What are some ways to use gamification to encourage energy efficiency?

An Ask E Source answer

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Q: How are utilities using gamification to encourage neighborhoods to save energy?

A: We identified several best practices for engaging communities through game-based programs:

- Keep competitions short; most programs were between six weeks and one year in length.
- Host smaller competitions throughout the longer competition.
- Engage customers often; weekly updates are common.
- Recognize customer engagement with real and virtual awards.
- Provide customers with frequent benchmarks.
- Make the games easy to participate in.
- Don’t ask customers to calculate their savings to participate.
- Encourage and empower customers on their journey through the competition.
- Clearly define the rules and limitations of your game.
- Partner with community leaders to engage the rest of the community.
- Hold virtual trainings and engagement events throughout the competition.

One of the most robust resources for game-based utility programs is the 2015 ACEEE report Gamified Energy Efficiency Programs (PDF), which compares 22 utility programs that use gamification to engage communities. To our knowledge, there aren’t many utilities that claim savings from gamification strategies.

The ACEEE report mentions several other programs that take a unique approach to engaging customers and

achieving energy savings. For example, FortisBC hosted Go Dark for Earth Hour, a social media competition, which ended in March 2019. The utility asked users to shut off their lights for one hour on March 30 from 8:30 to 9:30 p.m. Participants were invited to share via Instragram how they'd be spending the hour to be entered to win a variety of small prizes—from board games to gift cards. The FortisBC article Five family-friendly things to do in the dark during Earth Hour amongst COVID-19 has ideas for spending that time.

Although developing a game-based program can generate energy savings, increase customer engagement, and foster a good utility-customer relationship, it can be expensive. Thus, you should plan your gamified program carefully and clearly define its objectives. The following programs are some examples of gamified energy-efficiency initiatives.

Biggest Energy Saver

Oncor and CenterPoint Energy partnered to create the Biggest Energy Saver program. The program ran over two months in 2011 and used residential smart meter data to teach customers about the benefits of using smart meter data to manage their energy consumption. Two of the driving factors for implementing this program were the installation of more than 3 million residential smart meters as well as customer desire to understand and decrease their energy consumption.

> **The Biggest Energy Saver program used in-home displays and web-based applications to provide customers with live, 15-minute updates on their energy consumption.**

The program used in-home displays and web-based applications to provide customers with live, 15-minute updates on their energy consumption. First prize for the competition was a suite of smart General Electric (GE) kitchen appliances; second prize was a single smart GE kitchen appliance. Participants who demonstrated how reductions in their consumption could be sustained over time were also eligible to win the grand prize, a new Chevy Volt.

Engaged households produced notable results—the top 10% of participants cut their energy consumption by close to one-third. You can read more about the program in the BusinessWire article Biggest Energy Saver Contest Challenges Texas Residents Whose Electricity Is Delivered by CenterPoint Energy and Oncor to Outsmart Energy Consumption.

Program administrators found success by:

- Using a website to benchmark residents' energy consumption
- Empowering residents to use the already-installed infrastructure
- Keeping the competition short
- Having clear rules and restrictions for customers to follow

- Collaborating with multiple technology and utility partners
- Hosting an application design contest to develop an engaging platform to host the consumer contest on

Chicago Neighborhood Energy Challenge

The Chicago Neighborhood Energy Challenge was a six-month competition in two Chicago neighborhoods. Close to 600 participants enrolled, with a focus on multifamily and senior-living properties. The program awarded a total of $40,000 to individuals and properties that decreased their consumption of energy and water. The property that decreased its electricity, gas, and water usage the most received $25,000. The occupants of the winning property got to decide how to reinvest the prize money back into their property. Second- and third-place properties received $7,500 and $3,500, respectively, to reinvest into their properties. Additionally, top-performing individuals received up to $200 for their efforts.

The program featured monthly performance competitions between properties, offering $100 prizes for decreasing water, gas, or electricity consumption as well as for reaching participation goals. The average reductions were 5% in electricity consumption, about 10% in gas consumption, and 45% in water consumption. Read more about these results in the city of Chicago press release Mayor Emanuel Announces Results of Energy Efficiency Pilot Competition.

Key elements of success included:

- Holding the competition for a short period—only six months
- Hosting several workshops to educate residents on energy and water usage
- Offering multiple prizes for individuals and properties
- Creating a website to benchmark individual and building performance
- Emphasizing the empowerment of people, both in groups and as individuals

Kansas Take Charge

The Kansas Take Charge Challenge was a much larger-scale community competition than the Chicago Neighborhood Energy Challenge. The Take Charge Challenge was a nine-month competition among 16 Kansas communities. Approximately 400,000 Kansans participated, saving more than 22 million kilowatt-hours, worth more than $2.3 million.

The program's $1.2 million budget was split among three categories: $220,000 to program marketing and staff funding, $400,000 for competing communities to spend on the challenge, and $400,000 to evenly split among the four winning communities. The Kansas Take Charge Challenge website featured leaderboards and a live news feed to update and engage communities. Read more about the program in the US Department of Energy case study 'Taking Charge': Kansans Save $2.3M in Challenge to Change Their Energy Behavior.

The program's success relied on:

- Targeting community leaders to engage and encourage their communities

- Offering support, education, and workshops to communities
- Providing up-to-date benchmarking data
- Making the prizes large enough to keep communities engaged
- Providing financial assistance to support communities through the challenge
- Hosting more than 1,000 events to engage Kansans
- Empowering communities to come together in an effort to decrease their emissions and energy consumption

Take Charge

In 2014, Horizon Utilities (now Alectra Utilities) piloted the Take Charge program through Simple Energy. The program sent participants weekly emails to highlight their energy consumption, benchmark them against other participants, and provide energy-saving tips. They could log in to an online portal to set their energy goals and compete for rewards by pledging to reduce their energy consumption. The Take Charge program relied on smart meter data to provide customers with personalized insights and recommendations to decrease their energy consumption. The Independent Electricity System Operator's Social Benchmarking Pilot Evaluation (PDF) describes the program and its results in detail.

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In 2017, Horizon rolled out Entropy, a different type of gamification system. The app doesn't have any competition or reward aspects; it focuses on personalized education and subliminal learning, or learning at a subconscious level through audio and visual cues. Users can access educational quizzes, receive notifications and tips, and monitor real-time energy indicators and consumption graphs. Read more about Entropy in the Blasting News article Can a Mobile App Make Your Behavior More Energy-Efficient?

The Take Charge program found success by:

- Engaging with customers often
- Developing user-specific recommendations
- Providing frequent benchmarking data
- Empowering customers to set goals
- Teaching residents how to change their energy consumption
