ADVANCING EQUITY THROUGH ENERGY EFFICIENCY RESOURCE STANDARDS

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ACEEE Report

ACEEE:::
Smart Energy. Clean Planet. Better Lives.

Contents

About ACEEE

The **American Council for an Energy-Efficient Economy** (ACEEE), a nonprofit research organization, develops policies to reduce energy waste and combat climate change. Its independent analysis advances investments, programs, and behaviors that use energy more effectively and help build an equitable clean energy future.

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Glossary

Energy burden: the percentage of a household's annual income that is spent on energy bills.

Energy efficiency resource standard (EERS): a statewide, binding, multiyear agreement for utilities and program administrators to reach specific energy savings targets.

Energy efficiency resource standard (EERS) authorizing policies: legislation or regulatory documents that establish an EERS in a state.

Equity: the practice of creating structures and procedural processes that center the needs of underserved communities, with the end goal of fair outcomes for present and future generations.

Equitable outcomes: fair distribution of clean energy benefits across all customer groups, with no single group bearing a disproportionate share of energy or pollution burdens.

Underserved customer segments: customer groups that have historically been denied clean energy benefits including (but not limited to) Black communities, indigenous communities, communities of color, low-income households, people with disabilities, and non-native English speakers.

Executive Summary

> ## KEY FINDINGS
>
> - Twenty-six states and the District of Columbia have an energy efficiency resource standard (EERS), a binding, multiyear target for achieving statewide, utility-sector energy savings. Twenty of these states and the District of Columbia include provisions in their EERS related to equity, such as ensuring minimum levels of spending or services for low-income customers. However, the majority do not address historically marginalized and disadvantaged households with regard to energy burdens and affordability.
>
> - About a dozen of these states have initiated stakeholder engagement efforts to establish new goals and strategies to advance equity across underserved customer segments, but only a handful have established new metrics and target frameworks to ensure accountability and transparency.
>
> - Massachusetts, Virginia, Illinois, New York, and Wisconsin have made significant efforts to incorporate equity into established EERS policies. California, Connecticut, Massachusetts, Michigan, and Oregon offer examples of emerging best practices to prioritize equitable principles in energy efficiency program design.
>
> - Based on our research, states could do the following to foster more equitable outcomes:
>   - Consider distribution of benefits across diverse populations, housing types, and geographies when setting energy-savings goals
>   - Budget substantial program funding for customers with high energy burdens
>   - Strengthen stakeholder engagement to ensure representation from historically marginalized communities
>   - Track and report on program outcomes in a transparent manner

A state's energy efficiency resource standard, often referred to as an *EERS*, is a key policy mechanism to foster robust utility-sector energy efficiency programs that deliver strong energy and cost savings by setting long-term utility energy savings targets. Twenty-six states and the District of Columbia have passed an EERS; on average, those jurisdictions achieve

three to four times greater energy savings than states without an EERS.[1] The policies and regulations that establish an EERS are also an opportunity for states to advance more equitable outcomes. These programs can reduce high energy burdens, improve living conditions, mitigate health and safety threats in homes, and bolster local economies and local job creation, or they can do the opposite—and simply reinforce existing inequalities.

EERS policies are funded by ratepayers, but the direct participation benefits that those funds confer do not always flow back to households in an equitable way. If the EERS program portfolio is not properly designed, a disproportionately large percentage of energy-saving program dollars will go back to moderate- and higher-income households, who are typically more likely to participate in energy efficiency programs. As states increase their investments intended to reduce energy demand, decarbonize the grid, and curb GHG emissions, they can foster more equitable outcomes to ensure a successful clean energy transition that is inclusive of all customers.

For states interested in improving equity through an EERS, this report summarizes the operational and implementation strategies of some of the most effective U.S. policies currently in operation. ACEEE examined EERS policies from 26 states and the District of Columbia to learn which operational and implementation aspects work best. We examined key structural components of EERS policies, including goals, program spending protocols, stakeholder engagement, and tracking of outcomes. Within these structural elements—and guided by our Leading with Equity Initiative and prior ACEEE research[2,3,4,5]— we identified the following actions that states are already taking to pursue equity within an EERS framework:

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[1] W. Berg, E. Cooper, and M. DiMascio, *State Energy Efficiency Scorecard: 2021 Progress Report* (Washington DC: ACEEE, 2022).

[2] A. Drehobl, *ACEEE's Leading with Equity Initiative: Key Findings and Next Steps* (Washington, DC: ACEEE, 2021).

[3] R. Gold, A. Gilleo, and W. Berg, *Next Generation Energy Efficiency Resource Standards* (Washington, DC: ACEEE, 2019).

[4] W. Berg, A. Gilleo, and M. Molina, *State Energy Efficiency Resource Standards (EERS)* (Washington, DC: ACEEE, 2019).

[5] W. Berg, S. Vaidyanathan, B. Jennings, E. Cooper, C. Perry, M. DiMascio, and J. Singletary, *The 2020 State Energy Efficiency Scorecard* (Washington, DC: ACEEE, 2020).

- Minimum spending requirements for low-income customers or other underserved customer subsectors
- Minimum energy savings targets for low-income customers or other underserved customer subsectors
- Provisions modifying cost-effectiveness testing for programs serving low-income customers
- Goals to improve energy affordability and/or mitigate energy burdens
- Requirements to incorporate equity-centered tracking metrics in program data collection (e.g., race, geographic distribution of benefits, energy-related health impacts)
- Procedural equity requirements to include underserved customer interests in program planning and design
- Provisions centering equity in workforce development and procurement

We also reviewed the laws or regulatory orders establishing the programs (see the section, "EERS Authorizing Policies").

Our review of these EERS authorizing policies included 51 laws and regulatory orders across the 26 states and the District of Columbia. Among the EERS authorizing policies we reviewed, the most common equity-related provisions that we identified were

- minimum spending requirements—often applied broadly to the entire low-income sector
- data collection and reporting protocols to track program benefits and impacts on low-income and disadvantaged households
- adjustments to program cost-effectiveness rules intended to give special consideration to the important equity benefits of low-income programs
- provisions to ensure minimum levels of representation by historically marginalized and/or underserved communities on key working groups, advisory councils, and other decision-making bodies

We found a great variety across states regarding these elements. Five states include all four common provisions in their EERS authorizing policies. In contrast, six of the EERS states include no identifiable equity provisions whatsoever. Although some EERS states address these policy components in separate laws and regulations outside of EERS authorizing policies, such efforts are beyond the scope of our report. Table ES-1 shows the prevalence of equity-related provisions among the EERS states.

Table ES-1. Number of states with equity-related provisions in their EERS authorizing policies

Equity provision	Total
Minimum spending targets for low-income or underserved customers	13
Modified cost-effectiveness testing for low-income customers	12
Data collection and reporting on equity impacts	12
Procedural equity	12
Workforce development and procurement	7
Minimum savings targets for low-income or underserved customers	3
Energy affordability goal or energy burden cap	2

Energy efficiency programs are supposed to be designed and implemented to achieve the goals established by EERS authorizing policies. However, some goals and other requirements may not be achieved in practice. To determine whether these policies are being translated into real-world outcomes, ACEEE surveyed utility regulatory commissions to understand how programs are being designed and implemented to achieve equitable outcomes. State officials in 22 EERS states and the District of Columbia provided insights into their efforts. Our analysis shows that while most states include some type of requirement that energy efficiency programs be provided to low-income customers, efforts beyond that are inconsistent. Some states are making additional efforts, but no standardized approach exists to ensure that EERS policies will be equitable.

Beyond basic protections to ensure that low-income customers receive a minimum level of benefits from energy efficiency programs, most EERS states have not taken specific steps to further advance equity. Only 12 of the EERS states have initiated robust stakeholder engagement efforts to establish new goals and strategies to advance equity across a range of underserved customer segments, and only 12 have established data collection metrics to ensure accountability and transparency. Equity involves more than just low-income customers and, aside from low-income program carve-outs, most states have not centered equity in the design and deployment of their EERS policies.

Noteworthy exceptions include states such as Massachusetts, Virginia, Illinois, New York, and Wisconsin, which have made significant efforts to incorporate equity into established EERS policies, as well as other clean energy planning processes. Evidence from these states' early efforts could inform successful strategies in other states by showing best practices. Policymakers, advocates, regulators, and program administrators seeking ways to achieve more equitable outcomes in the framework of an EERS should consider strategies that strengthen and tailor programs to historically disadvantaged, underserved, and otherwise

hard-to-reach households in ways that address multiple equity dimensions. An EERS framework offers multiple places for supporting equitable outcomes, including in its goals, spending, stakeholder engagement, and tracking of outcomes.

Based on the progress in some states and the opportunities in others, policymakers, regulators, and advocates seeking more equitable outcomes within an EERS framework might consider the following recommendations:

- **Strengthen and expand energy efficiency goal-setting frameworks to incorporate requirements, metrics, and progress indicators that advance more inclusive planning processes and equitable program outcomes.** At a minimum, an EERS should include requirements that ensure minimum energy efficiency investment levels and/or savings results for low-income and disadvantaged customers. States should consider performance incentive mechanisms (PIMs) for utilities to achieve these goals. States should also establish procedural steps to work with underserved communities and households to better understand their needs and their barriers to program participation. Stakeholder engagement should inform program priorities and select tracking metrics that collect baseline measurements to inform short- and long-term goal development.

- **Ensure that goals and tracking metrics prioritize groups disproportionately burdened by energy inequities, hard-to-reach customers, and others facing unique barriers to program participation.** In addition to low-income customers, these groups might include environmental justice communities, people of color, non-English speakers, renters, small businesses, and rural customers. To ensure transparency and accountability, progress toward metrics—such as program uptake among low-income customers and demographics of customers served—should be publicly reported annually, with opportunities to refine targets as new information is made available.

- **Ensure equitable collection and administration of EERS energy efficiency funds.** Just as all customers pay for new generation assets, so should all customers pay for energy efficiency resources. Policymakers should avoid inequitable and undesirable policies such as "opt-out" provisions for large customers, which increase costs for other customers while reducing statewide efficiency benefits. Another desirable element to advance equity is to include funding set-asides to address barriers to program participation, such as pre-weatherization repairs needed to prepare homes for energy efficiency improvements. States should also coordinate their EERS policies with other utility proceedings that may have bearing on disadvantaged households, including ratemaking policies, which can be designed with tiered discounts and energy affordability caps to minimize impacts on customers with high energy burdens.

- **Shape inclusive stakeholder engagement processes in a way that expands equitable program outcomes.** Beyond simply soliciting input from individuals representing low-income and environmental justice households and communities,

states should ensure that planning processes include robust engagement with these groups and set aside decision-making seats for members or representatives of disinvested communities so that they can help define and drive policy, program design, implementation, and outcomes. These processes should include accountability mechanisms to respond to community feedback and ensure continuous improvement in program outcomes. Policymakers also should consider ways to coordinate EERS policy frameworks with strong intervenor compensation programs that reimburse underrepresented customers and public interest groups for their participation in regulatory proceedings and ensure that their voices are considered in critical energy planning decisions.

Introduction

Research has shown that low-income households tend to live in older, less-efficient housing while paying a greater proportion of their income in utility bills compared to higher-income households (Drehobl, Ross, and Ayala 2020; ACEEE 2021). Decades of discriminatory energy- and land-use planning decisions, exposure to greater pollution levels, higher energy burdens, and a greater likelihood of inadequate housing overburden these families and communities of color, resulting not only in energy poverty but also in higher rates of death and disease (Flournoy 2021; Banzhaf, Ma, and Timmins 2019; Hughes et al. 2017; Hayes and Denson 2019; Carley and Konisky 2020).[6]

Energy efficiency programs are a strategy for reducing high energy burdens, improving living conditions, mitigating health and safety threats in homes, and bolstering local economies and local job creation (EPA 2022a; Hayes and Kubes 2018). Typically, such programs involve updates to a building's envelope, ventilation systems, lighting, and appliances. These programs aim to reduce energy waste, which helps residents save money on utility bills. According to the Department of Energy, each $1.00 investment in weatherization generates $1.72 in energy benefits and $2.78 in nonenergy benefits (US DOE 2022).

A state's energy efficiency resource standard, often called an *EERS*, is a policy mechanism that can deliver robust energy efficiency programs; however, the degree to which these EERS policies are advancing equity is unclear. EERS policies are funded by utility customers, but the benefits from those funds may not flow back to households in an equitable way. Utilities often have exhibited distributional disparities in low-income energy efficiency investments, meaning that a disproportionately small percentage of energy-saving program dollars go back to the communities that need these programs the most (Stacey and Reames 2017; Reames, Stacey, and Zimmerman 2019; Jacobsen 2019). For example, the median budget for low-income energy efficiency programs was 13% in 2019,[7] yet approximately 27.5% of the U.S population qualified as low-income in 2021. This suggests that low-income energy efficiency programs fail to serve more than half of their eligible customers (Morales and Nadel 2022). This report examines ways in which EERS policies can be improved to ensure that low-income and other underserved customer segments are better served.

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[6] *Energy poverty* generally refers to energy deprivation experienced to such a degree that a household lacks enough energy to meet essential needs (Brown et al. 2020; Bednar and Reames 2020).

[7] Data represent 2019 budgets for 93 gas and electric utilities with available data on low-income programs (Morales and Nadel 2022).

WHAT IS AN ENERGY EFFICIENCY RESOURCE STANDARD?

An EERS is a state law requiring utilities or non-utility program administrators to meet minimum, long-term energy savings targets through customer energy efficiency programs, similar to the concept of a renewable portfolio standard or clean electric standard (Berg, Gilleo, and Molina 2019; ACEEE 2022a). ACEEE defines an EERS as a state law that (1) sets clear long-term targets for electricity and/or natural gas savings, (2) makes clear that targets are mandatory, and (3) includes sufficient funding for full implementation of the programs needed to meet the targets (Downs and Cui 2014).[8]

States have taken various approaches to structuring their EERS policies. EERS policies gained traction after the 2000–2001 energy crisis, when states shifted from simply funding energy efficiency programs to intentionally targeting energy efficiency savings (Gold, Gilleo, and Berg 2019). A standard EERS outlines resource-specific goals to reduce electricity and/or natural gas usage by a certain percentage of total consumption by a target date. In recent years, several states have changed their EERS policy frameworks to incorporate additional and more explicit goals around equity and environmental outcomes. These goals can include equity-related targets to strengthen investment and participation among specific customer sectors. Several states have also incorporated greenhouse gas (GHG) or fuel-neutral goals to support electrification—such as phasing out fossil fuel heating appliances in favor of those powered by clean electricity (Specian and Gold 2021; Gold, Gilleo, and Berg 2019).[9] An EERS often provides the backbone of state efforts to achieve and maintain utility sector energy efficiency.

Since they first became prominent in the early 2000s, EERS policies and the states that adopt them have come to account for the majority of utility-sector energy efficiency spending nationwide. In 2019, states with an EERS were responsible for 80% of all utility savings in the United States. As of 2022, 26 states and the District of Columbia had passed an EERS; in total, they achieve three to four times greater savings on average than states without an EERS (Berg, Cooper, and Dimascio 2022).

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[8] Several states have also established requirements for utilities to deliver "all cost-effective" energy efficiency that functionally constitutes an EERS by guiding regulators to set savings targets based on potential studies that estimate maximum achievable potential savings according to market conditions and future cost and demand projections.

[9] By measuring savings on a fuel-neutral basis, programs can prioritize investments in measures that save the most energy and emissions, including switching customers from fossil fuels to more efficient electrified end uses like energy-efficient heat pumps. This is in contrast to separate fuel-specific electric and gas savings goals that may overlook savings achieved through fuel switching and electrification.

IMPORTANCE OF AN EQUITABLE ENERGY EFFICIENCY RESOURCE STANDARD

Given the foundational role of an EERS in a state's utility regulatory framework—and in shaping customer programs—centering equity in an EERS is critical as states move to address equity more broadly in the clean energy transition. Among all U.S. households, low-income and households of color stand to derive the most benefit from energy efficiency via reduced living costs, improved health and living conditions, and a more prosperous and sustainable future (Stacey and Reames 2017; Hayes, Kubes, and Gerbode 2020; Morales and Nadel 2022). Energy equity refers to energy systems and policies that ensure that all people receive the economic, environmental, health, and social benefits of a clean energy system (PNNL 2022). However, communities of color and low-income communities have historically been underserved by clean energy benefits due to underinvestment, discriminatory housing practices, and overexposure to pollution (Stacey and Reames 2017; Hayes et al. 2022; Banzhaf, Ma, and Timmins 2019). Renters, rural residents, and non-native English speakers are other commonly underserved customer groups (Ashby et al. 2020). To advance a more equitable energy system, states and utilities must overcome many barriers.

ENERGY BURDENS

Energy efficiency programs reduce energy costs, which are disproportionately high for low-income households and communities of color. About two-thirds of low-income households in the United States face a high or severe energy burden (Drehobl, Ross, and Ayala 2020).[10] In addition, older residences, older occupants, and renters tend to experience high energy burdens. Figure 1 shows some characteristics of households with higher-than-average energy burdens.

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[10] Households that face a high energy burden spend at least 6% of their annual household income on energy bills, while households with a severe energy burden spend at least 10% of their income on energy bills.
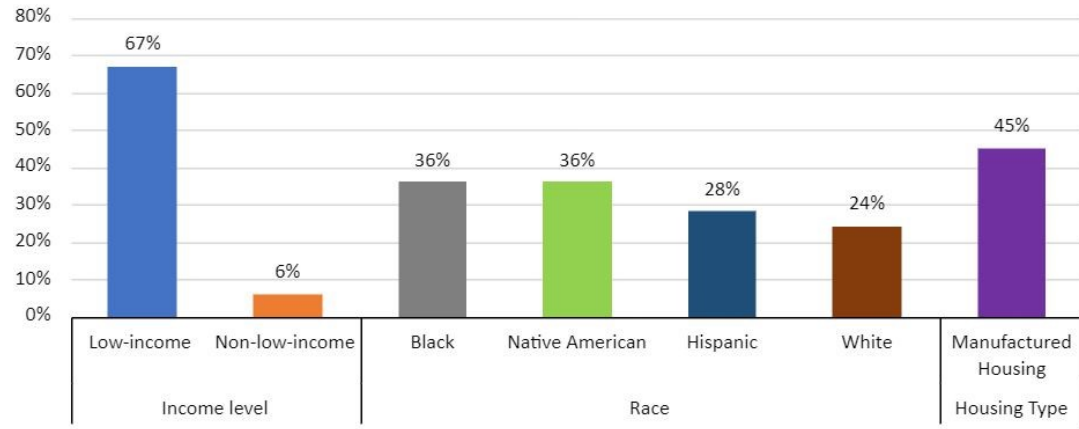
Figure 1. Percentages of households with a high energy burden in 2017. Low-income households have incomes 200% below the federal poverty level. Adapted from Drehobl, Ross, and Ayala 2020.

As the figure shows, nearly 70% of low-income households suffer from high or severe energy burdens. In contrast, only 6% of non-low-income households face such burdens. A greater proportion of Native American, Black, and Hispanic households face high energy burdens than white households, and 45% of residents in manufactured housing also experience high energy burdens (Drehobl, Ross, and Ayala 2020).

HEALTH IMPACTS

In addition to energy burdens, Black communities suffer disproportionally higher health harms. Black adults suffer higher rates of asthma, heart attack, stroke, and high blood pressure than white adults (CDC 2022; Hayes and Denson 2019). Energy efficiency measures such as improving ventilation and sealing building envelopes can help to address conditions that contribute to many illnesses. Poorly sealed building envelopes allow pests, moisture, and air pollution to infiltrate. All of these can harm respiratory health through mold growth and allergens, while leaky windows and poor insulation can lead to cold drafts and extreme temperatures in a home during summer and winter months.

Asthma is one of the best-studied examples of this connection: it impacts Black children at twice the rate of white children (CDC 2022). Improving indoor air quality through energy efficiency measures such as insulation and air sealing can help to reduce the prevalence of asthma (Hayes, Kubes, and Gerbode 2020). In addition, fuel-switching policies that promote building electrification can also improve indoor air quality by reducing the levels of nitrogen dioxide, particulate matter, carbon monoxide, and formaldehyde that gas appliances produce (National Center for Healthy Housing 2022).

In addition to improving the health of building occupants, energy efficiency provides health benefits to entire communities. As residents consume less energy, less pollution is produced by power plants. Reducing air pollution reduces respiratory and cardiovascular diseases, especially for communities of color, which are exposed to greater levels of power plant

pollution and are historically located closer to sources of higher fossil fuel emissions than other communities (EPA 2022b).

CLIMATE CHANGE AND THE SUSTAINABLE ENERGY TRANSITION

As extreme weather events become more frequent and intense, energy systems must become more resilient. The transition from fossil fuels to clean energy is necessary to mitigate climate change, especially since the electric power sector is responsible for both GHG emissions and short-term air pollutants (Hayes and Kubes 2018).

According to the Intergovernmental Panel on Climate Change, countries would need to reduce global emissions 34–60% below 2019 levels by 2030 to keep the global temperature rise below 1.5°C (IPCC 2023). Decarbonizing the energy sector will be crucial to reaching this goal, but current U.S. energy policies are insufficient. In a scenario proposed by the Rhodium Group (Larsen et al. 2021), the American electric power sector would need to achieve 39–41% of planned economy-wide emissions reduction for the United States to meet its Paris Agreement target.[11] Recommended strategies for reaching this target include increased energy efficiency spending, residential electrification and efficiency programs, and state EERS policies that commit to 2.5% annual electricity savings and 1.25% annual natural gas savings (Larsen et al. 2021).

DIMENSIONS OF EQUITY

To assess whether an EERS policy is equitable, this report considers four equity dimensions: procedural, distributional, structural, and transgenerational (Park 2014). Figure 2 shows these equity dimensions in an energy efficiency context.

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[11] The landmark Paris Agreement of 2015 pledged countries to collectively keep global temperature rise "well below 2°C above pre-industrial levels" and ideally below 1.5°C. The agreement required each signatory to submit nationally determined contributions outlining how its country would reduce emissions (United Nations 2015).
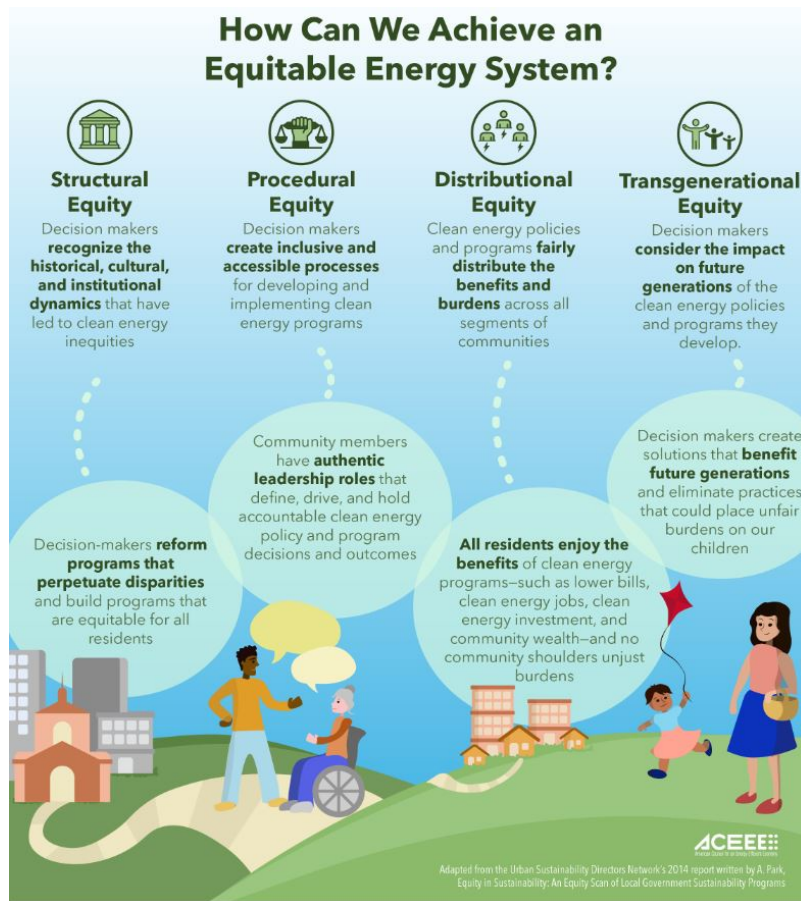
Figure 2. The four equity dimensions in an energy efficiency context (ACEEE 2022b)

PROCEDURAL EQUITY

Procedural equity is "inclusive, accessible, authentic engagement and representation in processes to develop or implement sustainability programs and policies" (Park 2014). It refers to the *procedure* used to create and administer programs. A lack of procedural equity can lead to programs that fail to best serve the communities' interests (Gonzalez 2020; Sovacool et al. 2019; Carley and Konisky 2020). Examples of procedural equity might include established processes to ensure that historically disinvested communities participate in decision-making processes and/or mechanisms to provide compensation to those representing the interests of these communities in regulatory proceedings.

DISTRIBUTIONAL EQUITY

Distributional equity is the fair distribution of benefits and burdens across all community segments, prioritizing those with highest need (Park 2014). Residents who are most in need should get the most from the programs, yet this does not always happen in practice. Strategies to advance distributional equity might include transparent data collection and reporting to better understand communities lacking access to clean energy benefits, and creation of accountability structures to better serve these customers. Utilities can use this

data to set aside funds for certain customer classes to ensure that they receive sufficient benefits.

STRUCTURAL EQUITY

Addressing the historical, cultural, and institutional dynamics and structures that have resulted in chronic, cumulative disadvantage for certain underserved groups can help ensure structural equity (Park 2014). That is, programs should go beyond simply serving current participants and solving their problems; they should also make efforts to change the system that created the problems in the first place. Program accountability measures are a common strategy for embedding structural equity. For example, transparent data collection and reporting requirements can help ensure that a program is accomplishing its intended goals and that its funds are being spent equitably.

TRANSGENERATIONAL EQUITY

Transgenerational equity requires planning for the future so that younger generations can enjoy benefits and be free from burdens. Climate change is a prominent transgenerational equity issue because the actions of present generations will impact future generations. Emitting carbon and causing pollution in the present will increase the likelihood of extreme weather events and health risks in the future. An EERS is a promising tool for advancing transgenerational equity because it requires energy savings, which reduce GHG emissions.

Our report uses this framework to consider different aspects of equity and to assess and describe state approaches to EERS policies and programs.

ADVANCING EQUITY IN CORE COMPONENTS OF AN EERS POLICY

Important opportunities exist for advancing equity in each core element of an EERS policy framework. Through our survey of ACEEE's extensive prior research of EERS policies,[12] we identified four key components as central to a successful EERS design: (1) multiyear goals for energy savings (Goals); (2) requirements for collecting and administering energy efficiency funds (Spending); (3) procedures for engaging stakeholders in program plans and designs (Stakeholder Engagement), and (4) evaluation, measurement, and verification (EM&V) protocols to accurately measure program benefits (Tracking Outcomes). Below we explain each component's importance in an EERS policy.

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[12] Examples include *Energy Efficiency Resource Standards: A New Progress Report on State Experiences* by Downs and Cui (2014); *State Energy Efficiency Resource Standards* by Berg, Gilleo, and Molina (2019); and *Next-Generation Energy Efficiency Resource Standards* by Gold, Gilleo, and Berg (2019).

GOALS

Energy-saving goals for electricity and natural gas are usually set as a percentage of total utility sales to be achieved over multiple years. EERS frameworks in several states have evolved to encompass an expanded set of goals, targets, and performance indicators that can strengthen distributional equity and inform efforts to address structural and transgenerational equity by establishing a performance baseline against which to measure program improvements over time.

Equity-related EERS goals have usually been limited to requirements to spend a minimum percentage of energy efficiency funds on low-income customers. These goals reflect broader trends in the clean energy sector, in which addressing equity typically involves focusing on low-income customers (Levin, Palchak, and Stephenson 2019). States typically use the federal poverty level or area median income as benchmarks to classify households as low income. However, these benchmarks ignore other factors—such as race, geographic location, or languages spoken—that influence accessibility to energy efficiency programs. Minimum spending requirements also do not address the quality of services provided or ensure equity in ultimate program outcomes and customer impacts (Martín and Lewis 2019).

A growing number of EERS states are working with regulators and stakeholders to better integrate equity considerations into the energy efficiency program planning process without the need for specific legislative or executive requirements. Much can be accomplished through thoughtful program design and implementation under broad policy direction. Some states are developing a diverse framework of equity-focused program goals extending beyond spending and savings to include targets for program participation and specific provisions (e.g., greater financial incentives and/or workforce training) for underserved customers. These reporting frameworks may also introduce equity-focused tracking metrics and performance indicators that measure progress without setting a specific goal or target. Typically, these are informed by community engagement efforts through separate stakeholder collaboratives or equity-focused utility regulatory proceedings.

Beyond spending and savings targets, program goals can specify minimum customer participation levels or requirements that program funds be distributed to customer classes in parity with the collected energy efficiency funds. Following are examples of other equity-focused priorities that states have begun incorporating into EERS goals or reporting frameworks:

- *Specific, underserved customer groups*: participation among renters/landlords, rural customers, non-English speaking families, tribal nations, or small businesses.
- *Specific technologies:* heat pump installations or net-zero construction for low-income customers.
- *Workforce development*: training, certification, job placement, and workforce transition.

- *Diverse procurement*: improving diversity in trade ally networks by increasing annual contracts or contract spending with minority- and women-owned businesses.
- *Health and safety*: participant health outcomes; health and safety threats mitigated.

SPENDING

Regulators and utilities also have an opportunity to move toward equitable outcomes through program spending. States typically cover program costs through utility charges collected from ratepayers.[13] Several states include language in their EERS policies that provides basic protections to ensure that a utility's low-income customer sector benefits from energy efficiency programs at a level commensurate with that sector's contribution to program funds. In a related example, Michigan's EERS, established under PA 295 (2008), requires that **all** customer classes share in the funding for low-income residential programs (rather than just the residential class, as with most state EERS policies), and that they do so in proportion to that customer rate class's funding of the total energy efficiency portfolio. While these rudimentary requirements establish a basic minimal level of equity, some states and utilities are recognizing the need to increase these communities' proportional share of incentives in order to address deep-rooted structural inequities such as redlining[14] that have left legacies of exclusion.

To address equity in collecting and administering energy efficiency funds, states can do the following:

- *Ensure EERS policies are designed such that all customers pay their fair share.* States can help strengthen equity by avoiding opt-out provisions that allow large customers to avoid paying into efficiency programs. Currently in place in 13 states, these opt-out policies force other customers to subsidize large commercial and industrial customers by exempting those large customers from paying for the energy efficiency resource, thus increasing costs for other customers while limiting the overall savings benefits that utilities achieve (ACEEE 2019).
- *Target program offerings to customer segments with high energy burdens.* This also includes dedicating funds toward addressing underlying conditions contributing to

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[13] For example, New Mexico's EERS under HB 291 establishes a tariff rider to fund energy efficiency and load management programs with funding limits set at 5% of customer bills.

[14] Redlining was a practice in which banks offered or denied mortgages based on residential neighborhood. Neighborhoods were given grades A through D, with A being the "best" and D being the most "hazardous." The A neighborhoods were usually inhabited by white, wealthier residents, while D neighborhoods were usually inhabited by lower-income people of color (New York City 2022). While this practice is illegal, its impacts are still apparent through racially segregated neighborhoods and large income gaps, particularly between Black Americans and white Americans (Flournoy 2021).

high energy costs such as pre-weatherization barriers (structural issues, roof deficiencies, mold and moisture) that may lead to program deferrals. Such targeting may involve using state and federal maps to identify communities that meet specific environmental justice criteria and focusing outreach efforts to encourage higher participation levels.

- *Mitigate high energy burdens through coordination of bill assistance and energy efficiency*. For example, states can require that utilities streamline eligibility requirements for participation in low-income efficiency and that weatherization programs match other low-income program definitions to facilitate program enrollment. Strategies may also incorporate rate designs, such as income-based rate discounts, that lower the energy burden of low-income ratepayers.[15]

- *Address preexisting health and safety needs*. Many homes that most desperately need energy efficiency upgrades often get deferred from programs due to preexisting health and safety deficiencies that must be addressed prior to weatherization. States and utilities can assist these customers by providing financial incentives or launching special programs for repairing homes prior to weatherization.

- *Engage underserved communities in program design and results tracking*. States and utilities must engage with members of underserved communities to understand the issues that they care about most. This should involve genuine two-way communication, with community members having decision-making capabilities in the program design process to ensure that the program adequately addresses their community's needs. States and utilities should also compensate these community members for their time and track engagement results.

STAKEHOLDER ENGAGEMENT

Utility regulatory decision-making processes have not traditionally sought input from vulnerable and affected communities. This has contributed to racial and economic inequities in how costs and benefits are distributed across the electricity system (Farley et al. 2021). Increasingly, however, utilities and regulators recognize the necessity of broadening stakeholder engagement in proceedings to better gather input from historically marginalized communities, who often have been excluded from past energy planning decisions. These voices are especially important to consider as utilities work to address pressing issues concerning climate, grid modernization, resilience, and equity, and to make decisions that can have new and profound impacts on these communities. Ensuring these

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[15] An income-based rate discount is a lower-than-usual rate offered to income-eligible customers to make their utility bill more affordable (NARUC 2021).

voices are heard increases the likelihood of decisions being made with complete and up-to-date information, resulting in decreased risk and better solutions (McAdams 2021).

An EERS typically includes procedures for developing and reviewing energy efficiency plans. This may include language that allows opportunities to receive input and feedback from those representing particular community interests. These opportunities often involve time set aside at formal decision-making meetings when community-based organizations, utilities, and other stakeholders can share comments. To guarantee full participation for all community members—and especially for disadvantaged community members—decision makers should make engagement processes as accessible as possible. This might, for example, involve providing financial stipends for speakers and organizations or offering food and childcare at in-person events (Ayala, Drehobl, and Dewey 2021).

TRACKING OUTCOMES

EM&V refers to the practices used to assess the performance of energy efficiency programs, often with a focus on energy efficiency's multiple impacts (York, Cohn, and Kushler 2020). The outcomes of EM&V are used as inputs to calculate the cost effectiveness of the investments made by energy efficiency programs. EM&V and cost-effectiveness testing enable utilities and regulatory commissions to quantify impacts (both energy and nonenergy) and to confidently rely on the energy savings and other benefits that come from energy efficiency investments for long-term energy planning. EM&V and cost-effectiveness testing are also used to guide utility investments and inform program design.

While EM&V efforts have traditionally focused on energy savings and program costs, EM&V protocols can account for impacts and benefits to low-income and disadvantaged communities and harmonize processes in broader efforts to create an equitable EERS. As the Northeast Energy Efficiency Partnerships (NEEP) describes it, policymakers and program administrators can integrate equity principles in EM&V through better stakeholder engagement, gap analyses, cost-benefit analysis that accounts for equity, expanded program objectives that include equity-centered metrics and goals, and creation of performance incentive mechanisms that reward equitable outcomes (Cosgrove and Dalal 2022).

An EERS can help guide regulators in designing an equity-centered cost-effectiveness screening protocol. To holistically account for the equity benefits of these programs, regulators in many states have established procedures to calculate impacts on low-income customers, producing values for use in cost-benefit testing. Other jurisdictions have exempted low-income programs from meeting required cost-effectiveness thresholds.

Figure 3 summarizes NEEP's general strategies for prioritizing equity in utility cost-effectiveness testing (Cosgrove and Dalal 2022). NEEP also identifies a strategy implemented in California, where regulators use program segmentation to create a separate subportfolio entirely focused on equity, informed through creation of a separate equity-focused regulatory proceeding (CPUC 2020).
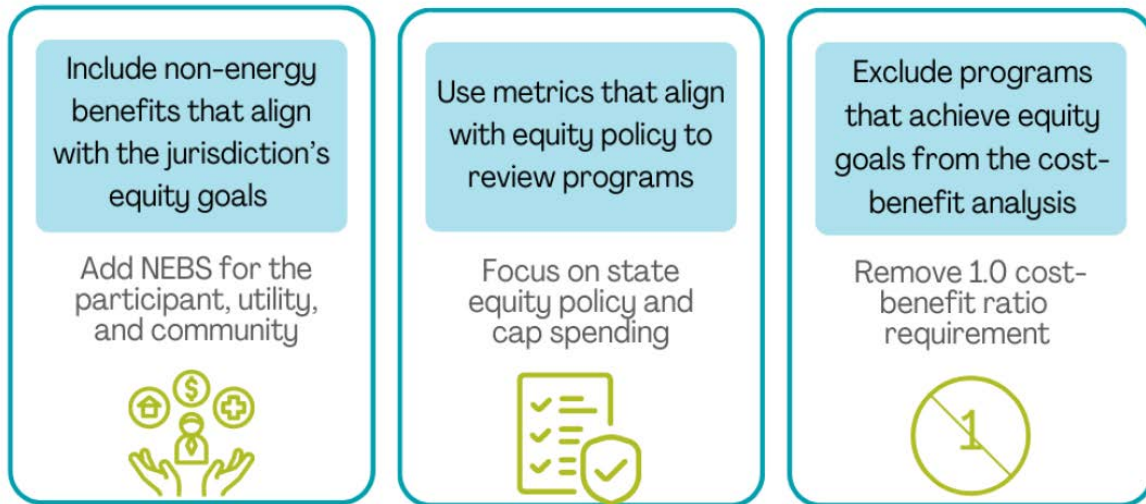
Figure 3. Pathways to centering equity in cost-benefit analysis (Cosgrove and Dalal 2022). "NEBS" refers to nonenergy benefits.

Methodology

To assess whether EERS policies are equitable, we reviewed the legislation and utility orders establishing all current EERS policies in 26 states and the District of Columbia. ACEEE's Leading with Equity Initiative gathered feedback from community-based organizations to identify priority equity metrics for benchmarking state energy efficiency policies (Drehobl 2021). Informed by these priority metrics, we assessed the legislative and regulatory language that establishes an EERS, as well as the EERS authorizing policies, and then reviewed each for the common EERS components (described above) through an equity lens.

We also reviewed additional legislation and utility orders updating an existing EERS, with a focus on those modifying multiyear savings targets. We sought out the most recent regulatory orders from state public utility commissions (PUCs) outlining administrative rules and savings goals for the most recent planning cycle. We conducted the same process of searching key equity-focused words to identify provisions in these updates to existing EERS policies to address equity.

In our keyword search, we used the following terms:

- Income
- Low-income
- Equity
- Equitable

- Marginalized[16]
- Disadvantaged
- Underserved
- Underinvested
- Disinvested
- Race
- Environmental justice

Previous ACEEE research on EERS policies has emphasized the importance of aligning these standards with state policy drivers through reforms such as redesign of spending and savings targets and tracking mechanisms, adjusting cost-effectiveness rules, and tying the introduction of new goals to a foundation of good data and high-quality energy efficiency potential studies (Gold, Gilleo, and Berg 2019). Guided by our review of EERS authorizing policies and these previous analyses, we identified the following metrics to indicate state actions that address equity in an EERS framework:

- Minimum spending requirements for low-income customers or other underserved customer subsectors, ensuring that low-income customers benefit proportionally to their contribution to program funding
- Minimum energy savings targets for low-income customers or other underserved customer subsectors
- Provisions modifying program cost-effectiveness testing for programs serving low-income customers
- Goals to improve energy affordability and/or mitigate energy burdens
- Requirements to incorporate equity-centered tracking metrics—such as race, geographic distribution of benefits, and energy-related health impacts—in program data collection
- Procedural equity requirements to include underserved customer interests in program planning and design
- Provisions centering equity in workforce development and procurement

We also reviewed additional legislation and utility orders updating an existing EERS, focusing on those that modified multiyear savings targets. We did not seek out the most recent

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[16] States have used the words "marginalized," "disadvantaged," "underserved," "underinvested," and "disinvested" to refer to customers who have historically been excluded from clean energy benefits. The terms used and the definitions of such customer groups vary by state.

regulatory orders from all state PUCs outlining administrative rules and savings goals for the most recent planning cycle, but rather the most recent orders that are most relevant to an existing EERS. We conducted the same process of searching key equity-focused words to identify provisions in these updates to existing EERS policies to address equity.

In addition to reviewing the legislation and utility orders establishing an EERS, we looked at how EERS policies are being implemented in practice. ACEEE's Leading with Equity Initiative identified a set of priority measures to advance energy equity that can be used to assess whether a state EERS is being implemented equitably (Drehobl 2021). Table 1 lists these priority metrics.

Table 1. Priority equity metrics organized according to dimensions of equity[17]

Procedural equity	Metric description
Program targeting	Decision maker created and/or uses an accepted definition of historically marginalized or and/or underserved communities to target equity-related programs and resources to these communities.
Engagement processes	Decision maker has processes in place to ensure equitable access/participation among historically marginalized communities in decision-making process.
Compensation for engagement	Decision makers compensate community members for participation in stakeholder engagement processes.
Language access	Community engagement materials are accessible in languages spoken across the communities served.
Distributional equity	**Metric description**
Energy affordability goals	The decision maker has set a goal to achieve an energy affordability threshold, and progress toward this goal is tracked with publicly accessible data.
Equitable distribution of benefits	Decision makers set commitments and accountability structures to ensure that that marginalized communities receive equitable benefits through

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[17] We combined metrics related to transgenerational equity into the structural, distributional, and procedural categories for this prioritization exercise.

Procedural equity	Metric description
	policy commitments. Decision makers collect data to ensure equitable distribution of benefits and investments.
Access to existing program resources	Decision makers collect data to understand who has and does not have access to the benefits of clean energy investments; decision makers take steps through policy commitments to address structural barriers.
Disconnections and access to energy	Decision makers collect data on disconnections and disproportional impacts, makes these data publicly available, and takes steps to ensure energy access and prevent disproportionate impacts on marginalized communities.

Structural equity	Metric description
Consumer protections	Consumer protections are in place to protect customers from loss of energy services, exploitative energy services, and exclusion from clean energy sector benefits.
Data access	Policies are in place to require reporting on demographic data for the purpose of measuring access to, participation in, and benefits from clean energy programs in ways that are transparent and easily accessible.
Community wealth building	Decision makers have developed policies and programs that directly build community wealth, such as renewable energy resources owned by community members, clean energy investments that build homeowner wealth, and upgrades to community-owned affordable housing.
Benchmarks and evaluations	Policies and programs include initial benchmarks and are consistently evaluated on progress toward achieving stated equity-related goals.

In the spring of 2022, ACEEE surveyed state public utility regulatory commissions to gather state-specific information related to the priority metrics listed in table 3.[18] Due to resource limitations, our data collection addressed most (but not all) priority metrics. The decision to

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[18] While ACEEE requested data from all 50 states and the District of Columbia, only 32 state public utility commissions responded to equity survey questions. Among those, 22 EERS states and the District of Columbia responded.

highlight select metrics in this report was based on our balancing of various considerations, including data availability and projected impacts of delivering equitable outcomes.[19]

Findings: Are State EERS Policies Equitable?

In this section, we identify efforts that states are making to ensure that their EERS policies are achieving equitable outcomes. Our report (1) identifies specific policy language used at the legislative and regulatory levels to increase the likelihood of equitable outcomes, and (2) evaluates methods used in the administration and design of EERS programs and services. In the following, we first summarize the findings from our review of EERS authorizing policies, then summarize our findings from a survey of state regulators.

EQUITY IN AUTHORIZING EERS LEGISLATION AND REGULATION

Table 2 summarizes our review of EERS authorizing policies and identifies provisions to ensure equity in an EERS framework.

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[19] Scorecard metric selection was guided by a focus on connecting equity impacts to accountability through transparent tracking mechanisms, such as funding levels or progress indicators measuring program participation or workforce development. We also gave priority to those policies and programs with a direct link to energy efficiency and state policy.

Table 2. Equity-related provisions in EERS authorizing policies and regulatory orders

State	Minimum spending targets for low-income or underserved customers	Minimum savings targets for low-income or underserved customers	Modified cost-effectiveness testing for low-income customers	Energy affordability goal or energy burden cap	Data collection and reporting on equity impacts	Procedural equity	Workforce development and procurement
Massachusetts	X	X	X		X	X	X
Virginia	X		X	X	X	X	X
Illinois	X		X		X	X	X
New York	X			X	X	X	X
Wisconsin	X		X		X	X	X
District of Columbia	X	X			X		X
New Jersey			X		X	X	X
Texas	X		X		X	X	
Maryland	X				X	X	
Minnesota	X				X	X	
Pennsylvania		X	X		X		
Maine	X		X				
New Mexico	X		X				
Oregon	X					X	
Arizona			X				
Colorado						X	
Connecticut			X				
Iowa						X	
Michigan			X				
Nevada		X					
Rhode Island						X	

This table summarizes multiple EERS-related legislative and regulatory policies. For states with multiple policies, this table indicates equity criteria fulfilled by one or more policies. See Appendix A for names and links to the evaluated policies.

Our review of authorizing language includes 26 states and the District of Columbia encompassing 51 laws and regulatory orders. It revealed a varied patchwork of equity-focused provisions.

MINIMUM SPENDING TARGETS FOR LOW-INCOME OR UNDERSERVED CUSTOMERS

Our review found that EERS authorizing policies include minimum low-income spending requirements in 12 states and the District of Columbia. These usually take the form of a percentage of spending requirement or of energy savings delivered to low-income households. Maine, for example, directs the greater of 10% of the Energy Cost Reduction Trust Fund or $2,600,000 to low-income residents. Low-income spending requirements were the most common equity metric that states fulfilled through EERS authorizing policies.

MINIMUM SAVINGS TARGETS FOR LOW-INCOME OR UNDERSERVED CUSTOMERS

Compared to spending requirements, fewer states have requirements for achieving minimum energy savings from low-income programs. This discrepancy could be due to the ease of tracking spending amounts compared to energy savings. However, the latter would be more helpful for reaching overall savings targets, especially because minimum spending targets do not guarantee efficient spending.

Only Massachusetts, Pennsylvania, and the District of Columbia have savings requirements specific to this sector. For example, Pennsylvania established a specific carve-out that low-income energy savings account for 5.8% of a utility's portfolio savings goal, and the DC Sustainable Energy Utility (DC SEU) established goals to reduce energy consumption in the low-income sector on an absolute basis, expressed in MMBtu as a combined electricity and natural gas goal.[20] Other states, such as Maryland and Virginia, called for low-income customers to receive a certain amount of energy generated from renewable sources.

MODIFIED COST-EFFECTIVENESS TESTING FOR LOW-INCOME CUSTOMERS

Twelve states include language carving out special provisions or exemptions for low-income programs in their cost-effectiveness screening protocols, although these are also often addressed either explicitly or implicitly outside of EERS authorizing policies in separate utility orders or rulemakings. For example, Massachusetts requires evaluation of nonenergy benefits in its cost-effectiveness testing, with specific additional benefits for low-income programs. Examples include health benefits such as reduced asthma and thermal stress, and financial benefits such as reduced reliance on high-interest loans.

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[20] To be eligible for an incentive under the low-income benchmark, the implementer must achieve an annual combined 46,556 MMBtu reduction in electricity and natural gas consumption for the sector.

ENERGY AFFORDABILITY GOAL OR ENERGY BURDEN CAP

An energy affordability goal can refer to any policy that aims to reduce high energy burdens. An energy burden cap is a type of energy affordability goal that sets a maximum limit for statewide energy burdens. Compared to a general affordability goal, an energy burden cap is beneficial for preventing severe energy burdens that exceed the cap. Historically, EERS authorizing policies have rarely expressed a measurable energy affordability goal, but they have emerged in more recent legislation. EERS policies in only two states, New York and Virginia, express or reference these goals.

Virginia's Clean Economy Act is just one example of how states can implement an energy burden goal. This 2020 legislation established a goal to reduce energy burdens of low-income households under a new Percentage of Income Payment Program (PIPP) that limits electric utility payments for eligible customers. The program, funded through a universal service fee, seeks to limit electric bill payments to no more than 6% of a participant's annual household income for those whose heating source is not electricity, and to no more than 10% for households with electric heating. The program also pairs participants with weatherization and energy efficiency services to reduce energy usage and address building conditions that might be contributing to energy waste.

DATA COLLECTION AND REPORTING ON EQUITY IMPACTS

Eleven states and the District of Columbia include these provisions in their EERS-related documents; the provisions appear most frequently as language calling for utilities to collect and track equity-related data. Requirements vary from simple tracking of low-income program expenditures, energy savings, and participants, to more sweeping provisions to track multiple progress metrics, such as numbers of green jobs created (DC), clean energy market penetration data for the low-income market (New York), and multifamily housing savings.

Massachusetts is a notable leader in requiring program administrators to track and report equity metrics. Recent three-year Mass Save energy efficiency programs in the state established an entirely new Equity Targets Framework. Select metrics address investment in environmental justice municipalities, use of state-certified minority- and women-owned businesses, and workforce development goals, along with multiple other metric, goals, and reporting requirements for participation among renters, English-isolated residents, and small businesses (MA EEAC 2021). Thanks to the Equity Targets Framework, Mass Save program administrators have concrete goals for better reaching the state's underserved energy efficiency customers.

PROCEDURAL EQUITY

EERS policy documents in 12 states include at least some provisions intended to address procedural equity, often by calling for some level of inclusion of low-income or underserved customers or advocates in program planning and/or review. At a minimum, this might include requirements to seek input and comments from groups representing these

customers as part of the decision-making processes. These policies also often direct the governor, state energy office, or public utility commission to convene an advisory body or stakeholder group to inform or lead development of energy efficiency plans or rules, usually with specific requirements that they include representation from low-income advocates, multifamily housing owners, and/or environmental justice groups.

Most EERS adoptions calling for stakeholder engagement processes that prioritize equity have occurred since 2018. New York's Climate Leadership and Community Protection Act (CLCPA) strengthened energy efficiency goals for buildings and industry and established a Climate Justice Working Group (CJWG), which comprises members from environmental justice communities in rural areas, upstate New York, and New York City. Among the CJWG's tasks is to develop criteria for identifying disadvantaged communities and to advise the state Climate Action Council on incorporating disadvantaged communities' needs into the council's draft decarbonization Scoping Plan (New York 2023). The Just Transition Working Group, also formed under the CLCPA and comprising representatives from environmental justice communities, advises the council on issues related to workforce development, including issues and opportunities from sector-specific impacts and electric generator plant closures (New York 2021).

WORKFORCE DEVELOPMENT AND PROCUREMENT

Equitable workforce development involves providing adequate job training for groups that have typically been underrepresented in the clean energy sector. Training and hiring workers from underrepresented communities can also help utilities and program administrators build trust with community members. Illinois's Clean and Equitable Jobs Act (CEJA) created job transition programs for displaced fossil fuel workers to ensure that these workers will not get left behind in the energy transition. The law also offered special grants and loans for women- and minority-owned business enterprises to support groups that have been traditionally underrepresented in the clean energy sector, which encompasses both renewable energy and energy efficiency jobs. CEJA also required new workforce training programs to report to an Energy Workforce Advisory Council, which consisted of environmental justice advocates and those who serve community interests. The council then reported to the state's Department of Commerce and Economic Opportunity on how to improve programs (Illinois General Assembly 2021).

In total, 20 states and the District of Columbia have at least one equity provision in their EERS authorizing policies. Table 3 lists the states that include some version of each of the seven provision types that we reviewed. In six states, we did not identify any of the equity-related provisions.

Table 3. Equity and low-income provisions in EERS authorizing policies

Equity provision	Total number of states	States with relevant provision
Minimum spending targets for low-income or underserved customers	13	District of Columbia, Illinois, Maine, Maryland, Massachusetts, Minnesota, Nevada, New Mexico, New York, Oregon, Texas, Virginia, Wisconsin
Minimum savings targets for low-income or underserved customers	3	District of Columbia, Massachusetts, Pennsylvania
Modified cost-effectiveness testing for low-income customers	12	Arizona, Connecticut, Illinois, Maine, Massachusetts, Michigan, New Jersey, New Mexico, Pennsylvania, Texas, Virginia, Wisconsin
Energy affordability goal or energy burden cap	2	New York, Virginia
Data collection and reporting on equity impacts	12	District of Columbia, Illinois, Maryland, Massachusetts, Minnesota, New Jersey, New York, Oregon, Pennsylvania, Texas, Virginia, Wisconsin
Procedural equity	12	Colorado, Illinois, Iowa, Maryland, Massachusetts, Minnesota, New Jersey, New York, Rhode Island, Texas, Virginia, Wisconsin
Workforce development and procurement	7	District of Columbia, Illinois, Massachusetts, New Jersey, New York, Virginia, Wisconsin

RECENT STATE ACTIONS: EQUITY AND DESIRED OUTCOMES

In this section, our analysis expands on the previous section's review of equitable principles in EERS authorizing policies to include a wider assessment of equity in utility energy efficiency policies. In some cases, the actions summarized here are not explicitly articulated in an EERS, but we include them because in states that have an EERS, utility energy efficiency programs are being developed and offered within that framework. We also examine early outcomes, challenges, and lessons learned from states that are leading the evolution of an equitable utility regulatory framework. State officials reported seven key outcomes:

1. Adoption of environmental justice goals[21]

2. Implementation of minimum spending and/or savings requirements for select customers

3. Special cost-effectiveness screening provisions or exceptions for low-income programs

4. Inclusion of health and safety nonenergy benefits in cost-effectiveness testing

5. Geographic tracking of program impacts and customer needs

6. Provision of intervenor compensation for underrepresented groups

7. Convening of stakeholders and including them in decision making[22]

We selected this list of desired outcomes in a way that ideally tracks and recognizes state efforts to address priority equity actions identified by Leading with Equity workshop participants and listed in its key findings report (Drehobl 2021). However, we also acknowledge that this list addresses most—but not all—priority categories. Our decisions to prioritize measures that focused on certain categories were based on scoping considerations, data availability, and their projected impact on desired outcomes.

In the following, we include specific examples of state actions in each of the seven categories.

ENVIRONMENTAL JUSTICE GOALS

Recognizing the unjust legacy of decades of discriminatory environmental policymaking and the disproportionate harmful impacts on specific communities, many states have taken steps to define, identify, and map these groups in order to screen for and avoid planning decisions that would inflict continued harms. At the federal level, the Biden administration's Justice40 Initiative and interim guidance have established a goal of having 40% of the benefits of federal environmental investments go to disadvantaged communities to support environmental justice; this initiative transformed hundreds of federal programs across the government (The White House 2022). Similarly, many states have passed legislation in recent years to define and consider specific communities of color, low-income, and otherwise

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[21] Energy efficiency programs can target minimum levels of investment or participation among groups facing a history of disproportionate impacts of exclusionary regulatory practices and environmental burdens. Although not always defined by state statutes, these groups are often referred to as environmental justice groups, disadvantaged communities, or priority populations in policy language and defined in various ways depending on the jurisdiction (Illume Advising 2022).

[22] This includes creating active planning bodies that represent community-based organizations or environmental justice communities and help drive decision making in program design.

disadvantaged communities when studying the impacts of energy and environmental policies (Illume Advising 2022).

In the context of administering energy efficiency programs, the incorporation of explicit environmental justice goals remains in the very early stages. States making initial steps forward are Massachusetts, California, and Oregon, where stakeholder groups, such as the Disadvantaged Communities Advisory Group in California and the Equity Working Group in Massachusetts, meet regularly to discuss ways to ensure low-income and disadvantaged groups benefit from clean energy programs.

In Massachusetts, the 2022–2024 Energy Efficiency Plan's new equity target framework includes targets to increase plan-over-plan investment and customer participation in 61 environmental justice municipalities throughout the state. The framework also calls on utilities to track and report partnerships forged with municipalities, community organizations, or businesses associations in at least 75% of the environmental justice municipalities. The plan established numerical targets and metrics to measure success toward improving benefits and investments among renters, low- and moderate-income customers, language-isolated populations, and small businesses in those communities.[23]

In addition, Massachusetts has created a new data visualization site to provide geographically specific insights.[24] Finally, to further incentivize investment in environmental justice communities, the mechanism by which Massachusetts utilities receive shareholder performance incentives for achieving energy efficiency goals has been restructured to set specific targets for environmental justice communities; it also sets aside performance incentive funds that can be earned only if benefits and investments increase in these communities compared to historic levels. Benefits in environment justice communities are incentivized at a higher rate than other communities.

The California investor-owned utilities (IOUs) are also in the early stages of actively tracking and reporting on various customer segments for the Energy Savings Assistance (ESA) program, including demographic, geographic, financial, and health-based attributes. This data collection will support utilities in several objectives: to establish a baseline for how well the ESA program currently reaches and treats customer segments; to identify households with multiple needs and update program goals to reach those households for deeper energy savings opportunities; and to develop measure delivery approaches to inform and progress toward program goals. Examples of customer segments tracked and reported include

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[23] The regularity of environmental justice reporting in these sectors varies (quarterly, bi-annually, annually); see the Attachment-B-Equity-Targets-Framework-Final.pdf (ma-eeac.org) for more details.

[24] Geographic information is publicly available but does require users to create a username and password; see https://www.masssavedata.com/Public/CustomerProfileDashboard.

renters/owners, seniors, disadvantaged communities, tribal nations, people living in wildfire zones, people with arrearages, and people with disabilities.

The process of building equity and environmental justice into goal setting can seem daunting at first, especially where specific baseline data are not yet available. Requiring utilities to establish tracking metrics—even before they develop corresponding goals—can be a helpful first step in the process, as long as target setting eventually occurs. States can look to federal goals as a starting point, or they can develop their own. In developing its new target framework, Massachusetts policymakers noted that the goal-setting process can elicit a reluctance to participate from administrators if they feel they cannot reasonably meet those targets. For this reason, it is important that target-setting processes are inclusive and generate a sense of ownership among stakeholders, and that those processes are also designed in a way that lets them evolve as new information becomes available (Washburn et al. 2022; ACEEE 2022b).

MINIMUM STATE OR UTILITY SPENDING FOR LOW-INCOME PROGRAMS

Minnesota's Energy Conservation and Optimization Act (2021) triples the amount electric IOUs must dedicate to low-income customers from 0.2% of residential gross operating revenues to 0.6% in 2024. The legislation also increases low-income spending for gas IOUs and allows 15% of a utility's low-income spending requirement to be spent on necessary pre-weatherization improvements to prepare homes for weatherization.

Illinois's Clean and Equitable Jobs Act (2021) also strengthens low-income energy efficiency requirements, raising minimum spending levels for both Ameren and ComEd. The legislation requires minimum investment of pre-weatherization measures (at least 15% of total low-income weatherization budget) and proportional spending for single-family and multifamily customers relative to the building's magnitude of energy savings potential. By purposefully setting aside funds for pre-weatherization measures, Illinois utilities can help ensure that low-income households will be able to receive energy-saving home upgrades.

ESTABLISHING MINIMUM LOW-INCOME SAVINGS TARGETS

A 2020 regulatory order from the Pennsylvania Public Utility Commission laid out plans for the state to accomplish Phase IV[25] of its energy efficiency and conservation program. Earlier program phases required the state to accomplish a minimum percentage of energy savings from low-income customers. Phase IV continued addressing this requirement through low-income energy savings targets for the entire state and for specific utilities. These utilities needed to achieve certain megawatt hours of low-income energy consumption reduction

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[25] Phase IV is the fourth implementation order of the state's energy efficiency and conservation program established in 2009.

between June 2021 and May 2026. If the utilities achieve their electric savings potential, they can produce roughly $1.2 billion in net benefits over the lifetime of the upgrades.[26]

PERFORMANCE INCENTIVE MECHANISMS (PIMS) TIED TO LOW-INCOME PROGRAMS

A performance incentive mechanism (PIM) is a financial reward that program administrators can receive for meeting energy efficiency goals (Gold, Gilleo, and Berg 2019). Michigan has developed a flexible approach to PIMs in its EERS policy. The state's approach allows for multiple performance metrics—rather than only overall energy savings—to be incentivized. Although the PIM structure is determined for each utility on a case-by-case basis, since 2020, all of Michigan's major utilities have included a component based on low-income energy efficiency program spending in their incentive packages. PIM metrics can be tailored to each utility's service territory based on the need and can be updated every two years during biennial plan filings. Most recently, the two largest utilities (Consumers Energy and DTE) have also included a component in their 2022/2023 PIMs that is tied to success in installing "premium measures" (e.g., major insulation measures and advanced air sealing, plus cold climate heat pumps in electrically heated buildings) in low-income customer homes and multifamily buildings. Thus far, all have met or exceeded their targets.

SPECIAL COST-EFFECTIVENESS SCREENING PROVISIONS OR EXCEPTIONS FOR LOW-INCOME PROGRAMS

On August 2020, the New Jersey Board of Public Utilities (NJBPU) adopted the New Jersey Cost Test (NJCT) as the primary cost-effectiveness test for state and utility-administered energy efficiency programs. The initial NJCT includes a 10% low-income benefits adder to account for additional nonenergy benefits—such as improved health and safety—to low-income program participants. The newly adopted statewide evaluation structure also establishes a triennial review process to continually evaluate and update the NJCT to ensure that it is properly capturing low-income nonenergy benefits. All nonenergy benefits are currently being reviewed and proposed for the NJCT for the next triennium, with planned proposal of the next NJCT in early 2023, for adoption in spring 2023; that NJCT may include a New Jersey-specific measure of low-income benefits.

As another, simpler approach, the Michigan EERS statute explicitly excludes low-income efficiency programs from having to meet the state's EERS cost-effectiveness test. This means that low-income programs can operate with the sole goal of improving the lives of low-income customers.

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[26] The achievable electric savings potential is based on seven specific utilities reducing energy consumption by 3.1% compared to 2009–2010 levels. The benefit estimate is based on a total resource cost test ratio of 1.62.

INCLUSION OF HEALTH AND SAFETY NONENERGY BENEFITS IN COST-EFFECTIVENESS TESTING

Wisconsin's state energy efficiency initiative, Focus on Energy, uses a modified version of the Total Resource Cost (TRC) test to measure cost effectiveness. Although many states use the TRC to evaluate programs, Wisconsin's TRC includes avoided GHG emissions and air pollution as potential benefits. These emissions reductions would indirectly improve public health, which the Societal Cost Test outlines more explicitly. Focus on Energy permits the Societal Cost Test as a secondary cost-effectiveness test to gather additional information, such as better comfort and health.

GEOGRAPHIC TRACKING OF PROGRAM IMPACTS AND CUSTOMER NEEDS

California's CalEnviroScreen is one example of a state geographic tracking tool. The California Energy Commission (CEC) tracks projects located in disadvantaged communities using CalEnviroScreen 4.0. The tool helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects. CalEnviroScreen ranks communities based on state and federal government data to determine areas experiencing higher pollution burdens. The CEC also conducts an annual *Diversity Report* that contains information about programs located in and benefiting disadvantaged communities. The report defines disadvantaged communities broadly, including those identified by CalEnviroScreen, residents of tribal lands, and census tracts or households that make 80% or less of area median income (CEC 2021).

EQUITABLE ACCESS/PARTICIPATION PROCESSES IN PLACE FOR ENERGY EFFICIENCY PROGRAM PLANNING

NJBPU has made equity a focal point in its new expanded programming under the 2018 Clean Energy Act. This has included creating two working groups—the Equity Working Group and Workforce Development Working Group—to focus on considerations of access, affordability, and participation in energy efficiency programing. Facilitated by the Office of Clean Energy Equity in the NJBPU's Division of Clean Energy, the working groups include representation from nongovernmental organizations and community organizations to provide insight into the specific barriers faced by low-income communities and communities of color when engaging in energy programming and the energy workforce. This collaborative working group process allows the state and utilities to make programmatic and policy decisions with real-time feedback from the impacted communities. The working groups also collaborate with the Supplier Diversity Development Council on recommendations for increasing economic development opportunities for minority-, women-, and veteran-owned businesses, including through procurement policies.

ADDITIONAL TOOLS FOR ADDRESSING EQUITY IN ENERGY EFFICIENCY

INTERVENOR COMPENSATION

Intervenor compensation refers to financial reimbursement for intervenors, or individuals or groups that participate in utility regulatory proceedings (FTI Consulting 2021; Vermont PUC 2023). Examples of intervenors include individual utility customers, customer interest representatives, or nonprofit organizations that typically represent consumer interests or specific communities. These representatives then share their expertise in regulatory proceedings to advocate for specific groups. To receive funds, intervenors typically file a claim before the proceedings begin and after the proceedings end. This means that intervenors must pay upfront costs to participate before receiving financial reimbursement (FTI Consulting 2021). A notable exception here is Oregon, which has designated funds for intervenor compensation. In Oregon, intervenors can receive funds by filing for a grant at the beginning of the fiscal year or on an individual basis. In addition, the state offers intervenor compensation specifically to groups that represent low-income and environmental justice interests (Oregon PUC 2022).

ENERGY AFFORDABILITY AND RATE DESIGN

Another critical tool to address energy affordability and equity is the process of setting customer rates. Utilities and regulators design rates to express utility revenue requirements as prices that customers pay (NARUC 2016). As electricity rates have risen over the last decade, regulators in many states are introducing new rate design strategies and programs to protect high energy burden customers and avoid shut-offs, which are more frequent for lower-income households.

U.S. utility affordability programs have typically taken one of three forms: (1) PIPPs, (2) flat percentage discounts, and (3) tiered discounts (Farley et al. 2021).

- Under a PIPP, monthly utility payments are capped at a certain percentage of income for low-income customers to ensure that utility rate increases do not impact home energy burdens. Examples of states with PIPPs include Colorado, Illinois, Maine, Nevada, New Jersey, Ohio, and Pennsylvania.

- Simple percentage bill discounts are another means to offer bill relief to customers, reducing a utility bill by a specified percentage or dollar amount for all eligible ratepayers. This approach has the benefit of administrative simplicity, but it is less suited to tailoring assistance to meet the unique needs of high energy burden customers.

- A tiered discount approach offers a level of precision somewhere between a PIPP and straight percentage discounts. In this case, customers are eligible for varying levels of percentage bill discounts based on their income tier, with lower-income households qualifying for higher discounts (Farley et al. 2021). Offered in states like New

Hampshire and Indiana, a tiered discount structure can more effectively target the specific needs of certain households, but it does so less than a PIPP program.

Increasing efforts to decarbonize the electric grid through electrification measures and a grid transition to renewables also raises key equity issues for rate design. To reduce GHGs and maximize system benefits, regulators are exploring the potential for new time-varying electric rates and demand flexibility programs to help shift energy usage to times of the day when renewable energy is more plentiful (Billimoria and Henchen 2020; Gold, Ungar, and Berg 2021). While these new rate designs can make electrification more cost effective for customers, they can also have unintended effects on disadvantaged households. Given that low-income customers have lower levels of discretionary energy usage than other customers, they can be limited in their ability to respond to rate changes (Baatz 2017). Therefore, regulators should ensure that rates do not become unaffordable at times when energy is most needed, particularly for those on fixed incomes.

In 2016, New York became one of the first states to issue goals for curbing statewide energy burdens for low-income customers. Through its Energy Affordability Policy, the NYS Public Service Commission (PSC) set a target for low-income customers' energy burden to be no more than 6%. To meet this objective, the PSC established a program to provide bill payment assistance and sets an expectation for utilities to coordinate bill payment assistance with energy efficiency and weatherization programs to reduce energy consumption. In August 2021, the PSC recognized the initiative's effectiveness and issued an order making multiple reforms to these bill discount programs to expand their reach, including expanding their budget by $129 million (to $366.7 million), which in turn increased participation 10% (New York PSC 2021). In addition to increasing low-income bill discounts, the order also directs utilities to develop a process to improve program accessibility and address gaps in data sharing and file matching between utilities and the state Office of Temporary and Disability Assistance (OTDA). The provisions also enable more streamlined coordination with the Home Energy Assistance program and encourage utilities to target participation in energy efficiency programs to low-income customers with the highest energy usage.

LIMITATIONS

Our study aimed to present a comprehensive assessment of EERS authorizing policies and their capacity to address equity, but there were some research areas that we were unable to address. For example, our study did not distinguish how an EERS affects different utility business models. Although some states offer services to all customers, the majority of EERS states typically limit energy savings requirements to IOUs. As a result, EERS policies do not reach customers served by rural cooperatives and municipal utilities. This gap in coverage is of particular concern given that research has found that household energy burdens are higher in rural areas and that participation in energy efficiency financing and rebate

programs can be significantly lower than participation in other energy-related programs (Ross et al. 2018; Winner et al. 2019).[27]

Our review of legislative and regulatory documents and our survey of public utility commissions was helpful for understanding which actions the states have taken, but these sources offered limited program evaluation data. Because many of the programs are relatively new (less than five years old), we do not have enough data to make concrete conclusions about their impacts.

Conclusion

The policies and regulations that establish an EERS offer states an opportunity to improve the lives of residents most in need. Our analysis shows that while most states include some type of requirement that energy efficiency programs be provided to low-income customers, efforts beyond that are highly inconsistent. Some states are making additional efforts, but there is no standardized approach that ensures that EERS policies will be equitable. Our survey of how these policies and regulations are put into practice shows a similar picture: Some states are making efforts, but efforts to ensure equitable outcomes are not a fundamental part of most state's efforts. Aside from low-income program carve-outs, most states have not centered equity in the design and deployment of their EERS policies.

States such as Massachusetts, New York, Illinois, and Oregon have made significant efforts to incorporate equity into established EERS policies, which other states can imitate to uplift disadvantaged groups. Policymakers, advocates, regulators, and program administrators seeking ways to achieve more equitable outcomes in an EERS framework should consider multiple aspects of equity and strategies to address structural, procedural, distributional, and transgenerational inequities. An EERS framework offers multiple places to support equitable outcomes, including goals, spending, stakeholder engagement, and tracking of outcomes.

In addition to the gaps among states with EERS policies, only half of all states have an EERS at all. For states that are prioritizing improving the lives of low-income residents, enacting an EERS could be a useful avenue for accomplishing that goal. However, in all states, advocates, regulators, and policymakers seeking more equitable energy outcomes should also look beyond EERS to securing additional program funding sources and utilizing additional policy levers—such as environmental justice targets and utility rate designs—to achieve these goals.

Even when EERS language does not explicitly address equity, states have found other ways to pursue equity through energy efficiency. Separate legislation, orders from utility

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[27] Ross et al. (2018) found that rural households have a median energy burden of 4.4% compared to the national burden of 3.3%.

regulators, and program design and implementation approaches can all help, and the program administrators, utilities, regulators, policymakers, and advocates that engage in the design and delivery of energy efficiency resources can use these tools to create a more equitable future for their residents.

Based on the progress some states have made and the opportunities available in others, policymakers, regulators, and advocates seeking more equitable outcomes within an EERS framework might consider the following recommendations:

- Strengthen and expand energy efficiency goal-setting frameworks to incorporate requirements, metrics, and progress indicators that advance more inclusive planning processes and equitable program outcomes. At a minimum, an EERS should include requirements that ensure minimum levels of energy efficiency investment and/or savings results for low-income and disadvantaged customers. States should consider PIMs for utilities to achieve these goals; they should also establish procedural steps to work with underserved communities and households to better understand their needs and barriers to program participation. Stakeholder engagement should inform program priorities, and states should select tracking metrics that collect baseline measurements to inform short- and long-term goal development.

- Ensure that goals and tracking metrics prioritize groups disproportionately burdened by energy inequities, hard-to-reach customers, and others facing unique barriers to program participation. In addition to low-income customers, these groups might include environmental justice communities, people of color, non-English speakers, renters, small businesses, and rural customers. To ensure transparency and accountability, progress toward metrics should be publicly reported annually, with opportunities to refine targets as new information is made available.

- Ensure equitable collection and administration of energy efficiency funds under an EERS. To achieve this, policymakers should avoid large customer opt-out policies that increase costs for other customers while reducing statewide efficiency benefits. Such efforts should include coordinating funding set-asides to address barriers to program participation, such as pre-weatherization measures needed to bring older homes up to code and help them qualify for energy efficiency improvements. Efforts should also include coordinating EERS policy with other regulatory proceedings that may have bearing on disadvantaged households, including ratemaking policies, which can be designed with tiered discounts, and energy affordability caps to minimize impacts on customers with high energy burdens.

- Shape inclusive stakeholder engagement processes in a way that expands equitable program outcomes. Beyond simply soliciting input from individuals representing low-income and environmental justice households and communities, states should ensure that planning processes include robust engagement with these groups and set aside decision-making seats for members or representatives of disinvested communities so that they can help define and drive policy, program design, implementation, and outcomes. These processes should include accountability mechanisms to respond to

community feedback and ensure continuous improvement in program outcomes. Policymakers also should consider ways to coordinate EERS policy frameworks with strong intervenor compensation programs that reimburse underrepresented customers and public interest groups for their participation in regulatory proceedings and ensure that their voices are considered in critical energy planning decisions.

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Appendix A. EERS Policies Evaluated

Below is a list of the EERS policies that we evaluated for table 2. We provide URLs if they are available.

Arizona

- *Regulatory* (2010)—Decision 71919: ACC Docket No. RE-00000C-09-0427. images.edocket.azcc.gov/docketpdf/0000116125.pdf

- *Regulatory* (2022)—Decision 78499: ACC Docket No. E-00000V-19-0034. docket.images.azcc.gov/0000206081.pdf?i=1654706424005

Arkansas

- *Regulatory* (2018)—Order No. 43: APSC Docket No. 13-002-U. apscservices.info/pdf/13/13-002-U_293_1.pdf

California

- *Regulatory* (2015)—Decision 15-10-028: CPUC Rulemaking 13-11-005. docs.cpuc.ca.gov/PublishedDocs/Published/G000/M155/K511/155511942.pdf

- *Regulatory* (2019)—Decision 19-08-034: CPUC Rulemaking 13-11-005. caeecc.org/_files/ugd/b49f75_9a725db353e64b3da4ee622f43453081.pdf

Colorado

- *Legislative* (2007)—HB 07-1037. www.leg.state.co.us/clics/clics2007a/csl.nsf/billcontainers/5EA2048E8A50B212872572 51007B8474/$FILE/1037_enr.pdf

- *Regulatory* (2014)—Decision C14-0731: No. 13A-0686EG.

- *Legislative* (2017)—HB 17-1227. leg.colorado.gov/sites/default/files/2017a_1227_signed.pdf

- *Legislative* (2021)—HB 21-1238. leg.colorado.gov/sites/default/files/2021a_1238_signed.pdf

Connecticut

- *Legislative* (2007)—HB 7432. cga.ct.gov/2007/ACT/PA/2007PA-00242-R00HB-07432-PA.htm

District of Columbia

- DC SEU Contract Number DOEE-2016-C-0002. doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/DCSEU%2 0Multiyear%20Contract%20-%20Mods%201-14.pdf

Hawaii

- *Legislative* (2009)—HB 1464. capitol.hawaii.gov/session2009/bills/HB1464_CD1_.htm
- *Regulatory* (2012)—Decision and Order No. 30089: Hawaii Public Utilities Commission Docket No. 2010-0037. dms.puc.hawaii.gov/dms/DocumentViewer?pid=A1001001A12A04A85123J84187

Illinois

- *Legislative*—Illinois Power Agency Act: SB 1592. ilga.gov/legislation/publicacts/95/PDF/095-0481.pdf
- *Legislative* (2009)—SB 1918. ilga.gov/legislation/96/SB/PDF/09600SB1918lv.pdf
- *Legislative* (2017)—Future Energy Jobs Act: SB 2814. ilga.gov/legislation/publicacts/99/PDF/099-0906.pdf
- *Legislative* (2021)—Climate and Equitable Jobs Act: SB 2408. ilga.gov/legislation/102/SB/PDF/10200SB2408enr.pdf

Iowa

- *Legislative* (2008)—SF 2386. www.legis.iowa.gov/legislation/BillBook?ba=SF2386&ga=82

Maine

- *Legislative* (2013)—LD 1559. mainelegislature.org/legis/bills/getPDF.asp?paper=HP1128&item=1&snum=126

Maryland

- *Legislative* (2015)—HB 514/SB 184. mgaleg.maryland.gov/2017RS/bills/hb/hb0514t.pdf
- *Legislative* (2022)—SB 528. mgaleg.maryland.gov/2022RS/bills/sb/sb0528e.pdf

Massachusetts

- *Legislative* (2008)—An Act Relative to Green Communities. malegislature.gov/Laws/SessionLaws/Acts/2008/Chapter169
- *Legislative* (2021)—An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy: SB 9. malegislature.gov/Bills/192/S9
- *Regulatory* (2022)—DPU Order on the 2022-2024 Mass Save Plan. ma-eeac.org/wp-content/uploads/2022-2024-3YP-Order_1.31.22.pdf

Michigan

- *Legislative* (2008)—Clean and Renewable Energy and Energy Waste Reduction Act: Act 295. legislature.mi.gov/(S(fmrjwwkf5a00h3txfa1xvwst))/mileg.aspx?page=getObject&objectName=mcl-295-2008-2

- *Legislative* (2016)—Act 342. legislature.mi.gov/documents/2015-2016/publicact/pdf/2016-PA-0342.pdf

Minnesota

- *Legislative* (2007)—Next Generation Energy Act of 2007: HF 436. revisor.mn.gov/bills/text.php?number=HF436&type=ce&version=1&session=ls85&session_year=2007&session_number=0

- *Legislative* (2021)—Energy Conservation and Optimization Act of 2021: HF 164. revisor.mn.gov/bills/text.php?number=HF164&type=bill&version=2&session=ls92&session_year=2021&session_number=0

Nevada

- *Legislative* (2017)—SB 150. leg.state.nv.us/Session/79th2017/Bills/SB/SB150.pdf

New Jersey

- *Legislative* (2018)—Clean Energy Act: P.L.2018, c.17. nj.gov/dep/aqes/opea-solar.html

- *Regulatory* (2020)—Order Directing the Utilities to Establish Energy Efficiency and Peak Demand Reduction Programs. lpdd.org/wp-content/uploads/2020/12/8D-Order-Directing-the-Utilities-to-Establish-Energy-Efficiency-and-Peak-Demand-Reduction-Programs.pdf

New Mexico

- *Legislative* (2008)—HB 305. nmlegis.gov/Sessions/08%20Regular/final/HB0305.pdf

- *Legislative* (2013)—HB 267. nmlegis.gov/Sessions/13%20Regular/final/HB0267.pdf

- *Legislative* (2019)—HB 291. nmlegis.gov/Sessions/19%20Regular/final/HB0291.pdf

New York

- *Legislative* (2019)—The Climate Leadership and Community Protection Act. legislation.nysenate.gov/pdf/bills/2019/S6599

- *Regulatory* (2020)—Order Establishing Energy Efficiency Portfolio Standard and Approving Programs: Case 07-M-0548.

North Carolina

- *Legislative* (2007)—SB 3. ncleg.gov/Sessions/2007/Bills/Senate/PDF/S3v6.pdf

Oregon

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Appendix B. Examples of Utility Tracking Metrics

State	Tracking metrics/indicators
California	High energy bills Energy efficiency: savings, amount invested, number served Rooftop solar Electric vehicles Health and safety issues abated Energy resilient communities Clean energy jobs Small business contracts
Connecticut	<u>2021 Residential Equitable Distribution Metric</u>: Electric utilities must track participation in Home Energy Solutions (HES) and HES-income eligible programs of all customers automatically enrolled in the Matching Payment Program and achieve 2.1% participation. Actual results: 1.73% participation. Goal has increased to 5% for 2022–2024. <u>2021 Commercial & Industrial Equitable Distribution Metrics</u>: Quartile 1 (Healthcare): Electric utilities increase savings from customers in the sector by 4% (relative to baseline average). Actual results: 0.85%. Quartile 2 (Financial, Real Estate, Insurance): Electric utilities increase savings from customers in the sector by 3% (relative to baseline average). Actual results: 0.86%. Quartile 3 (Healthcare): Electric utilities increase savings from customers in the sector by 2% (relative to baseline average). Actual results: 1.01%. Quartile 4 (Retail): The electric utilities will achieve savings from customers in the sector of 0.44% (relative to baseline average). Actual results: 1.09%.
District of Columbia	The DCSEU has annual energy goals and minimum spending requirements for low-income households. DCSEU also administers goals for the Solar for All program.
Hawaii	Includes several performance targets for accessibility and affordability, including economically disadvantaged program categories including Energy Advantage (small businesses), single and multifamily direct installs, community-based energy efficiency programs, and the EmPOWER Project (for nonprofit groups). Another performance target area is Island Equity, which aims to ensure equitable distribution of efforts across the island communities. A zip-code methodology is currently being deployed to target specific geographic locations for low- and middle-income customers.

State	Tracking metrics/indicators
Maine	The state's new climate action plan, *Maine Won't Wait: A Four-Year Plan for Climate Action*, establishes a goal of installing at least 15,000 new heat pumps in income-eligible households by 2025. The plan also recommends doubling the current pace of home weatherization, including at least 1,000 low-income units per year.
Massachusetts	The 2022–2024 Energy Efficiency Plan includes new equity targets and metrics for measuring success toward goals. Reporting frequency varies by sector (quarterly, bi-annually, annually). Environmental justice municipalities: increase plan-over-plan investment, number of participants. Workforce: goals for workforce training and placement in industry positions with subgoals for women, people identifying as Black, Indigenous, or people of color, and environmental justice census blocks. State-certified minority- and women-owned businesses enterprise: track and report contracts and annual contract spending. Partnerships: establish partnerships with municipalities, community organizations, or business associations in at least 75% of environmental justice municipalities; track and report program investment, outreach activities, and customer participation by sector. Renters: increase renter unit participation by 24% from 2021 to 2024; increase number of renter units served in attached low-rise buildings by at least 16% from 2022 to 2024. Moderate-income: increase the number of moderate-income weatherization and heating system jobs by 2024. English-isolated: increase delivery of home energy assessments and weatherization services in Spanish and Portuguese. Small business: complete 600 small business weatherization projects in 2022, 700 in 2023, and 800 in 2024.
New Jersey	The New Jersey Board of Public Utilities (BPU) has convened an Equity Working Group and EM&V Working Group that have collaborated to develop equity metrics examining how participation, savings, and expenditures in overburdened communities compare relative to the wider service territory. These metrics will also help guide efforts to shape the NJ Cost Test in ways that further support equity goals. The quarterly reports will include a qualitative description of outreach efforts.
New York	The Climate Leadership and Community Protection Act requires state agencies to design and implement programs such that disadvantaged communities receive no less than 35% of the benefits of clean energy and

State	Tracking metrics/indicators
	energy efficiency spending, with a goal that these communities receive 40% of clean energy and energy efficiency investments. The state is currently developing a framework for identifying, measuring, tracking, and reporting benefits to disadvantaged communities.
Oregon	Since 2019, Energy Trust has provided progress reports on diversity, equity, and inclusion (DEI) goals twice a year. These include the following 10 DEI goals established for 2021, which are supported by 22 associated targets. Goal 1: Increase customer participation in energy efficiency. *Includes targets for participation among people of color and rural businesses and industry* Goal 2: Increase the adoption of solar projects benefiting customers experiencing low incomes, communities in rural areas, and communities of color. *Includes targets for projects located in targeted census tracts* Goal 3: Increase participation in the Trade Ally Network by minority- and women-owned businesses. Goal 4: Increase the number of projects completed by minority- and women-owned trade allies. Goal 5: Increase the number of contracts with minority- and women-owned businesses and improve contract tracking systems to support increased supplier diversity. Goal 6: Build relationships with community-based organizations (CBOs). *Includes targets to develop and deepen additional CBO relationships focused on workforce diversity* Goal 7: Increase representation of staff identifying as people of color. *Includes targets for applicants and new hires* Goal 8: Determine new ways to track participation among communities of color, households experiencing low incomes, and rural customers. *Includes targets to complete reports and analysis on data enhancement and equity-focused contractor/trade ally relationship-building* Goal 9: Increase the ability of staff and board members to work across cultures and be more inclusive through structural organizational change and continuous staff learning. *Includes targets for creating internal DEI-focused training* Goal 10: Increase awareness and understanding of diversity, equity, and inclusion goals and progress. *Includes targets for improved progress reporting and public messaging*