

Toward Affordable Energy Access: Approaches to Reducing Energy Unaffordability, Arrearages, and Shutoffs

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KEY FINDINGS

- Most states and large investor-owned utilities do not have a specific goal or policy aimed at increasing access to affordable energy, despite the negative effects on well-being, safety, and health caused by disconnections and energy insecurity.
- Although utility shutoffs severely impact households, most states do not have processes to publicly track rates and locations of disconnections and many lack significant shutoff protections. Additionally, most states do not have access to information on demographics and other factors to track the distribution of shutoffs, which could support action to ensure consistent access to affordable energy.
- Utilities, regulators, and state energy offices have different perspectives on the role that each entity should play in ensuring that households have access to affordable energy. This lack of clarity can inhibit action.
- Governments and utilities are best able to understand energy unaffordability in their area if they have robust partnerships with organizations in and residents of disinvested communities, and equitably design processes to lower barriers to engagement and community participation.
- Government agencies at all levels can help reduce barriers to energy services that can increase energy affordability. Some strategies to serve more households effectively include offering navigator support, collaborating between different government and utility teams to streamline processes, and reducing application requirements.

The Problem of Energy Unaffordability

Too many households across the United States are burdened by unaffordable energy bills, which can leave them in debt, facing shutoffs, or contending with impossible choices between household necessities. **Researchers estimate that over four million utility shutoffs occurred between January and October 2022 alone, and more than one in four households in the United States struggled to meet their energy needs in 2020** (Goodson Bell et al. 2023; EIA 2022). These problems disproportionately affect groups that have experienced disinvestment and marginalization, such as households with low incomes, households of color, households with older adults, and indigenous households.¹ These households are more likely to live in poor quality, energy inefficient housing and face systemic barriers to building wealth, accessing education, and earning income that would support financial stability and the ability to respond to energy needs, especially those that arise unexpectedly (see Appendix B for a more detailed discussion on energy equity). Energy poverty, or the inability of a household to meet energy needs, shapes health, safety, well-being, and other outcomes but has not received consistent attention in the United States as a distinct concept, particularly compared to other social problems like food insecurity (Bednar and Reames 2020; Kristich et al. 2022; Goodson Bell et al. 2023; Bohr and McCreery 2020; Lima, Ferreira, and Leal 2022; Hernández and Laird 2021).

Governments and utilities have an important role to play in ensuring that all households can afford the energy required to meet their basic needs. Energy efficiency is a tool for increasing affordability. Energy-efficient homes require less energy to maintain comfortable temperatures and keep the lights on, leading to lower energy bills. Governments and utilities can direct energy efficiency services to households at risk of arrearages and shutoffs and devise complementary policy strategies (like improving rate designs to ensure lower-income customers are not overburdened and establishing shutoff protections) to make energy affordable and preserve access. In this policy brief, we examine a range of current approaches to increasing energy affordability. Based on stakeholder interviews, we then present lessons learned by state and local governments and utilities that can help others to advance affordability for the most burdened households in their jurisdictions.

¹ We use the terms disinvested or marginalized to describe communities that receive inadequate social and economic services and resources, are most affected by policy decisions and social structures, and often face high barriers to participation in decision-making processes. Communities of color and Indigenous communities, low-income communities, and immigrant communities are some groups that are more likely to be disinvested or marginalized.

STATE OF THE ISSUE

Energy unaffordability and utility shutoffs remain a major problem in the United States. In 2020, 10% of households reported receiving a disconnection notice and 34 million experienced challenges paying their energy bills (Bohr and McCreery 2020). Households with low incomes, households of color, renters, older adults, and indigenous households are disproportionately burdened by unaffordable energy costs (Drehobl, Ross, and Ayala 2020). Government and utility energy efficiency services are currently reaching only a fraction of eligible customers and fall well short of what is needed to serve all burdened households in both rental and owner-occupied housing. For example, utility low-income energy efficiency programs offered by a national selection of utilities are only reaching approximately 5% of income-eligible customers, often with low-impact measures like lightbulbs and energy-saving kits (Morales and Nadel 2022).

Current methods of measuring energy affordability do not fully capture the experiences of households. Energy affordability is often measured using energy burden, the proportion of a household's income spent on energy bills (Drehobl, Ross, and Ayala 2020). This measure is relatively simple and provides a clear indicator that can be tracked over time. However, it does not capture all households that live without reliable access to affordable energy. For example, households that keep their home at unsafe temperatures to reduce their bills would not necessarily be classified as having a high energy burden (Cong et al. 2022). Different measurements of energy affordability have also led to different findings on the prevalence of energy unaffordability and its distribution (Brown et al. 2020). Decision makers should use caution when relying on a single indicator of energy affordability and should aim to fully measure energy security to understand households' needs and the dangerous tradeoffs made to afford energy.

Energy unaffordability and shutoffs have many negative effects on well-being, health, safety, and wealth. For example, families without affordable access to energy can experience health challenges that stem from keeping their homes at unsafe temperatures, using unsafe methods like ovens to heat their homes, or foregoing medical necessities to pay an energy bill, and are more likely to experience poverty (Lima, Ferreira, and Leal 2022; Hernández and Laird 2021; Partnership for the Public Good and PUSH Green 2022; Bohr and McCreery 2020; Goodson Bell et al. 2023; NEADA 2018).

A noteworthy number of states do not track or report shutoffs. Seventeen states do not have a requirement to track and report utility shutoffs (even during the COVID-19 pandemic), further limiting the ability of those states and the federal government to take action to reduce them (Energy Justice Lab 2023b). This lack of tracking, which would ideally include information on where and what types of customers are shut off from service, also prevents decision makers from accurately measuring and addressing the ways in which shutoffs can disproportionately impact particular groups by race, income, and other demographics.

Providing energy affordability to all households will likely require a combination of well-designed short-term and long-term approaches. Short-term approaches include strategies like bill and arrearage assistance and shutoff protections and moratoria that can ensure that customers are supported and avoid crisis situations. However, long-term approaches, including equitable weatherization and electrification efforts and access to renewables, are needed to fully provide the benefits of healthy and efficient housing that supports long-term affordability (Makhijani et al. 2023; Franklin et al. 2017; Harak 2013).

Governments and utilities use a variety of approaches to increase energy affordability and security. For example, some utilities in Massachusetts and Connecticut have formal or informal data sharing agreements that allow the utilities to identify homes struggling most with unaffordability to target for weatherization. Washington State prevents winter shutoffs for households that have met criteria including applying for weatherization (Washington State Legislature 2001). The Los Angeles Board of Water and Power Commissioners has banned utility shutoffs for low-income residents enrolled in its municipal utility's EZ-SAVE assistance program or those enrolled in the Senior Citizen Lifeline Discount Program (Smith 2022). Other approaches used by utilities and governments include setting energy burden reduction or affordability goals to ensure decisions are made with affordability as a goal, establishing Percentage of Income Payment Plans (PIPPs), limiting shutoffs based on illness or other factors, requiring utilities to reduce shutoffs for impacted communities, and connecting energy efficiency to homes in arrears or at risk of shutoffs (Wein and Harak 2021; Lusson and Howat 2022). We profile some of these approaches in more detail below.

CURRENT STRATEGIES TO TRACK AND REDUCE ENERGY UNAFFORDABILITY

STATE GOVERNMENT APPROACHES

SETTING STATE ENERGY AFFORDABILITY GOALS

[Only 11 states have](#) an active energy affordability goal in place as of 2022 (Subramanian et al. 2022). States have enacted a range of approaches to tracking progress toward their goals. Goals also range from aspirational targets to formal requirements. A relatively common approach is requiring utilities to submit their energy plans based on an established affordability target and report to the state's utility regulatory commission on the relevant metric(s). A few example state approaches include:

- Washington's [Clean Energy Transformation Act](#) establishes a requirement for utilities to undergo their planning processes with a goal to achieve equitable outcomes (Washington State Department of Commerce 2023).
- New York's Public Service Commission has [established a target energy burden](#) level of no more than 6% for all low-income customers in the state (New York PSC 2022).
- The California Energy Commission publishes [progress reports](#) on a set of energy equity indicators based on a series of recommendations to reduce [barriers to](#)

[accessing energy efficiency and renewables for low-income customers](#), and the state has opened a rulemaking focused on defining and measuring affordability (CEC 2018; CPUC 2018; Scavo et al. 2016).

Goals are most likely to support equitable outcomes if utilities are required to take action to meet them. Targets or measurement approaches that do not lead to action will not increase affordable energy access. Some states take approaches that fall short of setting a specific energy affordability goal. For example, some states conduct needs assessments, track a metric or set of metrics (like energy burdens or demographics of program participants) without establishing targets, or set unspecified conceptual goals (such as “increasing energy affordability”).

ENACTING SHUTOFF LIMITATIONS

Some states limit shutoffs based on weather or for certain customers (like those with medical conditions). Forty-one states provide some level of restriction on shutting off utility service during cold weather, while 20 provide protections during hot weather (Energy Justice Lab 2023a). Figure 1 shows a map of date- and temperature-based shutoff protections across the United States.

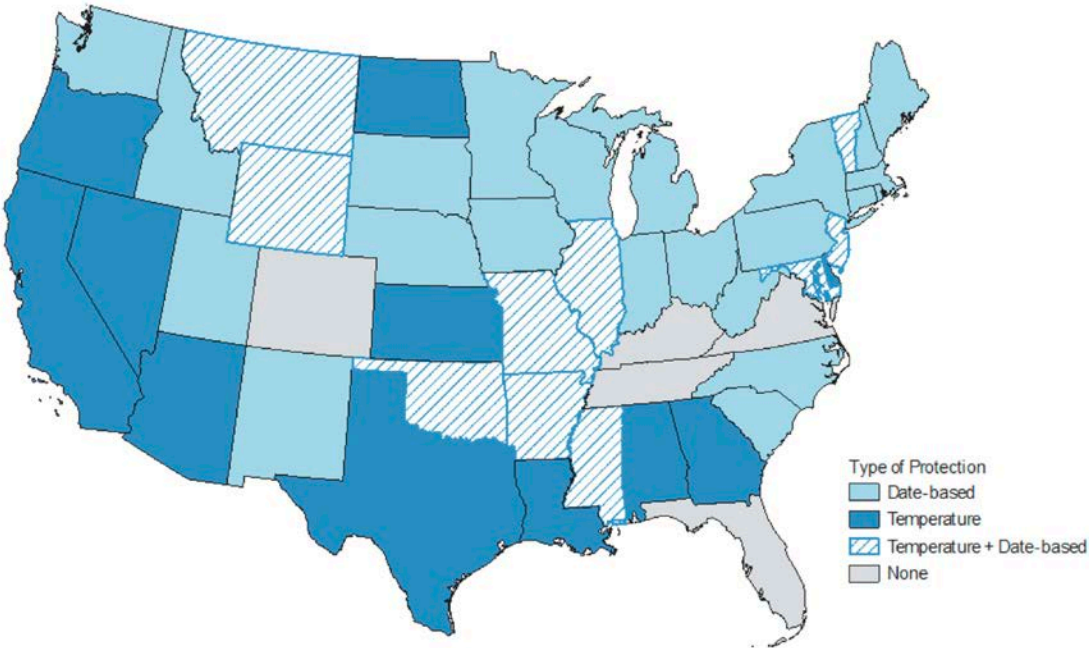


Figure 1. Map of temperature- and date-based shutoff protections (Flaherty, Carley, and Konisky 2021)

Other states connect shutoff policies to weatherization programs. For example, Washington prevents shutoffs during the winter months if a customer applies for [energy assistance and weatherization](#) (Washington State Legislature 2001).

[Legislation](#) has been introduced in Connecticut that would restrict utility disconnections, including provisions like a limit on reconnection fees and streamlined assistance with arrearages and shutoffs through the utility (Connecticut General Assembly 2023). Some limitations are enacted at the local level, such as the Los Angeles approach mentioned above. Even with these limited restrictions on shutoffs, many households are left vulnerable to losing energy service.

UTILITY AND REGULATORY APPROACHES

UTILITY ACTION TO ACHIEVE AFFORDABILITY GOALS

Some utilities have started to hold themselves accountable to their commitments to increase energy affordability (Specian et al. 2023). As one example, Eversource MA sets a goal for savings achieved in disinvested communities, as Massachusetts has established [performance incentives](#) for utilities that increase savings in communities designated by the state as [environmental justice communities](#) (Massachusetts DPU 2022; Massachusetts EEA 2023). Only 16 of the more than 50 large utilities included in ACEEE's [Utility Energy Efficiency Scorecard](#) have a formal goal for advancing energy affordability, such as a target number of households reached or a target level of spending on a low-income energy efficiency program (Specian et al. 2023). Most affordability goals set by utilities are based on investments (such as the level of spending on energy efficiency programs, or the number of households reached) instead of outcomes (like the resulting bill or energy savings). Therefore, there is room for more utilities to directly aim for affordability and to move toward measuring actual impacts of energy affordability efforts over time.

CONNECTING ENERGY EFFICIENCY AND ASSISTANCE TO SHUTOFFS AND ARREARS MANAGEMENT

A [relatively small number of investor-owned utilities](#) take some action to directly connect customers at risk of shutoff to energy efficiency programs (Specian et al. 2023). For example, through some utilities, customers at risk of shutoff are automatically connected to information on how to access energy efficiency services.

A few utilities take other actions focused on shutoffs that are less connected to energy efficiency, primarily around bill assistance. While bill assistance is important for addressing the immediate challenges faced by households, it should be complemented by longer-term approaches that address deeper causes of shutoffs and unaffordability.

Michigan-based utility Consumers Energy, for example, has aimed to focus more weatherization services on customers in crisis by coordinating bill assistance programs with energy efficiency programs as opposed to organizing them separately. To achieve more access, utilities can move beyond providing information to more actively connecting customers to services.

Rising to the Challenge: Lessons Learned from Governments and Utilities Taking Action

To effectively and efficiently ensure that all households have affordable access to energy, stakeholders need an accurate understanding of the challenges households are facing and which residents are most in need of service and investment. Governments can then deploy strategies to provide more affordable energy access, prioritizing those most burdened with energy unaffordability.

Well-intentioned efforts can still miss the households most in need. Barriers to participation that limit access to services can include challenging application processes, upfront costs of energy upgrades, language inaccessibility, and more. These barriers can increase inequities in energy affordability, as the households most struggling with affordability often have the hardest time overcoming them. Via anonymous interviews, governments and utilities currently advancing energy affordability provided lessons that can be useful to others. Below, we profile several of their insights and strategies that were shared via interviews.

COMMUNITY ENGAGEMENT AND INFORMATION SHARING PROVIDES INSIGHTS

Direct, inclusive engagement with residents is important for accurately understanding community needs around energy affordability. This engagement can include a range of community outreach strategies, as well as supporting equitable participation in regulatory proceedings. CPS Energy, a municipal utility based in San Antonio, prioritizes partnerships with community organizations and community leaders. The utility has a “block walking” program where they speak directly with individual residents (Nazir 2022). In some cases, they choose a geographic area and then knock on the doors of the 50 customers in the area with the highest arrearages to connect them to services. They use tools such as maps of energy burdens overlaid with other datasets to identify priority neighborhoods. They also use their physical presence in the community to help them know which areas of the city are most burdened. These neighborhoods are prioritized for outreach programs and for services, like retail energy efficiency programs with discounted efficiency equipment for households offered in local stores in priority neighborhoods.

Simply speaking with residents will not effectively support them or accurately illuminate their experiences without a base of trust. Residents may understandably be hesitant and mistrusting of utility staff, particularly if they are struggling to pay their bills or have been threatened with disconnection. CPS Energy finds that their local partnerships with community-based organizations and others are important for overcoming these trust barriers—making the difference between empty conversations and the opportunity to truly understand and act on residents’ experiences.

CPS Energy also prioritizes sharing information between partners and ensuring that they improve their approach in response to challenges they uncover. For example, contractor partners for CPS’s energy efficiency programs reported back to CPS staff on the experiences of households that were deferred from weatherization due to structural or safety issues in

the homes that contractors had seen during home visits. The contractors described some of the common challenges faced by these homes. Because this information was shared and CPS staff prioritized acting on it, they were able to successfully advocate for more pre-weatherization opportunities and support through the city, helping to make weatherization service available to more residents.

Other governments and utilities can leverage these lessons by developing processes to share information and insights between partners and respond accordingly. This can include ensuring that entities providing energy services collect information while they are working with households, and then ensuring that decision makers share and act on those data. Information shared between partners can also include what service areas are and are not currently receiving services, so excluded areas can be prioritized. Making sure data are regularly reviewed can help ensure that information is reflected in decision making.

The City of Albuquerque and their nonprofit partners recognized that a lack of trust and uneven power dynamics can prevent city governments from accurately understanding the experiences of their residents. Therefore, the city and their partners found that community members filling leadership and staff roles in program services was a key strategy that facilitated understanding residents' experiences and needs.

[Prosperity Works](#), a local community organization in Albuquerque that promotes economic inclusion, including energy equity, provides in-home energy services and hires local community members to provide service and outreach (Prosperity Works 2023). This includes deep surveys and conversations with residents. Because residents are speaking with members of their own community, they are more comfortable frankly sharing information about their experiences, including things that they might perceive the city does not want to hear. For example, these surveys helped Prosperity Works and their city partners understand the coping strategies that residents were using to afford their energy bills, finding that 75% of surveyed residents had given up necessities like food and medicine in recent months and virtually no households were aware of energy support services in the city. Community liaison jobs can also be considered part of the clean energy workforce, providing additional community benefits.

Understanding the experiences of disinvested communities can also be facilitated through advisory groups and similar structures. For example, [Connecticut's Equity and Environmental Justice Advisory Council](#) is convened to advise the state's Department of Energy and Environmental Protection on environmental injustice, equity, and related issues (Connecticut DEEP 2023). The council is made up of representatives of areas defined by the state as "environmental justice communities," environmental organizations, businesses, and local governments. Similar bodies can provide an opportunity to share the information necessary to effectively respond to the needs of communities facing energy unaffordability.

The most appropriate approach to community engagement should be based on consideration of the specific local context. For example, the Connecticut Governor's Council on Climate Change's Equity and Environmental Working Group developed [guidance](#)

[documents](#) on effective public engagement (Connecticut DEEP 2020). A Stakeholder Working Group convened in Massachusetts [developed recommendations](#) for the state’s Department of Public Utilities and Energy Facilities Siting Board to improve equitable access to regulatory processes (Massachusetts Office of the Attorney General 2023). Community members, especially residents and organizations in disinvested communities, are often asked for their feedback and time with limited action in response and can experience engagement fatigue. Therefore, it is important to remember that an engagement process should include meaningful responses to feedback received, transparency about the potential results of a process, compensation, and other actions to build trust.²

PROACTIVELY IDENTIFYING CUSTOMERS AND COMMUNITIES BEFORE THEY EXPERIENCE A CRISIS CAN HELP INCREASE AFFORDABILITY

Some interview respondents described taking a proactive approach to reaching customers with services before they experience an acute energy crisis. Viewing energy affordability in a holistic way that considers all energy-related costs and challenges as well as costs of other necessities can help governments and utilities to identify customers in need of services.

CPS Energy, the San Antonio municipal utility, attempts to identify customers at risk of energy challenges proactively. Residents’ experiences with energy unaffordability and insecurity are not isolated from other challenges and household needs. Therefore, CPS takes a case management approach to customers they identify as in need of priority care (particularly those with powered medical equipment), working to connect them to social services beyond energy when needed. Their goal is to reach customers most at risk of not being able to pay energy bills and proactively identify and connect them to the appropriate services.

Some state and local governments and utilities target neighborhoods and particular geographic areas as opposed to individual customers to proactively expand affordability. For example, a government or utility can identify an area that experiences high average energy burdens or has experienced disinvestment and marginalization generally, and then focus programs on this area.

The Virginia Department of Energy uses public tools like the [U.S. Department of Energy’s \(DOE\) Low-Income Energy Affordability Data \(LEAD\) tool](#) and similar datasets to identify

² Multiple organizations have published resources focused on inclusive community engagement, including the Urban Sustainability Directors Network’s [Designing Equity-Focused Stakeholder Engagement to Inform State Energy Office Programs and Policies](#) and [From Community Engagement to Ownership: Tools for the Field with Case Studies of Four Municipal Community-Driven Environmental & Racial Equity Committees](#) (Kowler et al. 2020; Facilitating Power, Movement Strategy Center, and National Association of Climate Resilience Planners 2018).

areas in need of particular focus, for which they then prioritize marketing, outreach, and other opportunities (DOE 2023b). Similarly, Washington State’s Department of Health publishes multiple data tools [through a dashboard](#), including information focused on demographics, air quality, environmental justice, and health disparities (Washington State Department of Health 2023). The energy staff in the state’s Department of Commerce use these tools to identify areas of the state in which to target their efforts, prioritizing the communities most burdened. California builds on its *CalEnviroScreen* tool [to identify priority populations for climate investments](#) across the state (CARB 2023). Some local governments, such as [Denver](#) and [Seattle](#), have developed tools to identify priority buildings or areas for energy investment and [Minneapolis](#) prioritizes its local Green Zones in broader environmental and climate action (City of Denver 2023; City of Seattle 2023; City of Minneapolis 2023).

When necessary, a government can use place-based information as a proxy for other data. For example, the state of Washington has many electric utilities including municipal utilities and co-ops across the state. Even when the state does not have access to data directly from those utilities, looking at county-level data from public sources like the LEAD tool can illuminate some relevant information at the county level that can be mapped onto utility service territories.

While place-based approaches can be less granular and might lead to missing individual households that are burdened, this approach can be more feasible than collecting or tracking individual household data, such as when a jurisdiction does not have easy access to individual household data or has limited capacity. Others can leverage recent federal tools such as the [White House’s Climate and Economic Justice Screening Tool](#) or [DOE’s Energy Justice Mapping Tool](#) (White House Council on Environmental Quality 2023; DOE 2023a). However, geographic approaches should be coupled with robust community engagement to ensure accurate understanding of community needs. Local dynamics and the specific effects of projects can differ from place to place, so agencies should not simply assume that a well-intentioned project will have a positive impact because it is located in a priority area.

CONNECTIONS BETWEEN TEAMS FOCUSED ON ASSISTANCE AND TEAMS FOCUSED ON ENERGY EFFICIENCY AND WEATHERIZATION ENABLE A HOLISTIC APPROACH

For many utilities and state energy offices, several staff members work on specific issues or programs and have limited collaboration with those working on other issues. For example, some teams might focus on bill assistance and emergency assistance programs and other teams may focus on weatherization and other types of clean energy and energy efficiency investments.

Both dimensions of energy services play an important role in the landscape of affordability. Assistance is often needed to help customers in immediate crisis when they cannot pay their bills, while weatherization and other services help to address root inefficiency that leads to high energy use in households. Ensuring that different segments of the sector are in close

collaboration can help streamline experiences for residents and can help utilities and states to more effectively increase affordability by complementing efforts.

For example, Connecticut's Department of Energy & Environmental Protection (CT DEEP) aims to continuously communicate between teams and plan at a high level to ensure that efforts are complementary. In Michigan, [a low-income working group](#) has led to relationships between different organizations working on energy affordability (MPSC 2023). Because members know each other and regularly interact, they know who to contact with questions at other organizations and can better design their efforts to complement existing approaches. In DC, dedicated Department of Energy and Environment staff members focused on data and information are situated within different program teams. These staff members are regularly able to collaborate with each other and bring familiarity both with program specifics as well as data analytics to inform their efforts. Collaborations can include a variety of organizations, like academic institutions that can inform data approaches.

Entities offering energy efficiency services can work to coordinate their efforts with each other, as opposed to leaving the navigation of multiple programs to households. For example, staff can take on the role of providing navigator services to residents. CT DEEP approaches energy affordability holistically and aims to ensure that their programs complement each other in terms of eligibility requirements, methods of access, and other factors. The department brought together staff focused on the Weatherization Assistance Program housed in the Office of Affordable Housing Energy Retrofits and staff focused on the Home Energy Solutions income-eligible program housed in ratepayer funded programs to identify barriers and strategies to streamline the two programs. The District of Columbia has similar challenges with coordination, especially because multiple entities are providing services, but they aim to ensure that if residents are eligible for one service, they get access to others as much as possible. In this way, more residents can access services.

Establishing strong partnerships between agencies before projects or policies launch supports success for many governments. Creating regular opportunities for different agencies and actors to interact and become familiar with each other and their work also strengthens outcomes.

REDUCING REQUIREMENTS FOR PROOF AND ATTESTATION CAN ENABLE MORE PEOPLE TO ACCESS SERVICES.

When households face multiple requirements to prove their income or other factors, it often becomes very difficult for them to access services. Any action to reduce these requirements, or make them easier to provide, can help ensure more equitable access. Ideally, households should share as little information as possible. Self-attestation to program eligibility is often effective, such as the California Public Utilities Commission's (CPUC) California Alternate Rates for Energy (CARE) program through which participants certify their eligibility and programs verify income for some customers later (CPUC 2017). Other strategies to enable access can include allowing presentation of documents in more formats (online and in-person) and through a single location or portal, providing opt-out rather than opt-in

services, accepting referrals or eligibility from other programs like the Low-Income Home Energy Assistance Program (LIHEAP) and the Supplemental Nutrition Assistance Program (SNAP), or eliminating applications entirely.

Considering ways that documentation can pose challenges for trust is also important. For example, if a program aiming to provide affordable access to energy requires Social Security numbers for one or more household members, it automatically presents an additional challenge for some immigrant families or households of mixed immigration status. Albuquerque staff and community-based organization (CBO) partners found that self-attestation was an important way to overcome this barrier and reduce inequities between immigrant and non-immigrant households.

MOVING FORWARD: GAPS AND NEEDS FOR REDUCING UNAFFORDABILITY

More resources and attention will be needed to fully address the problems of energy affordability in the United States. Even with [recent legislation that invests in clean energy](#), funding and capacity are not sufficient to meet the needs of the number of households struggling to afford their energy bills (Ungar and Nadel 2022). These resource limitations can inhibit collaboration because organizations with different focus areas (such as bill assistance or weatherization) compete for limited resources. The need to build a strong workforce to install and implement energy efficiency initiatives is also a challenge that can limit progress. Interviews with staff of governments, utilities, and regulatory bodies highlighted these and other challenges that organizations face when attempting to advance more affordable energy access. State and federal lawmakers, regulators, researchers, and other decision makers can act to reduce these barriers and enable more action.

VALUING THE MULTIPLE BENEFITS OF ENERGY AFFORDABILITY

To advance an equitable energy future, experts have emphasized the importance of valuing outcomes beyond energy savings (Drehobl 2021). To prioritize the households who would most benefit from investment, decision makers can consider broader benefits to health, well-being, and social equity as opposed to just the projects that would save the most energy. However, the ability to do this is limited by challenges in valuing and communicating broader benefits. For example, to advocate for programs to decision makers, program staff expressed that they would benefit from tools to quantitatively value non-energy benefits, like health outcomes. Similar resources could help support the multiple benefits of energy efficiency.

ESTABLISHING CLEAR GOALS

Some interview respondents were limited in their work by a lack of clarity in their objectives. In some cases, this occurred when an organization like a utility was required to reach certain objectives that were steered by multiple stakeholders or regulatory bodies. This led to respondents having multiple, sometimes changing targets that required pivots in work, and

differing objectives that had to be balanced as opposed to a smaller, clearer set of desired outcomes.

For example, multiple organizations provide energy-related services in the District of Columbia, including the DC Green Bank, local utilities, DC Sustainable Energy Utility, and the District's Department of Energy and Environment. Because these organizations are regulated in different ways, they can have different reporting requirements, success indicators, and goals, making efforts to streamline initiatives more challenging. In other cases, multiple stakeholder engagement processes led to different required indicators and program metrics, which complicated program design efforts. A shared set of goals and objectives among stakeholders and decision makers can enable decision making. Effective community engagement approaches can help identify solutions to challenges balancing data availability with deference to community voices.

SETTING CONSISTENT AND FLEXIBLE BUDGETS AND APPROPRIATE REQUIREMENTS FOR COST EFFECTIVENESS

In interviews, governments expressed that they are best able to provide services to advance affordability, like retrofit programs and personalized navigator services, when they have a reliable funding source that does not dramatically change from year to year. This funding can also be designed to meet the needs of disinvested households. Many households with low incomes are deferred from weatherization due to structural issues in their homes or health and safety deficiencies. Allowing more weatherization funding to be used for these challenges, as opposed to strictly limiting its use, can help more households to access services, as can identifying other funding sources to address these issues. For example, Maryland has a variety of approaches to address health and safety issues that would limit access to weatherization. The Maryland Public Service Commission authorizes the [EmPOWER Maryland Limited Income Energy Efficiency Program](#) to spend a portion of energy efficiency funding on health and safety measures (Maryland DHCD 2023a). The [Maryland Department of Housing and Community Development](#) allows health and safety spending for weatherization projects and budgets separately for these costs (Maryland DHCD 2023b). [Braiding funding is another strategy](#) for maximizing health improvements and other benefits (Hayes and Gerbode 2020).

Similarly, funding is needed to undertake the inclusive and accountable engagement processes that ensure that the needs of community members are centered in a program's design. This includes compensating people for sharing their time and expertise and reducing barriers to participation by providing services like language translation, childcare, and transportation support, all of which can help ensure that a process reaches a representative segment of the community. However, some agencies are limited in their ability to provide compensation or financial support a community engagement process, either by statute or lack of funding. Decision makers can work to provide these resources and flexibility, and can also provide compensation for engagement in regulatory proceedings [such as CPUC's recent approach](#) to supporting CBOs and tribes engaging in CPUC processes (CPUC 2023).

Some utilities expressed that current cost-effectiveness requirements limit their ability to deploy energy efficiency to households with low incomes. This aligns with insights from advocates and CBOs on the importance of looking beyond simple energy savings in order to enable equitable energy access (Drehobl 2021; Energy Equity Project 2022). For example, the services required to meet the needs of a vulnerable household, including pre-weatherization, might not be viewed as traditionally cost effective across a short time span. Interview respondents found that strategies like valuing non-energy benefits, allowing different cost-effectiveness thresholds (or eliminating them) for certain programs, and evaluating benefits of cost effectiveness for broader portfolios instead of individual programs can allow utilities to focus more of their energy efficiency work on the households most in need of services.

DATA ACCESS

Interview participants discussed the challenges of accessing and collecting information to inform their energy affordability efforts. Whether they are required to report information or have set up their own internal tracking and metrics processes to remain accountable to their goals, information is often limited. Some governments experienced challenges accessing data from their local utilities, leaving them unable to identify households who would benefit from services. Processes to match service eligibility across organizations are also limited. For example, in New York City, lists of customers eligible for some social services who are also eligible for utility affordability programs are generated and shared with utilities, but this process does not happen statewide in New York.

Similarly, information on customers in arrears or shut off from utility services is often not available to government agencies, frequently due to concerns or limitations around privacy and data sharing. Collecting data independently can also be cost prohibitive or require staffing capacity that is not available, particularly for governments. Shared datasets, data dashboards, or resources to share information, even above the individual household level, would support action to advance affordability by helping to identify communities and households most in need of investment.

Other organizations expressed that access to federal datasets and information could help them to identify more customers in need of services and to prioritize what communities or households should be centered in the energy transition when resources are limited. Specifically, several mentioned that if they could access information for SNAP-eligible households or Medicaid recipients, they would better be able to serve households in need of support. Without these data, verifying customer eligibility and identifying all households can be more challenging. For example, efficiency program implementors in Maine must work between agencies to verify eligibility in a process that takes several days, ultimately limiting the number of households that can receive resources in a timely fashion.

Because there are many privacy-related limitations to sharing these datasets, interview respondents expressed that processes to match customers without allowing them direct access to data would also be helpful. For example, they suggested a process for matching customers through a clearinghouse system where eligible customers could be identified or

reached by a program implementor without giving them full access to data. Pacific Northwest National Laboratory is working alongside the U.S. Department of Energy to develop [a national database and Application Programming Interface](#) for the Home Energy Rebate programs (PNNL 2023). This effort provides a potential example of how agencies can enable data sharing and more efficient tracking of program services. The Federal Communications Commissions' Affordable Connectivity broadband program provides another example through a [national verification tool](#) that checks applicant information against information in other databases, including those with SNAP and Medicaid information (Universal Service Administrative Company 2023). Because challenges can arise in balancing privacy, data availability, and community perspectives on accountability, governments and utilities can engage with residents to ensure that their approach is transparent and responsive to community needs.

SUPPORT WITH ADMINISTRATION OR REDUCED ADMINISTRATIVE REQUIREMENTS, INCLUDING REPORTING

Interview respondents discussed the ways that administrative and reporting requirements limited their work. Some shared concerns about the process of applying for and managing federal funding, for example. Some recognized opportunities for federal funds to support their work to make energy access more affordable but were hesitant to apply for funds because of the reporting requirements and high barrier to entry without a guarantee of receiving funding. Reducing these barriers to applying for funding and grants (such as by providing easy-to-access grant application assistance, reducing grant application length by removing duplicative sections, and simply ensuring that all reporting requests have a specific purpose for the coordinating agency) would enable easier access to resources. Similarly, some agencies or utilities described how capacity limited their success. For example, many small utilities in Washington have very small staff and limited technology, and therefore struggle to collect and provide data or apply for support and funding. Decision makers involved in offering funding can work to support these efforts and provide resources to build capacity.

Conclusions

Too many households in the United States struggle to meet their energy needs. This prevents households from having safe, comfortable, and healthy housing, and being able to access the energy they need without making tradeoffs between essentials. Certain groups are more burdened than others, like low-income communities and communities of color, and require prioritization for investment. Governments, regulators, and utilities have taken a variety of policy and program approaches to begin to tackle the problem of energy unaffordability, including setting goals for energy affordability that are reflected in policy decisions, setting limitations on utility shutoffs, and connecting energy efficiency services to households most struggling with affordability. There is a major need for more action across the energy sector. Many more states and utilities can take these first steps and beyond.

Entities that have already taken action to increase energy affordability provide insights and lessons for others. For example, truly understanding the landscape of energy affordability in a jurisdiction through building trust and community connections helps to steer programs appropriately. Governments and utilities can learn from others to reduce barriers, streamline their approaches, and increase affordable access to energy.

Key recommendations for those providing energy efficiency services include

- Conduct direct, inclusive community engagement with residents to accurately understand community needs. Engagement strategies should be based on the local context and put community members in the driver's seat, prioritizing trust and accountability.
- Share information and insights between partners and respond to data accordingly. This can include ensuring that entities providing energy services collect data while they are working with households, and then ensuring that decision makers share and act on the information.
- Take a proactive approach to reach residents with services before they experience an acute energy crisis.
- Coordinate efforts between multiple entities or offices offering energy efficiency and assistance services, as opposed to leaving the navigation of multiple programs to households. Strong partnerships between agencies established before projects or policies launch can support success and ideally include regular opportunities for different agencies and actors to interact.

Key recommendations for federal and state agencies, local governments, and other decision makers include

- Develop and support tools to quantitatively value non-energy benefits like health outcomes to help measure the multiple benefits of energy efficiency.
- Develop a shared set of objectives among stakeholders and decision makers to avoid programs needing to balance conflicting directives.
- Remove barriers related to cost effectiveness that limit the offering of programs for households with low incomes. Example strategies can include valuing non-energy benefits, allowing different cost-effectiveness thresholds (or eliminating them) for certain programs, and evaluating benefits of cost effectiveness across broader portfolios instead of individual programs.
- Support or lead data sharing efforts and more efficient tracking of program services.
- Provide resources and capacity building support for grant applications and similar processes to access resources, including streamlining application processes as much as possible.

All stakeholders in the energy efficiency space can work to provide the resources needed so all households can benefit from affordable and safe energy access.

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Appendix A. Additional Resources

Resource	Description
Understanding Energy Affordability, ACEEE	This resource provides an overview of concepts around energy affordability, including typical approaches to measuring affordability and common drivers.
Leading with Equity: Recommendations for State Decision Makers, Utilities, and Regulators to Advance Energy Equity, ACEEE	This resource synthesizes recommendations from community-based organizations and energy equity advocates to advance energy equity.
Pathways to Healthy, Affordable, Decarbonized Housing: A State Scorecard, ACEEE	This <i>Scorecard</i> measures state action on a range of policies to advance healthy, affordable, decarbonized housing.
Recognition of and Response to Energy Poverty in the United States, Bednar and Reames 2020	This paper offers a framing and argument for defining energy poverty.
How High are Household Energy Burdens, ACEEE	This report measures energy burdens of households across the United States in the largest metropolitan areas, including disparities in energy burdens between demographic groups.
Low-Income Energy Affordability: Conclusions From a Literature Review, Brown et al. 2020	This literature review shares a range of conclusions around energy burden patterns, causes, and consequences.
The High Cost of Energy in Rural America: Household Energy Burdens and Opportunities for Energy Efficiency, ACEEE	This resource measures and compares energy burdens across groups in rural communities and provides recommendations for using energy efficiency to increase affordability.
Surviving a Shut-Off: Households at Greatest Risk of Utility Disconnections and How They Cope, Hernandez and Laird	This study measures household characteristics for those experiencing utility disconnections as well as coping behaviors of families faced with shutoffs.
Fostering Equity Through Community-Led Clean Energy Strategies, ACEEE	This resource shares strategies from community-based organizations to build and deploy clean energy policies in equitable ways.

Resource	Description
Reforming Utility Shut-Off Policies as if Human Rights Matter, NAACP	This report provides an overview of disconnection patterns and practices and recommendations for policy change.
Meeting the Challenge: A Review of Energy Efficiency Program Offerings for Low-Income Households, ACEEE	This report benchmarks key metrics around utility low-income energy efficiency programs, including best practices for program design.
Supporting Low-Income Energy Efficiency: A Guide for Utility Regulators, ACEEE	This toolkit provides recommendations for how regulators can best support low-income energy efficiency programs.
Understanding Transportation Energy Burdens, ACEEE	This resource measures transportation energy burdens using the American Housing Survey, expanding the conversation on energy burden from electricity to additional energy costs.
Defining and Evaluating Equitable Partnerships: A Rapid Review, Tomorrow's Cities	This resource defines and describes equitable partnerships between organizations.
A Guide for States on Collaborating with Community-Based Organizations, Clean Energy States Alliance	This resource provide guidance for governments, focused on state energy agencies, on how to build strong and equitable relationships with community-based organizations.

Appendix B. Contextualizing Energy Equity

While terms like energy equity are increasingly used in the energy sector, it is important to be clear about definitions and meanings behind these terms so we can remain accountable, use common language, and accurately measure progress.

While many definitions of energy equity exist, ACEEE uses a framework developed by Park and colleagues at the Urban Sustainability Directors Network (Park 2014). This framework specifies four dimensions of equity, dividing the broad concept into components: procedural equity, structural equity, distributional equity, and transgenerational equity. This framework allows for more nuanced evaluation of policies and programs and their implications for various types of equity (figure B1). For example, a government may identify a need to focus on a particular aspect of equity in their context and can target their efforts accordingly. At the same time, this framework can help to identify when an activity that aims to achieve equitable outcomes may advance or fall short on particular dimensions. These dimensions encompass considerations around power and decision making, institutional and structural factors, distributions of costs and benefits, and effects of decisions on future generations.

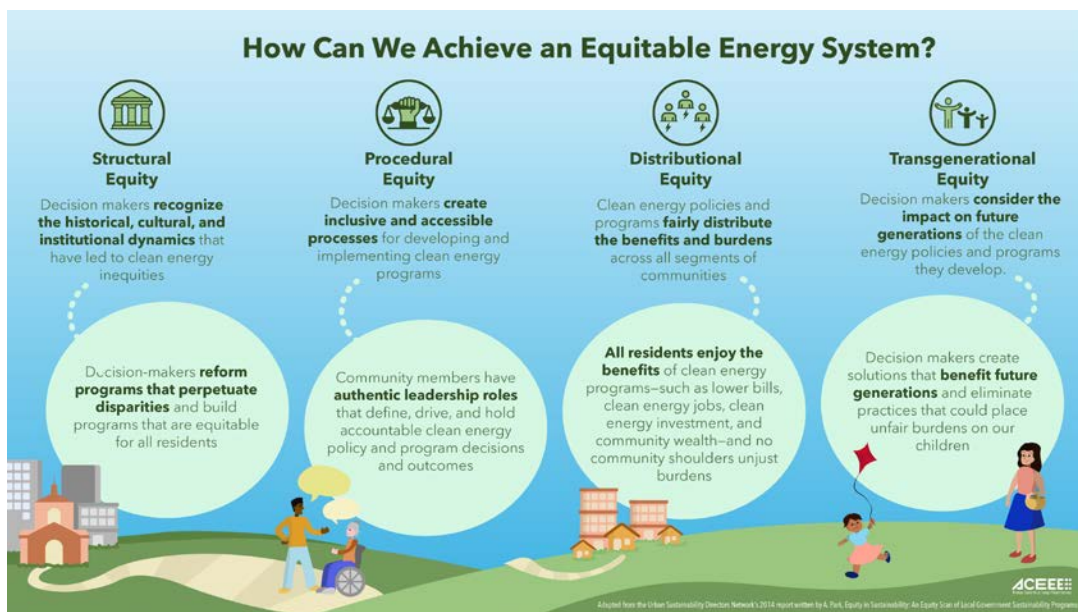


Figure B1. Dimensions of equity needed to achieve an equitable energy system

The indicators in figure B2 below reflect a list of characteristics that would make up an equitable energy system, reflecting all four of the dimensions discussed above. This framework helps to identify when the sector is moving closer or farther from this broad goal, and also emphasizes that an equitable energy system cannot be achieved without robust change in all of these factors and dimensions.

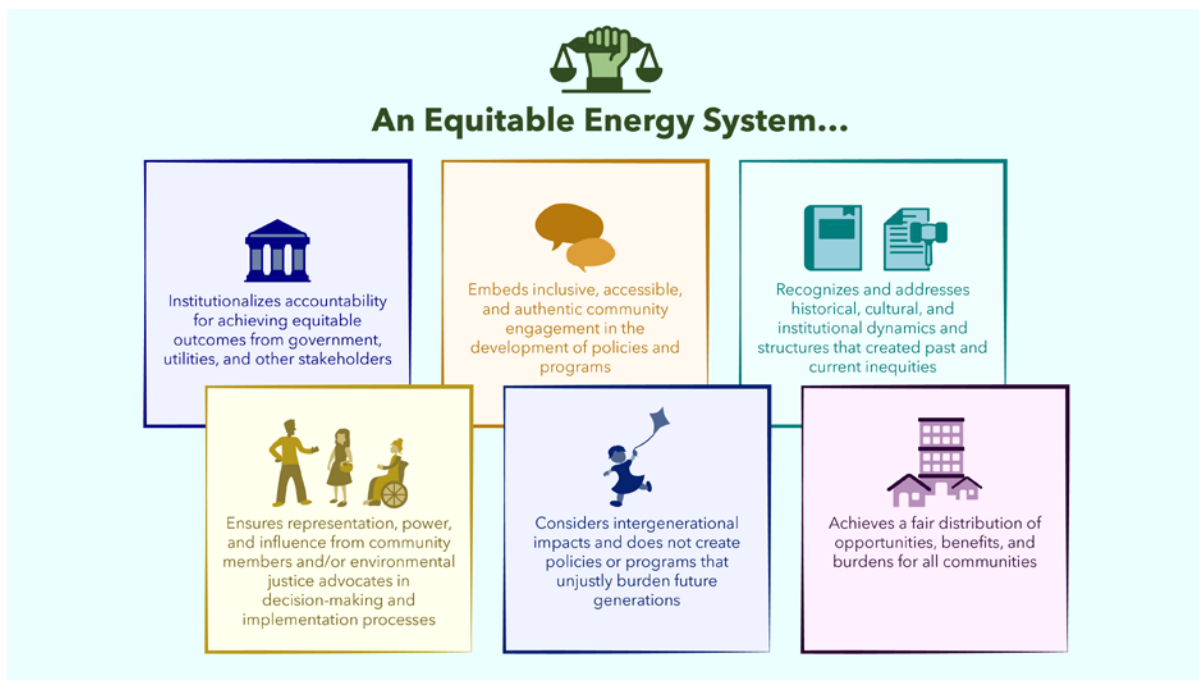


Figure B2. Identifying an equitable energy system

To provide an example of energy inequity on the ground, ACEEE research has found that low-income households spend three times as much of their income on energy as other households (Drehobl, Ross, and Ayala 2020). At the same time, Black households have, on average, a 43% higher energy burden than white households, while Hispanic households have 20% higher burdens than non-Hispanic white households. Households with older adults also spend disproportionate amounts of their incomes on energy bills. A business-as-usual approach will leave those groups behind, so decision makers need to prioritize those households in their energy efficiency efforts to reach their goals and achieve equitable outcomes.

OTHER SUGGESTED RESOURCES FOR UNDERSTANDING ENERGY EQUITY

1. [*Energy Equity Framework: Combining Data and Qualitative Approaches to Ensure Equity in the Energy Transition.*](#) Energy Equity Project, 2022.
2. *Equity and Buildings: A Practical Framework for Local Government Decision Makers.* Urban Sustainability Directors Network, American Cities Climate Challenge, Emerald Cities Collaborative, and Upright Consulting Services. 2021.