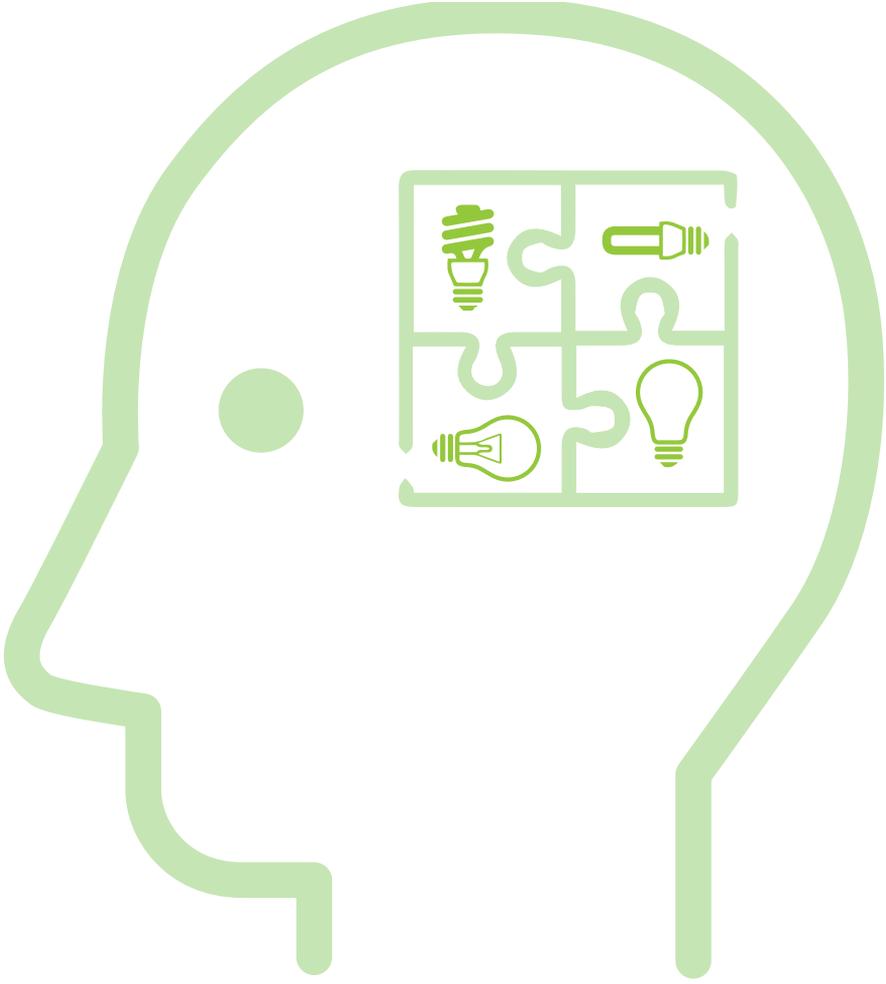

BEHAVIOR-BASED ENERGY PROGRAMS AND THEIR POTENTIAL IMPACT ON UTILITIES

Why messaging is critical for campaigns intended to motivate users to consider adopting new ways to save energy.

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INTRODUCTION

Considered the new frontier in energy management, behavior-based energy programs focus on energy savings that occur through changes in individual or organizational behavior.

These programs are emerging as desirable because they are seen as less susceptible to market fluctuations and don't focus solely on purchasing energy savings products. The behavior-based energy model is instead based on motivating changes in human behavior using data analytics and smart technologies.

The knowledge associated with behavior change has been used in other industries and it has become a promising means to encourage energy efficiency. But there's still much more to learn about what's most effective to motivate end users to make changes. Capturing the full potential of energy efficiency requires a new way of engaging with consumers to reshape their behavior. A major challenge to this paradigm shift are utility companies themselves that view energy efficiency programs as threatening to long-term sales revenue. However, policy changes at the state level have been successful in creating new models for separating a utility's profit motive from its sales revenue.

The behavior-based energy model is an opportunity that remains mostly untapped. As more utilities see the benefit of motivating end users in both commercial and residential properties to adopt new behaviors towards energy consumption, they will see a closer relationship emerge with those users as well as an expansion of resources that are more sustainable over the years.

WHAT ARE BEHAVIOR-BASED ENERGY PROGRAMS?

Behavior-based energy programs are those that focus on savings in electricity and gas based on changes in individual or organizational behavior. These are efforts that contradict traditional energy efficiency programs by governments or utility companies that have largely relied on financial incentives to motivate people to purchase products or upgrade equipment that generates savings.

BEHAVIOR-BASED ENERGY PROGRAMS

**ARE THOSE THAT FOCUS ON SAVINGS IN ELECTRICITY AND GAS BASED ON CHANGES
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The results of these traditional programs have been positive: Heating, ventilation, air conditioning and weatherization systems are now more efficient. Varieties of LED lighting are now considered cost-efficient alternatives to traditional, and energy-sucking, incandescent lighting. According to McKinsey & Company, utility rate payer-funded spending on energy-efficient products has grown at around 21 percent a year resulting in year-to-year energy savings.

As its name suggests, behavior-based programs focus on motivating end users to change their behavior based on analytics and not only through their purchasing power. This often involves utility companies providing reports that show end users their energy consumption based on comparisons with other buildings of similar size and scope. Breakthroughs in social media and smart controls have added to the tools utility companies can use to motivate change in their users to reach the common goal of energy savings.

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The right messaging is key. When given data that outlines the full scope of their energy consumption, consumers can change their behavior to lower costs. But what is needed more is not just correcting behavior but getting consumers to understand why they are changing their behavior. This requires messaging that goes beyond number comparisons. Instead, consumers need to see how energy usage plays a role in all aspects of their lives, inside and outside the home, so they can understand what it takes to create sustained change. As smart technology becomes more integrated into daily living, the nuances of energy consumption grow more complex. Messaging that pulls those components apart to give consumers a full portrait of their behavior widens the opportunities for savings and has the greatest potential to impact change.

Programs that maximize energy savings for end users are expected to serve as the differentiators among utility companies, especially in the commercial market. The Association of Energy Services Professionals (AESP) reports that behavior-based savings account for 30-50 percent of the total savings potential in commercial buildings. By combining energy analytics with engagement strategies, energy providers have the opportunity to increase energy efficiency at a high volume while holistically improving consumer use.

CHALLENGES TO BEHAVIOR-BASED ENERGY PROGRAMS

Behavior-based programs may be more difficult to implement for companies structured around a traditional business model. This is because short-term costs involved with providing energy service are not reduced in greater proportion to a reduction in end user energy consumption. The imbalance between costs and revenue make it difficult for utility companies to invest in energy efficiency programs.

Research from The American Council for an Energy-Efficient Economy (ACEEE), a nonprofit organization that advocates for energy efficiency policies, shows that state-by-state policies may help utility companies adopt and maintain business models that reward end users for energy-saving behavior while growing the bottom line.

Many states promote an alternative model called decoupling, which is the separation of a utility's profit from sales as a commodity. Instead, a utility's revenue is met by setting a revenue target, then rates are regularly fine-tuned to meet that target. In some states, if a utility has a good year beyond its regulated rate of return, it shares the increase with a refund for customers. In bad years, customers share the pain with an increase in their bills.

States can also offer incentives to shareholders for meeting energy efficiency goals and can play a role in how the decoupling affects customers.



HOW UTILITIES CAN TARGET RESIDENTIAL USERS WITH BEHAVIOR-BASED MESSAGING

Utility companies working to promote energy efficiency have different ways to motivate end users, such as homeowners, to incorporate practices that lead to energy savings. These include campaigns that engage end users to take action. Successful campaigns make energy savings concrete, not abstract.

A greater reliance on data to influence behavior will require stronger messaging to make sure users have a full understanding of every detail. There is a general consensus that simply turning off lights may be all that's needed to save energy, which means they may be resistant to suggested behaviors that require more time or effort. They may also be wary of data, or simply distrust the source. Utility companies, therefore, must go beyond their campaigns to focus on the messaging: How they communicate behavior change is often just as important as the behavior itself.

UTILITY COMPANIES MUST GO BEYOND THEIR CAMPAIGNS

TO FOCUS ON THE MESSAGING: HOW THEY COMMUNICATE BEHAVIOR CHANGE IS OFTEN JUST AS IMPORTANT AS THE BEHAVIOR ITSELF.

To make the greatest impact, message testing will help companies refine their messages to make sure they resonate with customers. Periodic testing, through communications audits that show measurable insights, will not just make sure your messaging is relevant and compelling, but it will also show the most effective channels for pushing those messages out.

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Make home energy reports and audits authentic. Utility companies routinely create reports or energy audits that use analytics to show users not just how much energy they are using, but at what times of day, where within their home energy is used most or least, and how energy usage fluctuates over a period of time. Audits often use that data to create scenarios where users can see how their usage compares to other homes their size.

The challenge companies have is authenticity: Consumers may be wary of the data. After all, they live in the communities, neighborhoods, and blocks the data reflects and they may be suspect that it doesn't mirror their observations or experience. In order to make the data effective, it needs to be accompanied by strong storytelling that authenticates the numbers and brings them to life.

Show consumers how to leverage smart technology. A new generation of sensors and controls can provide users more accurate readouts of temperatures, lighting modes, and more. Examples of this technology include:

- **Google's Nest Labs**, which allows users to control home energy and products through a smartphone app.
- **Opower**, energy management software that contracts with utility companies to provide personalized audits of household energy use, which is then compared to neighborhood patterns.
- **Bidgely**, a personalized software system that delivers energy reports, smart bills, smart home energy controls, and proactive alerts.

Utility companies use smart technology to motivate changes in behavior because it provides real-time data into energy use that users can then experiment with to achieve best-case results. The greatest selling point of smart technology is control. Through apps

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and other mobile access, homeowners now have greater control over their surroundings, eliminating outside factors that could affect their energy costs.

Campaigns need to focus on why gaining control matters. Education messaging should not just be on the “how” of operating the new technology, but it should also break down in simple terms why the technology should be trusted to deliver accurate and, therefore, motivational results. The buy-in can be significant — since this technology often involves retrofitting, as well as time to learn how to operate the sensors remotely. So users need the full scope of the technology’s benefits (the “what” and “how”) but also why the commitment is worth the effort.

Highlight energy opportunities consumers may not have noticed.

Motivating behavioral change goes beyond suggesting people turn off the lights when they leave a room or turning off the air conditioning when they leave home. Instead, campaigns need to highlight the three opportunities within the home where energy consumers should focus their attention most. They are:

- **Heating and cooling temperature set points.** These represent between 7 to 9 percent of total U.S. residential energy use, which makes them the largest potential areas for energy savings in the home. For obvious reasons, how a home is heated or cooled is a personal choice depending on lifestyle, mood, and more. Messaging should, therefore, focus on personalization. Understanding the options for personalizing temperature can give users greater ownership of their living environment.
- **Hot water usage patterns.** Campaigns that focus on reducing hot water temperature set points, promoting wet-cleaning operations involving dishwasher and washer-dryer settings and load sizes, and shortening time spent showering could result in savings up to 7 percent.
- **Equipment usage patterns.** Lights, home electronics, and media portals represent both standby power consumption and the amount of time they are on but not being used. Campaigns that focus on these devices can result in savings up to 3 percent.

HOW UTILITIES CAN TARGET COMMERCIAL USERS WITH BEHAVIOR-BASED MESSAGING

Commercial customers are also candidates for behavior-based energy solutions. Their participation could create more of an impact as large customers use one hundred times more energy than small operators. In fact, the most significant growth areas are commercial buildings, which account for between 30 to 50 percent of total savings potential, according to the AESP.

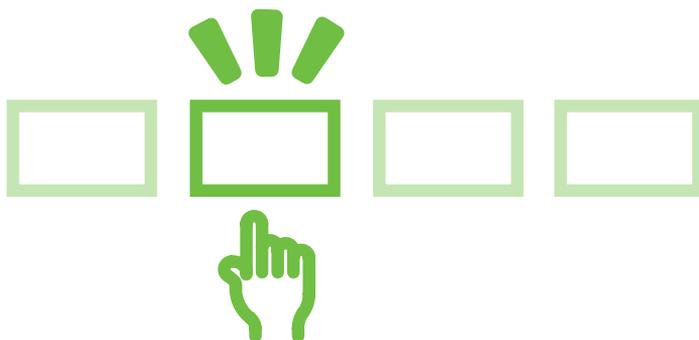
Obviously, targeting large operators goes beyond convincing them to turn off the lights when rooms are empty. Instead, motivating organizational change for complex energy systems requires long-term strategies involving comprehensive measures that must be project-managed methodically.

Yet, for a utility company to influence change in the commercial space, it may be difficult to speak to the decision-maker at the executive level — say, the corporate suite of the company itself or the gatekeepers at the building management company that leases out the space. But it also might be difficult to reach those directly responsible for implementing behavioral change on a day-to-day basis, such as the office manager or maintenance staff. Real change is possible if utility companies can connect with those who are most intimately involved in regulating utility use within the building.

That's where strategic research comes in. Segmentation research via syndicated research partners can identify the right influencers within a campus or building. Once the decision-maker is identified, a strategy can be developed that will result in tailored messaging that will influence the business decisions needed to affect change.



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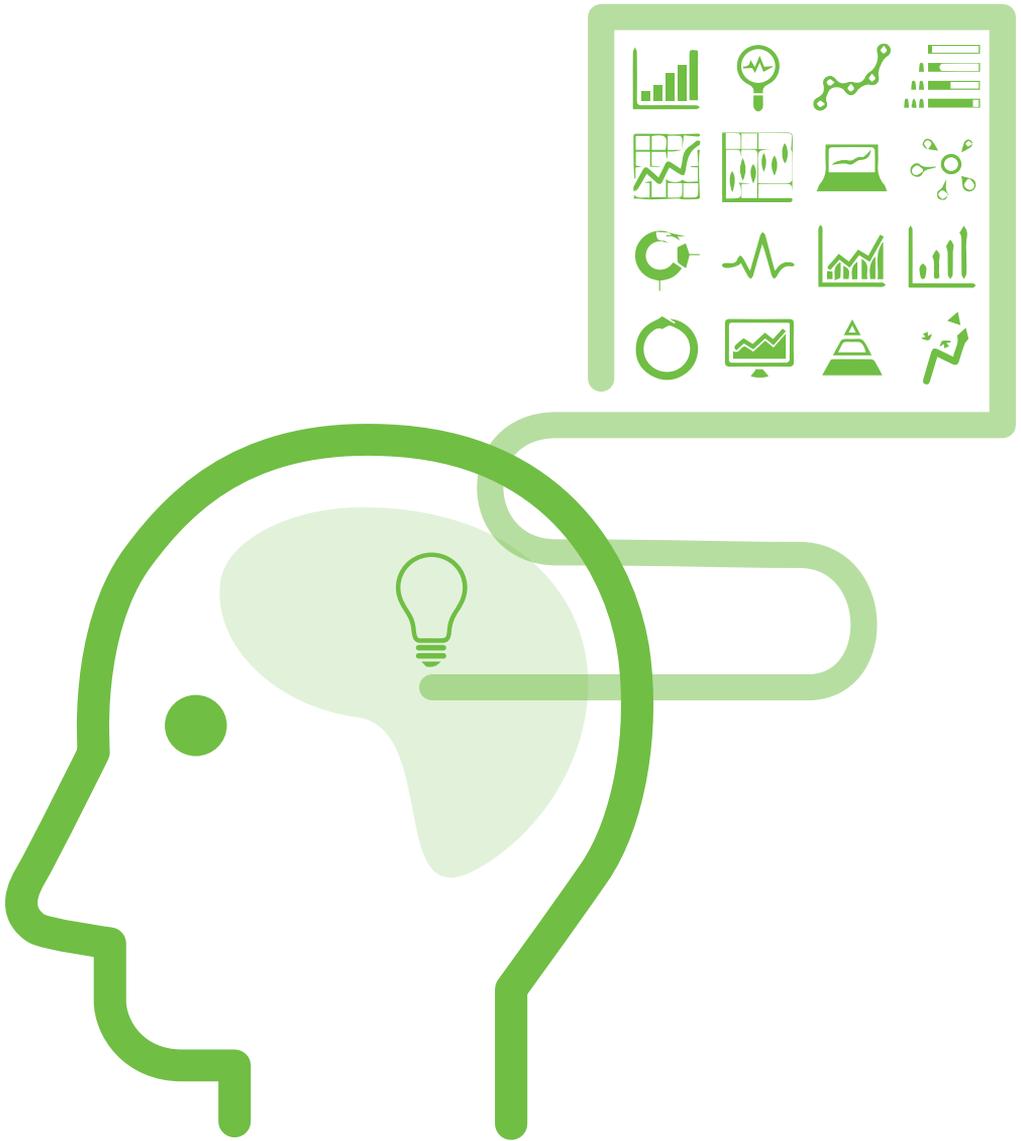


There are four kinds of behavior-based energy programs, each one requiring messaging unique to their size, ownership, region, and more. They are:

- **Strategic Energy Management.** This is the most complex approach, involving driving wholesale organizational change. A whole-building approach is needed to generate energy savings, which can involve implementing a series of measures such as lighting retrofits or energy scheduling, or producing an energy reduction strategy that is building- or company-wide.
- **Comprehensive Retro-Commissioning.** This operational strategy identifies no- and/or low-cost changes to buildings using existing controls and equipment. Outcomes may include implementing permanent changes to thermostat set points and improving building schedules when it is occupied and unoccupied.
- **Managed Energy.** With this data-driven solution, companies can make wholesale changes by implementing advanced lighting and smart controls or installing a new energy management system that provides real-time monitoring.
- **Commercial Behavior.** This is the solution that is most tied into motivating change. It is driven by educating all stakeholders (tenants, building owners, and managers) on how they can change their behavior as they interact with energy systems and equipment. This may include, for example, powering off all computers at night or turning off lights when departments are closed.

As with home residences, these programs rely on understanding the personal tastes of the stakeholders involved. Campaigns can highlight the importance of controlling utilities according to company operational needs, which will vary depending on a number of factors including the scope of the company and its product or service.

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CONCLUSION

Optimizing building controls, overhauling long-standing business practices, taking advantage of smart media and technologies, and making full use of data analytics represent new ways for utility companies to engage end users and encourage them to change their behavior regarding energy usage. The key is information: The more ways utility companies can educate end users through data, the more those same users will be motivated to experiment to find savings.

But energy providers need to go beyond campaigns and technology. They need convincing messaging targeted at the right users that will result in real change. After all, analytics research or energy savings tips are only as convincing as the user will allow. For energy providers to ensure their methods are effecting real change, they must focus beyond the campaign to the storytelling required to make those campaigns come to life. The focus needs to be personal: How can usage be determined based on the preference of the individual user or company?

By focusing on messaging, energy providers stand to benefit. Holistically improving energy use among their customers will generate goodwill, strengthen end user trust, and accelerate energy efficiency adoption at such a high volume that resources can be sustained for years to come.

We hope you enjoyed reading this look at utility marketing trends. We'd love to discuss it further and answer any questions you have about this topic or any others of interest to you. To start the discussion, please contact Andrea.



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