Centering Equity with Metrics: How to Incorporate Equity and Justice in Evaluation, Measurement, and Verification

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About NEEP

NEEP was founded in 1996 as a non-profit whose mission is to serve the Northeast and Mid-Atlantic to accelerate regional collaboration to promote advanced energy efficiency and related solutions in home, buildings, industry, and communities. Our vision is that the region's homes, buildings, and communities are transformed into efficient, affordable, low-carbon resilient places to live, work, and play.

Disclaimer: NEEP verified the data used for this white paper to the best of our ability. This paper reflects the opinion and judgments of the NEEP staff and does not necessarily reflect those of NEEP Board members, NEEP Sponsors, or project participants and funders.

Executive Summary

Historically marginalized and/or excluded communities experience disproportionate harms from our energy system. Research has shown that the harmful environmental impacts of the energy system are more likely to be concentrated in communities of color, and that these same communities are more likely to experience higher energy burdens causing them to spend more income on energy bills than the average household. Energy efficiency programs have the ability to help combat these injustices, if policymakers and program implementers take steps to center equity in program design and implementation.

Energy equity in energy efficiency programs means providing equal access to the benefits of energy efficiency programs and meeting customers where they are by designing programs that meet the needs of various communities. Expanding the objectives of energy efficiency programs to include energy equity will require changes in how programs are designed, executed, and evaluated. This report will look specifically at how program changes in the evaluation, measurement, and verification (EM&V) process can center equity in design.

EM&V will be an important tool in centering equity because it relies on the collection and analysis of metrics or data to measure program success. Data is important because it illustrates policy decisions with numbers and helps hold programs and institutions accountable in new ways. This report provides six ways that policy makers and program administrators can identify, embed, and evaluate progress towards energy equity in energy efficiency programs through the evaluation, measurement, and verification process:

1. **Creating a Process for Meaningful Stakeholder Engagement**
2. **Identifying Disparities with an Equity Gap Analysis**
3. **Adjusting for Equity in Cost-Benefit Analysis**
4. **Identifying Equity-Centered Tracking Metrics**
5. **Creating Equity-Centered Program Goals**
6. **Performance Incentives that Align with Equity Priorities**

Introduction

A history of environmental racism and inequitable energy decision-making have led to historically marginalized communities bearing the largest burdens of the fossil fuel economy, but not receiving any of the benefits. Discriminatory practices in the energy and housing space have meant that historically marginalized and/or underserved communities now live in older buildings in need of repair, experience a higher energy burden, and lack input into the programs meant to serve them. Across the United States, policymakers, advocates, and program implementers have started to look at how energy efficiency can help to combat these injustices of the past by prioritizing energy equity. This shift in goals will require policymakers and program implementers to make changes in program design and objectives to better center equity alongside the long-standing goals of energy efficiency programs so that they deliver cost-effective energy savings to everyone.

While energy efficiency programs have policies to ensure access and prioritize historically marginalized and/or underserved communities, these standards focus on equity in access to programs and not equity in access to benefits. Current energy efficiency programs are often required to ensure equal access in program offerings, such as through having programs for low- and moderate, market rate, and commercial customers, or setting program spending equal to each sector's payment in energy bills, also called an efficiency charge. This standard ensures equality, allowing everyone access to the same resources or opportunities, but not equity. Equity requires that we recognize disparities that already exist in the energy efficiency space such as housing and income inequalities and create programs and policies that address those disparities.

The evaluation, measurement, and verification (EM&V) process can be a great starting point to drive change in how programs approach energy equity. EM&V is a key component of energy efficiency programs, but often times the metrics and data used in the EM&V process only focus on savings and costs. This paper will highlight how, by bringing in community stakeholders and using data, policymakers and implementers can establish a baseline understanding of how inequities are embedded in current programs, provide accountability to remedy these injustices throughout program design, and ensure measurable, real achievement.

This paper will use the term historically marginalized and/or excluded communities to encompass communities throughout this paper. These communities are "communities denied involvement in mainstream economic, political, cultural, and social activities. Marginalization or social exclusion deprives a group from access to basic rights and participation in decision-making. Marginalized communities include, but are not limited to, frontline communities, low-income and/or working class communities, and those historically disenfranchised by racial and social inequity (e.g., minority identities based on race, ethnicity, sex, gender, sexual orientation, and ability status)."

What Energy Equity Means in Energy Efficiency

It is important to recognize the difference between "equality" and "equity" to understand energy equity. Equity is the fair distribution of benefits and burdens from energy production and consumption. It differs from equality because it accounts for context and historical causes of current inequalities. In practice, equity ensures everyone is given equal opportunity to thrive; which may mean that resources are divided and shared unequally.

In the energy efficiency space, energy equity in program design and evaluation has long hinged on creating equal access. This frame focuses on equality and not equity, ignoring the starting-line disparities of participants in historically marginalized communities. These starting-line disparities include practices such as redlining that resulted in communities that often have less green space, higher surface temperatures, and lower housing values. Communities of color and low-income communities also often have less efficient housing, as they are more likely to contain aging, poorly built homes where residents face dramatically higher energy burdens and spend a greater portion of their income on energy bills. Finally, when policymakers and program implementers do create programs to serve these communities, they do not offer an avenue for residents and local businesses to provide input into program design and implementation.

Centering equity means that energy efficiency programs need to acknowledge and account for these starting-line disparities by recognizing the harms of the past, incorporating voices from those who have been most burdened by these decisions, and taking proactive approaches to ensure that the benefits of energy efficiency programs are accessible to every resident. To change the current status, policymakers and program implementers should take steps to change design and implementation practices and undo institutional biases. This can be done through prioritizing restorative justice.

Restorative justice is the recognition that past and current energy injustices should guide plans and ensure benefits fall to communities most impacted by these injustices. For energy efficiency programs, this means the simple practice of making programs available is not enough. Policymakers and program implementers should look to remediate the fact that these communities have been historically underserved by centering the design around community needs and ensuring purposeful investment. Further, they should design programs and policies to build wealth within the communities these programs serve, with community voices at the center of those efforts.

Policymakers and program implementers can also examine the energy equity of efficiency programs by using the four pillars of energy equity created by The American Council for an Energy-Efficient Economy (ACEEE) Energy Equity Initiative based on the Urban Sustainability Director's Network (USDN) four dimensions of equity:

- Structural equity recognizes the historical, cultural, and institutional dynamics and reform programs that perpetuate disparities. To address this inequity, policymakers and program implementers can reform programs that perpetuate disparities.
- Procedural equity looks to create inclusive and accessible processes where community members have authentic leadership roles that define, drive, and hold accountable clean energy policy and program decisions and outcomes.
- Distributional equity ensures the fair distribution of benefits and burdens across all communities, so that all residents enjoy the benefits of clean energy programs
- Transgenerational equity asks that policy makers and programs implementers consider the impact of clean energy policies and programs on future generations and create solutions that benefit future generations.

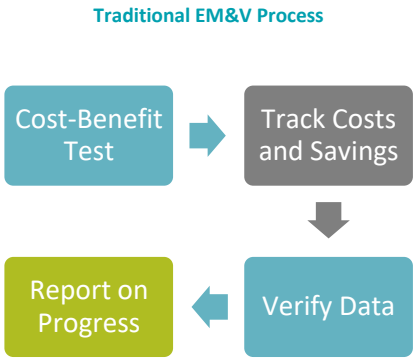
For energy efficiency, the main objective in energy equity is to prioritize the most vulnerable customers so that they can receive the benefits energy efficiency programs provide. This work must be both internal and external.

Below are suggestions for external-facing energy equity work. In addition to these steps, policymakers and program implementers can take intentional actions to work on internal policies and biases. These steps include engaging in diversity, equity, inclusion (DEI) and anti-racist training to dismantle bias and have a clear understanding of the inequities that exist because of past actions. Additionally, companies and organizations can look inward to ensure that the people with decision-making power are representative of the people those organizations serve. These steps will help to achieve more equitable energy policy and complement additional initiatives taken to change programs design and workforce practices.

Why Centering Equity is important for EM&V

Historically, energy efficiency program goals and tracking metrics have been set up to disregard equity considerations. Traditional energy efficiency program metrics focus on energy and demand savings, which perpetuates the business-as-usual status quo program design that primarily focuses on single-family homes and disregards the rental market and other low-income populations. EM&V can start to change this status quo because it is how energy efficiency programs document and demonstrate the benefits they provide to utilities, participants, and society as whole. Innovations in data analytics and data access are providing opportunities for EM&V to evolve and improve.

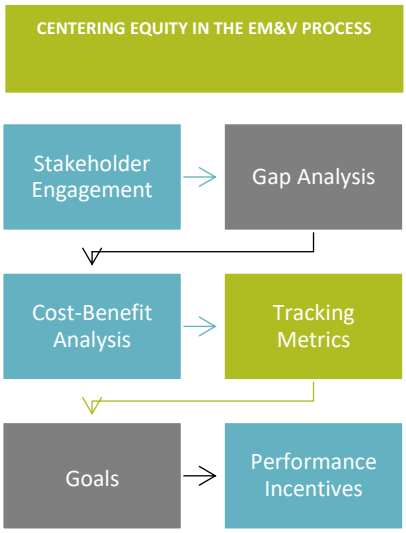
EM&V seeks to document and demonstrate the cost-effectiveness of energy efficiency measures and broader programs implemented by program administrators. It plays a central role in the development and growth of energy efficiency programs. It serves three critical objectives: (1) identify and verify impacts of energy efficiency programs, (2) ensure continuous improvement of programs, and (3) support planning and demand forecasting.



Traditional EM&V frameworks evaluate energy efficiency programs based on costs and savings. Regulatory orders typically set out requirements for customer-funded energy efficiency programs to be evaluated based on the standarad of cost-effectiveness. These evaluation protocols and methodology are quite technical and revolve around costs, investments, and energy savings with evaluations performed separately for each utility program administrator.

This method fails to account for other policy efforts and priorities of energy efficiency programs including energy equity and decarbonization. By changing the data used and the processes to set evaluation standards, policymakers and program implementers can prioritize energy equity. EM&V centered on equity will be able to provide a baseline understanding of how inequities are embedded in current programs, to provide accountability during program design, and to ensure measurable, real achievement.

This report looks at six ways that policymakers and program implementers can center equity in evaluation, measurement, and design of energy efficiency programs. Each step has recommendations and examples from states that have already begun this transformative process.



1. **Creating a Process for Meaningful Stakeholder Engagement:** Using a meaningful stakeholder engagement process ensures people from historically marginalized and/or excluded communities have access to and are part of decision-making processes. These processes can serve as a way to collaborate with communities on metrics and identify ways to improve access to energy efficiency programs

2. **Identifying Disparities with an Equity Gap Analysis:** Conducting gap analysis in the energy efficiency space is an important step in understanding how programs can best serve their communities through examining historical successes and shortfalls, and identifying areas in greatest need of attention.

3. **Adjusting for Equity in Cost-Benefit Analysis:** Creating new standards to assess benefit-cost analysis can encourage programs that prioritize energy equity. The narrow focus of current cost-benefit analysis ignores the economic, societal, and environmental benefits these programs have and is an obstacle to implementing programs that prioritize energy equity.

4. **Identifying Equity-Centered Tracking Metrics:** Tracking equity-centered metrics is an important first step to ensuring more equitable program design and implementation. These metrics measure the impact of programs and can reflect any improvements or gaps in program delivery.

5. **Creating Equity-Centered Program Goals:** Aligning energy efficiency program goals with equity-focused goals that encourage delivery of equitable benefits and opportunity for more meaningful participation can begin to undo long-standing burdens disproportionately faced by low-income, minority, and otherwise historically marginalized communities.

6. **Performance Incentives that Align with Equity Priorities:** Creating equity-centered financial performance incentive mechanisms can encourage program implementers to innovate and go above and beyond program goals. These tools can encompass numerous areas depending on state needs, and can work to align the utility business model with state equity and climate goals.

Integrating equitable data and metrics into energy efficiency policy will provide insight into how programs are not working and offer guidance on what can be changed. Because data can illustrate the impact of policy decisions with numbers, it will hold programs and institutions accountable in ways that they have not been before.

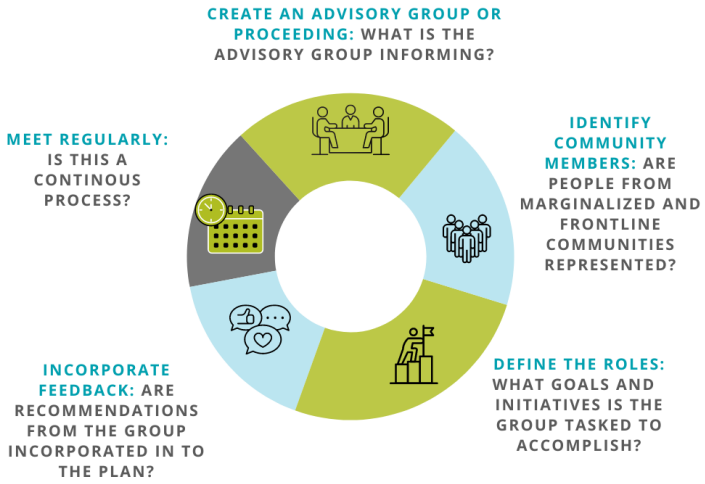
Creating a Process for Meaningful Stakeholder Engagement

The first step to centering equity metrics in energy efficiency programs is for policymakers to create a process for meaningful stakeholder engagement that allows for members of historically marginalized and/or excluded communities to inform and decide what metrics will be used to measure program success. This process should then inform any metrics used to center equity in energy efficiency program design, implementation practices, and employment opportunities. As explained in the Community Engagement to Ownership Spectrum, engagement from community members who are the most vulnerable provides greater knowledge, new solutions, and better procedures – all of which benefit not only the most vulnerable, but also everybody else.

Equity advisory groups (a term this paper will use for either committee or proceeding) are decision-making bodies that consist of representatives of underserved and marginalized communities. An equity advisory group helps policymakers and program administrators learn about and implement equity metrics important to historically marginalized and/or excluded communities. It is an intentional space where communities engage and are partners in driving equitable energy efficiency policies and programs.

Steps to Creating an Equitable Public Process

Ensuring an equitable development process and assessing community participation avenues to produce community-driven solutions are key to procedural justice. Procedural equity is when programs embed inclusive, accessible, authentic engagement and representation into processes to develop or implement program and policies. Ensuring procedural equity means that community members have "authentic leadership roles that define, drive, and hold accountable clean energy policy and program decisions and outcomes." In addition to the steps outlined below, policymakers and program implementers can reference The Community Engagement to Ownership Spectrum, which outlines indicators to measure engagement and input and advises how to encourage greater engagement and input.



1. **Establish the equity advisory group or proceeding to provide input on plans**: The ability of an equity advisory group to have meaningful impact on programs will depend on its initial scope and intent. The American Council on an Energy-Efficient Economy (ACEEE)'s Leading with Equity Initiative outlines three commonly used modes of input that, if they effectively center the voices of historically marginalized and/or excluded communities, can help achieve equity. The most powerful of these are decision-making

bodies of community members who directly control, create, and/or change the program. They have the power to vote and have direct impact on program plans and initiatives. Policymakers should be clear that these groups will not only have a voice in energy efficiency programs but will also be able to directly impact design and implementation decisions.

2. **Identify equity advisory group members and role of the public**: Policymakers and program administrators must take steps to ensure the group consists of members representing marginalized and frontline communities and that there is a proportional number of advocates, utilities, businesses, and government staff. To identify members, administrators should use diverse marketing strategies and partner with local community organizations. It is important to include community representatives and advocates, especially those who have actively participated and advocated on related topics, because they know more about the various aspects of the program and have the expertise in implementing new ideas to change it. The group must also include members that the program intends to impact the most. Membership should be fluid and evolve over time. This will allow new members to bring new expertise which will diversify the input along the way.

3. **Define the role and tasks of the equity advisory group:** Policymakers should be transparent in explaining the role of the group, its decision-making power, and the scope of its impact and ability to make changes in energy efficiency program design and implementation from the outset. When identifying and establishing metrics, the group's input should be a primary decision maker rather than a secondary concern, with the power to affect changes, modifications, and new initiatives. The four dimensions of energy equity (procedural, distributional, structural, and transgenerational) can serve as a starting point for the equity advisory group to identify objectives and goals. The input should actively transform and create a program informed by the equity group members instead of serving as optional feedback administrators can neglect.

4. **Incorporate feedback into energy efficiency plans**: The equity advisory group should serve as a trusted partnership between policymakers and community members to incorporate the members' input and transform energy efficiency programs so they work for everyone. Their feedback may include: providing inputs into the cost-benefit analysis, developing program recommendations, identifying tracking metrics, and improving goals and performance incentives to encourage equitable program implementation. Policymakers and program administrators can stay accountable and transparent by publishing progress reports, including graphics, on a public-facing website. These progress reports should clearly define the goals, progress on the goals, and additional actions the program administrators must take to achieve those goals.

5. **Regularly meeting and maintaining the equity advisory group**: Over time, priorities, needs, and information can change. To ensure that plans continue to serve historically marginalized and/or excluded communities equitably, the equity advisory group should meet and provide input regularly before and during plan creation and implementation. It is important to maintain the equity advisory group beyond the initial stages as the group may make additional adjustments or modifications over time. Meetings should take place at a time and place that the group can easily access, such as a common

library after work hours. An online component can further increase accessibility for those who may not be able to attend in person. Finally, program administrators must compensate group members for their time, as they are offering their expertise and consultation to improve programs. Compensation should include payment for the time, travel, and other expenses incurred, including childcare.

Equity Advisory Group Examples

Many states have started to form equity advisory groups to ensure equitable program implementation, including New Jersey, Rhode Island, Massachusetts, and Connecticut. Massachusetts created an Equity Working Group in recognition that Mass Save must prioritize equitable access to benefit all customers. Similarly, Connecticut created Equitable Energy Efficiency in recognition of the need to make conscious efforts to ensure that they provide benefits to customers equitably. Below is an overview of their working groups and recommendations.

Massachusetts Equity Working Group (EWG)

In May 2020, the Massachusetts Energy Efficiency Advisory Council (MA EEAC) established the Equity Working Group (EWG) to identify and recommend "priority actions, plans, and partnerships, to increase participation among [moderate-income customers, customers with limited English proficiency, renters, and small businesses]." The EWG consisted of six councilors who represented non-profit organizations, the Office of the Massachusetts Attorney General, organized labor, the Massachusetts Department of Energy Resources (MA DOER), cities and towns in the Commonwealth, and residential customers. The EWG Councilors also included two consultants, program administrators, and one representative from the Low-Income Energy Affordability Network.

In January 2021, the EWG created a framework outlining its process and goals, stakeholder engagement, and an overview of recommendations for program changes. The EWG prioritized data-driven recommendations with meaningful participation and engagement from organizations that represent underserved communities. The EWG held workshops every other week where stakeholders could share their input on a predetermined topic and discuss that input with a consultant team. The meetings included a follow-up questionnaire and survey to identify any needs or recommendations not captured during the meeting. As a result, the EWG created a list of recommendations that included modifications to reporting, reviewing performance of program administrators, moderate-income programs, programs for renters and landlords, improving whole-building services, small businesses, reducing language isolation, ensuring employment opportunities, and creating partnerships.

The EWG used this work to establish a list of Equity Targets for the 2022-2024 Three-Year Plan. The targets provided a framework to guide investments in equity and performance for energy efficiency programs. The targets are time-bound with a quarterly reporting requirement. This allows for continuous feedback and holds the administrators accountable. Additionally, the framework proposed that tracking metrics be broken into customer segments (e.g. moderate-income renter house will be counted as moderate and renter) and created a separate set of tracking metrics for Environmental Justice Municipalities to follow the 2021 Climate Law. The Equity Targets for 2022-2024 Three-Year Plan report provides more details and goals.

Connecticut Equitable Energy Efficiency Proceeding (E3)

Unlike Massachusetts, Connecticut did not establish an equity working group, but instead created an equity proceeding that is ongoing. In September 2020, Connecticut's Department of Energy and Environmental Protection (CT DEEP) initiated the Equitable Energy Efficiency Proceeding (E3). The goals of this proceeding included (1) defining equity in the context of the state's ratepayer energy efficiency programs by developing specific metrics to determine barriers that exist in program adoption among underserved communities, and (2) identifying ways to ensure inclusion and participation from underserved communities.

E3 is an iterative, ongoing process with multiple phases of goal setting and public comments. For each phase, CT DEEP releases proposed goals and actions informed by topics outlined in CT DEEP's Scoping Notice. These topics include defining and measuring progress towards more equitable energy efficiency programs; assessing innovative ways to enhance equity; establishing inclusive marketing, outreach and education approaches; and addressing health and safety barriers to participation. For each topic, the public and interested parties may submit written comments. At the end of the phase, CT DEEP releases a Final Determination that either adopts, modifies, or rejects the proposed goals and actions. The Determinations include a summary of comments from the public and an outline of recommended changes from the stakeholder meetings and public comments. CT DEEP also releases progress reports to ensure consistent inventory of progress on E3 goals. These documents help all stakeholders identify and track the progress of the proceeding.

In July 2021, CT DEEP completed Phase 1 of the program. Phase 1 characterized the current state of energy efficiency programs and identified short-term actions to enhance equity based on the identified barriers and challenges. This phase will serve as a basis for embedding equity further into CT DEEP's programs and institutions. Additionally, in the Winter 2022 Progress Report, CT DEEP hired a diversity, equity, and inclusion (DEI) consultant to help inform program work moving forward. The progress report includes 19 total actions with a 10-box tracker that details progress on the actions. Some important actions include:

- Updating the Equitable Distribution Report to make equity data accessible to a wider audience.
- Including new equity metrics in consultation with the DEI consultant, in addition to equity indicators that are already included.
- Creating a checklist to ensure that public participation is accessible to a diverse group of stakeholders.
- Remediating health and safety barriers to weatherization for low-income homes by developing a DEEP-administered program.

Identifying Disparities with an Equity Gap Analysis

> *"The first step to reducing inequities in energy efficiency is understanding where they exist."* (Mass Save 2022-2024 Energy Efficiency Plan)

An equity gap analysis can help regulators and program implementers understand inequities in access to the benefits of energy efficiency programs. A gap analysis is an important step in understanding how disparate impacts appear in program implementation. Such assessments can help policymakers and program implementers understand how energy efficiency measures have been inequitably deployed in the past and also inform future program design. Further, by conducting these studies, jurisdictions can ensure the resources dedicated to help alleviate energy inequities will be geared towards solutions that are more impactful.

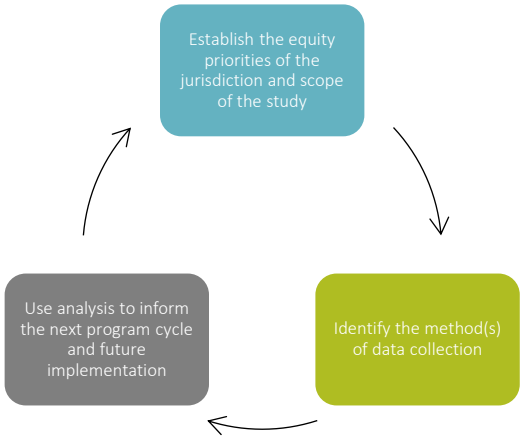
A gap analysis is already common in many fields, including health and racial equity impact assessments. The analysis identifies pre-existing conditions within a community or area. It can help to determine whether the impacts of policies or programs falls disproportionately on a group or population. For reference on how to conduct and integrate these assessments, Pew Charitable Trust's Health Impact Project provides a toolkit of health impact assessments and other resources to support policies that consider health. Race Forward provides a toolkit for racial equity impact assessments.

Gaps in access to and benefits from energy efficiency programs manifest in many ways and vary for each state and community. Many groups have been historically underserved by energy efficiency programs. Some of those groups include BIPOC communities, low-income individuals, renters, youth, older adults, recently arrived immigrants, those isolated by language, and people with disabilities. Black, Brown, and limited-income individuals are more likely to occupy old buildings with deferred maintenance due to racist and discriminatory policies such as redlining, segregation, and income inequality. Finally, the "rural efficiency gap" exists in many rural communities, which have slower uptake of energy efficiency upgrades in homes because of barriers to access, even though their higher energy costs would make these improvements more cost-effective for participants than in urban environments.

An equity gap analysis for energy efficiency programs can provide an overview of inequities that currently exist in a state's energy policy by examining participation, market penetration of clean energy technologies, and/or areas with the highest energy burden. Equity gap analysis can examine distributional equity because it provides insight into whether programs and policies result in fair distributions of benefits and burdens across all segments of a community. The analysis can also serve to inform decisions that address structural equity because it identifies where program implementers should direct the most resources to fulfill areas of highest need. Policymakers and program implementers can then use the analysis to inform future program design by creating programs that seek to address identified gaps.

What Equity Gap Analysis Look Like

Conducting studies to measure existing impacts is a crucial step in understanding how programs have been underserving historically marginalized and/or excluded communities, and can help address issues of structural and distributional equity. To conduct this analysis, policymakers and program implementers should include these steps:



1. **Establish the equity priorities of the jurisdiction and scope of the study alongside members of historically marginalized communities.** Members of historically marginalized and/or excluded communities should have input on the scope and goals of the equity gap analysis to ensure it reflects their experiences and concerns with the current program. Such feedback must be part of a robust community engagement process, building in accountability and trust. Policymakers and program implementers can also look to statewide equity-focused policy, such as legislation or regulatory actions, to inform the scope and goals of the study.
7.
2. **Identify the method(s) of data collection for the equity gap analysis.** Gap analysis studies can include both quantitative and qualitative methods. Quantitative methods provide baselines for metrics measured in dollars, kWh, or percentages of populations. Qualitative methods such as stakeholder outreach in surveys, focus groups, and interviews, with adequate provision of incentives and compensation (including for time, travel, and childcare) for participation, provide better understanding of specific barriers hindering access to certain technologies or participation in government assistance programs. Both types of methods are key for informing program administrators of ways to increase program efficacy and reach.

3. **Use the equity gap analysis to inform the next program cycle and future program implementation.** It is important that policymakers and program administrators use the analysis to inform program design and implementation in current and future cycles. Using the study as a baseline to measure future success will allow for comparison and help to align energy efficiency programs with equity goals. Each new cycle of programs should include a renewed study that includes a meaningful stakeholder process before, during, and after scoping and drafting of the study. Policymakers and program administrators should use active efforts to solicit comments from new voices to ensure that the study can evolve and change over time to continue to serve historically marginalized and/or excluded communities.

Current Examples

In the energy efficiency space, conducting several types of gap analysis that thoroughly examine historical successes and shortfalls is an important step in understanding how programs can best serve their communities and identify areas in greatest need of attention. States have used different forms of equity gap analysis to identify barriers in access to program benefits and inform future program design through examining energy

burden, geographic barriers, and participation gaps. The three examples detailed below provide useful models that other policymakers and program implementers may follow in conducting their own equity gap analyses.

Studying Energy Burden – Vermont

Vermont's 2016 and 2019 analysis studies focused a gap analysis of energy burden in the state, finding it a powerful metric to guide planning that can ensure the most vulnerable communities are prioritized. Both studies looked at patterns in energy expenditures throughout Vermont communities and studied how much Vermont residents pay for thermal energy, electricity, and transportation energy. Specifically, the state analyzed spatial patterns of energy expenditures (average dollars spent each year) and burden (spending as percent of income for a census block group). The 2016 study found distinct spending patterns showing that higher-income households can access and invest more easily in efficient technologies and home improvements.

In 2019, the study was conducted again to examine whether and how increasing availability of clean energy technologies impacted household energy spending. While there were no changes in basic patterns found from the first report, the second study changed the granularity of analysis from census block group to town level to improve the value of analysis for local planning. The study found that towns with the highest energy burden were the least likely to participate in programs, even though these were the communities that needed them the most.

The 2016 and 2019 Energy Burden studies allowed the state to target its areas of greatest need for improvement, refocusing and redesigning programs to alleviate energy burdens for the most vulnerable populations in the most cost-effective ways. The results of the analysis informed the creation of a new suite of programs focused on community-wide engagement and tailored to target the needs of Vermonters with high energy burdens. These initiatives include:

- Collaborations with Vermont Agency of Commerce and Community Development (ACCD) to offer enhanced incentives to businesses;
- Increased incentives for moderate-income Vermonters to weatherize their homes;
- The launch of a new Targeted Communities Program in partnership with ACCD to bring enhanced incentives and door-to-door outreach to the state's designated downtowns;
- Complete redesign of a program that provides free appliance and heating equipment to low-income Vermonters with high energy usage; and
- Renewed focus on helping rental property owners complete upgrades.

Studying the Rural Efficiency Gap Barriers – Alaska, Maine, New Hampshire, Vermont

A geographically-based gap analysis enables state design of more effective and accessible programs for households with difficulty accessing public resources by opening lines of communication, outreach, and collaboration. An urban/rural energy efficiency gap has been studied in Alaska, Maine, New Hampshire, and Vermont. The Island Institute conducted a study, "Bridging the Rural Efficiency Gap," that found that the percentage of household income spent on energy bills is 33 percent higher in rural areas and participation in energy efficiency financing and rebate programs can be significantly lower.

The study identified three buckets of barriers to rural energy efficiency programs and potential solutions, as follows:

Geographic	
Barriers	**Solutions**
• Geographic isolation (physical distance, lack of economies of scale in infrastructure) • Lack of skilled workforce availability	• Setting equitable implementation goals • Aggregate demand and purchasing to overcome lack of economies of scale • Community partnerships with local organizations and local workforces
Financial	
Barriers	**Solutions**
• High upfront costs • Higher energy burdens • Unwillingness acquire debt for efficiency, limiting participation in standard loan program availability	• Flexible program designs with staged upgrades • Support from third parties for co-pay, and do-it-yourself incentives • Innovative financing structures involving on-bill financing for thermal efficiency measures
Awareness and Access	
Barriers	**Solutions**
• Traditional marketing channels may not reach rural residents and rural residents may be skeptical of whether programs will help	• Education and leverage of community-based organizations • Convening stakeholders to share information and resources • Cross-sector collaboration with public health and building stock

Studying Barriers to Participation – Massachusetts and Rhode Island

Studies of customer profiles and barriers give states insight into which populations are being underrepresented in program participation and an understanding of how to reach them more effectively so that historical inequities in access can be redressed. These studies have been conducted in both Massachusetts and Rhode Island. In 2021, Rhode Island conducted a "Participation and Multifamily Census Study" and a "Nonparticipant Market Barriers Study", which informed the recommendations of the 2021 Rhode Island Energy Efficiency Equity Working Group.

In Massachusetts, program administrators commissioned three gap analyses to understand barriers in the energy efficiency market and to inform program design for the 2022-24 energy efficiency program. These studies included the Residential Non-Participant Customer Profile Study, the Residential Non-Participant Market Characterization and Barriers Study, and the Commercial and Industrial Small Business Non-Participant Customer Profile Study. Together, these studies analyzed the percentage of participation across different populations and found the greatest difference between renters and homeowners, at a 10 percentage-point difference. Using this data, program administrators concluded that successful efforts must address both financial and non-financial barriers, and introduced program enhancements to increase equity. These included an enhanced community partnership program, enhanced incentives for moderate-income customers, environmental justice community-targeted programs, increased accessibility via addressing language barriers, and increased outreach to renters.

Accounting for Equity in Cost-Benefit Analysis

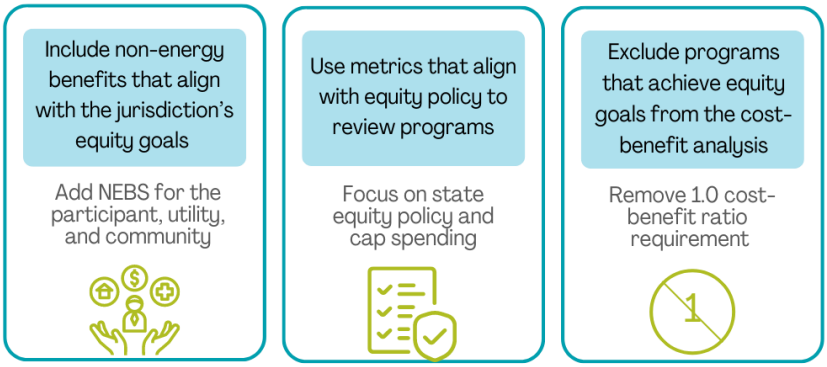
Current cost-benefit analysis practices ensure energy efficiency programs deliver cost-effective energy savings. This means inputs to the cost-benefit analysis look only at energy costs and savings, which does not account for environmental, economic, and health impacts of programs. Centering equity in program design requires that programs prioritize energy plus environmental, economic, and health impacts of programs. Implementing equitable energy efficiency programs provides benefits beyond energy as they improve neighborhoods and the built environment through investing in housing, reducing air emissions, and improving public health.

Cost-benefit tests are used to assess the cost-effectiveness of various energy resources such as energy efficiency, pipe and wire infrastructure, and other distributed energy resources to ensure ratepayer investments result in benefits for customers, utility systems, and society. State utility regulatory agencies usually establish the cost-benefit test and have program implementers apply it to proposed programs to ensure that the benefits of the programs outweigh the cost.

Every state uses a different approach and input values for cost-benefit analysis. But there are five tests that states usually use for energy efficiency evaluation: Utility Cost Test, Participant Cost Test, Ratepayer Impact Measures Test, Total Resource Cost Test (TRC), and Societal Benefits Cost Test (SBC). Three of the tests – the Utility Cost Test, Participant Cost Test, and Ratepayer Impact Measures Test – focus on costs and benefits on the energy system from only certain perspectives: the utility, participant, or ratepayer. Two of the tests – Total Resource Cost Test (TRC) and Societal Benefits Cost Test (SBC) – take a more holistic view, building on each other to capture a fuller picture of both costs and benefits. The Total Resource Cost Test (TRC) considers the energy impacts for both utility and participants. The Societal Benefits Cost Test builds on the TRC to include costs and benefits to society as a whole, known as non-energy impacts. These impacts can include public health, greenhouse gas emissions, and economic development. The National Energy Screening Project provides state cost-effectiveness fact sheet for which test and inputs states use for their cost-benefit test.

Pathways to Centering Equity in Cost-Benefit Analysis

A majority of states still use the Utility Cost Test or Total Resource Cost Test to determine if programs are cost effective. The narrow focus of current cost-benefit analysis ignores the environmental, economic, and health impacts these improvements have and can become obstacles to implementing programs that target energy equity needs. States have used three pathways to address this barrier so far:



8.

Exclude Programs That Are Designed to Address Inequities from a Cost-Benefit Analysis

While most energy efficiency programs must pass a cost-benefit analysis, some states have created exemptions for programs that seek to encourage participation and remove barriers for historically marginalized and/or excluded communities. These programs include those that are focused on serving low- and moderate- income customers or fulfill an energy equity priority of the state.

Regulatory agencies can exempt specific programs or whole portfolios from the requirement to achieve a 1.0 cost-benefit ratio by allowing a lower threshold. This approach recognizes hard-to-monetize benefits of these programs without the need to calculate specific monetary or other proxy values. However, it is important to remember when programs are excluded from cost-benefit analysis, other regulations and guidance should step in to ensure programs are still achieving state policies and benefits are still flowing to historically marginalized and/or excluded communities. For example, in Maryland and Ohio programs that serve low-income customers do not need to pass cost-effectiveness testing because they provide benefits that are difficult to monetize like addressing barriers in program implementation and decreasing energy burden.

In order to encourage program administrators to design programs for historically marginalized and underserved communities, policymakers can mandate energy efficiency programs incorporate equity-focused goals through changes in program design and portfolio composition, tracking metrics, goals, and performance incentives. During this process, policymakers should consult with and incorporate suggestions of community stakeholders to inform program design and goals. Additionally, providing guidance in other areas of program design and EM&V can help program implementers design programs that align with policy and provide for more uniform and transparent program review.

Include Non-Energy Impacts That Align with Equity Policy

Inequities in the energy system cause negative health and societal outcomes as they impact conditions in the environments where people live, work, and learn. Moreover, implementing equitable energy efficiency programs provides benefits beyond energy. Such programs improve neighborhoods and the built environment though investing in housing, reducing air emissions, and improving public health. Adding non-energy impacts (NEIs) to cost-benefit analysis creates a more complete and balanced analysis of energy efficiency program impacts by accounting for these benefits. This can better align the cost-benefit analysis with state equity goals and support more comprehensive community-focused programs.

There are many NEIs that policymakers can seek as energy efficiency programs provide non-energy impacts for participants and community. For participants, benefits include lower energy burden, improved health and safety, increased property value, and lower maintenance costs from improvements in the home. For the community, programs provide benefits such as reduced environmental pollutants, improved public health, lower monthly utility bills, and improvements in housing stock efficiency, increasing community-wide property values. Including these benefits can encourage program implementers to offer them as the cost-benefit analysis will better represent the value of combining efficiency with other efforts like health and safety repair.

States can modify tests by including additional NEI metrics to existing tests in a public proceeding or by creating a Jurisdiction-Specific Test. While identifying proper metrics for tests can be challenging, states can, in the near term, use other resources that have captured the benefits or include an equity adder. An equity adder quantifies the disproportionate impacts and benefits felt by underserved communities without needing to identify precise numbers for each benefit. Current adders for low-income programs range from 50 percent in Colorado, 25-20 percent in New Mexico and Nevada, 15 percent in Vermont, and 10 percent in New Jersey and Utah. These adders represent a range of benefits including reduced energy burden, increased comfort from more controlled indoor climates, investment in homes, and health and safety for participants and communities. To include more precise metrics, states can use information from studies in other jurisdictions that identify specific amounts for the benefits that flow to historically underserved and overburdened communities. See Appendix A for a list of resources.

Use Metrics That Align with Equity Policy to Review Programs Instead of a CBA

An alternative to lowering the cost-benefit threshold or adding non-energy impacts is to create metrics that align with state equity policy as evaluation criteria for programs and place a cap on spending. This is referred to as program segmentation. Program segmentation can help evaluate and streamline offerings because all programs offered by energy companies are together in one part of the portfolio. Segmentation provides increased accountability since progress is assessed for each sub-portfolio of programs. This provides a clear sense of program objectives for program administrators, local governments, third-party providers, and other stakeholders.

In California, the Public Utilities Commission (CPUC) divided its energy efficiency portfolio into three segments: resource acquisition, market support, and equity.

1. Resource Acquisition includes programs that will provide cost-effective savings during the program cycle;
2. Market Support includes programs whose primary purpose is to support the long-term success of the energy efficiency market through educating customers, training the workforce, building partnerships, and accelerating adoption of clean energy technologies; and
3. Equity includes programs whose primary purpose is to provide energy efficiency to historically marginalized and/or excluded communities aligned with the Commission's Environmental and Social Justice Action Plan.

While market transformation and equity programs are exempt from cost-benefit analysis, these programs are capped at 30 percent of total program spending and must achieve targets identified through an inclusive stakeholder process, which ensures they will achieve the policy objectives of the state and reflect the needs of the local communities. Creating performance metrics and capping spending can ensure that investments in energy efficiency programs yield benefits aligned with state policy and are at an appropriate level of spending.

The CPUC made this division because it found it difficult to assign values to benefits from equity-focused initiatives such as public health, economic, and improved housing. Further, it discovered that focusing on cost-effectiveness as a decision point resulted in administrators prioritizing cost-effectiveness over other state policy

objectives like equity, market transformation, and strategic electrification. Other states can adopt this policy as well by segmenting their equity-focused programs, identifying a percentage of budget for their programs, and establishing a transparent and inclusive stakeholder progress to identify performance metrics or goals.

Appendix A: Studies That Identify Benefits for Low-Income and Community-Based Programs

Resource	Summary
Skumatz Economic Research Associates, Non-energy impacts/Non-Energy Impacts (NEBs/NEIs) and Their Role & Value in Cost-Effectiveness Tests: State of Maryland, March 2014.	Study provides NEB values identified from other literature to be used in Maryland's CBA, including utility arrearages/financial impacts, societal emissions impacts, societal economic impacts, participant comfort/noise impacts, health/ safety impacts, home improvement impacts, and savings on other bills.
Apprise, Inc. Connecticut Non-Energy Impacts - Literature Review: R1709, December 2018	Study provides a review of research and values for NEIs completed in 2000 or later with original research and calculation of NEB values. It includes values for medical/health, safety, comfort, affordability, operation and maintenance costs, water usage, economic, property value, utility rates and arrearage reduction, transmission & distribution, and environmental, including avoided emissions and participant valuation.
Independent Electricity System Operator: Non-Energy Benefit Study: Phase II – Quantified Benefits and Quantitative Insights, July 2021.	Study presents values for non-energy impacts for low-income and First Nation participants, as well as residential commercial, institutional, industrial, and agricultural. The numbers are specific to Ontario, but the methodology is replicable.
Three Cubed, Non-Energy Impact Analysis for Xcel Energy's Low-Income Programs, June 2020.	Study of NEIs that result from Xcel Energy Colorado's low-income programs, including participant/household benefits of lowering asthma, heat stress, cold stress, missed days of work, predatory loans, reduced fire risk, carbon monoxide poisoning, reduced utility disconnects and increased food security, and societal benefits from lowering asthma rates, heat stress, cold stress, missed days of work reduced fire risk, carbon monoxide poisoning, and increased food security.
EPA, Quantifying the Emissions and Health Benefits of Energy Efficiency and Renewable Energy, Part Two, Chapter Four.	Report provides tools to help analysts and decision-makers in states and localities understand methods, tools, opportunities, and considerations for assessing emissions and health benefits of energy efficiency and renewable energy policies, programs and measures.

Identifying Equity-Centered Tracking Metrics

Equity-related tracking efforts, whether in the energy efficiency space or beyond, are important ways to better understand current practices, identify gaps, see trends over time, and provide accountability. Traditional energy efficiency program metrics focus on energy and demand savings, which perpetuate program design that focuses on cost-effective programs that deliver guaranteed savings. The focus on costs and savings disregards concerns about equitable impact and access. Equity-focused tracking metrics help set appropriate and achievable equity-related goals to undo these past disparities.

It is important to identify and implement equity-focused tracking metrics in energy efficiency programs because these metrics highlight gaps in program accessibility and delivery between customer groups and provide accountability to reduce those gaps. By using metrics, program administrators can monitor the success of programs and, if underperforming, modify programs in real time. Below we have outlined how states and programs can begin to incorporate equity-focused tracking metrics, and have proposed metrics to address structural, distributional, and procedural equity.

Creating Equity Centered Tracking Metrics

Establishing equity-focused tracking metrics is an important early step in the process of working towards more equitable energy efficiency programs. Legislation, an order from the regulatory agency, or a request from advocates in a state can mandate that program administrators track equity-focused metrics. Below are three key components policymakers should incorporate into equity-focused tracking metrics to improve energy efficiency program delivery and performance for all customers.

- Step 1**: Initiate a public process to inform and identify proper metrics.** Program administrators can create public meetings or establish a working group. The meeting or group must include representatives from the community and they must have equal voting power to effect change. Their engagement and input should be the primary driver in identifying proper metrics.
- Step 2**: Identify tracking metrics for current and future planning cycles.** Initial efforts can target easy-to-measure and low-cost metrics such as program participation and EE workforce development for future cycles, and states can expand their efforts to cover other harder to measure and/or more costly equity-focused metrics. Further, data from the equity-focused tracking metrics can inform equity-related goals and performance incentives.
- Step 3**: Report these metrics publicly and in a timely manner.** States can mandate program administrators to report these metrics publicly and use this information to inform the next suite of programs, but administrators can also publish their reports without any legislation or regulation. Reports must present metrics in an easily understandable and accessible manner, including clear, readable tables, graphs, and charts, to all members of the public. Public reporting allows for transparency and accountability in program implementation. Additionally, frequent reporting allows for continuous program modifications and timely improvements.

Equity Centered Tracking Metrics

For policymakers and program administrators, tracking equity-centered metrics is an important step to ensuring more equitable program design and implementation, as this data allows them to measure progress and the impact of programs. To encourage energy equity, states can use many different metrics and tailor them to their policies and desired outcomes.

Below is a sample of ways programs can track equity that focus on outcomes and accountability, using metrics outlined in the ACEEE Leading with Equity Initiative and VEIC's the State of Equity Measurement: A Review of Practices in the Clean Energy Industry. These metrics are divided into three categories based on whether they primarily promote procedural, distributional, or structural equity, with transgenerational equity considerations embedded into each of the three buckets.

Procedural Equity Metrics:

Programs achieve procedural equity when they embed inclusive, accessible, authentic engagement and representation in processes to develop or implement programs and policies. Tracking metrics that align with procedural equity can encourage program implementers to create more opportunities for stakeholder engagement and input on energy efficiency plans and implementation practices. Program administrators can track efforts to encourage procedural equity through engagement processes that incorporate feedback into plans and outreach efforts such as language access.

- **Engagement Processes:** This metric can assess whether programs have processes and input structures in place to ensure access to and participation in decision-making processes for people from historically marginalized and/or excluded communities. Program administrators can measure this through working groups, stakeholder meetings, and other opportunities for inclusive and accessible public comment. Additionally, government staff and program implementers can publish and respond to written comments online, in an effort to show why they adopted certain policies.
- **Language Access**: This metric informs the number and type of communication channels the program administrators used to ensure that historically marginalized and/or excluded communities are part of the engagement process. Program implementers can gather information by working with existing community organizations that can provide guidance on the languages spoken in the community and possible language barriers to engagement. They can also use community data to find commonly spoken languages in the community. From there, the administrators can track, record, and report the various channels of communication they provided, such as interpretation and translation, to ensure better access to the engagement process.

Distributional Equity Metrics:

Distributional equity-focused tracking metrics can measure whether programs and policies result in fair distributions of benefits and burdens across all segments of a state, and encourage program implementers to prioritize areas with the highest need. Historically, program implementers have only been required to offer equal access in programming or to spend a minimum amount to reach historically marginalized and/or excluded communities. Distributional equity-focused metrics are important tools to right this wrong because they require program implementers to report on participants in programs and can identify if programs meant to target historically marginalized and/or excluded communities are accomplishing these goals of if they should be modified or changed.

- **Program Interest by Demographic**: This metric provides additional context beyond actual program participation to see how many customers want to participate in programs, even if they do not take further steps to participate. Depending on program priorities, this metric can also include the number of outreach activities in historically marginalized and/or excluded communities.
- **Program Participation by Demographic**: Measuring the number of customers a program serves can gauge the extent to which residents of historically underserved territories or traditionally disadvantaged populations participate in programs. States can tailor this measure to track participation by zip code or census tract, income level, race, educational background, age, and owner/renter. For additional analysis, program implementers can compare program participation to the percent of marketing spent to target that specific demographic.
- **Money Spent on Marketing:** Tracking and reporting on program administrator investment in marketing materials for historically marginalized and/or excluded communities will ensure that program administrators appropriately market programs to targeted communities to increase participation.
- **Program Participant Average Age**: Program administrators, government staff, and other stakeholders can use data on the age of program participants to determine whether programs exclude certain age ranges and customer types. This can be important if a program aims to target renters, who are usually younger and older residents that typically have limited income and lack access to typical marketing channels.
- **Home Type Served (single family or multi-family, homeowner or renter-occupied):** Program administrators can report on the types of homes participating in energy efficiency programs through total homes served or percentages (i.e. percentage of multi-family homes compared to all residential homes). Tracking this metric can help program administrators see the extent to which programs serve the rental and multi-family market.
- **Income Level of Households Served**: This metric can help determine if the average income level of households served by an energy efficiency program is higher or lower than the area, state, or federal average. Participation rates for lower-income households are often lower than participation rates for higher-income households. This metric can show the extent of this disparity in energy efficiency

programs. Program administrators can also use this information to inform incentives, marketing, and financing offered in energy efficiency programs.

- **Program Investment by Demographic**: This metric can determine if program spending is equal to the percentage of customers a utility serves. With this metric, stakeholders can see the level of program investment compared to customers broken down by demographic sector or community level. This can include incentives received by program participants as well as other program costs (administrative, evaluation, and marketing) that utilities invest.
- **Clean Energy Technologies Installation**: This metric can track the number of technologies adopted by participants and certain communities. Program administrators can use this measurement to track adoption of technology by participants throughout the state divided by geographic or demographic region. Measurements can show where programs succeed and where changes in delivery and marketing may need to take place. For example, Efficiency Maine Trust has established program goals related to weatherization and heat pump installation that specifically focus on low-income populations and require geographic tracking of program participation to ensure programs install technologies in historically marginalized and/or excluded communities.

Structural Equity Metrics:

Structural equity metrics track whether decisions on program design and implementation are made with a recognition of historical, cultural, and institutional dynamics that have routinely disadvantaged historically marginalized and/or excluded communities and routinely advantaged privileged groups. Some of these metrics include investment in historically marginalized and/or excluded communities and whether the workforce is representative of the local population.

- **Workforce/Jobs Created**: These metrics evaluate a workforce program's effectiveness in prioritizing targeted communities and can ensure equal opportunities from energy efficiency investment benefits. They can include demographic data of participants, number of workers trained and licensed in the field, training opportunities offerings, outreach to targeted communities, partnerships with local organizations, and investment in creating program and subsidizing trainings and certifications for participants.
- **Local Business Participation**: These metrics can track participation of local and small businesses to ensure that these programs focus on providing community wealth. Metrics that track workforce growth and hiring practices can provide accountability and access to help undo these barriers. For example, public-facing reporting on transactions with women-owned or minority-owned businesses (WMBE) can encourage companies to expand their relationships with businesses. This metric can go beyond how many jobs a program created and dig deeper to see the percentage of LMI communities, women, and/or BIPOC individuals working those jobs.

Examples of States Incorporating Equity Metrics

States have started to create specific tracking metrics to assess equity in program design and delivery. Below are examples of several efforts:

- **Massachusetts**: In Massachusetts, the Energy Efficiency Advisory Council (MA EEAC) and energy efficiency program administrators (PAs) have pledged to improve the equitable delivery of energy efficiency programs. As a step towards this commitment, the MA EEAC convened an Equity Working Group that established equity-related targets for the state's 2022-2024 three-year energy efficiency plan. These targets require tracking equity-related metrics on a quarterly basis in several categories.
- **Connecticut**: In 2020, the Connecticut Department of Energy and Environmental Protection (DEEP) engaged in an Equitable Energy Efficiency (E3) Proceeding to define equity in the state's energy efficiency programs, develop metrics to better understand which customer segments the programs underserved, and work toward greater participation and inclusion of those underserved customer groups. One of this proceeding's goals is to "enhance tracking of equity indicators in C&LM (conservation and load management) programs." Actions in this area include tracking and assessing historic, current, and future energy efficiency program participation in priority communities, which a census tract basis defines as: households with high-energy burdens, communities of color, and areas with high rates of arrearages and utility shutoffs.
- **Oregon**: In 2018, the Energy Trust of Oregon developed equity related targets by engaging with the diversity, equity, and inclusion committee and the management team for six months. The proceeding aimed to create a plan for providing program benefits to historically marginalized and/or excluded communities. It included metrics such as the "number of contracts executed by minority and women-owned businesses" and "increase[d] customer participation in energy efficiency programs for all underserved population". Its 2021 progress report provides updates on the status of the targets and how close they are to completion, including specific percentages and a color-coded key.

Creating Equity-Centered Program Goals

Oftentimes, equity of treatment, program access, and outcomes are expressed as a policy but not as a program requirement. Policymakers can change this dynamic by creating goals that align with energy equity policy. Identifying a goal or goals for energy efficiency programs that prioritize energy equity can make policy a program requirement. Aligning energy efficiency program goals with energy equity will ensure program administrators prioritize equal access to benefits and opportunities for meaningful participation of representatives from historically marginalized and/or excluded communities.

Typically, energy efficiency goals focus on first-year or near-term energy savings because energy efficiency programs have long prioritized near-term, cost-effective savings. These goals often take the form of Energy Efficiency Resource Standards (EERS), which are policies requiring utilities to achieve certain levels of customer energy savings. A state may have annual or cumulative savings goals expressed as percentages that increase over time. These goals, based on savings or cost-effectiveness, perpetuate disparities and inequities.

Aligning energy efficiency program goals with equity can begin to undo long-standing burdens disproportionately faced by low-income, minority, and otherwise historically marginalized communities. Further, it can send a signal to program implementers that energy efficiency program priorities are shifting to include energy equity as well as cost-effectiveness and energy savings.

Creating Equity Centered Goals

Establishing equity-focused goals is an important step in working towards more equitable energy efficiency programs. Several vehicles, including legislation, an order from the regulatory agency, or a request from advocates in the state, can be used to mandate that program administrators adopt and use equity-focused metrics. It is important that the process of adopting equity-focused metrics to determine the goals includes:

- Opportunities for meaningful stakeholder engagement that helps to formulate the goals
- Evaluation ensuring that goals are built on restorative justice and equity policy of the state
- Tracking and reporting in a public forum that provides clear progress reports on achieving these goals

Types of Equity-Centered Goals

Establishing state goals centered on equity encourages program designers to innovate in order to align with these goals and priorities. Below is an overview of potential goals that prioritize procedural, distributional, and structural equity with examples of these goals in action. Considerations of transgenerational equity goals are embedded in each.

Procedural Equity Goals

Procedural equity is when programs embed inclusive, accessible, authentic engagement and representation in processes to develop or implement programs and policies. Ensuring procedural equity means that community members have "authentic leadership roles that define, drive, and hold accountable clean energy policy and program decisions and outcomes." Procedural equity goals require program administrators to engage and empower historically marginalized and/or excluded communities in stakeholder processes and in access to workforce opportunities.

- ***Community Engagement Goals:*** Community engagement goals measure actions supporting community members to define and drive program design and implementation of energy efficiency programs. Policymakers can set specific goals to ensure community membership in planning and organizational boards to foster more diverse composition of these boards, to interact more with community-based organizations, and to increase the number of community-based recommendations adopted as a policy or requirement for programs.

- ***Workforce Representation Goals****:* These goals ensure that the workforce and investments in businesses to implement energy efficiency programs are representative of the community the program is meant to serve. These goals are currently in place in Oregon, where the Energy Trust of Oregon developed a DEI Operations Plan with specific goals related to ensuring equity in workforce training and hiring practices. It included goals such as: increase participation in its Trade Ally Network among minority- and women-owned businesses, increase the number of projects completed by minority- and women- owned businesses, increase market awareness and understanding of underserved populations, and increase diversity in recruitment and hiring.

Distributional Equity Goals

Distributional equity ensures that programs and policies result in fair distribution of benefits and burdens across all segments of a community, prioritizing the highest need. Currently most energy efficiency programs require only that all residents have equal access to participate in programs, which is why most states have a low-income portfolio or set of programs or spending target. Creating distributional equity goals for programs will change the status quo because program administrators will be required to deliver benefits to those historically marginalized communities. This shift will not only encourage program offerings for historically marginalized and/or excluded communities but also mandate that they produce results.

- ***Equitable Distribution of Benefits Goals:*** Equitable distribution of benefits ensures historically marginalized and/or excluded communities receive equitable benefits of programs, not just access. By creating a savings goal for environmental justice communities, moderate- and low-income customers, small businesses, and other historically marginalized groups, state policymakers will encourage program design to deliver to these areas, resulting in additional targeted resources that may have otherwise never existed. Targeted savings for historically marginalized and/or excluded communities also creates investment in buildings, homes, and local businesses, which builds community wealth.

- ***Energy Affordability Goals***: Disparities in access to program benefits also manifest in energy bills and energy burden. Across the United States, the median energy burden for Black households is 43 percent higher than for White households. Creating a goal based on energy affordability can direct resources to these customers. This goal can be implemented through requiring a lower number of shutoffs, a reduction of energy bills, or indicating that programs have alleviated energy burden in the territory.

- ***Participation Goals***: Setting a goal related to participation will mandate that programs provide benefits to residents of historically underserved territories or traditionally disadvantaged populations. By creating a mandate that requires participation, program administrators will have to design and deliver programs that address participation barriers. This can incentivize innovation and increase community outreach. This goal can be applied to increase renter participation, increase participation in underserved communities, and/or other areas identified by state equity policy.

Structural Equity Goals

Structural equity goals can institutionalize accountability so that decisions are made with recognition of historical, cultural, and institutional dynamics and structures have routinely advantaged privileged groups. These goals can ensure that programs do not perpetuate disparities and instead look to build community wealth by ensuring equitable access to economic opportunities in the energy efficiency workforce and ensuring access to clean energy technology for all customers.

- ***Equitable Workforce Goals*:** Communities of color disproportionately lack access to jobs and wealth creation opportunities that result from clean energy investments. Setting goals to encourage a more diverse workforce in local communities can foster career opportunities and economic growth in the energy efficiency industry for historically marginalized populations. Policymakers can set goals that encourage local hires, setting targets for the percentage of workforce that should reside within historically marginalized and/or excluded communities. They might also require that a percentage of businesses hired by program implementers be local businesses and/or minority owned. Equitable workforce goals can encourage the growth of a local workforce that is ready to be a part of the growing clean energy transition.

- ***Equitable Market Transformation Goals*:** Equitable market transformation goals built around delivering services to historically marginalized and/or excluded communities can increase access to programs and help to eliminate barriers to early adoption. A goal based on the number of weatherization projects completed can drive innovative program design to address barriers such as health and safety and siloed funding of state resources. Benchmarks on clean energy technology, such as heat pumps and electric stoves, can help address the barriers to adoption. Without intentional intervention, these policies can reinforce economic and racial inequities. By creating a mandate to deliver programs to historically marginalized and/or excluded communities, policymakers can encourage the development of programs designed to advance the economic and environmental benefits of clean energy technology. For example, the Efficiency Maine Trust has a mandate to advance weatherization, heat pumps, and electric vehicles specifically in low-income communities throughout the state.

Performance Incentives that Align with Equity Priorities

Performance incentive mechanisms (PIMs) are financial incentives or penalties that encourage program administrators to achieve certain targets or performance levels. If performance incentives are designed to encourage energy equity, program implementers will deliver more programs to historically marginalized and/or excluded communities. Policymakers can do this by adding energy equity performance incentives that align with state energy equity policy to a program administrator's portfolio.

Performance incentive mechanisms encourage utilities to reach a level of performance by offering them a financial incentive. Performance incentives are a key component of energy efficiency programs because they can allow investments in energy efficiency programs to compete with utility investments in pipes and wire infrastructure, removing what is known as the throughput incentive. The throughput incentive is the term for the financial disincentive for utilities to offer energy efficiency programs. Since utilities earn profits through increased sales of electricity whereas energy efficiency programs aim to reduce sales.

PIMs are still a largely untapped resource to incentivize energy efficiency programs, and like other parts of the EM&V process, still focus largely on savings and cost-effectiveness. Yet, these tools can encompass numerous areas depending on state needs, and work to align the utility business model with state equity and climate policy. This report will outline ways to encourage energy equity through performance incentive structures and identify current PIMs structures that can serve as models for other jurisdictions.

Establishing Performance Incentives that Center Equity

Policymakers can add energy-equity focused PIMs to energy efficiency portfolios to include representatives from historically marginalized and/or excluded communities in many ways, including:

- **Using a stakeholder process that allows for meaningful stakeholder engagement from initial concept to final performance incentive structure.** PIMs are meant to encourage program implementers to be innovative in achieving a performance requirement. It is important in establishing incentives focused on energy equity that the needs of historically marginalized and/or excluded communities are a priority. Policymakers and program implementers can do this through creating a robust stakeholder process and incorporating feedback throughout the design process.
- **Using multifactor PIMs structures and clearly defining metrics for performance.** Multifactor PIMs include a number of different targets that program implementers must achieve to receive an incentive. This type of PIMs structure can allow for energy-equity PIMs to work in conjunction with state energy efficiency goals around energy savings and cost-effectiveness. For example, Massachusetts uses multi-factor PIMs that include: cost-effectiveness, energy savings, electrification, and equity. To make these performance incentives successful, it is important to identify clear metrics for program implementers to meet that can be monitored, quantified, and verified.
- **Identifying reasonable incentives and penalties to both encourage utility investment and avoid costs to ratepayers.** In establishing PIMs, it is important that incentives are transparent, valued at an appropriate amount, and reward performance. Policymakers can establish incentives in three different ways: shared net benefits, pool of shared incentives, or rate of return. Shared net benefit incentives

allow program implementers to earn a percentage of the net benefits from delivered energy efficiency programs. With rate-of-return incentives, program implementers earn an incentive based on a percentage of total program budgets. A pool of shared incentives is where policymakers identify a total amount of incentives that can be split among program implementers.

Centering Energy Equity with PIMs

Below is a list of performance incentives that can encourage energy equity in program design and performance. These PIMs are categorized based on whether they primarily promote procedural-, distributional-, or structural equity. Considerations of transgenerational equity are embedded in each.

Procedural Equity Performance Incentive Mechanisms

Procedural equity performance incentives encourage inclusive, accessible, authentic engagement and representation in processes to develop or implement programs and policies. Ensuring procedural equity means that community members "define, drive, and hold accountable clean energy policy and program decisions and outcomes." Performance incentives that encourage procedural equity will encourage program implementers to engage with and incorporate feedback from historically marginalized and/or excluded communities for both program design and workforce efforts.

- **Participation of Underserved Customers**: This incentive encourages program administrators to conduct additional outreach and promotion to underserved communities. Setting a performance incentive that drive participation can address distributional equity, as this performance incentive distributes benefits of programs to historically under-participating segments. Including a participation metric for customers in historically marginalized communities can also encourage coordination with local community agencies. Community-based organizations, who have built trust with local residents, can be a valuable resource to increase participation of the community members in energy efficiency programs and workforce training opportunities.
- **Workforce Composition Metrics**: Setting a performance incentive based on the number of workers hired and promoted from community training programs can also provide an incentive to create relationships with locally-based organizations. Incentives that look to increase transactions with women-owned or minority-owned businesses (WMBE) or hire locally/diversify their workforce can encourage program implementers to expand their relationships in order to meet these targets. For more information on workforce best practices, see NEEP's Equitable Workforce Best Practice Guidance.

Distributional Equity Performance Incentives

Distributional equity performance incentives can encourage program implementers to design programs that prioritize historically marginalized and/or excluded communities because they require that all customers receive the benefits of energy efficiency programs. Currently, energy efficiency program implementers are required to ensure access to programs, which is why most states will have a low-income portfolio, set of programs, or spending target. By encouraging that a certain amount of savings or benefits result from programs that aim to achieve distributional equity, policymakers can ensure that program administrators focus on designing programs that break down past participation barriers such as siloed funding and marketing. This will encourage programs to not only be offered to historically marginalized and/or excluded communities, but also that they be successful in them.

- **Net Benefit Performance Incentive**: Program administrators earn an incentive based on the net benefits they achieve from energy efficiency programs. If program administrators are able to achieve a portion or all of the net benefits identified for targeted communities, the utility or program administrator can receive an incentive.
- **Low-Income Savings Performance Incentive:** Program administrators earn an incentive by achieving a certain amount of savings. Current energy efficiency program PIMs focus on energy savings, which can lead to program implementers overlooking other important considerations – such as equity and accessibility – when delivering programs. Including a savings target that requires a portion of savings from environmental justice communities, moderate- and low-income residents, small businesses, and other marginalized groups identified by state policy will encourage program design to deliver to these areas, ensuring equitable access.

Structural Equity and Performance Incentives

Structural equity performance incentives seek to ensure that programs do not perpetuate disparities that have resulted from historic, cultural, and institutional dynamics and build community wealth. Performance incentives to encourage structural equity will ensure equal access to the benefits of energy efficiency programs and proactively remove barriers that have prevented participation by historically marginalized and/or excluded communities.

- ***Equitable Market Transformation Performance Incentive*:** Program administrators can earn an incentive for achieving targets that prioritize investment of clean energy technology in historically marginalized and/or excluded communities. This performance incentive can be based on the number of weatherization projects completed or benchmarks that accelerate adoption of clean energy technology, such as heat pumps and electric stoves. Setting performance incentives focused on accomplishing benchmarks instead of a number of savings is one way to encourage program administrators to be innovative in design and execution of programs that address historical barriers to adoption. Policymakers can use state climate plans or other targets to identify appropriate metrics, such as implementing interim targets through energy efficiency plans to achieve a statewide goal of weatherizing homes.

- ***Equitable Workforce Performance Incentive*:** Creating a performance incentive to encourage more diverse hiring practices in local communities can foster career opportunities and economic growth in the energy efficiency industry for historically marginalized populations. Program administrators can earn a performance incentive for training and contracting with local and/or minority owned businesses.

Examples of States Establishing Energy Equity Incentives

Below are examples of two states that have included performance incentive mechanisms that align energy equity PIMs with other state energy efficiency goals. In 2021, Hawaii approved a performance-based rate structure that included a new portfolio of PIMs. In 2022, Massachusetts adopted a multi-factor PIM that included a metric for participation. Below is a preview of both of these mechanisms and process used to identify them.

Hawaii

In Hawaii, the Public Utility Commission (PUC) adopted a performance-based rate for Hawaiian Electric. Under the performance-based rate structure established for Hawaiian Electric, the company earns additional revenue if it achieves performance in key areas: interconnection, low-to-moderate income energy efficiency, and advanced metering infrastructure. The decision to include performance-based rates and the scheme to use them was a culmination of over two-and-a-half years of work through a stakeholder process that included utilities, the state consumer advocate, local governments, clean energy companies, and environmental groups.

The Low-to-Moderate Income (LMI) energy efficiency incentive promotes customer engagement as well as customer equity and affordability by encouraging program administrators to coordinate and increase energy savings opportunities for low- and moderate-income customers. It does this by requiring Hawaiian Electric, the state utility, to engage with customers to better market energy efficiency programs, whether they be offered by it or the state's energy efficiency utility, Hawaii Energy. The incentive includes two performance metrics: a "savings" metric that measures the delivery of energy savings to LMI customers, and a "participation" metric that measures increased participation by LMI customers. Hawaiian Electric can receive up to two million dollars as reward.

Massachusetts

Massachusetts Department of Public Utilities (DPU) created a multi-factor performance incentive to measure performance and reward utilities through a statewide incentive pool. The multi-factor plan contained four goals: equity, electrification, value (cost-effectiveness), and a standard component (savings). Program administrators proposed the equity component so that they would be accountable to align programs with the state's landmark 2021 Climate Act and Equity Working Group recommendations.

While adopting the measure, the DPU found that an equity component tied to a net-benefit goal can encourage equitable and cost-effective program implementation. The equity goal is a net-benefit goal applied on the community level to encourage program implementers to design programs that will deliver benefits to historically marginalized and/or excluded communities. This component is unique in that it is measured on the community level, which requires it to be broken down by zip code. To earn incentives for achieving the low-income goal, program administrators must deliver 85 percent of planned net benefits to historically marginalized and/or excluded communities.

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