

2025

# Energy Customer Insights



Tracking preferences in a  
changing energy landscape

Perspectives of 10,000 utility customers

## About this report

The goal of this research report is to humanize energy. We aim to help utility leaders, program managers, researchers, marketers, and other decision makers better understand energy customers.

Billions of dollars are being spent on modernizing the energy infrastructure. Many engineers, operations leaders, executives, and even our own ICF consultants are keenly focused on improving the grid, upgrading operating systems, and finding new ways of working. That's all critically important. And so are the people we are trying to serve. To advance successful transformation, we should better understand the needs, perceptions, and barriers of customers as they engage in making more energy decisions.

To accelerate that cause, ICF has launched one of the largest customer research projects of its kind. We surveyed 10,000 energy customers across the United States, giving us a tremendous volume of information and insights.

Given the rapid rate of change in the way we regulate, distribute, and use energy, these customer perceptions and behaviors will very likely change. That's why this inaugural report will be updated regularly, so we can better understand customers today and map the evolution of their attitudes and understanding over time.

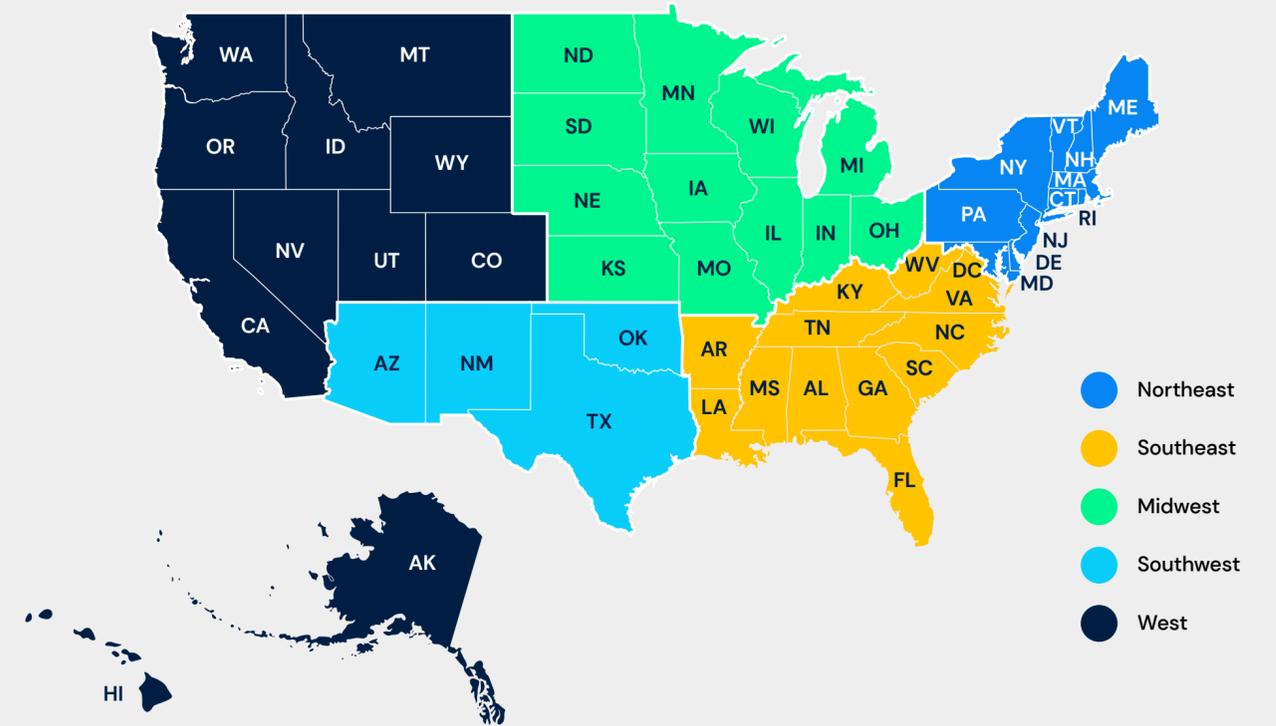


# Methodology

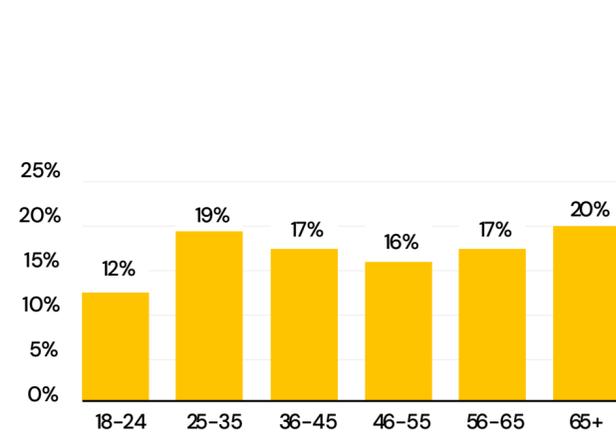
The ICF 2025 Energy Customer Insights Report assessed customer preferences in three main areas: electrification, load management, and energy efficiency. We also surveyed customers on technologies that include smart thermostats, battery storage, appliances, and solar. We selected these categories and technologies because participation in these areas and use of these technologies have the most potential to support reliability, affordability, and sustainability. Questions were specific to electric utilities.

ICF conducted the online survey with a panel of residential energy customers across the U.S., including both homeowners and renters, between July and August 2024. Data was collected from five regional areas, with approximately 2,000 surveys completed per region, totaling 10,000 surveys.

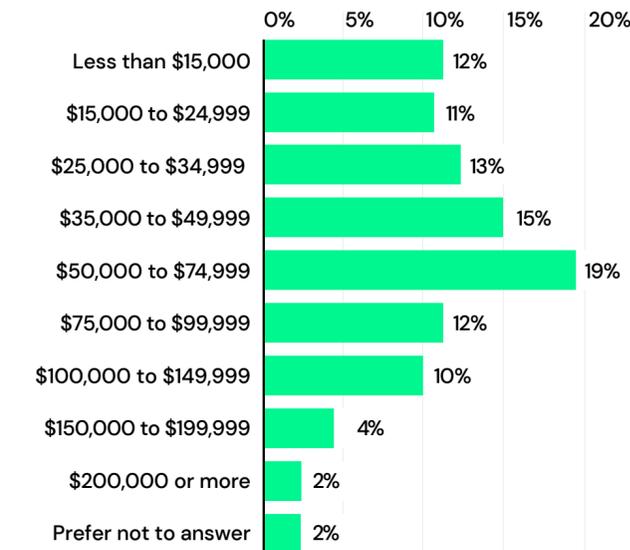
The sample was aligned to U.S. Census data to ensure that the findings were representative of the diverse population of utility customers in the U.S., providing valuable insights into their perceptions, communications preferences, and behaviors.



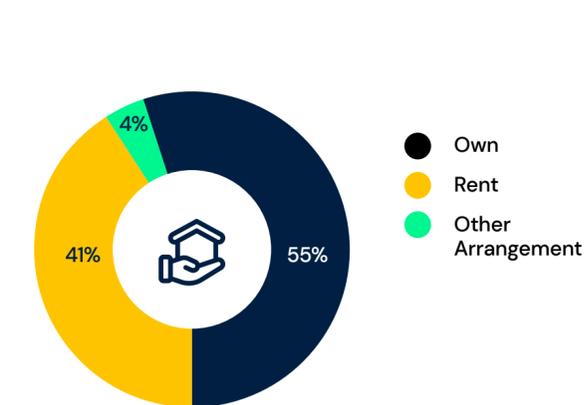
## Age



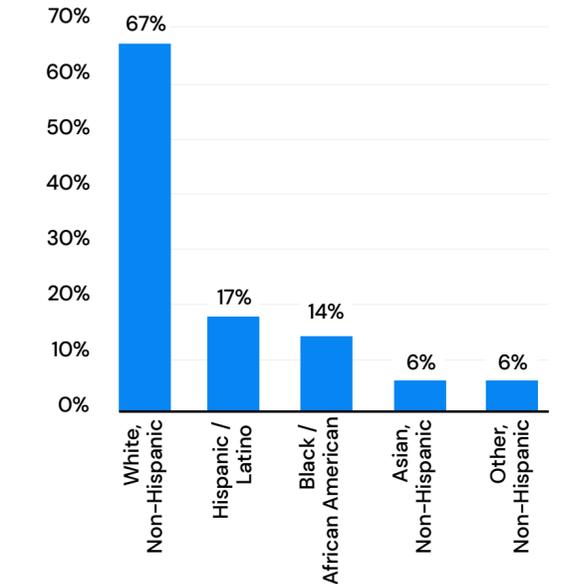
## Income



## Home Ownership



## Race/Ethnicity



# Executive summary

Current needs to enhance the overall efficiency and resiliency of the nation's energy infrastructure require balancing demand flexibility and increasing grid efficiency. Key strategies to address these pressing challenges include load management, electrification, and energy efficiency programs, and the promotion of technologies that include smart thermostats, rooftop solar, and batteries. This research aimed to develop a deeper understanding of energy customers' energy perceptions, preferences, and behavioral intentions as each of these initiatives and technologies require unprecedented levels of customer consideration and adoption.



## Key takeaways from our survey of 10,000 customers include:

### **The influence of trust is abundantly clear.**

Customer trust in their utility is emerging as a critical factor in engagement and behavior change. The data clearly shows higher levels of trust lead to greater support for electrification technologies, more comfort with allowing utilities to manage energy within their homes, and a likeliness to engage with utility programs. For energy transformation to be successful, earning and deepening trust is essential (see [page 24](#)).

### **Electrification and load management have support.**

Half of our respondents support the electrification of their homes and are familiar with demand response programs. However, within the area of electrification, there remains a significant potential to raise awareness and support for this initiative in the remaining half of the population that is neutral or opposed to electrification (see [page 10](#)).

### **Customers have some comfort with outside entities managing home energy use.**

More than half of customers are open to allowing their electric utility to manage their home energy use to help them save on their energy bills, particularly among those who place a high degree of trust in their service provider. Additional reasons include increasing the efficiency of their home, the potential to receive incentives for doing so, and to contribute to grid reliability. Energy customers are open to smart technology and third-party solutions to optimize energy savings (see [page 13](#)).

### **Renters are an overlooked market for load management engagement.**

Renters consistently show a higher readiness for and comfort level with outside entities managing their energy use than homeowners. Also, while renters face several challenges when it comes to implementing energy upgrades in their properties, they remain a promising market for targeted utility outreach and engagement (see [page 11](#)).

### **Nationally, customers show a strong readiness for energy changes in their homes.**

Half of energy customers are currently ensuring or planning to ensure that their homes are energy efficient within the next three to five years. They also favor energy technologies including smart thermostats, heat pumps, and smart appliances (see [page 18](#)).

### **Energy-conscious social norms are strongly influential, and use of behavioral science enhances a strategic approach.**

Social norms are powerful motivators of behavior as people are deeply influenced by what others are doing around them. Respondents' future energy plans and technology purchase intentions were strongly impacted by the energy norms in their communities. Utilities can employ behavioral science techniques to overcome weak social norms for energy-conscious behaviors. But beyond social norms, behavioral science's deep value add is in its versatility, with a wide array of applications, including program design, marketing and messaging strategies, implementation processes, and customer engagement methods (see [page 42](#)).

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# Introduction

The energy landscape is undergoing a profound transformation, driven by growing energy demands on the grid, technological advancements, new regulatory requirements, extreme weather, and evolving customer expectations.

The drive to increase electrification, along with the growth of energy-hungry data centers and artificial intelligence technologies, is adding enormous pressure on a system that may not be able to keep up. So, there's growing importance in focusing on the customers' role in this imbalance between supply and demand.

While policy makers and elected leaders may differ on how to meet our growing energy needs, what's clear is that we are moving toward a more distributed and complex energy ecosystem. This evolving future will require successful utilities and other energy leaders to better educate and collaborate with customers, who increasingly will have more choices and control over how and whether they generate, store, use, and manage their energy.

Today, energy customers face an increasing number of decisions that impact their daily lives. Customers are being asked to enroll in new time-of-use rates, to allow utilities access to control their thermostats and other technologies, and to evaluate the merits of energy rebates and incentives. They are exploring the purchase of electric vehicles, and considering the installation of technologies, such as smart thermostats, rooftop photovoltaic, batteries, and smart appliances in their homes. And they are also considering

whether to switch from fossil fuels to electricity for their home heating, hot water, and cooking needs. Making these types of decisions requires a level of knowledge and confidence that many customers may not yet possess.

## Accelerating the industry's understanding of utility customers

In this context, utilities, as well as state energy agencies, have a unique opportunity to position themselves as trusted advisors. By gaining a deeper understanding of customers' needs and preferences, organizations can provide the guidance necessary to help customers navigate new decisions. This ultimately leads to changing people's behaviors and can help utilities grow engagement in their program offerings, manage demand on the grid, meet regulatory goals, and increase customer satisfaction and participation.

ICF's 2025 Energy Customer Insights Report reveals what customers are thinking today and how that differs across regions, age, income, and homeownership status. Given the rapid rate of change in the way we regulate, distribute, and use energy, these customer perceptions and behaviors will very likely change. This inaugural report will be updated regularly so we can better understand customers today and map the evolution of their attitudes and understanding over time.

It's not surprising that for emerging issues there's a fair amount of uncertainty among customers—

and that represents opportunity for utilities. For example, a significant number of customers support a more engaged utility-customer relationship under certain circumstances.

This report provides detailed findings on a national level. Each region has some differences in purchase intention and social norms. You can read about that on [page 34](#).



01

# Today's energy customer

A deeper understanding



# Today's energy customer: A deeper understanding

As the energy landscape continues to evolve, utility customer participation is essential to achieving optimal results in enhancing the overall stability and efficiency of the energy ecosystem, in addition to addressing impacts from extreme weather.

Key programs and initiatives that are crucial to balancing demand flexibility and increasing grid efficiency and resilience include load management, electrification, and energy efficiency programs. This research aims to understand the perspectives of utility customers and uncover key opportunities for increased customer awareness, preparedness for, and adoption of these programs and initiatives, as well as energy-conscious practices and action planning.

We begin by reporting findings of what energy customers are currently thinking and planning, then evolve into deeper discussion of key drivers that shift these findings, and strategies for change.

## Energy customers are open to electrification and aware of demand response

When assessing customers' potential to change habits, results indicate encouraging news: Half of respondents are familiar with demand response programs and support the electrification of their homes.

Familiarity with demand response programs is broad, and specific knowledge and awareness of different demand response activities will vary depending on a given utility's program offerings, so our future research is aimed at exploring this in greater detail.

As for electrification, there is significant potential to raise awareness and garner support for initiatives in this area within the remaining 46% of the population that is either neutral (31%) or opposed (15%) to electrification.

Energy customer hesitancy toward supporting electrification suggests a strong need for increased education and outreach. For these customers, lack of information, uncertainty about the impact of electrification, cost/reliability concerns, and preferences for gas appliances underscore a need for utilities to lean deeper into energy education to enable customer decision making.

Developing a deeper understanding of the perspectives and preferences of today's energy customers will be important for educating them on these topics. This understanding will also help to further their involvement, particularly as these initiatives may shift customers away from long-standing and familiar energy usage habits or technologies.

### A snapshot of customer feedback about electrification, organized by response type:

Support 	Neutral 	Oppose 
<p>"I support anything that safely and efficiently gets us away from fossil fuels."</p> <p>"Because it is probably better for the environment."</p> <p>"It makes life easier. Can be controlled with solar eventually."</p>	<p>"I don't fully understand it."</p> <p>"I don't know a lot about the topic."</p> <p>"I think things will change as technology changes."</p>	<p>"Too confusing, don't trust it."</p> <p>"I don't trust smart electricity regarding health effects."</p> <p>"I wouldn't want the items I am used to and have used for years to suddenly be changed to electric, less efficient ones."</p>

**55%**  
are familiar with demand response programs

**49%**  
support electrification of their home



## Affordable electricity and transparent billing are top expectations

As utilities seek rate increases, and costs go up for a wide variety of consumer goods, affordability remains a top priority for customers.

A significant majority of respondents (89%) agree that managing energy is essential to making electricity more affordable, as well as creating a more efficient energy grid (85%) and protecting the environment (78%).

While avoiding rate increases is a concern, increases may feel like an inevitability for some customers, as only 54% of respondents rank it within their top three expectations of their utility provider.<sup>1</sup>

Customers are actually more concerned about billing transparency. Approximately 74% of respondents expect their utility to provide transparent billing practices,<sup>2</sup> with fair pricing and affordable rates often listed as qualifiers.

These sentiments underscore the need for utility providers to continue to employ transparent communication practices regarding rates<sup>3</sup> and billing. More than just the electricity rate or the monthly charge breakdown, utilities need to be clearer about rate design<sup>4</sup> and changes, communicated in easy-to-understand language.

<sup>1</sup> Ranked as number one by 20% of respondents, second only to providing reliable electric service (37%).

<sup>2</sup> Respondents reported reliable service as the second most frequent expectation (72%).

<sup>3</sup> Fourteen percent of respondents reported not knowing the type of electric rate they're billed on.

<sup>4</sup> Fifty-three percent of respondents expect their utility to provide rate structures that are easy to understand.

Utilities will also need to educate customers on the “total impacts” of different energy initiatives—for example, electrification may increase a customer’s electricity bill but could also result in an array of beneficial outcomes to that customer. Pairing messaging that speaks to these issues with strategies that customers can employ to manage their energy usage more effectively and reduce costs will help support them through the sometimes conflicting impacts of different energy-related activities.

Responsive customer service was another critical customer expectation, with 62% of respondents identifying its importance. Customers expect

timely and effective communication, quick resolution of issues, and a personalized approach to their needs.

By providing responsive and empathetic customer service, utility providers can address customer concerns promptly—facilitating increased customer engagement by improving overall satisfaction. Understanding and meeting customer expectations is crucial for utility providers to ensure high levels of satisfaction and trust, which are key factors influencing engagement with and adoption of a variety of program offerings, including load management, electrification, and energy efficiency, as well as various technologies.

# 74%

of energy customers expect clear and accurate billing from their utility.

### Affordability remains a priority for energy customers

# 89%

**Agree** the importance of managing energy is to make electricity more affordable.

# 54%

**Rank** avoiding rate increases within their top three priorities from their utility provider.





## Energy customers are comfortable with load management

More than half of energy customers are comfortable with the idea of their electric utility providers managing their home energy use, with 58% of respondents citing cost savings as the leading reason for allowing their utility to manage their usage. Additional reasons include increasing the efficiency of their home (40%), the potential to receive incentives for doing so (38%), and to support improved grid reliability for fewer outages (32%).

**59%**

are comfortable with utilities managing their home energy use

### Who would energy customers be comfortable with managing their home's energy use?

More than half of customers are also comfortable with other entities managing their home energy use. For instance, 64% of respondents are comfortable with a smart device managing their

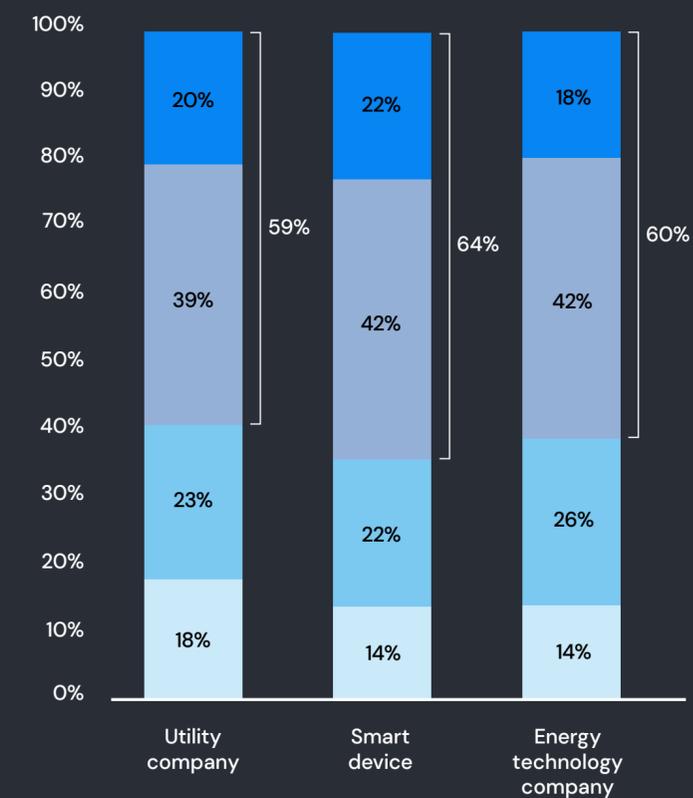
home energy usage, and 60% are comfortable with a third-party energy technology company managing their energy use.

This openness to technology and interconnected home management solutions to optimize energy consumption and cost savings indicates that customers may be poised to embrace more energy management programs and strategies.

This openness also indicates that utilities have multiple ways to design energy management strategies for their customers, whether it's through direct programs they offer or through strategic partnerships with external smart technology and home energy management companies. In many cases, utility providers are already partnering with smart device and energy technology companies to orchestrate this management. In those instances, survey findings suggest that utilities would benefit from enhanced customer engagement, confidence, and trust by being forthcoming about their partnerships and engaging in co-marketing initiatives with them.

Ultimately, utilities have an opportunity to take a leadership role in this space that will enhance customer trust and confidence, versus ceding this ground to other entities—a point we return to later in this report.

### Comfort with outside entities managing home energy use



- Very comfortable
- Somewhat comfortable
- Somewhat uncomfortable
- Very uncomfortable

Source: ICF analysis

While many energy customers are open to outside entities managing their home energy use, 20% of respondents stated that they would not allow their utility company to manage their home energy use at all.

# 20%

will not allow utilities to manage their home energy use

This opposition is centered on customers' strong desire to maintain control over their environment and cater to their own personal preferences for comfort. Other survey respondents cited privacy concerns and trust issues with the utility, as well as skepticism about the effectiveness of this type of load management strategy.

Concerns about privacy and control of personal data extend to the broader sample of customers in this survey as well—45% of respondents reported being moderately to very concerned about the privacy of their personal data that the electric utility has about their habits (e.g., energy consumption, daily electricity usage, and contact information).

Transparent communication about how utilities are using the information, plus how they are handling data storage and security, will be critical in promoting customer confidence. This, in turn, can contribute to increasing comfort levels among customers and greater participation in these types of utility programs, as well as utilities' abilities to optimize their load management strategies.



**"I want full control over my home at all times—why on earth would I ever allow someone else to control my own private environment."**

**"I don't trust them to know my personal needs at all within my home."**

**"I don't trust that it would save me money."**

## Renters consistently show higher comfort level with outside entities managing their energy use than owners.

Compared to homeowners, renters:

Are **6%** more comfortable with the utility managing their home energy use (7%–11% more for smart devices or home energy management providers).

Are **3%** more likely to allow energy management for savings, and 4% more for better energy efficiency.

Demonstrate a stronger openness toward the energy transition, reporting

**8% higher** support for electrification than owners.

Despite the energy management limitations often inherent within a rental property, this motivated and engaged customer segment is poised to participate in the energy transition. As they represent a third of the residential housing population,\* learning more about renters' needs can help utilities formulate targeted outreach to engage them in load management, electrification, and energy efficiency. Energy equity concerns and consideration of their future homeownership goals may be important factors in converting a higher portion of this engaged population to adopters.

\*U.S. Census. (2024, October 29). Quarterly residential vacancies and homeownership, third quarter. <https://www.census.gov/housing/hvs/files/currenthvspress.pdf>

## > Key insights and recommendations

**Transparent communication about rates and billing, and keeping electricity affordable are chief concerns.** Customers expect their electric utility provider to clearly communicate energy costs and avoid rate increases to ensure fair and affordable energy. To address these concerns, utility providers should focus on implementing transparent billing practices, educate customers on what grid investments are needed, and continue to offer programs that help customers manage their energy usage and reduce costs. By prioritizing affordability—and demonstrating what utilities are doing to keep costs down—providers can build stronger relationships with their customers, foster loyalty, and support the broader goal of energy grid stability and efficiency.

**Customers are comfortable with energy management partnerships.** To help keep electricity affordable, energy customers are open to partnering with their utility provider to help manage their own energy use. They're also willing to engage with other entities, such as smart devices or third-party, direct-to-customer energy management solutions, to help control energy costs. Collaborative partnerships with such technology companies could potentially expand ways to further engage customers in load management, and increasing customer awareness of existing partnerships can increase customer confidence and trust.

**Desire for control and comfort, privacy and trust concerns, and skepticism about achieving intended benefits are barriers to engagement.** Utilities will need to educate customers on the various load management offerings they have available to align with customer needs around control, demonstrate the cost savings, and highlight that management of energy use does not need to come at the cost of comfort or other non-energy benefits. Trust and transparency will be key to overcoming these barriers (see [page 31](#)), and additional strategies to address these barriers are presented throughout the remainder of this report.

**Renters are an overlooked market for load management engagement.** Renters demonstrate a greater willingness and comfort level with outside entities managing their energy usage compared to homeowners. Although their energy management options may be more limited within a rental property, they represent a promising market for focused load management outreach and engagement.



# 02

## Energy transition readiness

Current and future energy action goals



# Energy transition readiness: Current and future energy action goals

Customers demonstrate strong indicators of energy transition readiness. They are focused on enhancing the energy efficiency of their homes—an important base resource for utilities—and adopting smart technologies for household energy management.

Forty-eight percent of energy customers are currently ensuring or planning to ensure that their homes are energy efficient within the next three to five years, and 35% of respondents plan to incorporate smart technologies to manage household energy use. This proactive approach highlights that these customers are aware of the benefits of energy efficiency, are committed to reducing energy consumption, and are interested in better managing their energy use.

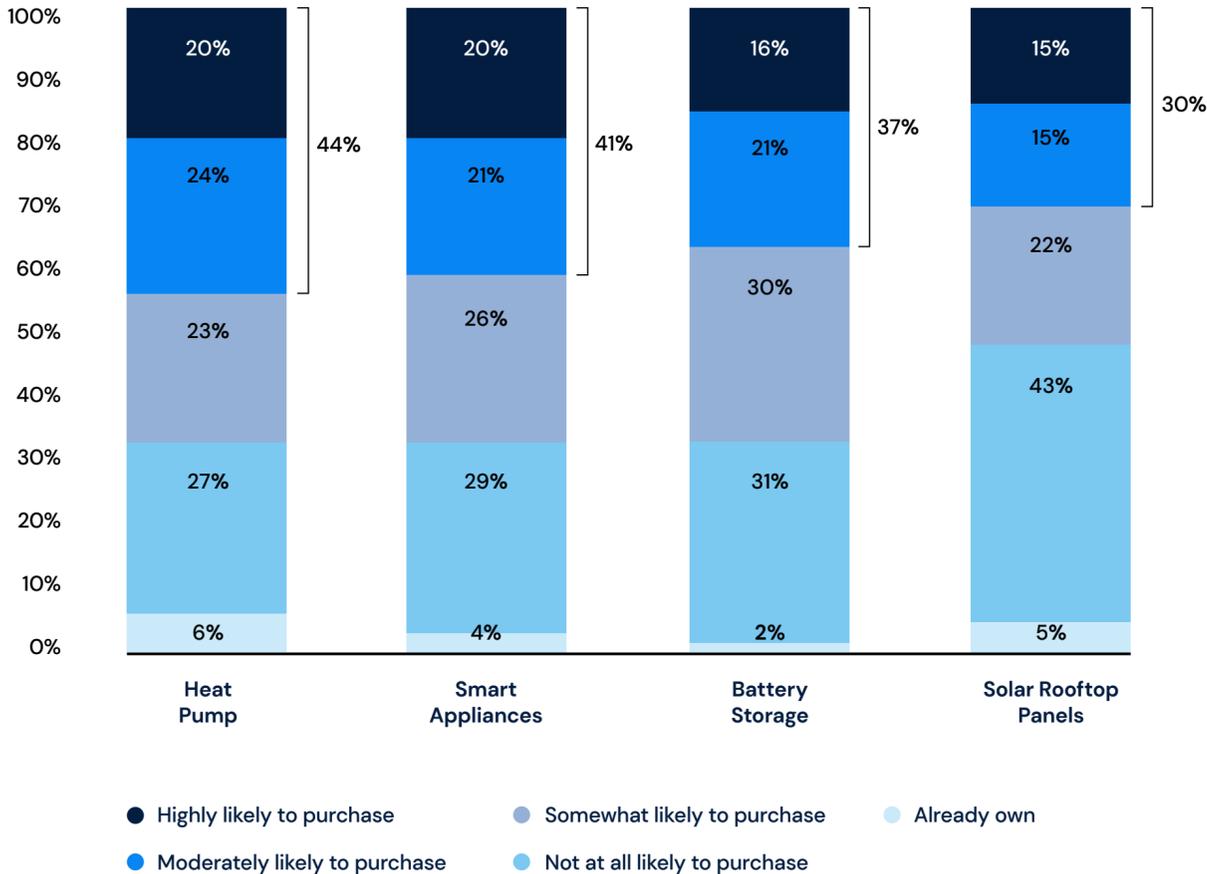
## What energy-related technologies do homeowners plan to purchase in the next five years?

Technologies that customers favor include heat pumps and smart appliances. Over two-fifths of homeowners<sup>5</sup> are likely to purchase<sup>6</sup> a heat pump within the next five years, with 6% already owning one. Similarly, 41% of homeowners are likely to upgrade their homes with smart appliances, while 4% have already made such upgrades. Battery storage solutions are also of interest, with 37% of homeowners reporting that they are likely to invest in one over the next five years.

<sup>5</sup> Homeowners: n = 5,748

<sup>6</sup> Purchase likelihood measured on a 4-pt scale: (1) not at all, (2) somewhat, (3) moderately, or (4) highly likely; likely to purchase = moderately + highly likely

Homeowners' purchase intentions for energy technologies



**48%**

of energy customers are planning to make their home energy efficient in the next three to five years.

Source: ICF analysis

# Homeowners identify benefits and obstacles to purchasing heat pumps

When asked to select from several potential benefits, homeowners who indicated they were somewhat to highly likely to purchase heat pumps highlighted savings on utility bills (54%) and reduced energy consumption (50%) as key benefits.

There is some variability in terms of heat pump energy savings and reduction potential depending on factors such as geographic location or heating fuel (e.g., gas, electric, propane, etc.).

These responses may reflect that variability, but they also reveal that there could be some misunderstandings and misperceptions about what this technology can deliver. This suggests an opportunity for greater education from utilities to improve customer knowledge around this technology, and the need for targeted heat pump marketing to customers who will benefit most from this technology to ensure customer satisfaction.



**44%** of homeowners are likely to purchase a heat pump within the next five years

**Customer-identified benefits of heat pumps:**

**54%** savings on utility bills

**50%** reduced energy consumption

**39%** ability to maintain a consistent home temperature

**Customer-identified obstacles of heat pumps:**

**40%** cost to buy and install

**29%** uncertain whether it would actually save money on bills

**25%** concerned about home compatibility with a heat pump

Energy customers with a high degree of trust in their utility are 8% less likely to see cost as a barrier for getting a heat pump than homeowners with low trust in their utility (37% vs. 45%)—those with low trust also express 7% greater uncertainty in a heat pump’s ability to help save money on their utility bill compared to homeowners who trust their utility (33% vs. 26%).

See [page 21](#) for more details on benefits of building trust.

## Homeowners prefer to purchase solar panels and battery storage together

Hoping to save on energy costs, homeowners see a benefit in combining solar panels and battery storage systems. According to our survey, 69% of homeowners who are considering either solar panels or battery storage in the next five years<sup>7</sup> would prefer to purchase both together.

# 69%

prefer to purchase solar panels and battery storage together

The primary motivator behind this interest is the desire to reduce electricity bills, with 78% citing saving money as the leading factor. Additionally, 58% are encouraged by the opportunity to reduce the amount of energy they are using from the grid, suggesting a greater desire for energy independence.<sup>8</sup>

Among homeowners who already own a battery storage system,<sup>9</sup> half (51%) use it as backup power during outages, while 17% rely on it during high-rate periods. Most of these battery storage owners (44%) charge their systems using solar panels, followed by the electric grid at 23%. These trends highlight the growing appeal of integrated solar and storage solutions.

<sup>7</sup> n = 4,233

<sup>8</sup> n = 2,921

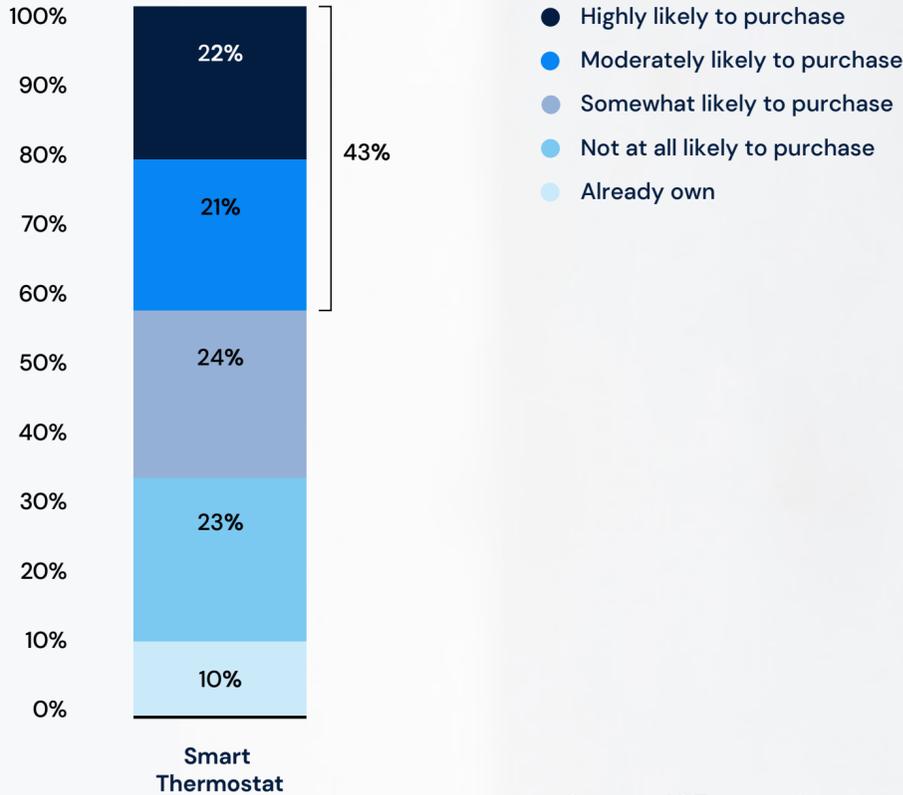
<sup>9</sup> n = 95



# Smart thermostats are part of customers' energy management plans

Across respondents,<sup>10</sup> smart thermostats are already installed by 10% of energy customers, and another 43% are likely to purchase one in the next five years.

These intentions for smart thermostats are promising as utilities continue to explore and implement program designs to manage customer loads and help customers reduce their energy costs.



Source: ICF analysis

<sup>10</sup> n = 10,000



## Energy customers are interested in time-of-use (TOU) programs

**58%** of energy customers likely to participate in a TOU program

Over half of national energy customers are somewhat (31%) to very likely (27%) to participate in a new TOU program if offered by their utility. While 3% of respondents already participate in a TOU program, another 22% reported participation neutrality, indicating a need for increased TOU education and awareness efforts.

**62%** of energy customers currently on a TOU rate place a high level of trust in their utility provider

Energy customers who trust their utility...

Are **14% more**

likely to participate in a new TOU program than those who don't trust their utility (62% vs. 48%).

Report that **more people around them are shifting their time of energy use** to a greater extent than those with low trust (24% vs. 18%).

ICF research\* examining TOU attitudes, perceptions, and participation intentions across 37 focus groups of residential customers found that TOU rates can involve big shifts in customer routines and customers may be skeptical of the cost savings.

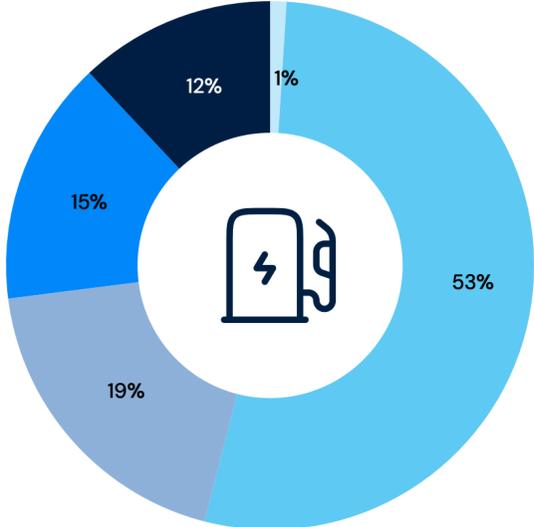
Recommendations included consistent engagement with new rate structures paired with positive reinforcement, including tailored data to demonstrate individualized cost-effectiveness, and pairing enrollment with limited-time bill protection to build TOU customer confidence. As more energy consumers are shifting their energy usage and open to TOU programs, these recommendations will be essential for building trust in this load management strategy, as well as in the utilities implementing these programs.

\*Martínez-García, G. & Winterbottom, L. (2024, 1st Quarter). Strategies for successful TOU rate: Design insights from innovate research. AESP Energy Intel. <https://online.pubhtml5.com/sicr/qtse/index.html>



# Future plans for electric vehicle and home charging

While only a small number of respondents currently own a battery electric vehicle (1%), 27% report that they are likely to purchase one in the next five years, with half of these respondents (53%) also planning to purchase a home charger. These numbers are likely impacted by regional and demographic variation.



- Highly likely to purchase
- Moderately likely to purchase
- Somewhat likely to purchase
- Not at all likely to purchase
- Already own

Source: ICF analysis



## Sources of energy information

As utilities seek to earn trusted advisor status, they are now competing with mainstream information sources in providing customers with energy-related information. For now, utilities hold the advantage. For example, regarding product energy efficiency ratings, energy customers who research this topic<sup>11</sup> rely on general online searches (27%) or their utility's website (19%) as the most trusted sources for this information. Others report relying on ratings and reviews (15%), appliance manufacturer websites (12%), friends and family (12%), or other sources (15%).

<sup>11</sup> n = 8,189



## > Key insights and recommendations

### Customers express a readiness for energy home upgrades and technologies: heat pumps, smart appliances, and smart thermostats.

Energy customers recognize the benefits of these technologies and are looking to incorporate this equipment and these devices in their homes to manage electricity costs and reduce their energy consumption. Smart thermostats are top of mind across respondents, and heat pumps and smart appliances are primary interests among homeowners.

### Return on investment is important for technology purchases.

While purchase intentions are promising, equipment costs and uncertainty about whether customers will see a return on their energy home upgrade investment(s) pose a significant barrier to energy customers following through with these intentions.

Utilities and industry professionals must educate customers and help them understand the potential energy and non-energy benefits

(e.g., comfort, health, product features) of their investments. Tools such as cost calculators, carbon reduction calculators, and bill simulators that help customers evaluate the costs and benefits of implementing different energy management measures are important.

Also, it's critical that utilities are being clear with customers on available financial resources (e.g., rebates, tax incentives, financial assistance) to assist them in overcoming initial cost barriers to

implementing these measures. These approaches will help customers assess the multiple immediate and long-term impacts of their investments.

# 03

## Trust

An underappreciated lever of influence



# Trust: An underappreciated lever of influence

One of the significant findings of this research is not only the data around what actions people are taking or what they are willing to do, but why they are willing to do it.

Throughout all the topics on which we surveyed customers, trust is a consistent primary driver of customer attitudes and behavior. The data clearly show that the more customers trust their utilities, the more willing they are to engage in a wide range of behaviors, and the more willing they are to support the utility itself.

An enormous amount has been written about trust in the business world, but not a lot of it is related to utilities. Trust building has not always been a priority for executives who have a captive audience. However, in an industry undergoing transformation, trust is currency—a critical factor to enabling behavior change.

Understandably, utility leaders may feel uncomfortable with understanding how to measure and value trust, but it can be systematically pursued and measured over time, with rich benefits to both customers and utilities.

## Benefits of trust building for utilities

**This research details several ways in which trust in the utility can be a profound driver of energy customer behaviors—those that are connected to energy perceptions and attitudes, program preferences and engagement, and future energy-related decision making.**

**Our research shows customers who trust their utilities are:**

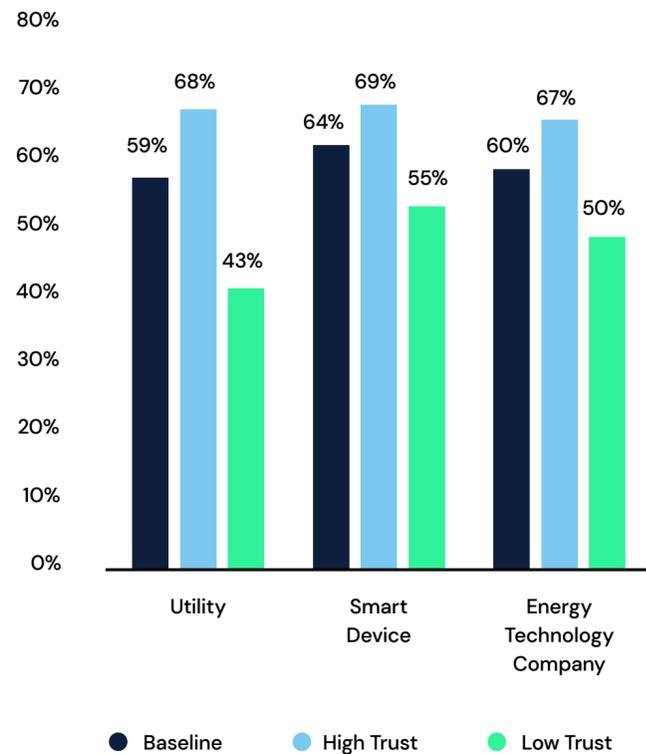
- **More comfortable with utilities managing energy use within their home.**
- **More interested in participating in time-of-use programs.**
- **More likely to purchase smart thermostats and heat pumps.**
- **More likely to purchase electric vehicles.**



## The more that customers trust their utility, the more comfortable they are with their provider managing their home energy use

Energy customers who trust their utility company are 25% more comfortable with the utility managing their home energy use compared to those who do not trust their utility (68% vs. 43%).

This comfort level is similar to that with smart devices (69%). Customers with high trust in their utility are also more likely to cite multiple reasons for allowing their utility to manage their energy use, including mentioning benefits such as



energy efficiency. For instance, 44% of high-trust customers identify better energy efficiency as a key reason for allowing utility management compared to only 34% of low-trust customers.

Conversely, low-trust energy customers are 7%–12% more comfortable with using third-party technology companies or smart devices for energy management solutions than with using their utility provider. These findings offer a cautionary tale for utility providers who don't prioritize trust-building amongst their customers—customers with low trust in their utility may seek out other sources for help with energy conservation or load management, thereby jeopardizing utilities' ability to lead these efforts.

### Trust influences energy transformation readiness

Energy customers who trust their electric utility provider report stronger purchase intentions for electrification and load management technologies in the next five years.

### High trust vs. low trust energy decisions

12%

more likely to purchase smart thermostats (48% high trust vs. 36% low trust)

13%

more likely to purchase electric vehicles (32% high trust vs. 19% low trust)

14%

more likely to purchase smart appliances (45% high trust vs. 31% low trust)

13%

more likely to purchase a heat pump (48% high trust vs. 35% low trust)

## Trusted utilities as an informational resource for purchasing decisions

To make home energy device purchases, energy customers who highly trust their electric utility more often turn to them to help make those decisions.

Those customers:

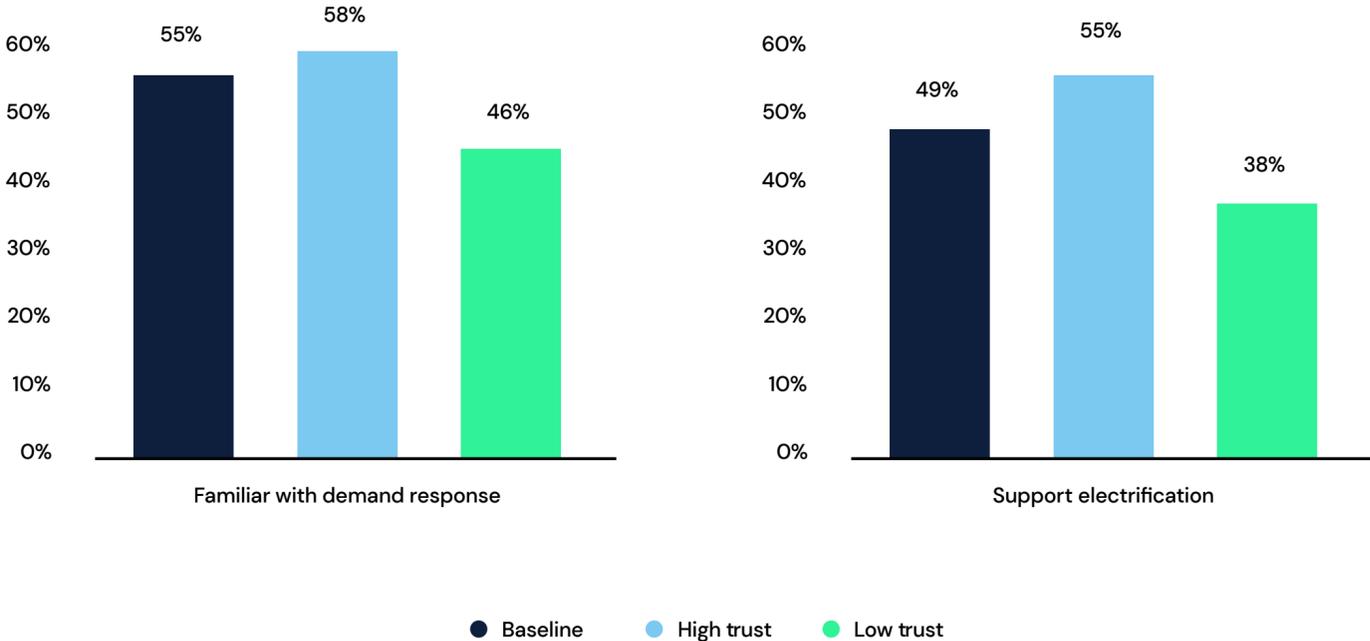
- Consider their utility's website the most trusted source of product and home feature energy-efficiency information 5% more than low-trust energy customers (21% vs. 16%).
- Want to receive information about the top energy-efficient appliances and products from their electric utility 6% more than those with low trust (38% vs. 32%).
- Are 12% more likely to use an online store offered by their utility to purchase energy-efficient home features (63% vs. 51%) and 9% more likely to participate in rebate programs for energy-efficient home features and smart technologies than low-trust customers (70% vs. 61%).<sup>12</sup>
- Are 14% more likely to finance equipment purchases through their utility if offered the option than those with low trust in their utility (56% vs. 42%).

<sup>12</sup> Average participation likelihood for these programs is 59% and 68%, respectively.

# Greater energy literacy and electrification support among trusting energy customers

Energy customers with high trust in their electric utility provider are more familiar with demand response programs (58%) and support electrification to a greater extent (55%) than those with low trust (46% and 38%, respectively).

These findings are likely an indication of efforts by utilities to educate and inform their customers about these energy programs, which help foster trust. Transparent and consistent communication designed to educate and inform energy customers about new and transformative energy initiatives is a fundamental need in the changing energy landscape.

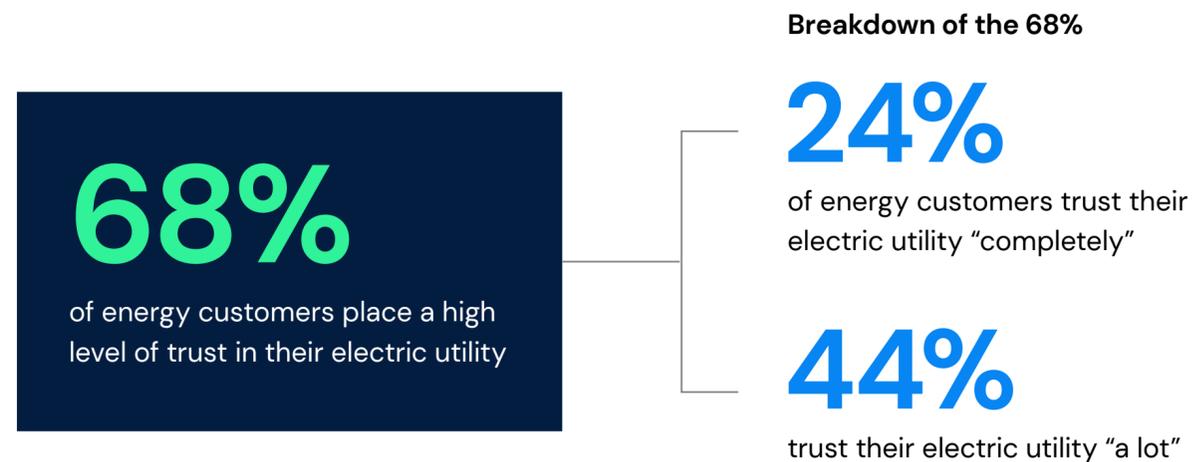


## The status of customer trust in the industry

The trust data clearly shows the opportunity to move customers to more productive energy behaviors to help support efficiency, costs savings, and load reductions. But, to be clear, the state of trust in the energy industry is not in a crisis.

Our survey resulted in promising findings, with 68% of energy customers stating they trust their utility “a lot” (44%) or “completely” (24%). Another 25% reported they trust their utility “a little” and only 7% of energy customers reported that they don’t trust their electric utility provider at all.

While that trust level may seem reasonable, the industry does lag behind other industry trust scores, ranking 19th out of 24 industries in this 2023 research conducted by RepTrak.



## Trust scores by industry

Industry	Score	Change
Consumer Durables and Apparel	71.4	↓ 1.0
Retailing	71.3	↓ 1.1
Semiconductors and Semiconductor Equipment	71.2	↓ 1.7
Health Care Equipment and Services	71.1	↑ 0.3
Automobiles and Components	71.1	↓ 0.1
Capital Goods	71.0	↓ 0.3
Household and Personal Products	70.8	↓ 1.0
Software Services	70.6	↓ 0.6
Food, Beverage, and Tobacco	69.9	↓ 0.6
Food and Staples Retailing	69.9	↓ 1.7
Technology Hardware and Equipment	69.6	↑ 0.1
Commercial and Professional Services	69.3	↓ 1.9
Real Estate	68.7	↓ 1.0
Diversified Financials	68.3	↑ 0.3
Materials	67.6	↓ 1.2
Pharmaceuticals, Biotechnology, and Life Sciences	67.1	↓ 2.2
Insurance	66.8	↓ 1.0
Consumer Services	66.4	↓ 0.2
<b>Utilities</b>	<b>65.9</b>	<b>↓ 1.2</b>
Transportation	64.6	↓ 0.8
Banks	64.0	↓ 0.5
Energy	63.8	↓ 0.1
Media and Entertainment	63.8	↓ 1.0
Telecommunication Services	62.6	↑ 1.0

Utilities rank 19<sup>th</sup> out of 24 for industry trust

Source: RepTrak 2023 Corporate Trust Report



## The relationship between energy customer satisfaction and trust

Utilities have long measured customer satisfaction, using it as an operational scorecard for how well they have provided their essential services to energy customers in their service territory. High customer satisfaction is often linked to increased engagement and adoption of programs, and satisfaction results can serve as a barometer for the intensity of effort utility providers will need to invest to increase adoption rates in these programs.

### Measuring satisfaction

In our survey, the majority of energy customers are highly satisfied with their electric utility provider (57% report 8–10 on a 10-point scale). Another 33% of customers rank their satisfaction as moderate (5–7), whereas 10% of customers rate their satisfaction as low (0–4). This distribution

indicates that while customer satisfaction is generally high, there is still room for improvement for a significant portion of customers (43%) who report moderate to low satisfaction.

The implications of customer satisfaction for utility providers are well-established. But whether customers are satisfied with their electric service is not the same as having the belief and confidence that their utility will operate with their best interests in mind and help them navigate future energy changes.

Satisfaction alone will not be enough to motivate customers to adopt new energy conscious behaviors or participate in current and future energy initiatives. **Trust** will play a key role in helping electric utilities partner with energy customers and guide them through the changing energy landscape.

Trust involves a willingness to accept vulnerability and rely on others based upon the positive expectation that they will act fairly and responsibly in a way that benefits the trustor.<sup>13</sup> In the case of service provider relationships, trust also involves confidence in the provider's competence, reliability, and integrity.<sup>14 15 16</sup>

Energy customers may come to trust their service provider because they competently deliver on their promises through operational execution such as reliable power service and clear and accurate billing. The utility also must provide responsive customer service and timely communications to manage customers' expectations and needs and do so with honesty and transparency. This creates the conditions for customers to take on the risk of adopting new energy behaviors or participating in new energy initiatives offered or recommended by their utility provider—because they believe

their service provider will act with their best interests in mind.

Given that trust ratings in this study are higher (68%) than satisfaction ratings (57%), this indicates that even if customers may be displeased with aspects of their service, they still trust their service provider. Customers are therefore positioned to view their electric utility providers as trusted energy advisors, which will be key for guiding customer energy readiness and planning.

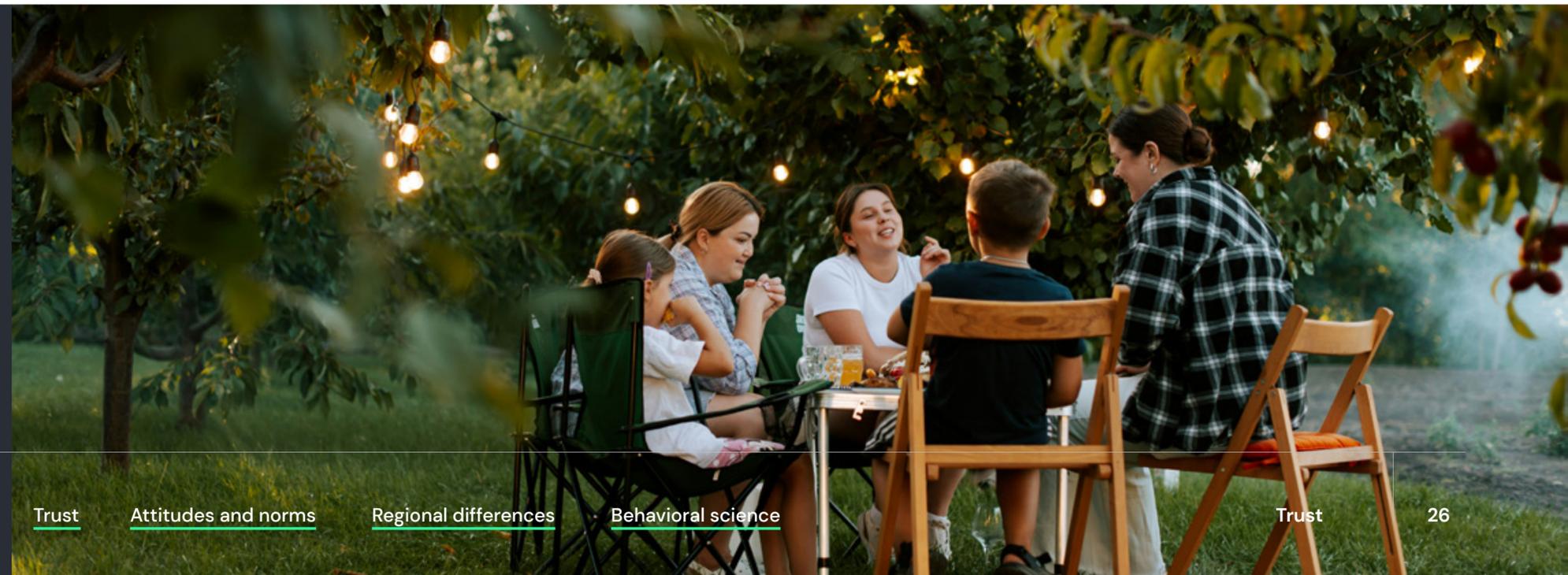
<sup>13</sup> Evans, A. M. & Krueger, J. I. (2009). The psychology (and economics) of trust. *Social and Personality Psychology Compass*, 3(6), 1003–1017. <https://doi.org/10.1111/j.1751-9004.2009.00232.x>

<sup>14</sup> Johnson, D., & Grayson, K. (2005). Cognitive and affective trust in service relationships. *Journal of Business Research*, 58(4), 500–507. [https://doi.org/10.1016/S0148-2963\(03\)00140-1](https://doi.org/10.1016/S0148-2963(03)00140-1)

<sup>15</sup> Crosby, L. A., Evans, K. R., & Cowles, D. (1990). Relationship quality in services selling: an interpersonal influence perspective. *Journal of Marketing*, 54(3), 68–81. <https://doi.org/10.2307/1251817>

<sup>16</sup> Ullman, D., & Malle, B. F. (2018, March). *What does it mean to trust a robot? Steps toward a multidimensional measure of trust*. In Companion of the 2018 ACM/IEEE International Conference on Human Robot Interaction (pp. 263–264). <https://dl.acm.org/doi/pdf/10.1145/3173386.3176991>

➤ Satisfaction alone will not be enough to motivate customers to adopt new energy-conscious behaviors or participate in current and future energy initiatives.



## How can utilities build trust?

Trust is built over time by delivering on promises, managing expectations, communicating with transparency, and being reliable.

ICF's research shows that customers believe being reliable is more than keeping the lights on—it's about being responsive to their emotional and rational needs.<sup>17</sup> Customers say being reliable includes:

- Ease of reaching customer service through phone, text, or mobile app.
- Finding solutions when they struggled to pay their bill.
- Good communication about power outage recovery times.
- Pleasant and effective service from utility employees.
- Showing up for the community in times of need.

Understanding reliability in this way will be key for trust-building efforts, particularly as utilities need to engage customers in new energy initiatives and

partner with them to overcome major barriers to energy product or program adoption (e.g., equipment upgrade costs or granting access to home or business infrastructure for load management programs).

Importantly, this means that utilities need to prepare for a future where they may also rely on their customers to work together to manage grid load and to reduce potential brownouts. In some states, customers are being asked to share their home's stored battery power to maintain grid reliability. This level of reciprocal reliability can only be achieved through trust and responsive relationships fostered over time.

Trust is not only important for maintaining customer relationships but also for fostering a positive reputation in the broader community. Utility providers that are perceived as trustworthy are more likely to receive support from regulators and other stakeholders. This can lead to less resistance to rate requests, preference from investors, higher participation in utility programs, and increased employee attraction and retention.

## Strategies for building utility trust

- **Transparency and communication**  
Clearly communicate information regarding outages and resolution strategies, rate structures/changes, innovation and grid reliability investments, as well as the reasons for such changes and investments. Customers need to be informed so they can understand what changes are happening and why—and feel like they are a part of the conversation.
- **Reliability and competence**  
Ensure that services are reliable and that any new initiatives are implemented competently and effectively. This includes maintaining a high level of service quality and control, and quickly addressing any issues that arise.
- **Customer-centric behavior**  
Show that the utility provider cares about the customers' needs and concerns. This can be achieved through responsive customer service and by actively seeking customer feedback. This can also take the form of inclusion-focused outreach and other community-based initiatives.
- **Education and engagement**  
Elevate your educational resources to be more robust to earn trusted advisor status. Help customers understand how to make energy-related purchase decisions, teach them how to improve energy efficiency in their homes, explain how your grid investments benefit them, and explain why you're encouraging them to save money and energy or reduce greenhouse gases. Engaging customers through online tools and calculators, workshops, webinars, and informational campaigns can help build engagement.
- **Stewardship and accountability**  
Demonstrate your commitment to manage energy as a precious resource for the good of the community. Provide easy-to-understand explanations about rate increases and investments. Treat your employees well. Be accountable for your actions, admit mistakes, and be clear how you are owning the solution.

<sup>17</sup> Silverman, M. (2024, November 19). *Utilities can reframe reliability to better connect with customers*. ICF. [https://www.icf.com/insights/energy/utilities-reframe-reliability-to-connect-with-customers?utm\\_medium=emp-social](https://www.icf.com/insights/energy/utilities-reframe-reliability-to-connect-with-customers?utm_medium=emp-social)

## > Key insights and recommendations

**Customer trust in their utility is emerging as a critical factor in engagement and behavior change.** Higher levels of trust are associated with greater support for energy technologies, more comfort with allowing utilities to manage energy within their homes, and a likelihood to engage the utility for energy efficiency information and program participation. Lack of trust is a significant barrier to electric utilities' ability to partner with and lead their customers in the changing energy landscape—and may even push customers to seek other sources for energy information or energy management solutions.

**Trust is developed gradually through consistent actions that fulfill promises and meet expectations.** Trust building is a marathon, not a sprint. Trust is cultivated over time through a series of company actions that include clear and transparent communication; including customers in conversations about new initiatives and innovations that impact their lives; highly competent service; accountability for actions; responsive customer care; and holistic stewardship of an essential resource. Reliability, in the fullest sense of the word, is also essential to strengthen trust as utilities move into a reciprocal relationship with customers.

**Focus on protecting and increasing trust among the trusting majority who will be essential for future energy program engagement.** Building trust among energy customers is a priority; however, it is wise to concentrate resources on customers poised to result in the greatest rate of return.

- The 7% of customers who don't trust their service provider is not likely to change. And while utilities can and should strengthen trust among the moveable 25% who only trust them "a little", these low-trust customers are less likely to participate in more advanced strategic energy initiatives.
- For the greatest return on investment, focus efforts on boosting trust with high-trust customers—particularly the majority who already trust their utility "a lot" (44%)—as they are more likely to be open to new energy behaviors and initiatives recommended by their service provider.



# 04

## Customer attitudes and social norms

Motivators and barriers to energy-conscious behavior  
and action planning



# Customer attitudes and social norms: Motivators and barriers to energy- conscious behavior and action planning

Energy customers' attitudes toward energy conservation, desire for comfort, and the energy-conscious social norms in their communities serve as both motivators and barriers to energy-conscious behavior and action planning.

Customers recognize the importance of saving energy, with 70% agreeing that it is important to save energy, even when it does not result in substantial cost savings. As reported earlier, a large majority (85%) believe that managing energy is crucial for running the electricity grid more efficiently and 78% of respondents emphasize the importance of energy management for protecting the environment. These attitudes reflect a broader awareness of the long-term benefits of energy conservation and the role it plays in environmental stewardship.

However, people can hold positive environmental attitudes and still fail to adopt energy-conscious behaviors. While customers recognize the broader importance of managing energy use, many are not willing to do so at the expense of personal comfort.

According to our survey, 65% of customers are willing to spend a bit more on their energy bill to maintain comfort in their homes. Moreover, customers who disagree with the importance of saving energy often cite financial reasons, expressing skepticism about the cost savings associated with energy conservation. Customer response themes reveal that many prioritize comfort and convenience in their daily lives, preferring to use energy to maintain a comfortable living environment rather than save energy without clear financial benefits.

Utility energy efficiency program leaders have long known that comfort in the home is a primary concern for customers. And that concern simply becomes more relevant as new technologies like heat pumps and other grid-connected devices play a more significant role in providing customer and grid benefits.

**65%**

of customers are willing to spend more on energy to maintain comfort



**"I'm not going to be uncomfortable in my own home if there is no upside for me."**

**"If I am not saving money, I want to be as comfortable as possible and have the option to use energy for what I want, when I want."**

**"The price of electricity doesn't match the [cost of comfort]. You use less energy and you're still paying way too much."**

## Customer perceptions of social norms and influence

Social norms play a significant role in shaping energy-conscious beliefs and behaviors.<sup>18</sup> Social norms are the unwritten rules about what is considered acceptable or desirable within a given community, and people's behavior is greatly influenced by what they see or hear that other people around them are doing.<sup>19</sup> Social influence can act as a powerful motivator, encouraging individuals to adopt similar behaviors to align with the norms of their community.

Nationally, social norms for energy-conscious behaviors appear promising. Forty percent of energy customers report that a growing number of people around them are trying to use less energy, and another 38% are increasing the energy efficiency of their home.

Energy customers noted that the top strategies people around them are employing to achieve these goals include installing rooftop solar panels

(38%), using more renewable energy (32%), and adopting smart technologies (31%). Others include buying electric vehicles (27%) or saving on electricity costs by shifting energy use to times of day when it is less expensive (21%). See regional variations in social norms on page 34.

<sup>18</sup> Miller, D. T., & Prentice, D. A. (2016). Changing norms to change behavior. *Annual Review of Psychology*, 67(1), 339–361. <https://www.annualreviews.org/content/journals/10.1146/annurev-psych-010814-015013>

<sup>19</sup> Cialdini, R. B., & Goldstein, N. J. (2004). Social influence: Compliance and conformity. *Annual Review of Psychology*, 55(1), 591–621. [https://www.researchgate.net/publication/8902776\\_Social\\_Influence\\_Compliance\\_and\\_Conformity](https://www.researchgate.net/publication/8902776_Social_Influence_Compliance_and_Conformity)



### > Trust fosters positive customer attitudes, social norms, and energy action planning

Energy customers who place high trust in their utility have more positive attitudes about energy conservation, stronger energy-conscious community social norms, and set more energy action plans for the future.

1. Agree it is important to save energy even when it doesn't save much money by 23% (75% vs. 52% low trust).
2. Report greater adoption of energy-conscious behaviors in their community (2%–6% more).
3. Are more engaged in planning for various energy actions in the next 3–5 years (2%–11% more)—for example, more than half (51%) plan to make their homes more energy efficient (vs. 40% low trust).

## How do social norms influence energy customers' own energy-conscious attitudes, behaviors, and goals?

Our findings suggest that social norms are indeed powerful motivators of personal energy-conscious behaviors and action planning. When the norm to increase home energy efficiency is present in the community, energy customers are 22% more likely to make sure their own home is energy efficient in the next 3–5 years than when this norm is not present (61% vs. 39%). They are also 10% more likely to purchase a smart thermostat (55% vs. 45%), 7% more likely to purchase smart appliances (47% vs. 40%), and 5% more likely to invest in a heat pump (55% vs. 50%) to help them achieve that goal.

Similarly, when energy customers see or hear that others in the community are trying to use less energy, they set personal plans for improving home energy efficiency 18% more often and are 10% more likely to agree that it's important to save energy even when it doesn't save much money than when that norm is absent (58% vs. 40%; 76% vs. 66%).

Just as energy-conscious social norms can motivate positive energy-related attitudes, behaviors, and goals, the lack of such norms can serve as a barrier to behavior adoption and engagement.

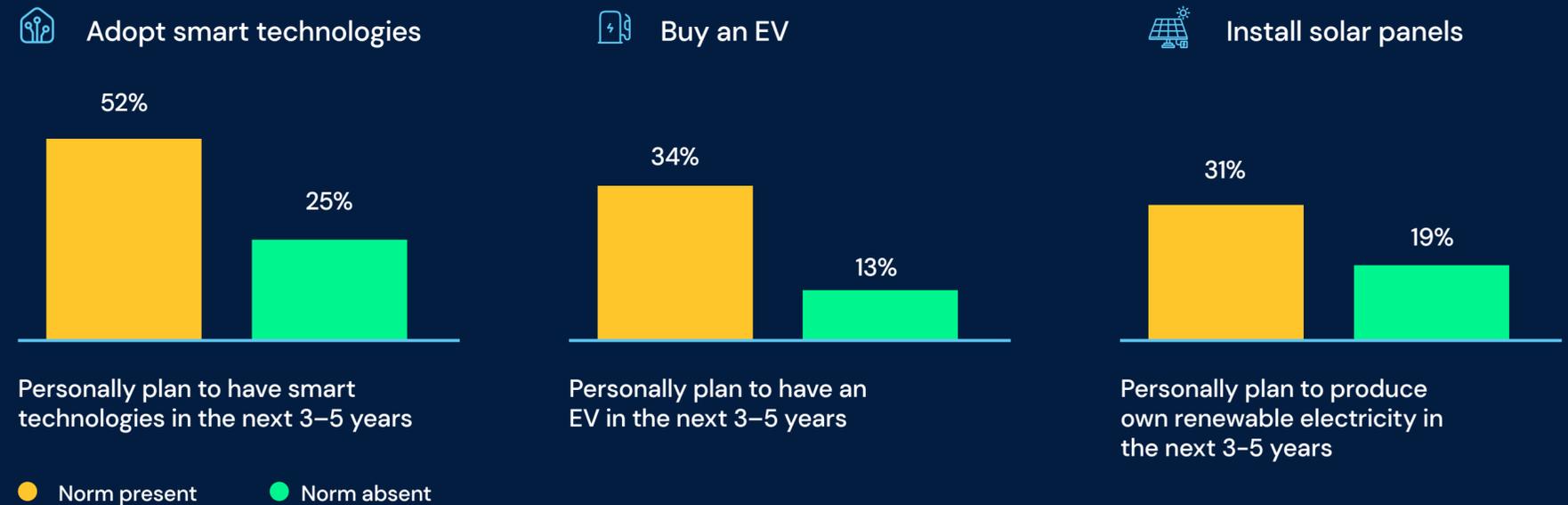
For instance, when others in the community are not adopting any energy-conscious behaviors, only 19% of customers plan to ensure their home is energy efficient in the next 3–5 years.

Energy customers are also less likely to make electrification-ready and smart energy technology investments—only 20% are likely to purchase smart thermostats, and only 23% of homeowners are likely to invest in a heat pump when energy-conscious social norms are absent. Moreover, belief in the importance of saving energy regardless of cost savings drops to 52%, demonstrating that when the people around us don't prioritize or value energy efficiency, it can negatively influence our own attitudes and beliefs.

## Social norms drive stronger energy action plans and purchase intentions for energy technologies

People are influenced by what others around them are doing. Energy customers are more likely to make energy action plans and energy technology investments when similar community norms are present.

When a growing number of people around them are trying to...



These personal plans include intentions to purchase energy technologies. When the norms for adopting smart technologies, buying an EV, or installing rooftop solar panels are present in a community, customers are:

**17% more** likely to purchase smart thermostats (60% vs. 43%) and 16% more likely to purchase smart appliances (54% vs. 38%).

**16% more** likely to purchase an EV (40% vs. 24%).

**11% more** likely to purchase rooftop solar panels (39% vs. 28%).

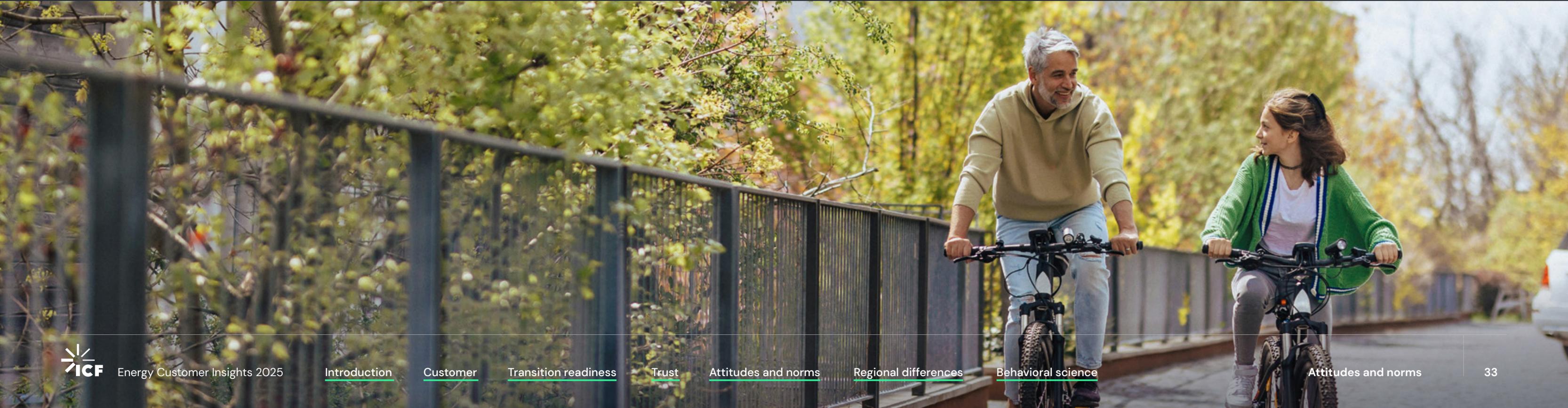
# > Key insights and recommendations

**Energy-conscious attitudes and personal beliefs are important for orienting energy customers in the right direction; however, their motivational power is limited.** These attitudes and personal beliefs can be motivating and may also help reduce resistance to energy-conscious behavior adoption. However, they are not broadly sufficient to overcome perceived (and real) emotional and fiscal barriers and are often prone to bias where people prioritize their comfort and convenience over broader values they claim to support. Nonetheless, when paired with behavioral science strategies and energy-conscious social norms, such attitudes can help foster engagement and participation in energy programs and initiatives.

**Social norms are both strong motivators (when present) and strong barriers (when absent)** to customers' energy action planning, adoption of energy-conscious behaviors, and electrification-ready and smart energy technology investments.

**Trust in the utility is a powerful modifier of energy-conscious attitudes and social norms and exerts its influence in a synergistic fashion.** Communities who hold positive energy attitudes and are committed to energy-conscious behaviors are more likely to trust their utility—and because these customers and communities trust their provider, they seek their guidance for energy-efficient products, programs, and other energy initiatives. This emphasizes the need for utilities to protect and continue to build customer trust to help strengthen positive energy-related attitudes and support the growth of energy-conscious social norms within their service territories.

**Behavioral science techniques can address barriers and nudge customers toward energy-conscious solutions.** By recognizing the barriers that desire for comfort, financial concerns, and mental biases pose, as well as the role that social influences exert on attitudes and behaviors, utility providers can use behavioral science to develop broad strategic approaches to overcome such barriers and motivate energy-conscious behavior adoption, program engagement, and even shape social norms.



# 05

## Regional differences

What customers see others doing and what they plan to do

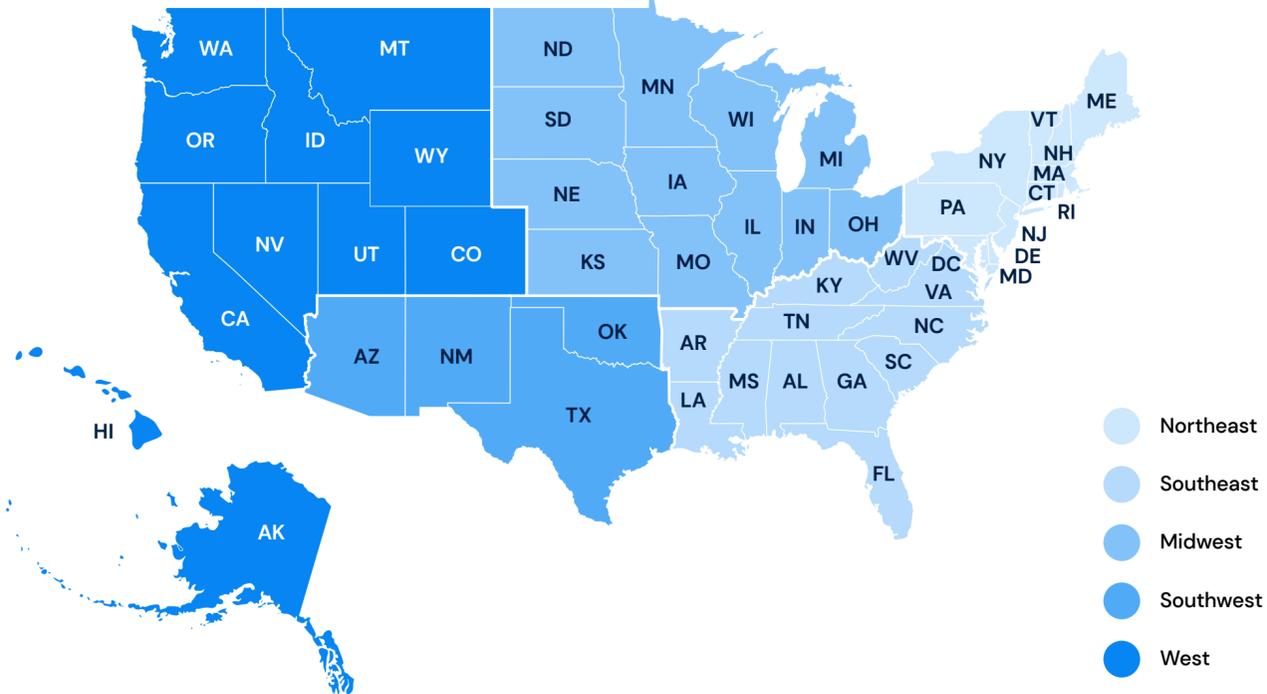


# Regional differences: What customers see others doing and what they plan to do

Throughout this report, we analyzed our findings to explore for regional variation. And while there were some subtle differences, they tended to be minor at the regional level. What stood out for us were regional differences in the behaviors and energy technologies that people reported others around them were adopting, and the relationship to respondents' own adoption plans.

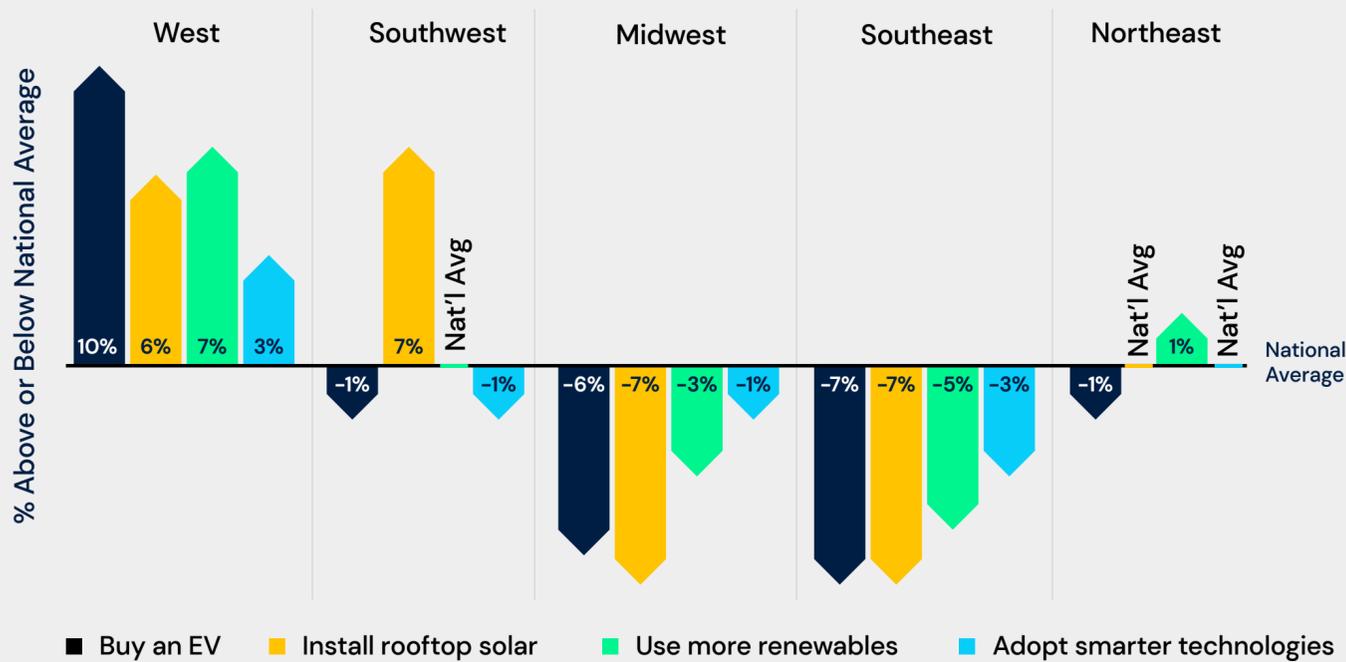
The graphs on the following page display regional differences in the frequency of energy-related norms compared to national averages, as well as

the behaviors and technologies that respondents personally planned to adopt within the next five years. From these graphs, we see which regions are driving the national findings and which regions appear to be trailing behind. As with the national results, the graphs illustrate how trends for energy-conscious behaviors and technologies often matched customers' own future adoption plans. This was especially the case in the West where such norms were the strongest, and in the Midwest where they were weakest.



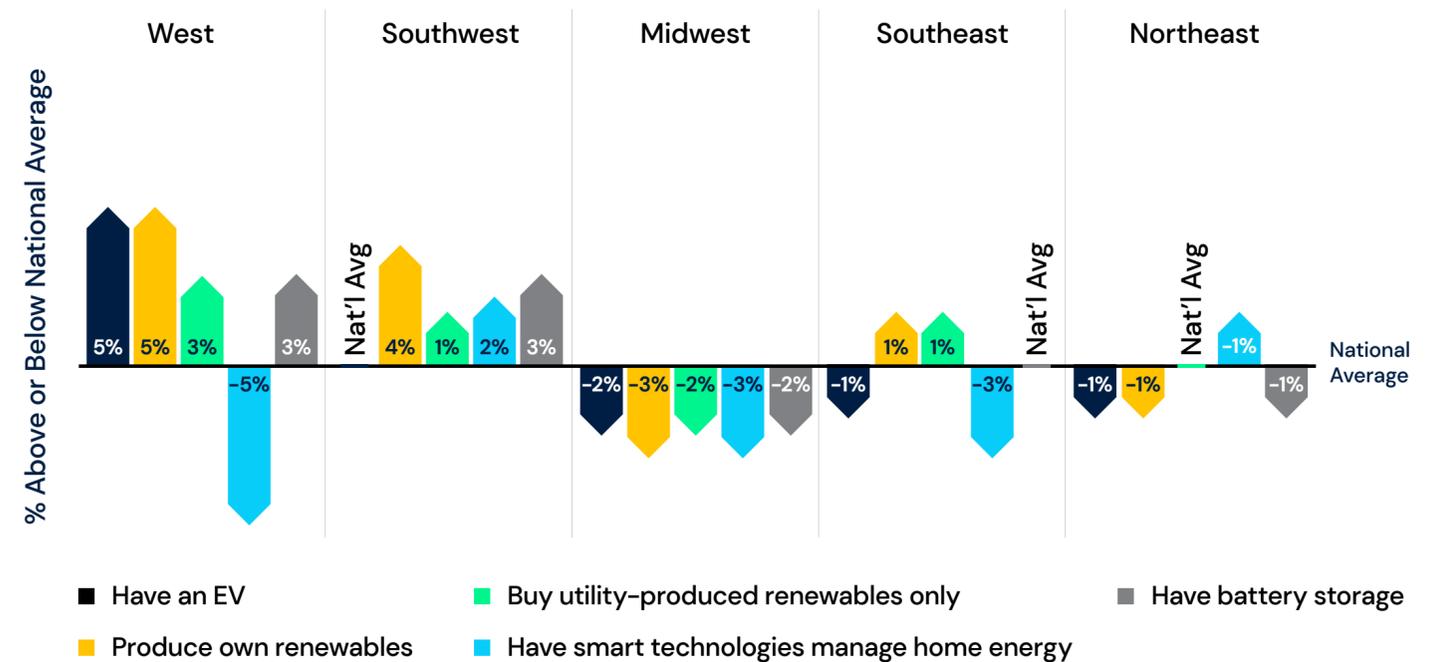
## What respondents see others doing...

Energy actions and technologies others are adopting (social norms)



## What respondents are planning to do...

Personal energy action plans in the next 3-5 years



## National averages

### Energy actions and technologies others are adopting (social norms)

Buy an EV (27%), Install rooftop solar (38%), Use more renewables (32%), Adopt smarter technologies (31%)

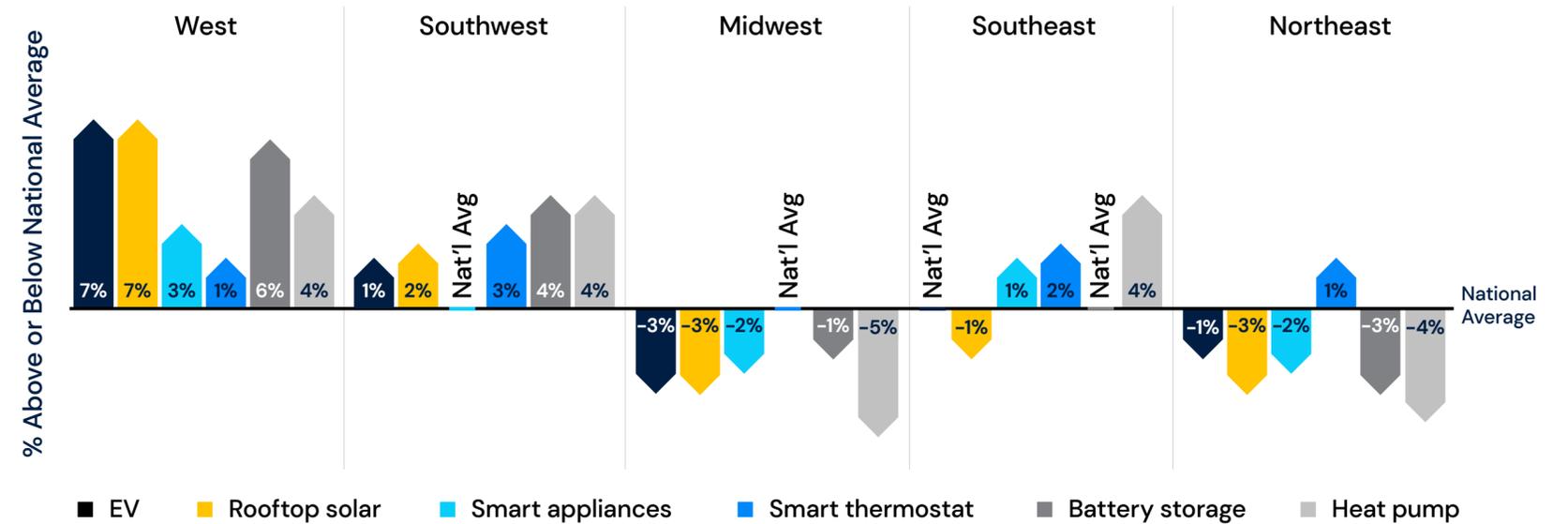
### Personal energy action plans in the next 3-5 years

Have an EV (18%), Produce own renewables (22%), Buy utility-produced renewables only (17%), Have smart technologies manage home energy (35%), Have battery storage (21%)

### Personal energy technology purchase plans in the next 5 years

EV (27%), Rooftop solar (30%), Smart appliances (41%), Smart thermostat (43%), Battery storage (37%), Heat pump (44%)

Personal energy technology purchase plans in the next 5 years



The energy-related behaviors and technologies that are typical in the community are shaped in part by the historical context of a region's energy production practices and policies. Those can influence energy customers' own preferences, and future energy action plans. For instance, in states such as California, Oregon, and Washington where there are more electrification-oriented policies, it is no surprise that energy customers in this region reported a stronger interest in technologies such as electric vehicles compared to regions like the Midwest and Southeast.

However, historical social norms don't always capture more recent changes in perspectives and adoption plans. For example, in the Southeast (and to a lesser extent, the Southwest), energy-conscious behaviors and technologies are relatively less typical, yet personal plans for energy-related behavior and technology adoption are above national averages. This suggests that these regions are going through a market transformation where utilities have opportunities to lean into a motivated customer base and accelerate changes through continued outreach efforts, program offerings, and product incentivization.

These trends we have documented are not meant to be definitive, but simply demonstrate leanings in these regions, and how what others are doing can and does influence people's own perceptions and behavior. Naturally, a great deal of variation exists from state to state, and even within states. For differences with more practical implications, a service territory-level approach is the most informative.



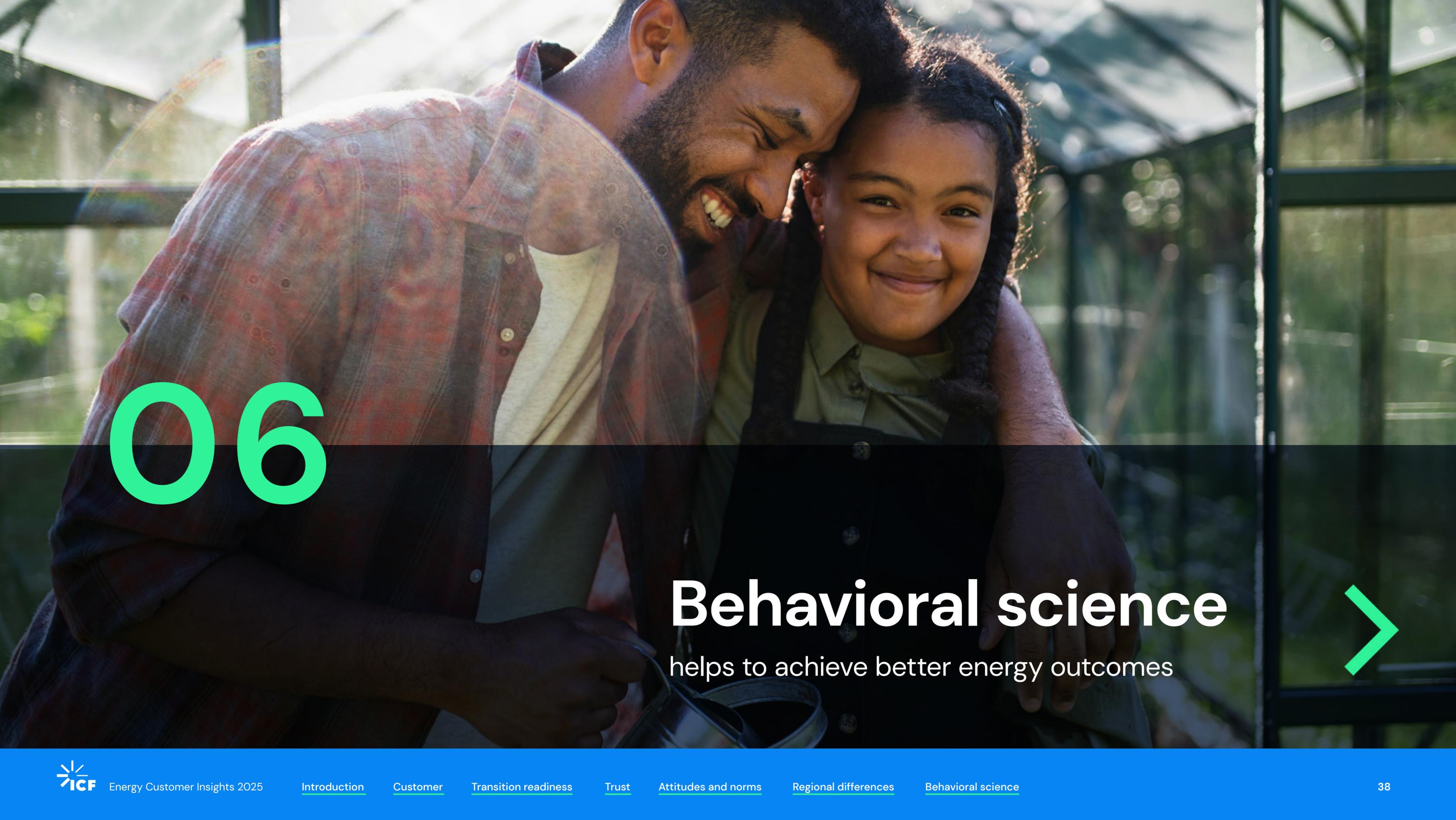
## Younger generations drive new behaviors

It is also key to identify who is driving the progressive change in energy-related behavior and technology, as these individuals or groups are the ones who will stimulate a shift in energy-related behavior. For example, our data show that compared to Baby Boomer and older generations, younger generations are 94% to 250% more likely to have future energy action plans, and 2.6 times to 4.3 times more likely to purchase various energy technologies in the next five years. Identifying early adopters spurring these changes gives utilities an opportunity to cultivate trusted energy influencers and maximize their social influence to better prepare customers for the changing energy landscape (see [page 38](#)).

### Get service territory data

ICF offers customized research services that deliver actionable data for local areas.

Contact us at [CustomerInsights@icf.com](mailto:CustomerInsights@icf.com).



06

# Behavioral science

helps to achieve better energy outcomes



# Behavioral science helps to achieve better energy outcomes

Behavioral science, the study of human behavior and decision making, plays a crucial role in understanding and influencing the perceptions and actions of utility customers. It recognizes that people's choices are shaped by a combination of mental biases, emotional responses, and social influences. This offers a dynamic roadmap for electric utilities to engage customers more effectively and drive both immediate and long-term energy-conscious outcomes.

**People are predictably irrational decision makers. Behavioral science frameworks offer flexible solutions to encourage energy-conscious choices that are rooted in a deep understanding of human motivation and behavior.**

Behavioral science has been an important lever for market transformation in energy efficiency over the last two decades and it remains a powerful tool for energy transformation with load management and electrification. By identifying the underlying drivers and barriers of behavior and engagement, behavioral science can be used to get energy customers comfortable with trying these new technologies and programs and promote long-term energy-conscious habits that deliver benefits to both the customer and the grid.

- Behavioral nudges can encourage people to make energy-conscious choices without restricting their freedom by modifying the decision-making environment to make desired

actions easier. For example, streamlining rebate applications or providing customers with decision tools for energy-efficient upgrades reduces friction, making action more likely.

- Identifying mental biases can inform message framing to make energy-related marketing and educational outreach more engaging, such as presenting energy-related cost savings in more immediate terms to make fiscal benefits feel quickly accessible.
- Personal goal setting can foster customer motivation and build long-term habits for energy-conscious action. For instance, encouraging customers to define specific, measurable objectives (e.g., "reduce energy consumption by 10% this year") provides direction. And when paired with regular updates on progress, such as monthly energy reports, it reinforces positive actions and highlights areas for improvement.

Behavioral science also demonstrates that people are deeply motivated by how their peers act and what they believe others expect of them (i.e., social norms/social influence).

Behavioral programs regularly harness social influence to promote energy-conscious behaviors through comparative energy reports. Showing customers how their energy consumption compares to others motivates conservation as people naturally want to align with or even outperform their peers.

- Social influence can be used to drive the adoption of energy-efficient home features and products to reinforce the idea that these actions are common and expected in the community; for example, highlighting that "70% of homeowners in your neighborhood have upgraded to high-efficiency appliances" creates social proof that people in the community are embracing energy efficiency.

A common misconception about behavioral science in the energy field is that it is *only* relevant for behavioral programs; however, behavioral science is for more than just energy conservation. It can drive impactful decision making and achieve desired outcomes across diverse applications in marketing, program design, and implementation strategies.

Behavioral science approaches can be customized and integrated to create, innovate, and deliver greater impact to clients and customers. Its extensive value-add is rooted in its versatility and comprehensiveness to achieve both short- and long-term energy-conscious outcomes, but it is often underutilized to its fullest potential.

The key to the changing energy landscape is a deep understanding of people, and greater investment in behavioral science will be vital for helping utilities accomplish their goals.

## Applications of behavioral science in marketing and program design

Shape marketing strategies	Inform and design implementation strategies	Refine customer research
Improve engagement KPIs	Boost program enrollment	Sharpen educational outreach
Enhance customer service/ call center practices	Design community engagement programs	Increase marketplace purchases

## Trust and behavioral science's partnership in the changing energy landscape

The impact of behavioral science applications is magnified by the degree of trust that electric utility providers have cultivated with their customers.

Stronger perceptions of electric utilities as trusted advisors can generate greater openness to utility communications and programs, often conferring a greater sense of legitimacy to such information and offerings.

By reducing the additional friction that distrust in electric utilities can pose to engagement and

support for energy initiatives, the ability for behavioral science strategies to achieve desired outcomes is heightened as it is one less barrier to overcome.

As energy challenges continue to grow, building trust and integrating behavioral science approaches into utility programs and communication strategies will be essential for meeting regulatory goals and shaping a sustainable future.

## The value of trusted messengers

Just as trust is essential for utilities to lead and partner with customers in the energy transition, effective social influence strategies require messengers who are trusted sources of information. Enlist reputable community leaders and organizations, energy influencers, and local contractors for partnerships whose words and actions increase the legitimacy of energy-conscious outreach and engagement and can normalize energy-positive lifestyles.

Communities often have unique ways they share information with each other. Learning more about the communication preferences at the community level will support more strategic educational/marketing outreach efforts to improve knowledge, awareness, and engagement.

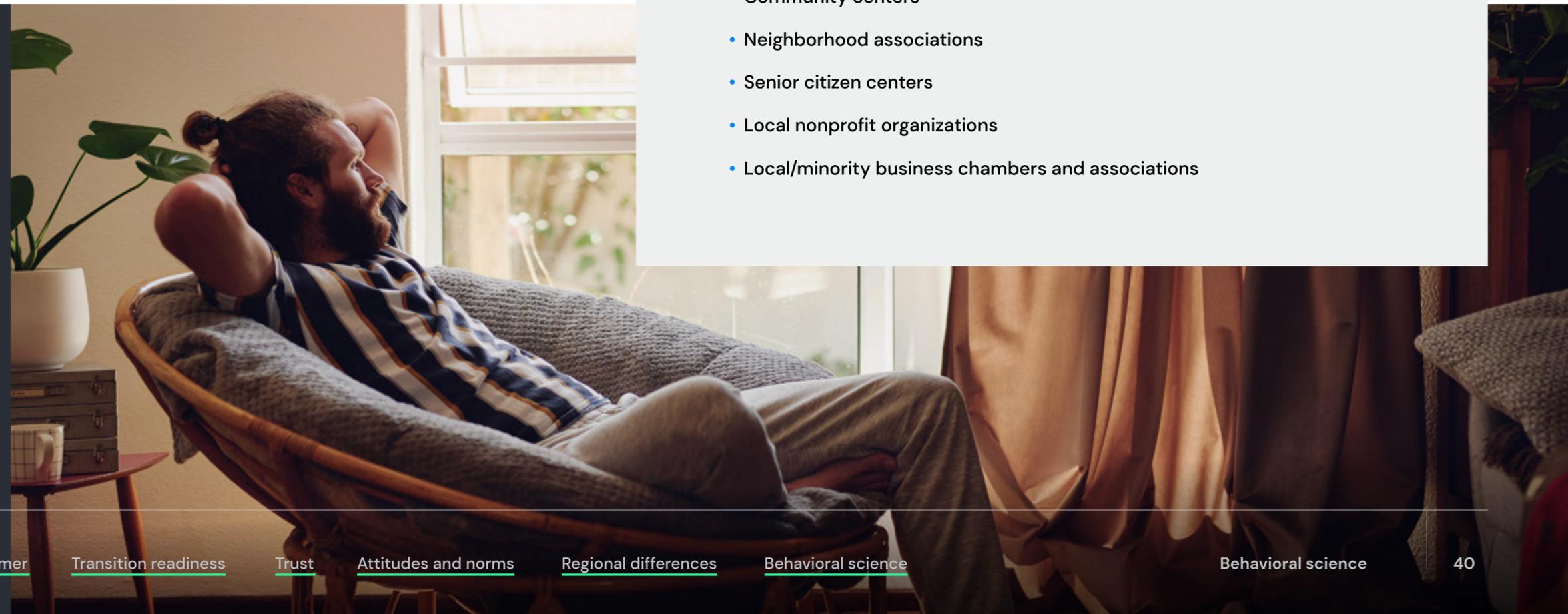
To learn more about community-level communication preferences and harness existing community networks, seek out collaborations with:

- Community centers
- Neighborhood associations
- Senior citizen centers
- Local nonprofit organizations
- Local/minority business chambers and associations

# 71%

of energy customers are likely to participate in a home energy report program

Energy customers who highly trust their utility provider are 13% more likely to participate in programs that provide individualized feedback on home energy use and tips for energy bill savings than those with low trust in their utility (75% vs. 62%)



## Communication preferences and tailored messages improve attention and engagement

Communication is one of the most important strategies essential to improving energy customers' knowledge and awareness. Energy customers reported on the informational content they would like to receive from their electric utility providers, as well as their preferred methods of receiving communication.



Other topics customers want to know about from their utility

# 39%

what their utility is doing to improve the grid

# 31%

renewable energy resources

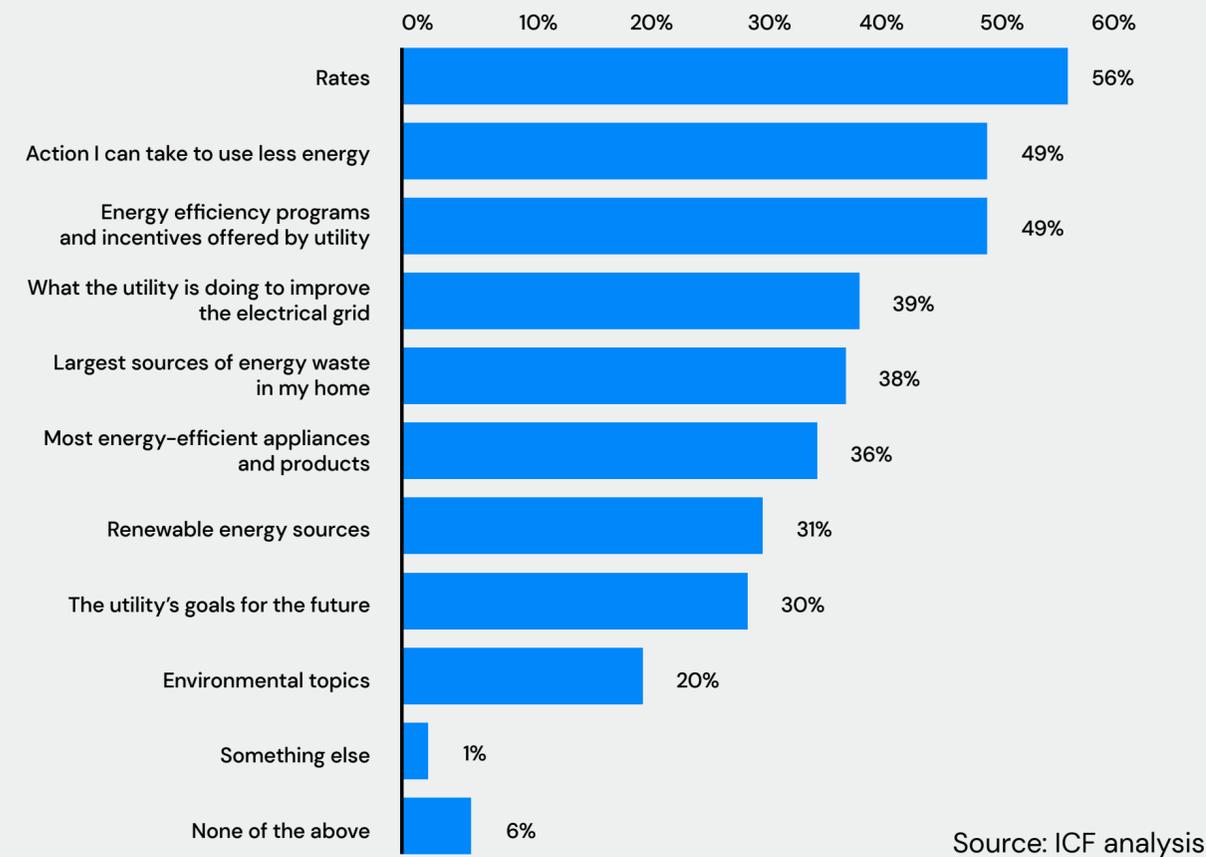
# 30%

their utility's goals for the future

Beyond concerns about affordability, energy customers are also thinking about the changing energy landscape. They want to understand what their utility provider is doing to improve the electrical grid, about renewable energy sources, and their utility's goals for the future. This suggests that energy customers are interested in the broader steps their utility providers are taking to ensure a sustainable and reliable energy future.

## Customers say the topics of greatest interest from their utility are in line with keeping electricity affordable.

More than half of respondents report that they prefer to receive information on energy rates (56%), followed by actions they can take to use less energy (49%). Similarly, they are interested in receiving information about energy-efficiency programs and incentives (49%), as well as information to identify the largest sources of energy waste in their homes (38%) and the most energy-efficient appliances and products (36%). Together, this content helps energy customers to make informed decisions that can help them control energy costs.

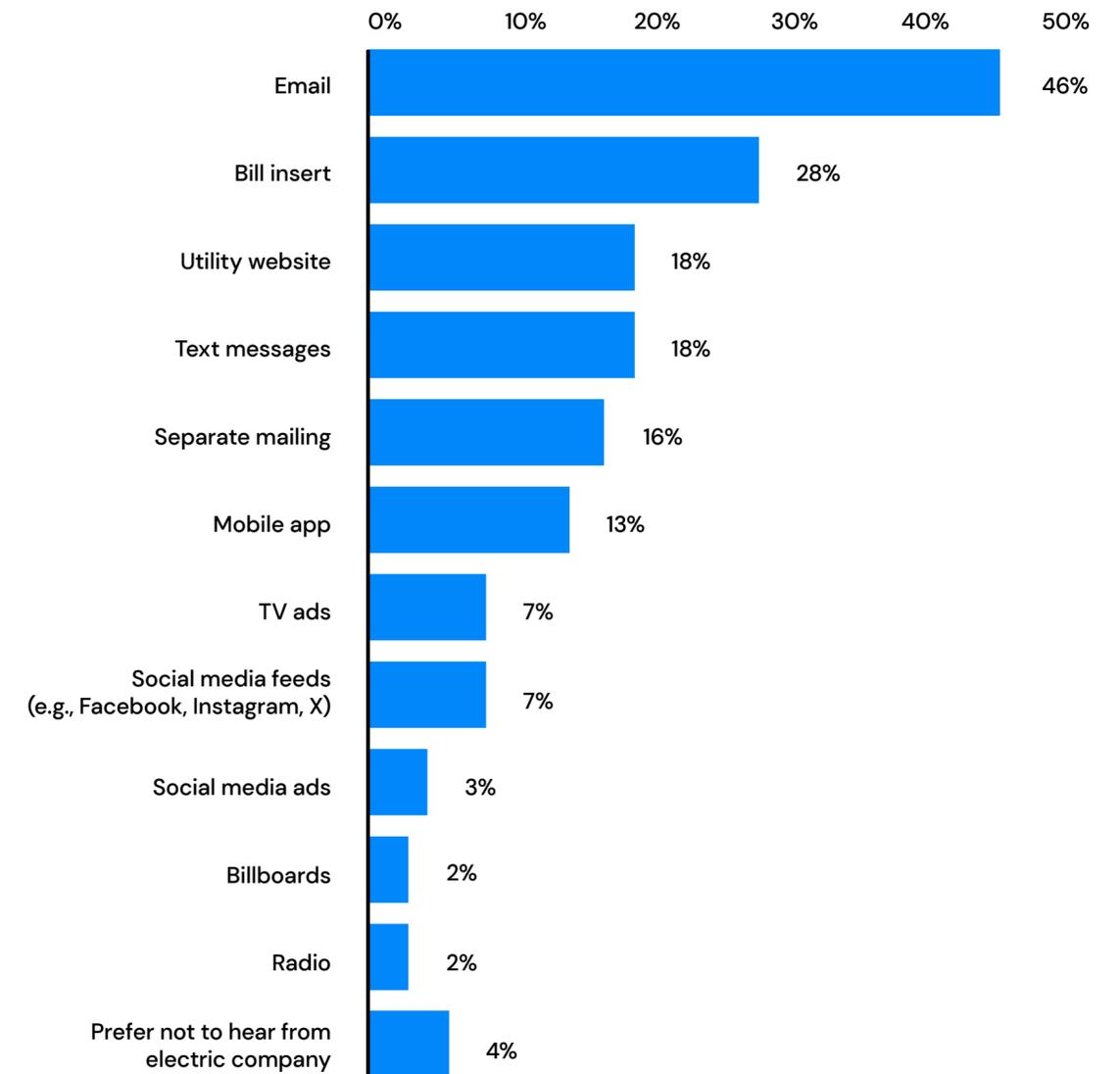




In terms of their preferences for receiving these messages, energy customers identified email as their top method of communication (46%) followed by bill inserts (28%); however, there is likely to be demographic variation in preferences for receiving communications from utility service providers.

Taking this into consideration—along with the reality that many energy customers are enrolled in automatic and/or paperless billing—utilities will need to devise more dynamic communication strategies to ensure greater engagement with customers. Expanding marketing strategies that integrate behavioral science approaches with utility customer segmentation data to tailor messages and content in alignment with preferences will be fundamental to improving customer engagement and education.

**Energy customers prefer email and bill inserts to learn about energy efficiency programs and incentives from their electric utility provider.**





## ➤ Key insights and recommendations

**Behavioral science is a powerful and increasingly necessary framework for achieving behavior, engagement, and programmatic goals in the changing energy landscape.** Behavioral science is more than just behavioral programs. It offers solutions to a broad array of challenges that utilities currently face as they seek to increase energy literacy, strengthen program participation, and encourage the adoption of new energy technologies and behaviors. Its power lies in its deep understanding of people and what drives their perceptions, decision making, and behavior, making it a universal value-add to utilities.

**Energy customers are looking toward utility providers as energy advisors to educate them on the ways they can manage home energy use and costs.** It is no surprise that information on ways to keep energy affordable is of primary interest to energy customers. Customizing communications with personalized energy-saving tips, as well as clear updates on new energy programs and rate changes, remains important.

Customers also want to know what their service provider is doing to prepare for the energy challenges and changes ahead. Educating and explaining new energy innovations and processes, and how they will be managed and implemented, are important trust-building messages that utilities should also be communicating to their customers.

**Utility providers will benefit by encouraging customer feedback and questions in communications and ensuring prompt, helpful responses.** We know that customers are interested in understanding a broader view of the changing energy landscape and that they also want to have a degree of control over how these innovations affect their lives. So, utilities may consider creating more opportunities for customer discourse. Interactive methods such as workshops, webinars, or town halls are trust-building opportunities to learn more and build more of a two-way relationship with utilities.

**Align customer education and marketing outreach efforts with customer preferences.**

While email is preferred, the prevalence of automatic billing can pose a challenge to ensuring customers receive the important information that they want (and need) from their utility service provider.

When sharing important information about changes to rates or new innovations and energy initiatives, combine several methods to more effectively engage customers and raise awareness. For example, text alerts and reminders directing customers to relevant sections of their bills, utility websites, or newsletters—and reminding them to check for emails or mail with important information—can improve engagement with communications and increase energy literacy and participation. Use behavioral science techniques to effectively frame messages, increase email open rates, and improve content.

## > Conclusion

What is clear from this research is that customers are increasingly ready for energy transformation, but utilities can do a better job of helping them be educated decision makers. Adoption of new technologies and behavior change require customers to have a greater understanding not only of what should be considered but also how and why they should consider it, and what are the direct benefits. Since people are not always rational decision makers, using behavioral science helps address customers' holistic needs that may likely change over time.

### A pivotal opportunity to become a trusted advisor

The other finding that's clear is that utilities have an urgent opportunity to lean in harder on becoming trusted energy advisors if they want

to impact customer behavior change. We use the word urgent because other entities have already entered the energy-education business, and some are leap-frogging utilities.

Traditional news and information outlets such as the Wall Street Journal, CNET, Consumer Reports, and even the relatively new Rewiring America have already recognized that a vacuum of energy information needs to be filled. They are starting to fill it with dedicated webpages, articles, tips, and decision-making tools.

And there are also third-party technology providers that are in customer homes managing customer energy and their data.

Utilities are in danger of not securing or losing their position of being a trusted energy advisor. If they miss the opportunity to be an educational

and innovative resource, they also miss one of the fundamental components of building trust. As this report makes abundantly clear, trust is a new form of currency for the energy industry, as customers encounter more choice and control.

### Building a reciprocal relationship

Successful commercial companies have long understood that regular customer research yields insights that not only shape the way companies engage with customers but can also shape the development and delivery of products and services. That's a muscle that can be better exercised in the utility industry, where a lack of competition has left the industry stuck on customer satisfaction scores.

While it's not surprising that there's a fairly large percentage of customers unaware or unsure how to make new energy decisions, they will need to be more educated as technology and regulatory requirements change. Utilities have the opportunity to see customers as partners in this process and recognize the growing need to have a reciprocal relationship, where utilities and customers count on each other. For example, if utilities want access to customers' stored battery power (as some are already doing), then utilities need a stronger partnership with customers that supports a two-way relationship.

### Looking ahead

Planning for the next ICF Energy Customer Insights Report is underway and ICF invites utilities and other industry professionals to submit suggestions for additional areas of focus.

There is also an opportunity to gather more customized service territory or state-level data to equip utilities and state energy offices with localized customer insights.

Please contact us at [CustomerInsights@icf.com](mailto:CustomerInsights@icf.com) to learn more about customized research.

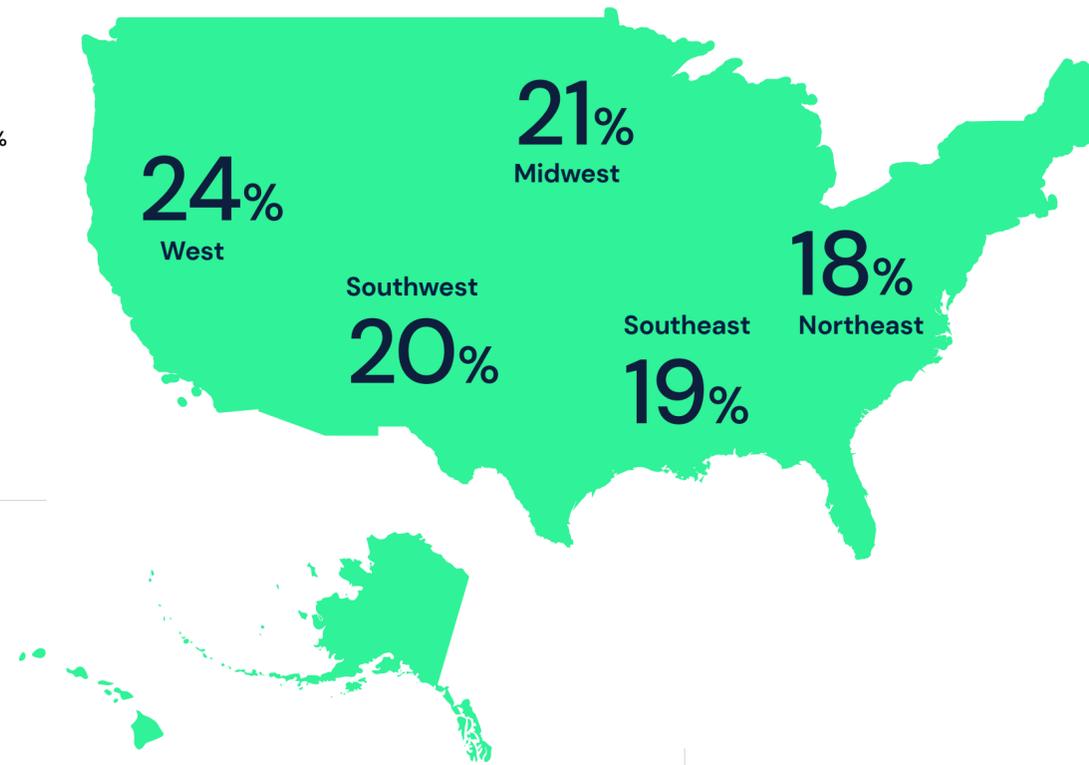
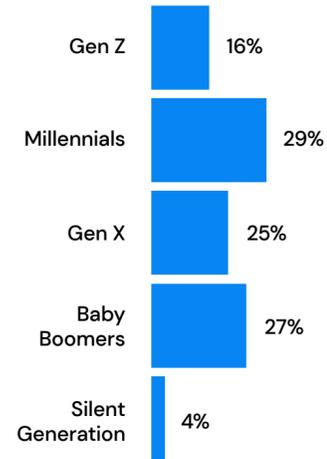
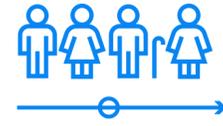
# Demographics of research respondents

We conducted an online survey with a panel of residential energy customers across the U.S., including both homeowners and renters. Data was collected from five regional areas, with approximately 2,000 completed surveys per region, totaling 10,000 surveys. The sample was aligned to U.S. Census data to ensure that the findings are representative of the diverse population of utility customers in the U.S., providing valuable insights into their perceptions, preferences, and behaviors.

Demographic information collected included age, race/ethnicity, gender, education, employment status, income, marital and parenthood statuses, as well as home ownership status along with information about home occupancy and location.

## Age

**48**  
Average



## Gender

**49%**  
Male

**51%**  
Female

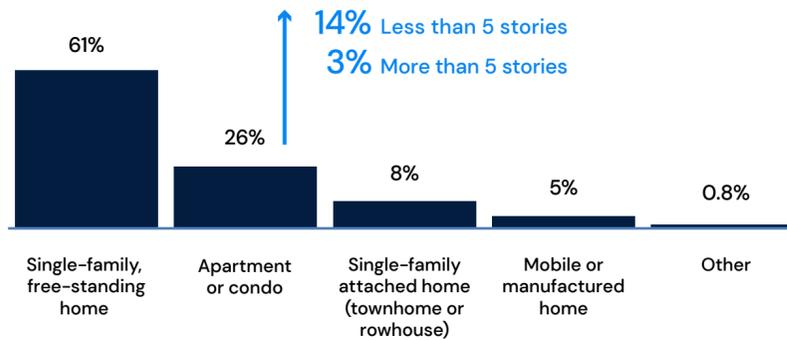
## Home Ownership

**55%**  
Own

**41%**  
Rent

**4%**  
Other arrangement

## Home Type



## Household Composition

**40%**  
Married

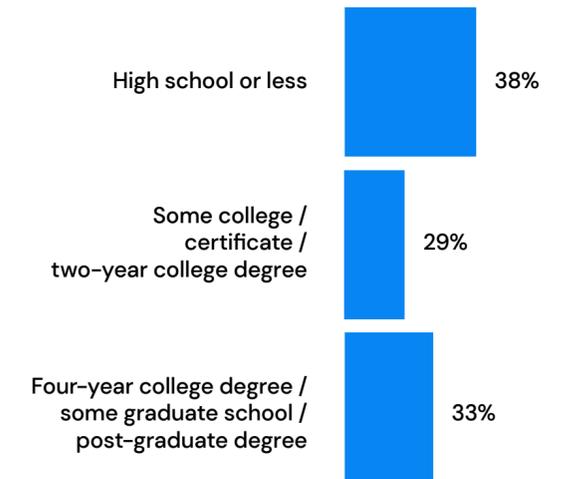
**28%**  
Children under the age of 18 living with them

**25%**  
Live alone

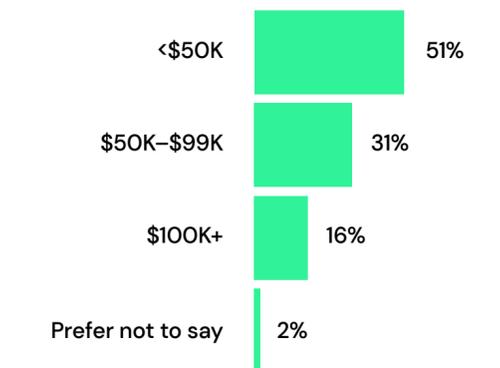
## Employment

**40%**  
Employed full-time

## Education



## Household Income



# About ICF

ICF is one of the largest energy and climate consultancies in the world. The company partners with the nation's top utilities and developers, along with nearly every U.S. federal agency, state energy office and energy non-governmental organization, providing end-to-end offerings across the energy value chain—from strategy to planning and analysis to implementation.

As the nation's leading provider of energy efficiency, electrification, and load management programs across North America, ICF is delivering more than 250 programs to 60+ utilities. We are also one of the largest electrification implementers in the U.S., driving innovation and sustainability across industries. ICF's energy expertise is part of a global consulting and technology services company with approximately 9,000 employees. Our experts also solve complex challenges in disaster management, public health, federal IT modernization, transportation, environment, and aviation. Since 1969, public and private sector clients have worked with ICF to navigate change as we focus on building a more prosperous and resilient world for all.

For more information about ICF, visit [ICF.com](https://www.icf.com)

For more information about this report, email us at [CustomerInsights@icf.com](mailto:CustomerInsights@icf.com)

## Contributors and Acknowledgments

The *2025 Energy Customer Insights Report* has been developed by ICF's Customer Insights and Behavioral Science and Survey Research teams, consisting of a group of industry experts with deep knowledge in the energy sector, market research, and behavioral science. This report would not have been possible without the expertise and collaboration of the following individuals:

**Andrea M. Yetzer, Ph.D.**  
Sr. Customer Insights and Behavioral Science Researcher

**Monica Pagnotta**  
Sr. Program Manager, Customer Insights and Behavioral Science

**Rachel Kinder**  
Survey Research Manager

**Cherlyn Seruto**  
Customer Insights Research Associate

**Julia Crowe**  
Sr. Project Manager, Survey Research

**Laura Orfanedes**  
Sr. Marketing Account Director

**Matt Silverman**  
Sr. Partner, Marketing Strategy

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