

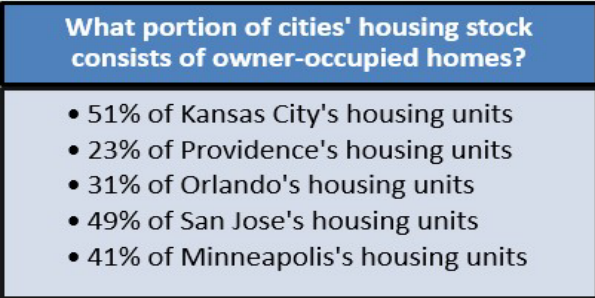
# Energy Equity for Homeowners: Policy and Program Guide for Local Governments

JULY 2023

## Meeting the Challenge of Equitably Deploying Energy Efficiency to Owner-Occupied Homes

To meet the challenge of the climate crisis, cities<sup>1</sup> need to improve the energy performance of all parts of their building stock, including small buildings. This includes buildings that are occupied by owners (both single-family homes and owner-occupied buildings with two to four housing units). As most cities are not on track to meet their climate goals (Samarripas et al. 2021), they must take more ambitious action to advance a clean energy future in a way that reaches all residents. Those living in communities that have been chronically underserved, underinvested, and under-resourced are now especially vulnerable to the effects of climate change and require increased attention. Many cities are looking for resources and examples from leading cities to guide their efforts. In 2022, ACEEE launched the Energy Equity for Homeowners initiative to provide these resources.

Cities have often started their energy programs and policies by focusing on larger buildings to reduce energy use and achieve large energy reductions and climate benefits. Now that action focused on large commercial and residential buildings is well underway and cities are increasingly concerned about affordability and equity, it is important to drive action in the small residential sector. Making homes more energy efficient can also provide numerous benefits related to housing affordability, health, and wellbeing for residents. Owner-occupied homes make up a large segment of many cities' housing stocks and require specific approaches that may differ from multifamily or renter-occupied buildings.<sup>2</sup>



**Figure 1. Proportion of city housing stock made up of small, owner-occupied buildings. Source: 2021 American Community Survey, one-year estimates.**

Figure 1 shares the proportion of owner-occupied housing in a selection of large to mid-sized

<sup>1</sup> We use the term "cities" in this resource to refer to any form of local government.

<sup>2</sup> Through this initiative we are focusing on homes with one to four units that are occupied by their owners. This does not include owner-occupied homes in larger buildings, like condo buildings.

cities across the country in a variety of geographic regions, demonstrating the need for attention to the sector as many cities include many owner-occupied homes within their borders.

The burdens of climate change, high energy costs, low affordability, and housing insecurity are concentrated in particular communities, including low-income communities and communities of color.<sup>3</sup> Cities need to prioritize these same communities to correct these disparities. As many



cities have made commitments to advance equitable programs and policies, attention to owner-occupied households is important for equitable climate action, as many low-income families live in owner-occupied homes (figure 2). Increasing energy access and affordability for households that have been disinvested can provide numerous benefits, including improving health, freeing up money for other household needs, increasing climate resilience, and promoting racial equity.<sup>4</sup>

**Figure 2. Proportion of families experiencing poverty living in owner-occupied homes in cities. Source: 2021 American Community Survey, one-year estimates.**

Because equitable outcomes can only be achieved if social equity is considered in all stages of designing and deploying a program, we include considerations

around social equity throughout this guide. In Appendix A we provide more background information on energy equity, including definitions of terms and ACEEE's framing of energy equity, as well as suggested resources for those wishing to learn more about this topic.

## THE ENERGY EQUITY FOR HOMEOWNERS INITIATIVE

The Energy Equity for Homeowners initiative aims to help cities incubate energy efficiency policy and program solutions for owner-occupied housing (in this report, buildings with one to four units) and to do so in a way that primarily benefits disinvested communities.

ACEEE convened the Energy Equity for Homeowners cohort beginning in March 2022, inviting staff from large cities in the United States (i.e., those included in ACEEE's [City Clean Energy](#)

<sup>3</sup> Inequitable burdens of the energy system occur due to policies both past and current at the federal, state, and local level (e.g., redlining and racial covenants, lack of financing such as mortgages) that have led a disproportionate number of low-income and households of color to live in older and poorer-quality housing, which negatively affects access to health, comfort, and energy affordability (Martinez, Lewis, and Patterson 2021; Energy Equity Project 2022; Initiative for Energy Justice 2019; Pitkin, Elder, and DeRuiter-Williams 2022). We recognize that the current housing system contains systemic injustices that prevent some households from having safe and healthy places to live. These same households often have higher energy burdens, or proportions of their incomes spent on energy bills.

<sup>4</sup> More information on the benefits of building upgrades for underserved communities can be found at [www.aceee.org/r2e2](http://www.aceee.org/r2e2) (ACEEE 2022b).

[Scorecard](#)) to enroll and share information about their goals, plans, and challenges around energy efficiency in owner-occupied buildings (Samarripas et al. 2021).

Over 15 cities participated in the learning cohort throughout the eight-month course of the initiative. City staff joined from regions across the country and represented different economic, climate, and political contexts. Some cities had significant experience in municipal clean energy efforts while others were at an early stage in their energy efficiency work.

The cohort initially met monthly for a series of eight virtual meetings. During these calls, guest speakers from cities and other organizations shared their successes and challenges with energy efficiency and provided insight into specific stages of developing energy efficiency policies and programs.

Discussions primarily focused on ways to use energy efficiency to support households and communities that have experienced disinvestment and marginalization, particularly homeowners of color and low-income homeowners. Calls were structured as learning labs where cities shared their lessons learned and challenges. Following the calls, ACEEE staff compiled key takeaways that were shared with cities for elaboration and validation. The information in this guide leverages takeaways from these learning calls and is intended to complement the initiative's goals. This guide is informed by the combined experience of cities in the Energy Equity for Homeowners cohort and guest speakers who participated in calls and follow-up interviews.

## HOW TO USE THIS GUIDE

Cities can use this guide to identify strategies to advance energy efficiency investments in owner-occupied housing based on their local context. In addition, cities can explore strong examples and advice from other cities to guide the development of successful and equitable programs for homeowners. Cities progress through several stages of program development when standing up a new initiative, including establishing goals and internal structures, engaging with community members, designing a program's approach, and evaluating a program's outcomes (figure 3). The Urban Sustainability Directors' [Equitable Clean Energy Guidebook](#) highlights strategies for centering equity in all of these stages, as no policy or program option will inherently lead to equitable outcomes for residents (Curti, Andersen, and Wright 2018).

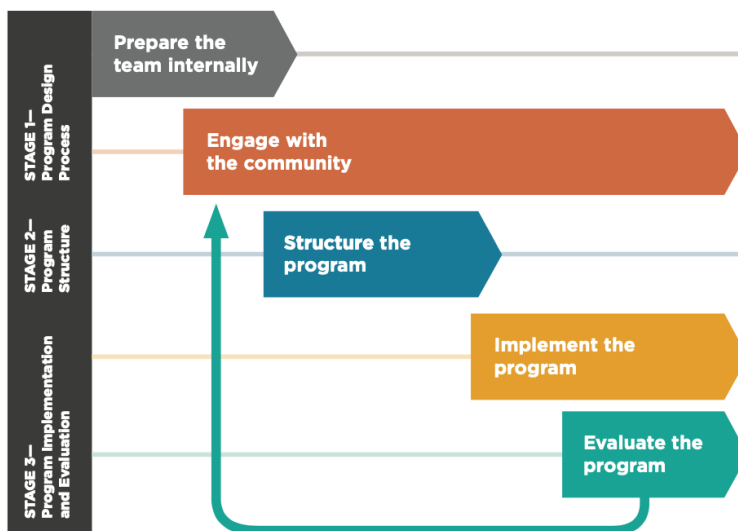


Figure 3. Sample program design process (Curti, Andersen, and Wright 2018, 14)

Cities can use the following sections of this guide as they pursue three primary stages of program design and deployment. Section 1 focuses primarily on internal program design and preparation processes while Section 2 (in three parts) focuses on successful implementation.

- **Section 1, Policy and Program Options:** During internal preparation, community engagement, and program design, cities can consider which of the options in this list would best help them successfully deploy energy efficiency to owner-occupied housing and reach communities that have been historically disinvested. Cities can also explore the examples profiled as case studies for a more detailed discussion of each option.
- **Section 2, Playbook A, Community Engagement:** This section contains a list of guiding principles and lessons learned by the cities in the Energy Equity for Homeowners cohort on effective and equitable community engagement. This section also contains examples of strong local government approaches. When engaging residents both before and after a program is deployed, cities can learn from the experiences of others to overcome challenges and maximize success.
- **Section 2, Playbook B, Effective Collaboration:** When preparing an internal team before launching a program design process, cities can leverage experiences of the Energy Equity for Homeowners cohort to establish successful partnerships with other agencies and organizations to maximize their reach.
- **Section 2, Playbook C, Funding Local Government Efforts:** At all stages of program development, especially in internal preparation and program design, cities need to identify mechanisms for funding their approach. The Energy Equity for Homeowners cohort identified several funding strategies that can benefit other cities, which are profiled in this section along with examples.

## Section 1: Policy and Program Options to Deploy Energy Efficiency to Owner-Occupied Buildings

Cities have a variety of policy and program options to address energy use in owner-occupied housing, including

- providing local government incentives for energy efficiency upgrades
- coordinating with or supplementing utility or federal programs
- requiring or incentivizing disclosure of home energy use
- standing up one-stop-shop energy information hubs
- providing or increasing access to financing
- providing energy efficiency marketing and outreach to homeowners

The financial resources, political context, size, and staff capacity (in addition to external factors like market demand and availability of private financing) of the city office leading climate and energy programs could help determine the most appropriate role for the city in increasing energy efficiency, ranging from supporting existing efforts to directly providing energy efficiency services (table 1). While there are many possible city contexts, we focus on some basic categories in this resource. Considering the factors listed below can help cities determine which role and set of options best fit their context and capacity.

**Table 1. Considering the city's most effective role**

| City context   | Program and policy options   |
|--|--|
| Cities or offices with significant staff capacity, the authority to undertake energy projects, and/or limited state or utility opportunities for residents can consider directly offering programs or financing. | <ul style="list-style-type: none"> <li>Providing local government incentives for energy efficiency upgrades (page 7)</li> <li>Requiring or incentivizing disclosure of home energy use (page 9)</li> <li>Standing up one-stop-shop energy information hubs (page 10)</li> <li>Providing or increasing access to financing (page 12)</li> </ul> |
| Cities with limited staff capacity or in environments with substantial energy efficiency programs offered by other entities can work to increase access to existing programs.                                    | <ul style="list-style-type: none"> <li>Coordinating with or supplementing utility or federal programs (page 8)</li> <li>Requiring or incentivizing disclosure of home energy use (page 9)</li> <li>Providing energy efficiency marketing and outreach to homeowners (page 10)</li> </ul>   |

No matter the specific role a city plays, city offices should coordinate with other agencies and organizations to maximize the impact of their efforts. These partners can include community-

based organizations, housing and health offices outside city government, utility program implementers, and academic partners.

## PROVIDING LOCAL GOVERNMENT INCENTIVES FOR ENERGY EFFICIENCY UPGRADES

Cities can create their own grant and incentive programs for homeowners by providing grants or rebates for energy efficiency improvements to homes in the city. These programs can help homeowners to access upgrades and technology to reduce their energy use and support healthy, efficient housing. This could be funded through the city's budget and local taxes or through federal or state funding streams, or through investments from federal programs and legislation.<sup>5</sup> As compared to city efforts funded by external sources over which the city has little control, a city can have a greater ability to shape a program if it is funded through the city's budget. Incentive programs benefit from collaboration, early involvement, and effective communication between partners (such as community-based organizations (CBOs), government agencies, state offices, contractors, and businesses) to increase program effectiveness and make the program easier for homeowners to access.

### *EXAMPLE: TAKOMA PARK, MARYLAND [ELECTRIFICATION GRANT PROGRAM](#)*

In service of its greenhouse gas (GHG) reduction goal, the city of Takoma Park developed an electrification grant program available to residents and businesses using funding it received through the [American Rescue Plan Act](#) (City of Takoma Park 2022; Department of the Treasury 2021). Grants are available to homeowners, multifamily building owners and managers, small businesses, commercial properties, and renters.

Residential grants range from \$5,000 to \$15,000 depending on income. Households earning up to 85% of the area median income (AMI) are eligible for up to \$15,000 that can cover up to 100% of the project cost. Households earning between 86% and 100% of AMI can get grants up to \$10,000 that cannot exceed more than 50% of the cost of the project. Residents earning more than AMI can apply for grants of \$5,000 that cannot exceed 25% of the cost of the project.

These grants cover replacing fossil fuel-based equipment and appliances with electric alternatives, such as high-efficiency HVAC equipment, heat pump water heaters, electric dryers, induction and electric cooktops, and convection ovens. All equipment is required to be ENERGY STAR® certified. If panel and wiring improvements are required for an electrification project, those costs are also eligible. Grants can also cover improvements to the building envelope like insulation and window replacement. Residents earning below certain income thresholds and

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<sup>5</sup> Several organizations are tracking federal funding opportunities on a regular basis, such as the Urban Sustainability Directors Network (USDN)'s [Funding Opportunity Tracker](#), the [National League of Cities' federal funding sources resource](#), and the University of Michigan Graham Sustainability Institute [IIJA & IRA Funding Tracker](#) (Aves 2023, University of Michigan Graham Sustainability Institute 2023).

participating in the Maryland weatherization grant program can also access additional eligible projects like refrigerators and washing machines, lighting, electric vehicle (EV) charging equipment, and solar panels.

The city had some additional requirements for grant recipients during the first year that may continue in future rounds. First, participating recipients were simultaneously required to take advantage of federal, state, and county programs as well, in order to maximize the impact of the city's funds. Additionally, residents were required to power their homes with 100% renewable electricity for two years after the grant award, which is possible because of Maryland's utility structure that allows customers to choose their energy supplier.

The city plans some changes to future program rounds in response to lessons learned. First, the city will host information sessions with the multiple local entities (i.e., utility, state, and county government) that offer incentives so that residents can easily access all information in one place. Similarly, they plan to publish the templates (i.e., criteria) that the grant reviewers use to select recipients, increasing transparency for applicants.

## COORDINATING WITH OR SUPPLEMENTING UTILITY OR FEDERAL PROGRAMS

Cities can consider supplementing or coordinating with the energy efficiency programs that local utilities offer to homeowners to reduce the burden on limited city staff and resources. For example, some cities have chosen to assist utilities with program outreach and coordination, and with leveraging resources (e.g., federal funds).

Outside of utility programs, cities can promote or leverage the [Weatherization Assistance Program](#) (WAP) funded by the federal government (DOE 2021). States use WAP funding to provide energy efficiency services to low-income families, often implementing these programs through community action agencies, nonprofits, or local government partners. A city can supplement these funds to increase the reach of existing WAP programming or promote WAP programs that are already available to their residents. Increasing the scale of available weatherization services and programming can help cities reduce energy costs for homeowners while supporting health by improving a home's air quality and reducing moisture that can cause mold. Because of these benefits, collaborations with health agencies can be another strategy for scaling up retrofits.

### *EXAMPLE: CITY OF AUSTIN PARTNERING WITH AUSTIN ENERGY*

Austin's municipal utility works with the city's housing department and a coalition of nonprofit organizations to provide repairs to housing and weatherization services (e.g., attic insulation, window sealing) through WAP in a coordinated approach. The city coordinates with a variety of entities so that enrollment and support is as easy as possible for residents. Although Austin undertakes this effort through a municipal utility that is publicly owned, a similar approach can be used in cities served by an investor-owned utility.

*EXAMPLE: BALTIMORE CITY PARTNERING WITH BALTIMORE GAS AND ELECTRIC*

The Baltimore City Department of Housing and Community Development worked with the Baltimore Gas and Electric utility and state agencies to administer local low-income efficiency programs through which income-qualified homeowners can benefit from energy efficiency upgrades such as air sealing, insulation, and health and safety measures (ACEEE 2023).

**REQUIRING OR INCENTIVIZING DISCLOSURE OF HOME ENERGY USE**

Cities can take steps to give renters and buyers clear information about the energy use of homes and apartments, potentially encouraging energy improvements and [influencing housing decisions](#) (Sussman et al. 2020).

Homeowners can be required to obtain an energy score and publish it when they list a home for sale. This can be coupled with information on potential energy improvements for both the seller and the buyer of the home. Cities must carefully design their program to make sure that all residents, especially low-income residents or residents of communities that have experienced disinvestment and marginalization, have access to energy assessments or information and are not disadvantaged by low energy scores. For example, the city can provide free energy scores or assessments for residents below a certain income threshold or living in a priority area. Cities should also consider the state and size of their local workforce of energy assessors and contractors when determining the best approach to this type of policy.

The city might also use the findings from energy assessments to identify the most beneficial energy efficiency improvements for low-income homeowners. As described in the example below, the city can also consider combining energy assessments with access to rebates or other services to help residents with low scores (especially low-income homeowners) implement energy efficiency measures based on their individual needs. This support is particularly important to mitigate the potential loss of wealth that may stem from an inability to make improvements that would improve a home's score.

A broader approach, which can be useful in cities that do not have many available energy assessors or capacity to establish an independent effort, is to support the sharing of energy information in home listings. For example, a "[green MLS \(Multiple Listing Service\)](#)" effort allows information about sustainability, like energy efficiency features, to be included in real estate listings, giving home buyers access to energy-related information about their future home (National Association of Realtors 2014). This information can also help highlight the value of energy efficiency improvements for home sellers and buyers, potentially encouraging them to make energy efficiency improvements.

*EXAMPLE: PORTLAND HOME ENERGY SCORES*

The City of Portland [requires most sellers](#) to obtain and publish an energy score when they list a home for sale (City of Portland 2022). The city provides [free scores](#) for residents at or below 80% of the city's annual median income and partners with a local nonprofit, the Community Energy



Project, that provides free energy assessments and other services (City of Portland 2021). The homepage for the policy also includes information and links to other energy efficiency incentives and programs offered by other agencies and a database of authorized home energy assessors. During the first 30 months of the program, 20,000 scores were obtained (City of Portland 2020). Portland's approach provides an example of how to combine a robust policy with the support needed for residents to comply and benefit.

## STANDING UP ONE-STOP-SHOP ENERGY INFORMATION HUBS

Cities can create hubs where residents can receive services and information about energy efficiency programs and services from a single source. A city with the capacity to establish an informational hub can assist residents by helping them navigate services offered by governments or utilities; identifying opportunities for bill assistance, health, and safety measures, and financing options; and selecting qualified contractors to perform services (Energy Efficiency for All 2023). These approaches could be implemented by the city, by CBOs or other agencies, or in partnerships and can take the form of a virtual or physical space. This strategy reduces residents' barriers to participating in programs and allows for a comprehensive and cohesive approach. Information can also take the form of an educational center or model home, like [Sonoma Clean Power's Advanced Energy Center](#), where residents can explore energy efficient appliances and upgrades and have tangible exposure to them (Sonoma Clean Power Advanced Energy Center 2023). Regardless of whether the city directly runs the center or the center is run by another organization, coordination between partners is essential.

Cities interested in designing information hubs should consider how they can ensure that low-income or energy-burdened households benefit from the services offered. For example, cities could locate a physical information center in a disinvested neighborhood and design the center to be accessible to residents (e.g., flexible operating hours and increasing language access for non-English speakers). If pursuing a virtual hub or information center, a city can focus marketing for the center's services in disinvested communities, provide information in languages accessible to community members, and partner with institutions like libraries or schools to help provide access to more households. If cities are not immediately able to take more substantive action, they can use individual educational and informational campaigns to connect residents to services offered by other entities.

### *EXAMPLE: [PHILADELPHIA NEIGHBORHOOD ENERGY CENTERS](#)*

The City of Philadelphia is home to a network of neighborhood energy centers (NECs) that serve as one-stop-shops to provide a coordinated and comprehensive approach to energy services for low-income households (ECA 2023). Each center is run by a separate nonprofit organization within the structure of the Energy Coordinating Agency, and the NECs provide residents with information on energy services and counseling on how to reduce their utility bills. There are 16 NECs that to date have served approximately 20,000 residents (~5,000 households) across multiple neighborhoods in the city. At the NECs, trained energy counselors can help residents benefit from a wide variety of free services including, but not limited to

- utility bill assistance
- budget counseling
- workshops to learn more about energy services
- in-home energy assessments
- support accessing WAP services and electrification and solar options

While the centers have helped residents lower their utility bills, the city noted several challenges that could improve and increase their services for low-income households if addressed. For example, some residents are not aware of the centers and the centers need operational support to increase their reach. In addition, the NECs have experienced challenges with the increasing complexity of the design and implementation of energy programs since the centers originally opened. For instance, application processes for some of the energy programs are burdensome and often require applicants to provide multiple or outdated forms of identification. Multiple programs providing more types of services are now available, as compared to the initial offerings of only bill assistance. The city also recognizes the importance of ensuring that each center's staff has knowledge about existing energy services and needs and emphasized the need to support staff with detailed knowledge about and connections with the community.

Many potential solutions to overcoming these identified barriers center on building program capacity. For example, increasing the number of staff at NECs can strengthen their outreach and engagement potential. Similarly, the city can provide educational material and training to existing and new NEC staff to boost their knowledge of local energy services available to income-qualified customers.

#### *EXAMPLE: MINNEAPOLIS HOME ENERGY SQUAD VISITS*

Minneapolis provides information and education to residents through their [Home Energy Squad program](#) (CEE 2023). Residents with incomes below \$100,000 or living in a [Minneapolis Green Zone](#) can receive a free visit (City of Minneapolis 2021). The Home Energy Squad program is in partnership with the local utility, and visits include assessments of energy use and appliances, installation of some measures (like light bulbs, weatherstripping, and smart thermostats), and recommendations for more-substantial improvements.

## PROVIDING OR INCREASING ACCESS TO FINANCING

Lack of capital and access to financing is often a barrier to households implementing energy efficiency improvements and to cities implementing their own programs. Cities can take a variety of approaches to increase access to financing for energy efficiency projects. The U.S. Environmental Protection Agency (EPA) [provides a tool](#) that lists financing mechanisms alongside common roles and funding amounts required, including on-the-ground examples (U.S. EPA 2022). In this section, we include examples of some potential strategies for local governments, including loans, green banks, and outcome-based financing.

Cities can work with entities like credit unions, housing agencies, banks, and other institutions to provide financial support to homeowners interested in pursuing energy efficiency upgrades.

Options like low-interest loans that are accessible without down payments or minimum credit scores (or with lower-than-normal minimums) can broaden access.

Cities can strengthen any action by working with CBOs. However, this is particularly important in the realm of financing, where a program can unintentionally burden households with problematic debt. To help avoid this outcome or other inequities, cities should consider working with CBOs or housing or community development organizations. CBOs have direct ties to the communities that they serve and represent, and therefore have deep expertise in community context and needs. Similarly, working with CBOs can help cities to identify the financial services that work best for the community and gather feedback from homeowners to improve existing financial assistance programs.

#### *EXAMPLE: MILWAUKEE'S ME2 PROGRAM*

The Milwaukee Energy Efficiency (Me2) program offers low-interest loans for energy efficiency upgrades, with the goal of reducing homeowners' utility bills by creating more-efficient housing. For example, on average, homeowners who have improved their homes with insulation and air sealing have reduced their energy use by 30% (City of Milwaukee 2022). The city of Milwaukee partners with a local credit union to provide financing options of up to \$15,000 for eligible home improvements, such as insulation, air sealing, and installation of hot-water furnaces, and air conditioners.

The Me2 program aims to create affordable access to financing by providing low-interest fixed rate loans that do not require applicants to provide a down payment, have home equity, or meet a minimum credit score threshold. The Me2 program has several criteria that applicants must meet for program eligibility:

- The property must be located in the city of Milwaukee.
- The property must be a single-family home, duplex, or triplex.
- An individual must own the property (e.g., no trusts or business owners).
- The owner must have no delinquent property taxes.
- The applicant must agree that an approved Me2 contractor will perform the work.
- Qualified loan applicants must show proof of employment for the past one or two years and have a debt-to-income ratio less than 45%.

#### *EXAMPLE: DC GREEN BANK*

The District of Columbia's [Green Bank](#) was created in 2018 (DC Green Bank 2021). The Green Bank supplements and leverages public funds toward energy projects and aims to eliminate barriers to funding and financing faced by some residents. The District government has coordinated a variety of its energy initiatives with DC Green Bank to achieve sustainability goals and spur the local workforce. Through this coordination, DC Green Bank aims to provide the capital and resources necessary to deploy the district's energy programs and help reach their sustainability and clean energy goals.

To date, DC Green Bank [has financed](#) projects including solar installations, green infrastructure, and retrofits of schools, businesses, and multifamily residential buildings (DC Green Bank 2023). This institution helps to fill funding gaps and increase the availability of funding resources while serving individual residents, businesses, building owners, and more. Cities can establish their own [green banks](#) or support the creation of a green bank in their area to expand financing opportunities for clean energy (Coalition for Green Capital 2023).

### *EXAMPLE: GREEN AND HEALTHY HOMES INITIATIVE AND OUTCOME-BASED FINANCING*

The Green and Healthy Homes Initiative (GHHI 2022) has led an outcomes-based financing model, called “Pay for Success.” The organization aims to eliminate racial disparities in health by creating efficient and healthy homes. Through this model, one or more private investors (e.g., green banks, corporations, investment banks) provides upfront capital for a service and a provider implements an intervention, such as an energy efficiency measure. This intervention leads to a benefit that is measured in cost savings, and the original payer returns the capital to the investor if outcomes of the project (such as energy savings) are met as verified by an evaluator (GHHI 2017). In some cases, an intermediary organization can provide management services. This model is illustrated in figure 4.

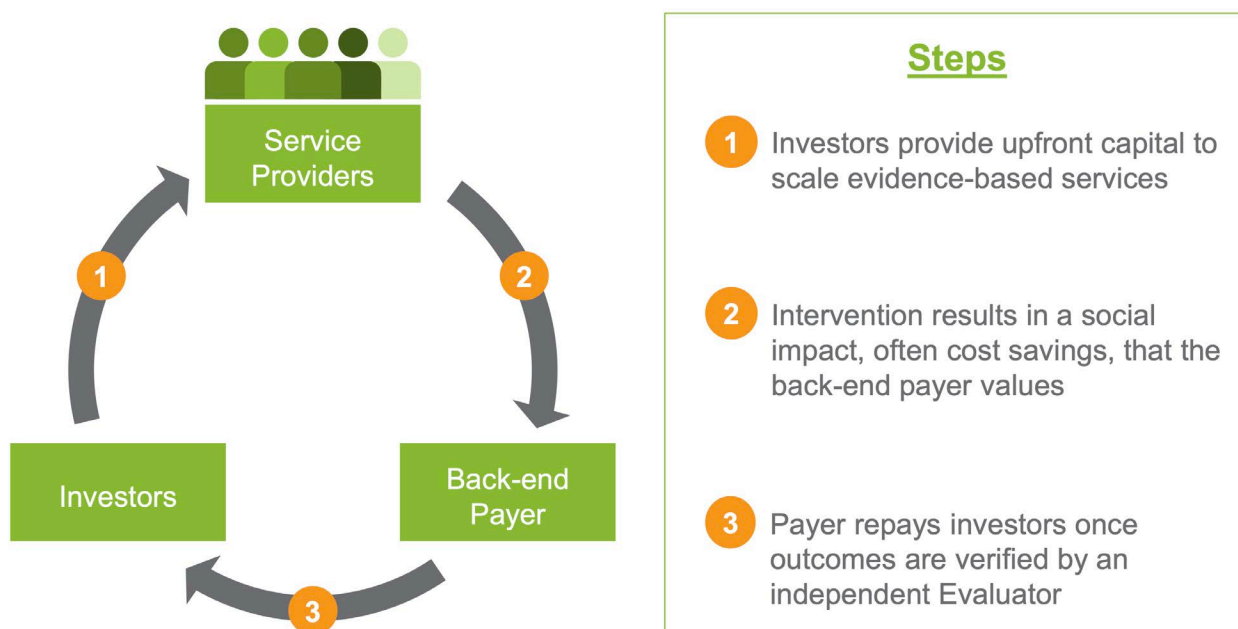


Figure 4. Pay for Success financing model (GHHI 2017)

Primary expected benefits of this model include reduced financial risk for the payer, such as the government, because payment is only required if the outcome is met (GHHI 2017). This model also prioritizes evidence-based approaches by integrating a robust evaluation and measurement approach. In GHHI’s work, this model has been applied to projects around a range of social issues beyond housing, so it can potentially be used flexibly in cities’ work.

## Conclusion

To address the climate crisis and improve the wellbeing of their residents, cities can work to increase energy efficiency in owner-occupied homes, particularly for homeowners with low incomes (figure 2) who have experienced disinvestment and exclusion from clean energy initiatives (Pitkin, Elder, and DeRuiter-Williams 2022; Martinez, Lewis, and Patterson 2021; Energy Equity Project 2022; Initiative for Energy Justice 2019). Energy efficiency can reduce carbon emissions, create healthier homes for residents, and reduce energy burdens. The guide above shares a range of actions that cities can pursue, including strategies for sharing and amplifying existing opportunities and directly serving residents.

Undertaking their work in a way that does not leave historically disinvested communities behind will require cities to identify the policy or program option that best fits their community's needs. The playbooks included in Section 2 leverage insights from a cohort of cities to guide and strengthen any policy or program approach. By applying these lessons, a city can maximize its ability to reach its goals in a way that invests in and uplifts all communities.

## Section 2: Guiding Principles for Effectively and Equitably Deploying Programs that Reach All Residents

In any of the strategies outlined above, cities can leverage lessons learned from other cities to successfully deploy energy efficiency to address climate change in a way that includes and benefits all residents, particularly the most vulnerable. Above all, cities should choose an approach that fulfills community needs. The following sections synthesize guidance for cities as they navigate three key aspects of developing an effective and equitable approach to deploying energy efficiency to homeowners: robust community engagement, effective collaboration between organizations, and successfully funding efforts (figure 5). This guidance is leveraged from meetings of the Energy Equity for Homeowners cohort.

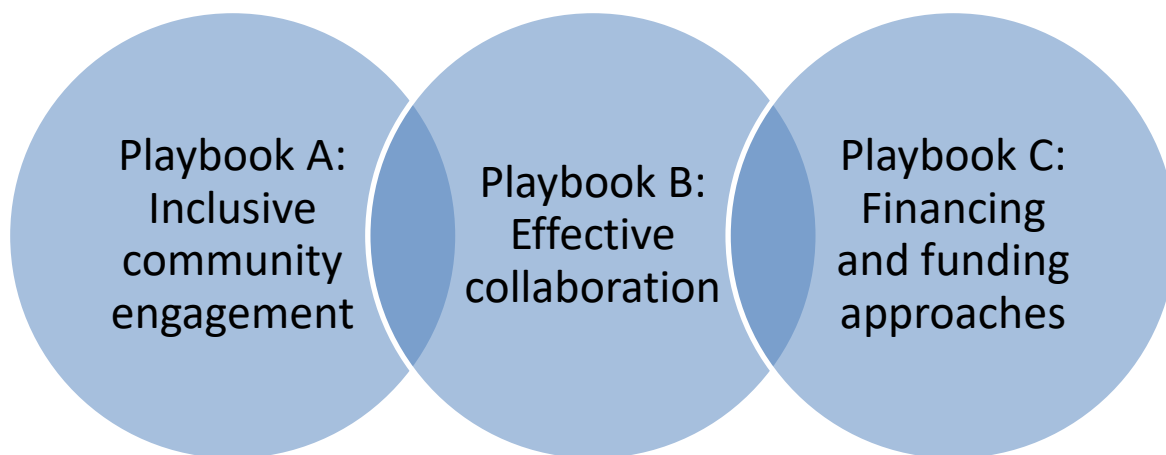


Figure 5. Focus areas of Energy Equity for Homeowners guidance

## PLAYBOOK A: CONDUCTING INCLUSIVE COMMUNITY ENGAGEMENT

Successfully engaging community members allows cities to accurately understand their community's needs and experiences (such as the energy challenges residents are facing and conditions of the housing stock). Understanding the needs of the community can help cities develop impactful energy efficiency programs that can be scaled effectively. Inclusive and accessible community engagement is necessary when offering energy efficiency services to homeowners. Inclusive engagement is integral to advancing procedural equity, through which decision makers ensure that residents of disinvested communities have an ability to influence decision making for the energy system (USDN 2019).

While undertaking community engagement, cities should focus on communities that have been under-resourced and historically excluded from decision-making processes (including those around housing, energy generation, and city services). Because communities may have an existing lack of trust with the local government due to a history of past harm, cities need to ensure that their processes are not extractive exchanges and intentionally build and maintain trust (Lin et al. 2021; Urban Sustainability Directors Network et al. 2021).<sup>6</sup>

To be accountable and transparent in a way that builds trust, community engagement processes can start with a collective identification of goals by community members, cities, and other relevant partners and include direct dialogue with staff with decision-making power. To make engagement processes more accessible and equitable, cities can reduce barriers to participation (e.g., through communicating in languages other than English), locating meetings about energy efficiency issues or programs in low-income communities of color, providing childcare; choosing accessible meeting times based on the common work schedules of community members, and involving community-based organizations in outreach efforts. Because every community has different needs, cities need to hear directly from community members about how engagement opportunities can be most accessible.

The Energy Equity for Homeowners cohort identified the following suggested actions that support successful engagement with homeowners in the process of designing or deploying programs:

**Conduct an equity assessment to identify barriers and gaps for engagement with homeowners in energy efficiency programs.** One cohort city performed an assessment that allowed organizations and community members to evaluate the city's overall engagement efforts. After the assessment was completed, the city learned that residents were not satisfied

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<sup>6</sup> The [Spectrum of Community Engagement to Ownership](#) created by Facilitating Power, provides a tool for understanding how engagement strategies can vary in the extent to which they allow community members to exercise control over decisions and policies (Gonzalez 2020).

with the quality of the engagement process and the ways that they were being engaged, even when the city would have identified the process as strong. This strategy can be useful because it can help cities recognize strengths, barriers, and opportunities to improve their engagement approaches.

**Meet homeowners where they are, both geographically and considering the context and needs of the community.** Another city found that going door-to-door in priority neighborhoods was essential to truly hearing from all community members about their energy-related experiences and housing needs. One city department discussed riding city buses and interacting with residents on the route. By going to community members instead of having them come to city officials, the city can better engage a representative segment of residents and homeowners. This also includes compensating residents for their expertise and engagement, ensuring that their time and knowledge are appropriately valued. Focusing on and cultivating a connection to place is important for increasing participation, developing a strategy that will work in the communities being served, and setting goals and direction based on what communities want to achieve.

**Have flexible processes and plans.** To truly be responsive to the feedback they receive from community members, cities need to adjust their energy efficiency approaches in response to what they hear. For example, one city shared that they conducted an engagement process focused on an upcoming benchmarking ordinance. Based on feedback, they adjusted the ordinance so that building owners could comply and set up a program to support those who identified specific challenges. This change would not have been possible if the city's plans were already set. Building as much flexibility as possible into program design can allow more owner-occupied buildings to participate and benefit from energy efficiency.

**Allow sufficient time and build relationships first.** Cities found that they often allocated insufficient time for community engagement or that engagement began too late in their policy design process. Engaging as early as possible and throughout a process, and budgeting sufficient time to build relationships and listen to community concerns, can help cities to overcome this challenge. While it can be difficult to identify the specific amount of time necessary for an engagement process, a city can consult CBOs or residents to inform their estimates and budget more time than they anticipate needing.

**Form partnerships with local organizations and other relevant parties.** Partnerships can allow cities to benefit from the expertise of local organizations on relevant topics (housing, environmental justice, community engagement, and more) and to better connect with community members. Connecting with other organizations requires investment in authentic relationships just as with individual community members (Ramanan et al. 2021). Cities can build coalitions with organizations focused on different issues to improve their work and learn from the intersections of multiple issues (for example, partnering with climate organizations, health departments, and housing agencies), ensuring that they support the work of partner organizations.

**Train staff in interacting with residents.** Cities found that individual staff members had an important role to play in building and maintaining relationships with homeowners. These relationships are vital because they strategically position staff to collect energy efficiency and housing data that can help inform the design of policies and programs to support an equitable energy system. Additionally, cities can couple relationship-building training with training on existing energy efficiency programs and services to prepare staff to share educational materials on energy efficiency. To establish relationships and trust with constituents, cities can build strong relationships with the communities they serve, spend time with residents, listen and approach residents without an agenda, and follow through on communications and other commitments. Cities can hire consultants or partner with universities or CBOs to provide staff training in racial equity, trauma-informed engagement, and other backgrounds that can prepare them for outreach.

### *OVERCOMING CHALLENGES*

Cohort members also identified challenges they have experienced when engaging the community and potential solutions to those challenges:

**City staff experience engagement fatigue.** For instance, staff members can experience fatigue and frustration when they receive multiple similar inquiries or questions about an energy efficiency effort after facilitating a campaign to share the same information. City offices can provide support and training to their staff (as described above) so that they are resilient and prepared to continuously attempt and improve engagement processes, even in the face of setbacks. Residents can also experience engagement fatigue, especially when they participate in multiple feedback processes. Staff should establish accountability processes to ensure that they follow through on residents' comments, which can help address engagement fatigue experienced by residents.

**Power dynamics between homeowners, particularly those in disinvested communities, and city staff can also pose challenges.** The local government inherently has more power than individual residents, as it controls city resources, policies, and access to services. It can be difficult for city staff to simultaneously respect the time of residents, prioritize receiving the community's feedback, and ensure that they are building trust and agency. For example, one city observed that residents might feel pressured to participate in an outreach process or to moderate their true opinions and sought solutions to overcome that challenge. Cities can strategically design their engagement processes using best practices on equitable engagement (more examples are shared below) and be open to continuous feedback from residents to make sure they are fully empowered to participate. Cities can even collaborate with residents to make informed decisions around staffing their initiatives. Cities can consider the following guiding questions to address power dynamics:

- Who holds decision-making power? How can constituents best navigate the city staff hierarchy?
- Do residents feel pressure to participate or share their perspective when city staff ask for feedback? Do residents feel pressure to respond in particular ways to questions?



- What knowledge and expertise do the residents or organizations being engaged have and need to inform/influence programs and policies?
- How can cities share decision-making power and influence with constituents and community-based organizations?

**City staff have also experienced tensions between the lived experiences and expertise of residents and the technical details of energy technologies and systems.** Cities need to value and compensate residents that share their expertise about their own housing and energy needs. At the same time, because residents may not have adequate technical information related to technologies or energy use, city staff will also need to share technical information and combine resident feedback with existing policy requirements, limitations, and technical barriers. To address this challenge, cities can allocate adequate time to 1) provide resources and information about a particular issue or program, 2) clearly share any relevant policy context or constraints, and 3) respond to questions so that residents fully understand the issues.

**Some cities reported that residents shared needs and concerns seemingly unrelated to the program of focus or that a specific staff member was not able to help with, such as public infrastructure.** To overcome this while building trust, staff can be prepared with other resources and contact information for residents when they express challenges or needs unrelated to the energy efficiency program, including being prepared to connect them to a different agency and following through. Collaborations with different city agencies can also lead to creative solutions that respond to multiple issues and help foster sustainable and long-term relationships with residents.

Successfully addressing these challenges and leveraging the experiences of other cities can help city staff understand the expertise and needs of their residents, with the ultimate goal of reducing energy burdens and making housing more efficient. This information enables the city to create an energy efficiency program or policy structure that successfully meets residents' needs.

#### **Other resources on inclusive community engagement**

- [The Spectrum of Community Engagement to Ownership](#) (Gonzalez 2020)
- [From Community Engagement to Ownership: Tools for the Field with Case Studies of Four Municipalities](#) (USDN 2019)
- [Community Outreach and Solar Equity: A Guide for States on Collaborating with Community-Based Organizations](#) (Ramanan et al. 2021)
- [NAACP Guidelines for Equitable Community Involvement](#) (Lin et al. 2021)

## PLAYBOOK B: COLLABORATING ACROSS ORGANIZATIONS

Collaboration among municipal departments and with external organizations is an important component of building and running successful energy efficiency programs. Doing this effectively allows cities to optimize the use of their resources, benefit from the expertise and connections of other organizations, and centralize the experiences of homeowners to influence the city's energy efficiency approach.

In addition, partnerships with CBOs and groups connected to priority neighborhoods are essential for achieving equitable outcomes in the delivery of energy efficiency services that meet the needs of communities. Cities interested in pursuing these partnerships should dedicate time and resources to build long-term, mutually beneficial partnerships (Price, Snijder, and Apgar 2020; Ramanan et al. 2021).

Cohort cities experienced several barriers and challenges when developing partnerships with key organizations, including utilities, to advance energy efficiency. The primary challenges included

**Data privacy issues.** Cities often collaborate, or aim to collaborate, with utilities around sharing and collecting data that can help inform their programs and target owner-occupied housing most in need of energy efficiency services. However, they found that data are often inaccessible, or utilities cannot or will not share data externally.

**Limited staff capacity.** Building and maintaining relationships and communicating with other organizations requires staff time. When staff members are stretched thin, organizations can struggle to maintain the staff capacity to sustain long-term collaborations or scale their energy efficiency outreach. By extension, this can limit the effectiveness of cities' energy efficiency efforts by compromising residents' experiences.

**Priority and value differences between utilities and cities.** Some cities reported that utilities do not consistently view partnerships with the city as a valuable approach to delivering energy efficiency services or valuable for the utilities' work. This can limit a city's opportunity to collaborate with the utility.

### *OVERCOMING CHALLENGES*

Through the learning cohort, we identified the following key strategies that can be used to overcome these barriers and build effective collaborations:

**Host informal meetings to build relationships with key organizations.** Cities found that informal meetings with potential partners, like city departments, financing agencies, social services organizations, and CBOs helped to form relationships that can strengthen a collaborative approach to advancing energy efficiency in owner-occupied buildings. Offering the opportunity to meet and discuss potential partnerships without an expectation of immediate commitment or a predetermined plan can build productive collaborations.

**Establish clear expectations for partnerships between organizations.** Collaborations need to be detailed and organizations need to be intentional about their roles. For example, CBOs need a direct contact line to their collaborator in the city and a clear understanding of when and how this person will be available.

**Put together a dedicated team focused on data sharing issues.** This group can determine and work through challenges around how entities can share energy and demographic data. Overcoming barriers to data sharing can allow cities to reach the communities and homeowners who could benefit most from clean energy services.

**Utilities and governments can directly invest in community organizations that are already doing substantial and effective outreach to low-income homeowners and other disinvested groups.** Since many CBOs and other organizations are already dedicating more resources and expertise to community engagement and serving residents, including around housing and energy, direct investment in these organizations can be an efficient partnership approach as compared to working in isolation within city offices.

**Include finance agencies in collaborations.** Partnerships should include local finance corporations/agencies. Doing so can provide the resources to make owner-occupied energy efficiency programs more accessible and help address financial barriers.

**Conduct an equity assessment of collaborations and plans.** An equity assessment can demonstrate the energy efficiency priorities of residents and organizations. Local governments can leverage findings from the equity assessment to design equitable energy efficiency programs or policies and demonstrate value.

**Be proactive about utility partnerships.** Cities reported that partnerships with utilities were valuable for reaching energy efficiency goals but also challenging to form. Therefore, we recommend that cities plan ahead and host conversations with utilities from the start. These can build the foundation for strong partnerships through the duration of their policy or program.

#### **Other resources**

- [Defining and Evaluating Equitable Partnerships: A Rapid Review](#) (Price, Snijder, and Apgar 2020)
- [Community Outreach and Solar Equity: A Guide for States on Collaborating with Community-Based Organizations](#) (Ramanan et al. 2021)

## PLAYBOOK C: FUNDING, RESOURCING, AND FINANCING A CITY'S ENERGY EFFICIENCY EFFORTS

Funding cities' energy efficiency efforts and determining a financing model are key parts of any clean energy approach. Cities can fund their programs using the city's budget, grants, and other sources.

Recent federal legislation has also committed significant resources to weatherizing and increasing the efficiency of buildings and homes. These investments provide opportunities for cities to improve public health, upgrade infrastructure, and support resident access to affordable energy efficiency services (Ungar and Nadel 2022). Cities can take advantage of federal funding to expand energy efficiency programs targeting owner-occupied housing or directly help homeowners finance the costs of energy efficiency upgrades, aligning their goals with federal equity goals like Justice40.<sup>7</sup>

In addition, cities can maximize the value of federal funding sources by supporting a robust local energy efficiency workforce that is needed to perform energy efficiency upgrades in homes.

Through the learning cohort process, we identified the following ways that cities can maximize and pursue funding opportunities:

### **Amplify existing energy efficiency workforce development programs, or investments.**

Cities should explore options to increase program participation or expand the number of workforce programs training residents to provide upgrades to homes. Having access to a robust talent pipeline can make services available to more homeowners. Cities can also expand their workforce efforts by collaborating with other organizations (e.g., workforce centers or CBOs) with existing workforce programs. These collaborations can help cities expand the scope of services they provide to address key challenges experienced by homeowners, such as health and safety issues or home rehabilitation.

**Perform outreach to state energy offices.** State energy offices (SEOs) are slated to receive an influx of the new federal funding mentioned above. Cities should connect with their SEO as early as possible to discuss how the new federal funding can support the city's existing energy efficiency programs that serve homeowners. Similarly, cities can also meet with their SEO to discuss how the city's energy efficiency programs can complement any new programs SEOs plan to pursue with federal funding.

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<sup>7</sup> [Justice40](#) refers to a federal goal that 40% of benefits from particular federal initiatives flow to disinvested communities. Several organizations are tracking federal funding opportunities on a regular basis, such as USDN's Funding Opportunity Tracker, the [National League of Cities' federal funding sources resource](#), and the University of Michigan Graham Sustainability Institute [IJA & IRA Funding Tracker](#) (University of Michigan Graham Sustainability Institute 2023).

**Share program model examples with state agencies or state energy offices.** Cities have significant expertise in the needs of their local jurisdiction. City staff should consider meeting with state agency or SEO staff to share suggested program models the state should consider as they plan to design new programs with the new federal funding.

**Advocate for flexibility in funding for energy efficiency projects or programs.** To maximize socially equitable outcomes, cities should advocate that states allow for flexible budgets. For example, when awarding funding, states can allow cities to allocate a certain percentage of a policy or program's budget to address non-energy housing issues (such as urgent repairs) that must be completed before energy efficiency upgrades can be performed. This would allow a program to reach more of the households who are most in need of upgrades.

**Make sure to determine strategies based on an accurate understanding of the community's needs.** Using the principles outlined in the section above, cities can pursue engagement strategies to make sure that their own approaches and the approaches they suggest to state offices are driven by community priorities and the needs of historically disinvested residents and are therefore an effective use of resources.

#### **Other resources**

- [Home Energy Upgrade Incentives: Programs in the Inflation Reduction Act and Other Recent Federal Laws](#) (Ungar and Nadel 2022)
- [Connecting Rural Communities with Historic Federal Clean Energy Investments](#) (ACEEE 2022a)
- [How Local Governments Can Use Direct Pay on Clean Energy Projects](#), National League of Cities (Berndt, Siler Jones, and Aves 2022)
- [IRA Fact Sheets](#) (Rewiring America 2023)
- [Inflation Reduction Act Miniguide](#) (USDN 2022)
- [Climate Action and the Inflation Reduction Act: A Guide for Local Government Leaders](#) (Jay et al. 2022)

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## Appendix A. Contextualizing Energy Equity

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

While many definitions of energy equity exist, ACEEE uses a framework developed by Park and colleagues at the Urban Sustainability Directors Network (Park 2014). This framework specifies four dimensions of equity, dividing the broad concept into components: procedural equity, structural equity, distributional equity, and transgenerational equity. This framework allows for more nuanced evaluation of policies and programs and their implications for various types of equity (figure A1). For example, a government may identify a need to focus on a particular aspect of equity in their context and can target their efforts accordingly. At the same time, this framework can help to identify when an activity that aims to achieve equitable outcomes may advance or fall short on particular dimensions. These dimensions encompass considerations around power and decision making, institutional and structural factors, distributions of costs and benefits, and effects of decisions on future generations.

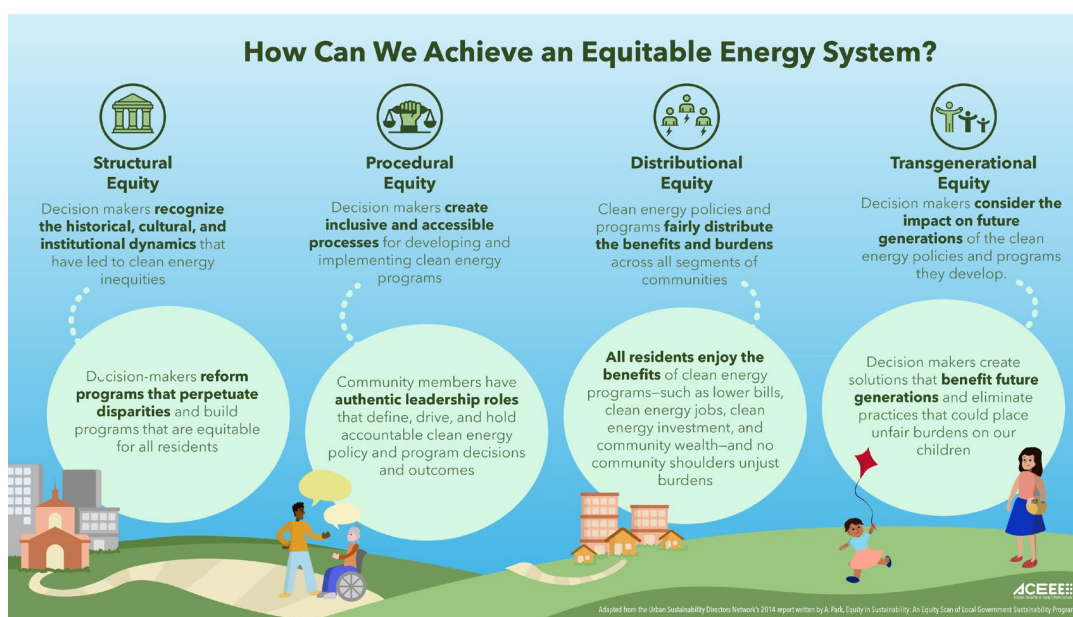
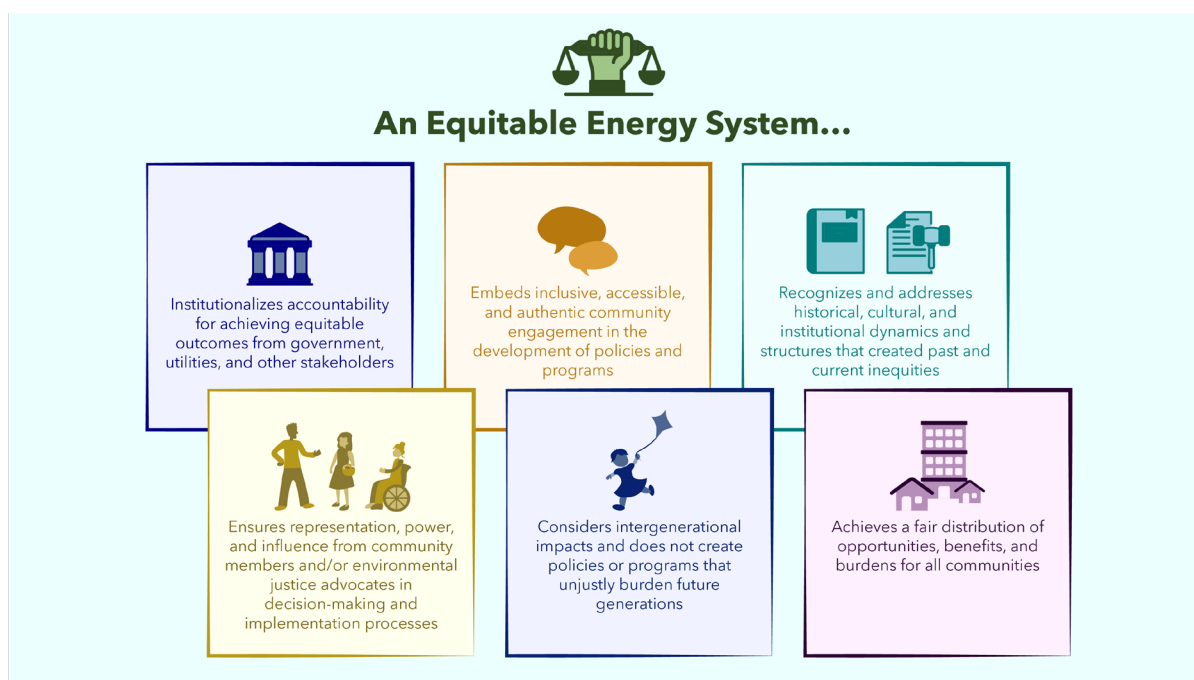


Figure A1. Dimensions of equity needed to achieve an equitable energy system

The indicators in figure A2 below reflect a list of characteristics that would make up an equitable energy system, reflecting all four of the dimensions discussed above. This framework helps to identify when the sector is moving closer or farther from this broad goal, and also emphasizes that an equitable energy system cannot be achieved without robust change in all of these factors and dimensions.



**Figure A2. Identifying an equitable energy system**

To provide an example of energy inequity on the ground, ACEEE research has found that low-income households spend three times as much of their income on energy as other households (Drehobl, Ross, and Ayala 2020). At the same time, Black households have, on average, a 43% higher energy burden than white households, while Hispanic households have 20% higher burdens than non-Hispanic white households. Households with older adults also spend disproportionate amounts of their incomes on energy bills. Many of these low-income households and households of color live in owner-occupied homes (figure 2). A business-as-usual approach will leave those groups behind, so cities need to prioritize those households in their energy efficiency efforts to reach their goals and achieve equitable outcomes.

## OTHER SUGGESTED RESOURCES FOR UNDERSTANDING ENERGY EQUITY

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