating with Utilities on Residential Energy Efficiency" begins at 12:30 p.m. Eastern and "Engaging Efficiency First Chapters and Other Trade Associations in Energy Efficiency Programs" begins at 3:00 p.m. Eastern.

Continue

Tags: Peer Exchange Calls

Started by Better Buildings Support 8 hours ago.



Register for Upcoming DOE Webinar About On-Bill Financing

Sign up to attend the DOE State and Local Energy Efficiency Action Network (SEE Action) webinar, "Case Studies: Financing Energy Improvements on Utility Bills," taking place June 11, 2014, from 2:00 to 3:30 p.m. Eastern. To learn more on this topic, read

[Send Message to Group](#)

[Leave Group](#)

Members



[Follow New Members](#)

[+ Invite More](#)

[View All](#)

Pages (15)

[Tools](#)

[Better Buildings Network](#)

[View](#)

[Peer Exchange Call Schedule and Archive](#)

[Peer Exchange Archive: Marketing and Outreach](#)

[Peer Exchange Archive: Workforce Business Partners](#)

[Sign Out](#)

[Inbox](#)

[Alerts](#)

[Friends - Invite](#)

[Settings](#)

Home Energy Pros

Home Energy Pros was founded by the developers of Home Energy Saver Pro (sponsored by the U.S. Department of Energy,) and brought to you in partnership with Home Energy magazine.

Latest Activity

[What brings you here?](#)

[Share](#) 140

[Tucker Henne commented on David Byrne's blog post Does Aereoseal work? An auditors review](#)

"I would like to begin with a disclaimer that I am an Aereoseal contractor. One of the reasons I..."

16 minutes ago

[TJ Alexander posted a blog post](#)

So many homes have fiberglass insulation that is poorly installed in New Hampshire and elsewhere

Doing testing of existing homes it is typical to see mottled patterns of surface temperatures with...

See More

1 hour ago

[0](#)

[CleanEdison updated an event](#)



Entry Level Solar Photovoltaic at Cotuit, MA

September 30, 2012 to

Peer Exchange Call Series

- Calls are held the 2nd and 4th Thursday of every month at 12:30 and 3:00 ET
- Calls cover a range of topics, including financing & revenue, data & evaluation, business partners, multifamily housing, and marketing & outreach for all stages of program development and implementation
- Upcoming calls:
 - April 9, 12:30 ET: Residential Energy Efficiency Messaging
 - April 9, 3:00 ET: The Future is Here: Smart Home Technology
 - April 23, 12:30 ET: Community Organizing and Outreach
 - April 23, 3:00 ET: Developing State Energy Efficiency Alliances
- Send call topic ideas to peerexchange@rossstrategic.com.

Peer Exchange Call Summaries

Discussion: Challenges and Solutions

- Overcoming Challenges - Solutions:
 - Access trusted, local messengers
 - Engage your satisfied customers as champions to turn them into "lifetime customers"
 - Invite people to make a pledge with a few simple EE activities they can take
 - Connect with the right local partners (Connecticut conducted "community asset mapping")
 - Directly involve the homeowner through DIY work or as energy efficiency demonstration homes to help them feel engaged (San Diego demonstration homes)
 - Minimize paperwork to make it easier to participate



Poll Results

Participant Poll: Which of the following best describes your program's experience with energy efficiency behavior change efforts?

- Currently implementing: 31%
- Planning to implement: 31%
- Thinking about it: 19%
- Haven't thought about it: 0%
- Not applicable: 19%

The screenshot shows the Home Energy Pros website interface. At the top, it says "HOME ENERGY PROS" with the tagline "Connecting home energy professionals". Below this is a navigation menu with links: Home, Invite, My Page, Members, Forum, Blogs, Groups, Photos, Videos, Events. The main content area is titled "Peer Exchange Archive: Program Sustainability" and lists several call summaries with their dates and PDF links. The summaries include:

- Incorporating Behavior Change Efforts into Energy Efficiency Programs** (July 10, 2014)
- Collaborating with Utilities on Residential Energy Efficiency** (June 12, 2014)
- BBRN Voluntary Initiative: Partnering to Enhance Program Capacity** (May 8, 2014)
- Complementary Energy and Health Strategies** (April 10, 2014)
- Mastermind: Jim Mikel, Spirit Foundation** (March 13, 2014)

How do you eat an elephant? One bite at a time. A slight shift in perspective goes a long way.

Understanding how EE can solve a financial, public relation, or customer service problem for the utility is the right place to start.

Residential Program Solution Center

Web portal of residential EE upgrade program resources, & lessons learned to plan better, avoid reinventing the wheel.

- BB Neighborhood Program, Home Performance with ENERGY STAR Sponsors+
- Provides:
 - Step-by-step guidance
 - Examples
 - Tools
 - Templates
 - Lessons learned
 - Best practices
 - Tips
- Continually add content to support residential EE upgrade programs—member ideas wanted!



<https://bbnp.pnnl.gov/>

Example Strategies: Simple Energy



Mobilizing energy efficiency

Lisa Hough
VP, External Affairs

U.S. Department of Energy's Better Buildings
Residential Network

March 12, 2015

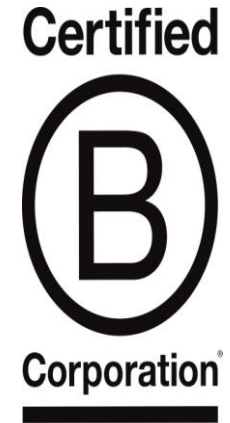
Simple Energy | Key Stats

Founded: 2011

Employees: 60

Headquarters: Boulder, CO

Certified B-Corp



Backed by leading Silicon Valley and Colorado venture capital firms:

- The Westly Group – Tesla, Recycle Bank, Revolution Foods
- Techstars Ventures – Uber, GroupMe (Microsoft), SendGrid, Revolv (Nest)
- Vision Ridge Partners – Sungevity, Proterra, Scoot, Vision Fleet

Simple Energy | Customers and Results

Partial Customer List

nationalgrid

MILTON HYDRO

horizon
UTILITIES *Looking beyond..*

**SOUTHERN CALIFORNIA
EDISON**

SDGE
A Sempra Energy utility®

**ONTARIO
POWER AUTHORITY**

Key Customer Results



Verified 4.5%
Behavioral Energy
Efficiency Results

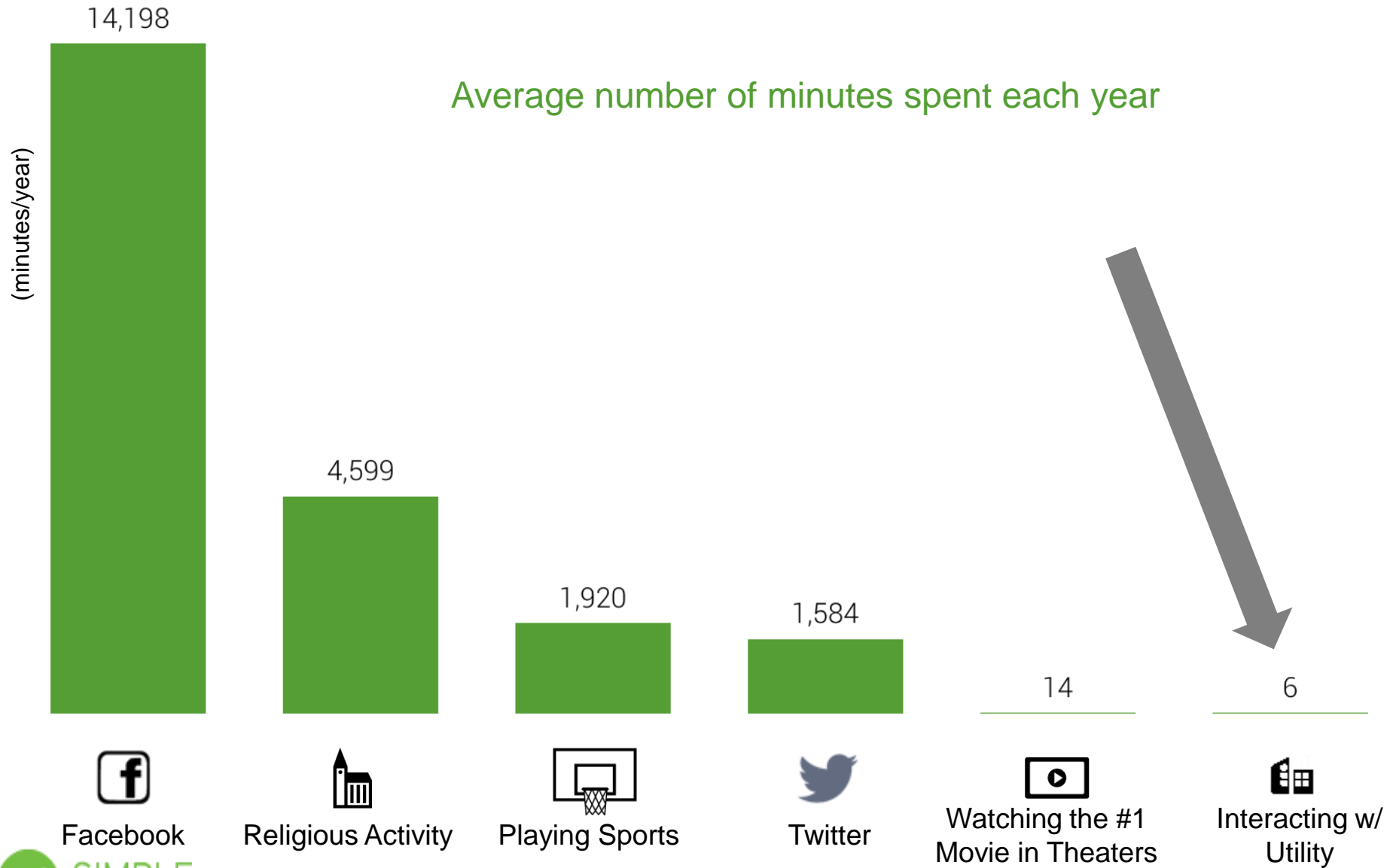


27% Program
Participation Rate



Increased customer
satisfaction and
engagement

Energy has become “back of mind”



How are consumers motivated? Differently.

76%

of consumers are motivated by incentives to recruit their friends and family to sign up for energy-related products and services.¹

Extrinsic

- Monetary
- Prizes
- Loyalty Points
- Badges
- Social Comparison / Leaderboards



Intrinsic

- Goal Setting
- Community Engagement
- Alerts
- Home Automation
- Environment

Leveraging the behavioral mechanics that drive action



Incentives



Social Pressure



FREE!!!



Social Comparison



Accomplishments



"Free Lunch"

Engage across
the communications spectrum...

Marketplace

Real Time
Actions

Rewards

Email

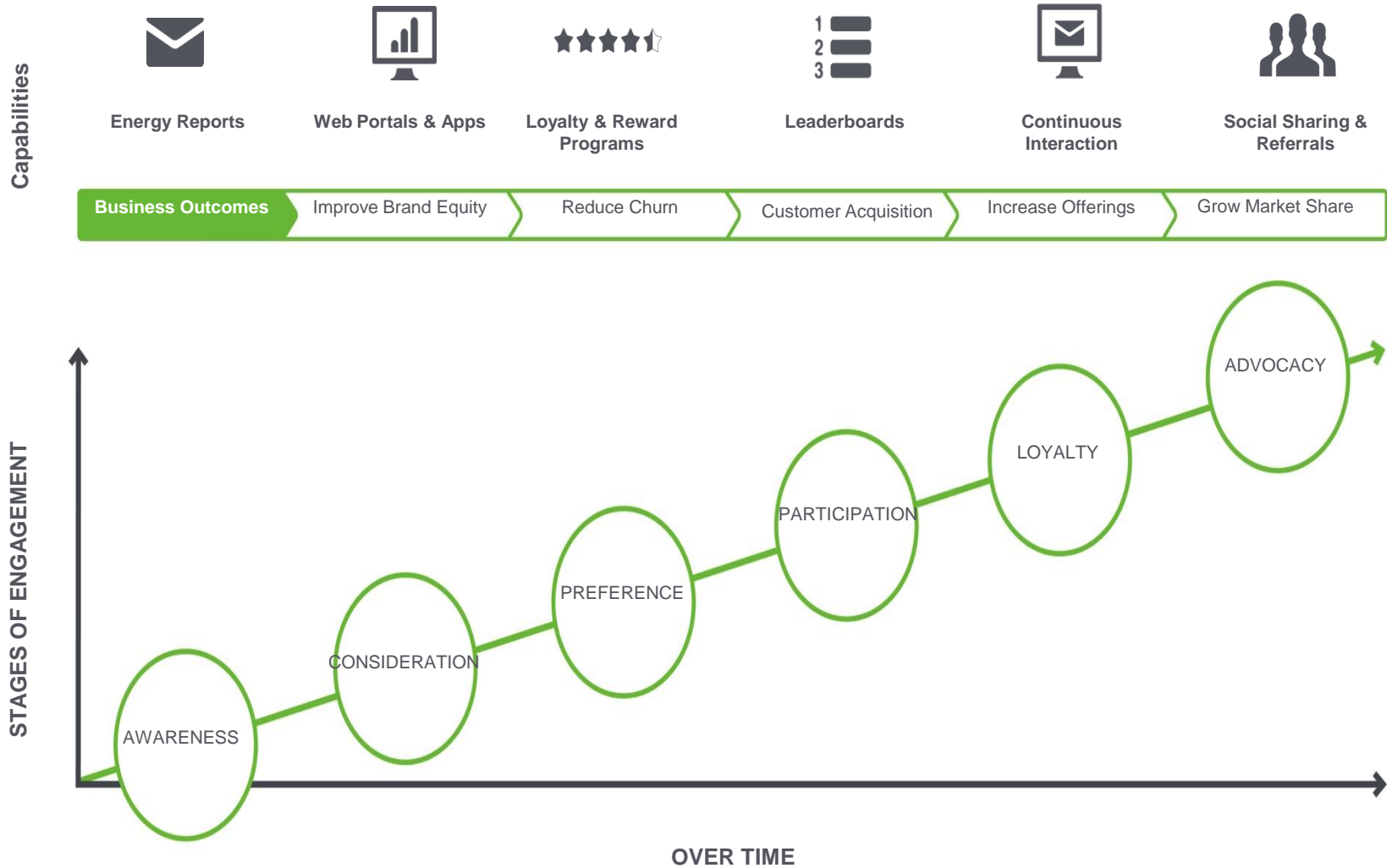
Web

Direct Mail



...and transform the way consumers
use and relate to energy

Engagement should build relationships



Need to provide an end-to-end customer experience...

Motivational Mix

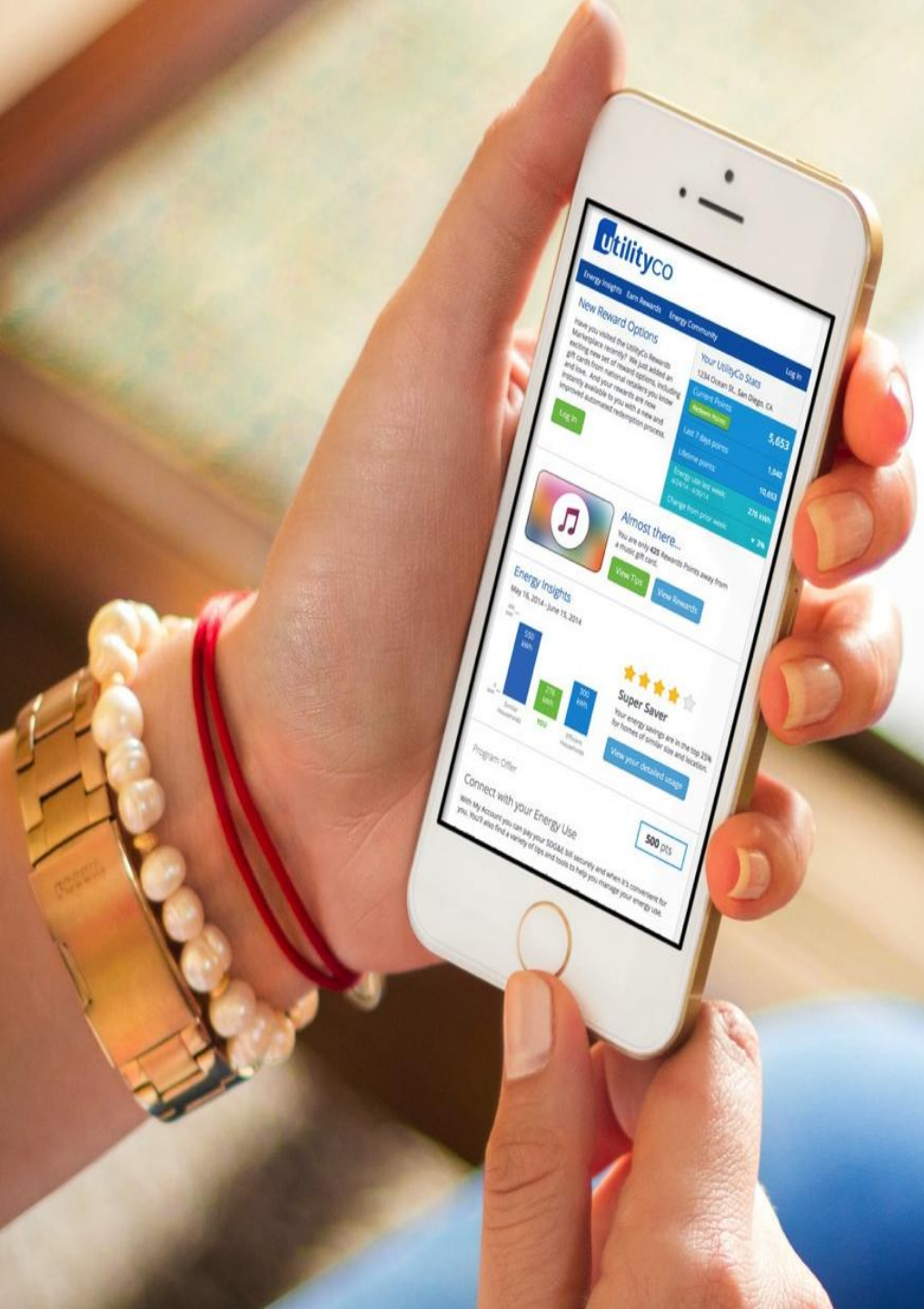
Engage with Targeted Communications

Earn Points for Engagement Activities

Redeem Points for Rewards

Purchase Energy Related Offerings





Personalized Email Energy Reports

We reach the customer on the go. They receive emails that leverage energy usage data with tips and special offers on products and services that can save money. Or even notify them of a peak event.

Simple Energy: Web Application Highlights and Lessons Learned

- **Digital customer engagement program** that connects consumers to utility companies by leveraging behavioral change concepts and aims to motivate proactive engagement.
- **Successful engagement requires understanding consumer motivations** and overall behavioral mechanics (e.g., some people are motivated by pride, concerns about the environment, or by being part of a community).
- **Design the information to communicate across all formats.**
 - Simple Energy is a website designed for mobile compatibility, not a mobile app.
 - 72% of consumers accessed the information from a desktop computer, but a growing 28% used a phone or tablet to access the program.
 - 41% of mobile users used an iPhone and 17% used an iPad.
 - Email communications drove users to the website; users opened 16% of emails on mobile devices.
- **Web and mobile applications increase access between the utility company or energy efficiency program and the consumer.**
 - Increased access creates more opportunities to move consumers from a level of general awareness about EE toward advocating for energy efficiency and spreading the word about the program.
 - Targeting the consumer through different mediums reduced energy use by 4.5% over time.

Simple Energy: Q&A

- **Q: Can the customer set email alerts to receive notifications when their energy use reaches a certain level?**
 - **A:** Simple Energy piloted demand response systems that could be customized to alert customers of a peak event or other customized energy use levels the customer might be concerned about. It also allowed customers to set personal goals. However, Simple Energy is not using these notifications in the web application currently.
- **Q: What is the source of the energy data and how often is it updated?**
 - **A:** The source for the energy data in the web application varies by area and what usage data the utility can provide. Other data in the application comes from the customer profile.
- **Q: How does Simple Energy measure success and what is the biggest challenge the program faces?**
 - **A:** Success is achieving Simple Energy's mission of motivating people to save energy. Since behavioral energy efficiency remains a relatively new concept, the biggest challenge is helping people understand behavioral factors that can drive actions. Over time, the application can help utilities and programs better understand and leverage behavioral energy efficiency.

Program Experience: Cool the Earth

COOL the earth™



Carleen Cullen

Founder and Executive Director

www.cooltheearth.org



Schools Program Evaluation

Reach: 200,000 kids
300,000 actions

Results: 35% participation of
which
1/3 of parents took
more actions beyond
program

Mobile is Massive

USA

2012: Kids <8yo access to mobile: 52%

2014: Kids <8yo access to mobile: 75%

2013: App market size \$30-35b

102b downloads

1/3 spent on games

avg. device 12 games for kids

2014: Babies under 2yo used mobile: 50%

Time Spent with Media, By Age, 2013 Time spent using media in a typical day:		
	Child Age 5-8 yo	Change in time using media 2011-2013
Watching TV	:58	< :12
Watching DVDs	:25	n/a
Playing games on mobile device	:15	> :10
Playing console video games	:12	< :04
Playing computer games	:09	< :06
All the rest	:22	
Total screen media	2:21 per day	

Source: Zero to Eight Children's Media Use in America 2013
A Common Sense Media Research Study, Fall 2013

COOL the earth™



Level 5



1175





Dear Parent,

Your child has been playing **Koda Quest**, a free educational app helping kids learn the importance of taking earth friendly actions, created by non profit Cool the Earth.

Please confirm that your child is taking the following actions, by clicking on the box(es) below. By doing so your child will earn bonus points in the game

WATER OFF

You child turned the water off while brushing teeth

Print me! If your child is playing Koda Quest as part of a school program, print this email, and bring it to school to receive credit



Confirm

Game Overview

Mobile vs. PC programming

Marketing and Distribution

Evaluation

Challenges

Next Up



Cool the Earth: Mobile Application Highlights and Lessons Learned

- Cool the Earth began as an educational module in schools that taught kids about energy efficiency and challenged them to perform simple interventions at home.
 - The program runs in over 500 schools and has reached 250,000 kids; 35% of families took additional actions after the program.
 - With success in schools, the program decided to create an educational children's game for a mobile device that would motivate families to take actions to improve energy efficiency.
- **About the Game:**
 - The user has to take care of Koda, the game's polar bear mascot. The attention needed by Koda draws the child to the application.
 - Mini-games within the app create opportunities for additional environmental learning.
 - The child must complete missions to advance to the next level in the app (20 levels in total). The missions involve energy efficiency interventions to be carried out in the child's home.
 - At level 10, the child must acquire a parent's email to move forward. As additional levels are achieved, the parent is notified via email to confirm if the child performed each mission.
 - Having to confirm that their child is taking actions through the app increases the parents' involvement with and awareness of energy efficiency.

Cool the Earth: Q&A

- **Q: How many downloads has the app received?**
 - **A:** Too early to tell. Cool the Earth was released into the Apple Store at the beginning of March and was expected to reach the Google Play Store later in March 2015.
- **Q: Did the app encounter privacy issues around gathering data?**
 - **A:** Cool the Earth ran into many restrictions that changed the trajectory of the application from what the program set out to originally develop. Original ideas to incorporate photos and selfies were dropped because the app could not collect information through the user since the target audience is children under 13. However, the app can collect information through emails from the parent. Apple also had restrictions on push notifications.
- **Q: What is your strategy for promotion?**
 - **A:** Cool the Earth plans to target children who are currently, or have in the past, been involved in the school program. Additionally, the developer of the app is in the “edu-tainment” sector and has a network reaching 500,000 children. Other effective marketing strategies are word of mouth, paid in-app advertising, and identification in the app store as a noteworthy or top application.
- **Q: Do you have any overarching insights from the focus groups?**
 - **A:** Kids have a hard time differentiating the virtual play space from the real world, so the developers changed the app to make Koda talk. The focus group also found kids need to fail and be challenged for the game to capture their interest. Adding timers and waiting periods between levels also helped hold their attention.

Program Experience: Efficiency Nova Scotia

Leanne Hachey

Director of Education, Outreach & Communications

Efficiency Nova Scotia: Mobile Application Highlights and Lessons Learned

- Efficiency Nova Scotia serves a unique community that is half urban and half rural. With rural and aging populations, the program mixes low-tech outreach with high-tech tools to increase demand.
 - Perform on-the-ground outreach at events and trade shows to reach community members.
- The program found that grabbing parents' attention at outreach events was difficult if children were not also entertained during the conversation. This observation motivated the development of a mobile energy efficiency game.
 - Using the application during trade shows and outreach events allowed the program to have longer conversations with parents while also engaging their kids.
- **About the Game:**
 - Black and white cartoon game with 13 levels
 - The user journeys through rooms in a house and identify the energy efficiency elements present. If the element is identified correctly, it changes to color.
 - An explanation of energy efficiency elements pops up during a pause between each level.
 - The final score is determined by how quickly the user can move through the house.
 - Scores can be shared through social media.
 - Because the game is structured on moving through it as quickly as possible, it was difficult to evaluate if the app was effective as a teaching tool.

Efficiency Nova Scotia: Q&A

- **Q: What is the biggest issue with application hosting?**
 - **A:** Efficiency Nova Scotia used an outside developer, so the application is not hosted on the program's network. As a result, they must continue to work with a third party to coordinate updates. Currently, the program is in the process of taking ownership over the app and determining how to host it locally.

Discussion Questions

- How is your organization using mobile applications to generate demand for energy efficiency upgrades?
- What are some challenges to or lessons learned from using mobile applications?
- How can you measure the impacts of using mobile applications?
- Other questions/issues related to the topic?

Benefits to Developing Web and Mobile Applications

- **Increase awareness of energy efficiency:** web and mobile apps help connect energy efficiency programs and utilities to customers.
- **Reach children and parents:** mobile applications offer an effective strategy to reach children who, in turn, influence their parents' decisions and behavior.
 - Usage of mobile by children has been growing while other activities are declining (e.g., TV, computer games, console devices, and reading).
 - The mobile apps make energy efficiency tangible for kids.
- **Enhance data collection:** applications can be used to collect data (with some limitations for juvenile users).
 - Examples: email data from parents and analytics tracking through the app store.
 - This information can inform programs about how families make environmental decisions.

Challenges to Developing Web and Mobile Applications

- **Behavior change is difficult to measure and slow to occur.**
 - It can be difficult to evaluate an application's impact on program uptake or learning.
- **App development is expensive and needs constant upgrading:** repeated updates and adjustments to the app to maintain compatibility with different operating systems add additional costs beyond the original cost for development.
- **The mobile app space is crowded and competitive for children's attention.**
 - To market an educational mobile app to kids, the app needs to be “90% cheese and 10% broccoli” to compete with other apps and games.
 - Marketing the app to maximize exposure needs to be on-going and include a communications plan beyond the launch of the app.
- **Finding a developer:** finding a mobile developer to work with is difficult.
 - A local developer can provide a local focus to the application.
 - Developers may offer a network to help promote and grow the audience for your app.
- **Privacy constraints:** privacy rules, like the Children Online Privacy Protection Act (COPPA) and rules specific to the application store (e.g., Apple), may limit data collection and functionality, especially for applications developed for children.

Resources and Additional Examples

- **ACEEE Report: Gamified Energy Efficiency Programs**
 - <http://aceee.org/research-report/b1501>
 - This report describes and analyzes 22 games in depth and surveys 31 others. It takes program designers through the steps of developing a game, explains how games motivate players to reduce their energy use, and analyzes the characteristics of the most successful gamified solutions. Preliminary evidence indicates that gamified energy efficiency programs can achieve savings of 3–6% among a sizable number of participants.
- **JouleBug app:** <http://joulebug.com/>
- **Leaffully** (<https://leaffully.com/>): award-winning application from the US Department of Energy's Apps for Energy competition
 - <http://appsforenergy.challengepost.com/submissions>

“The quest to get [people] to cut down their energy use is becoming a lot less dreary and preachy — and a lot more fun.” – Want to save money on your energy bill? Try this video game: Washington Post, February 12, 2015

Closing Poll Results

- After today's call, will you:
 - **Seek out additional information on one or more of the ideas? – 67%**
 - Consider implementing one or more of the ideas discussed? – **19%**
 - Make no changes to your current approach to using mobile applications? – **11%**
 - Other (please explain)? – **4%**

**Please send any follow-up questions or
future call topic ideas to:
peerexchange@rossstrategic.com**

LET'S ALL MEET IN MAY!

REGISTER TODAY for the BETTER BUILDINGS SUMMIT

Washington, DC · May 27-29, 2015

SAVE YOUR SPOT NOW:

<http://www1.eere.energy.gov/buildings/betterbuildings/summit/>

This Summit will bring together Better Buildings partners and stakeholders to exchange best practices and discuss future opportunities for greater energy efficiency in America's homes and buildings.

There will be time set aside for a specific Residential Network discussion and meet-up!