# Implementation Guide

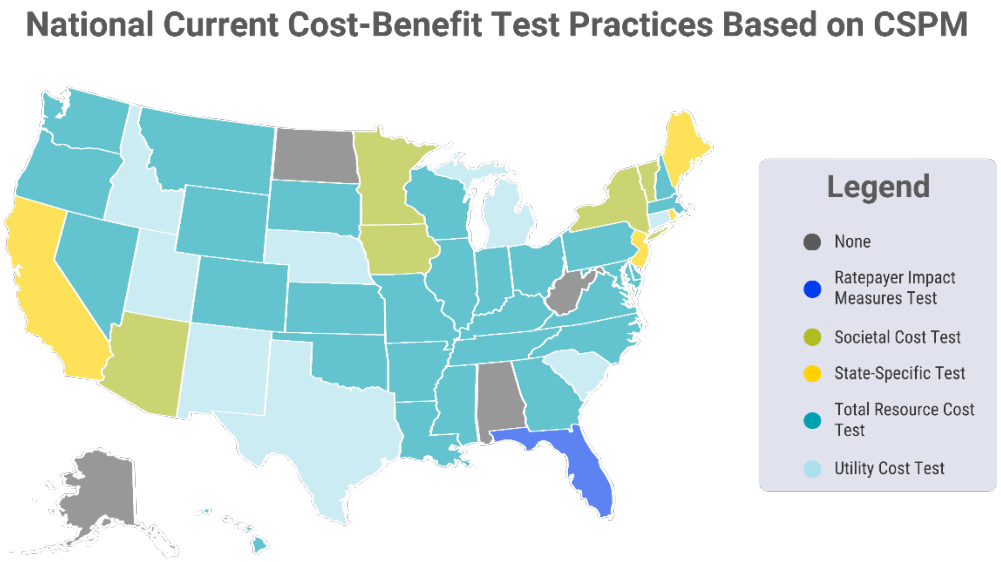
## *Establishing a Jurisdiction-Specific Cost-Benefit Test*

States are setting climate and equity policy goals that will require changes to current energy regulation and utility business models. To help achieve these goals, states should consider altering their regulatory framework for energy efficiency and other demand response programs with mechanisms such as the cost-benefit test. This implementation guide will examine how states can adopt a **jurisdiction-specific cost-benefit** test that aligns energy efficiency, demand response programs, and long-term infrastructure planning with state climate and equity efforts, and considers the important issues of energy resiliency, environmental protection, and equity.

## What Are Cost-Benefit Tests?

Cost-benefit tests are used to assess the cost-effectiveness of various energy resources such as energy efficiency, pipes and wire infrastructure, and other distributed energy resources, to ensure ratepayer investments result in benefits for customers, utility systems, and society at large. State utility regulatory agencies usually establish the cost-benefit test and apply it to utility/program administrator infrastructure planning and energy efficiency program design proposals.

Cost-benefit test practices were originally established by the California Standard Practice Manual (CSPM). The CSPM presents five tests. Three of the tests – the Utility Cost Test, Participant Cost Test, and Ratepayer Impact Measures Test – focus on costs from only one perspective: 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 as the TRC combines the impacts for both the utility and participants and the SBC considers the same impacts as the TRC plus the impacts to society as a whole.



Of the five tests, the SBC is the only one to consider non-energy benefits such as comfort and public health. When these benefits aren't considered in a cost-benefit test, programs that would be both cost-effective and align with decarbonization and other environmental policy goals, may be eliminated. This is a barrier to achieving aggressive climate change goals. Nationally, only four states use the SBC as their primary cost-benefit test.

In recent years, the National Energy Screening Project (NESP) has formed with the mission to improve cost-benefit test screening practices to account for the benefits of a clean energy grid. The NESP released the National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources (NSPM for DERs) in 2020. The NSPM for DERs describes the concept of a **jurisdiction-specific cost-benefit test** as the *regulatory perspective*. This perspective reflects the priorities and the responsibilities of regulators, including public utility commissioners, environmental regulators, and others, as well as balancing the interests of customers and utilities. In addition to this guide, NEEP encourages stakeholders to refer to the materials of the NSPM for DERs since it provides a more comprehensive guide to adopting a jurisdiction-specific test.

## Jurisdiction-Specific Cost-Benefit Test Implementation Framework

States should outline a transparent and predictable process to establish, implement, and update a jurisdiction-specific cost-benefit test. Transparency is important throughout the process because it enables public participation and education, and ensures public access to reporting and results. This provides accountability and can help guide evolving metrics and priorities.

There are four steps for regulators to follow when establishing a jurisdictional cost-benefit test:

- **Step 1**: Outline the process for stakeholder input and public review. This step will consider the level of stakeholder involvement and opportunities for input from stakeholders and the public.
- **Step 2**: Identify relevant state environment and energy policies to align portfolios with state goals.
- **Step 3**: Identify metrics that fit these policies and goals. More detail on how to identify and apply these metrics is included below.
- **Step 4**: After program implementation using the test, review and identify improvements or modifications.

A clear participation process allows for consideration and incorporation of new information and metrics related to state policy goals. For example, New Jersey, which recently created its first state-specific test, utilized a stakeholder process. From the first proposal to the final version of the test, stakeholder feedback played an important role. Thanks in part to this feedback, the final test considers the avoided emissions impacts of carbon, accounts for low-income benefits, and accounts for non-energy benefits. New Hampshire has long used stakeholder processes to establish its own jurisdiction test.

## *Policy Consideration: Including Decarbonization Metrics*

Decarbonizing the grid requires changing the composition of electricity generation on the grid and modifying current practices to account for program carbon impacts. Depending on state plans, this can involve lowering energy usage, integrating large scale renewables, deploying distributed energy resources, or a mix of all three. Including a metric or metrics that measure decarbonization in cost-benefit tests can properly account for these goals and align energy efficiency programs with them. These metrics measure overall energy reduction, account for damages from emissions, and evaluate distributed energy resources on a larger scale.

**To encourage cost-effective energy policy that is fuel neutral**, states can incorporate a fuel-neutral metric. Currently, energy savings goals in most states are separated by source, such as gas or electric, but decarbonization plans call for a reduction in all energy. A fuel-neutral metric, such as MMBTU (Million British Thermal Units), is a measure of energy that considers gas, electricity, and other fuels alongside one another, allowing regulators to focus on cost-effective strategies to reduce total energy consumption.

**To account for damages from carbon and other air emissions,** states can use a metric that assigns a value to the damages from these emissions. This metric properly values the costs of emitting pollutants by quantifying economic and environmental harms, which are typically not considered. This can hold programs accountable for these emissions. One such metric is the social cost of carbon, which adds a per ton emitting fee that is set on the national level.

**To identify cost-effective distributed energy resources,** states can use a metric that evaluates energy generation and usage on a more granular level. The Natural Resources Defense Council has proposed such a metric, Total Lifetime Benefits (TLB), in its work at the California PUC. This metric is a dollar value that calculates savings and load shape of an energy efficiency resource by applying hourly values for energy, capacity, and GHG compliance costs from the Avoided Cost Calculator created by Energy+Environmental Economics. Because of its use of very granular data, the TLB can identify costs and benefits of programs that seek to reduce peak demand and utilize storage or off-grid resources. These types of programs include more broadly-used programs like time-of-use rates and smart devices, as well as programs that integrate more demand response resources such as grid-interactive buildings and micro grids.

## *Policy Consideration: Incorporating Non-Energy Benefits Metrics*

A key part of ensuring cost-effective climate energy policies is acknowledging the environmental and societal impacts of our energy system. Yet, it is not common practice to include these benefits in cost-benefit tests because these impacts are not a key decision point in energy policy. Historically, energy policies have considered only utility costs and energy need. Having cost-benefit tests that include impacts beyond these considerations, regulators will ensure that these investments align with state environmental, public health, and other policies. Non-energy benefits that are important to consider are:

**Participant Benefits**: impacts on energy, water, and other bills, customer services, eliminating economic hardship, comfort, noise, health and safety, home improvement, and education on energy usage.

**Societal Benefits**: economic development (job created, money saved, and resulting investment in communities), public health, water and wastewater saved, and environmental benefits.

### *Policy Consideration: Inclusion of Equity Metrics*

History shows that past practices can perpetuate inequity and create additional economic hardship for already overburdened communities. It is important to include equity metrics when designing programs to ensure these practices are not perpetuated. There are a few approaches that states can take to incorporate equity metrics into cost-benefit tests, including utilizing additional non-energy benefits and/or creating a low-income adder.

**Equity specific non-energy benefits.** As described above, non-energy benefits account for external impacts of energy efficiency programs. For historically marginalized communities, the negative and positive impacts of these programs are often multiplied. Therefore, one way to design cost-benefit tests to better account for these impacts is by utilizing additional non-energy benefits metrics that can account for these disproportionate impacts. Some non-energy benefit metrics that can be used to quantify these impacts include: public health costs, improvements in indoor and outdoor air quality, local and state economic impacts, investment in homes, and improvement in health and comfort. Additionally, potential utility benefits include lower operation and maintenance costs and reduced administrative costs from missed bills and arrearages.

**Equity adder.** An adder, as expanded on below, acknowledges that there are tangible benefits to prioritizing programs focused on historically marginalized communities, but that these benefits are hard to quantify. An equity adder can quantify the disproportionate impacts and benefits felt by these communities without needing to identify precise numbers for each benefit. Vermont has adopted a 15 percent low-income adder, recognizing there are unaccounted for benefits to low-income programs, such as reducing energy burden, comfort from more controlled indoor climates, and investment in homes.

### *Policy Consideration: Use of Hard to Quantify Metrics*

Some important state-identified metrics in establishing a jurisdiction-specific cost-benefit test will be hard to monetize or quantify. That does not mean they should be excluded. There are two paths states can take to ensure even hard-to-quantify metrics can be included:

**Assign a monetized value.** This can be used when an exact cost can be identified in another forum. These values can come from a variety of sources such as studies of the cost of arrearages to consumers and utilities, third-party models and engineering, surveys, and other state or national regulations.

**Use an adder**. An adder is a percentage applied to metrics difficult or costly to monetize, or if it's convenient to bundle multiple impacts into one factor. An additional benefit of using an adder is that they can be applied across a range of benefits and implemented quickly. Currently, five percent, 10 percent, and 15 percent adders have been used to account for low-income benefits, emissions reductions, and economic benefits in various states.

## *A Cost-Benefit Test for State Climate Policy*

Energy efficiency programs can help in achieving state climate and equity goals because they lower emissions from the building sector and lower energy usage, which results in less need for infrastructure buildout. By creating a jurisdiction-specific cost-benefit test, states can start the important process of aligning its energy efficiency programs with climate goals. Further, by using the framework provided, states can create an inclusive and evolving cost-benefit test that is able to change with state climate and equity goals, technology shifts, and other considerations.