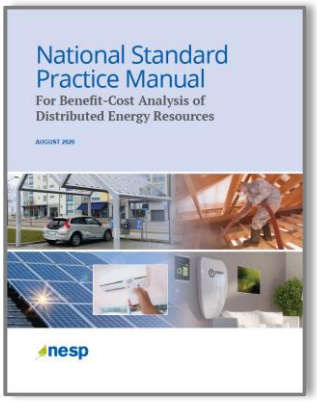
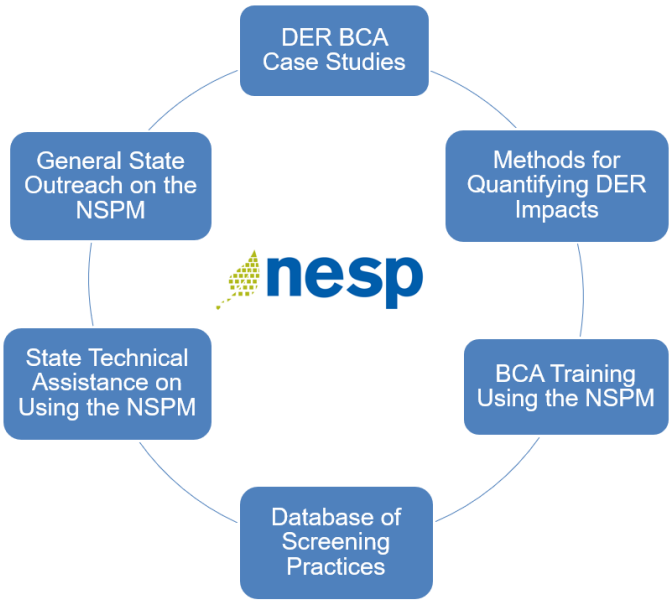
NESP QUARTERLY

JUNE 2021





National Energy Screening Project (NESP) 2021 Projects

WELCOME!

JULIE MICHALS AND SHAYNA FIDLER

We are pleased to share exciting developments on NESP activities and projects: State technical assistance for various jurisdictions to support the use of the *National Standard Practice Manual for Distributed Energy Resources* (NSPM for DERs); supplemental resources being developed to help conduct benefit-cost analyses (BCA) of DERs, and initial guidance on accounting for energy equity/justice in BCAs.

Rodney Sobin from NASEO makes a guest appearance, sharing a state energy office perspective on decision making in DER investments.

Happy reading, and as always, please share any questions or comments at NSPM@nationalenergyscreeningproject.org.

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JURISDICTIONS USING THE NSPM

AND OTHER NSPM REFERENCING

The NSPM process is being used in several jurisdictions, where NESP is providing technical assistance to help guide stakeholder committees/work groups.

MARYLAND

Maryland is reviewing its practice for assessing cost-effectiveness of utility electric vehicle (EV) investments. Per the Commission's direction, an EV Work Group was formed to address deficiencies and concerns around the utilities' EV Pilot BCA methodology (see Office of People's Counsel comments). The Commission ordered that: "the PC44 Electric Vehicle Work Group ("EV Work Group") develop and propose for Commission consideration a consensus benefit-cost approach and methodology by December 1, 2021…The Commission specifically requests that the EV Work Group examine the *National Standard Practice Manual* and the existing BCA framework used to review the EmPOWER Maryland programs for best practices in developing an EV BCA methodology." (Maryland PSC Order 89678 in Case 9645 in BG&E Multi-Rate Plan Section 238)

The EV Work Group convened in May and June to discuss development of an appropriate cost-effectiveness test for valuing utility EV investments, and is using the NSPM BCA framework to guide their process. Importantly, the development of the cost-effectiveness test will ensure there is alignment with Maryland's applicable energy policy goals; the effort is being coordinated with review of cost-effectiveness testing used for EmPOWER Maryland energy efficiency programs. The utilities offered to take the next step to identify applicable costs and benefits to include in the BCA, which the Work Group will review in July.

MINNESOTA

Two developments in Minnesota involve the use of NSPM's BCA framework. First, Xcel Energy held inaugural IRP planning workshops where the cost-effectiveness working group began considering the creation of a BCA framework that aligns with the NSPM. Following the April meeting, stakeholders reviewed potential non-wires alternatives impacts using the NSPM, identified which impacts are most important to include in BCA, and outlined how each should be calculated. The final Integrated Distribution Plan will be released in November 2021.

Separately, a stakeholder process is under way since early 2021 as the MN Department of Commerce looks to update the energy efficiency cost-effectiveness test that utilities will be required to use for their 2024 2026 plans. However, with the recent passage of the Eco Act – which expands efficiency by increasing savings targets from 1.5% to 2.5% annually, and includes load management, beneficial electrification, rate design, and efficient improvements to utility infrastructure – the stake-holder process to apply the NSPM has been on hold and will soon reconvene. Eco Act policy will inform development of BCA practices for energy efficiency and likely also other DERs.

WASHINGTON, DC

The District of Columbia continues its BCA Framework working group process in Docket GD-2019-04 to develop a new cost-effectiveness test as part of its efforts to implement the District's 2019 Clean Energy Act and align with other key policy goals including the Modernizing the Energy Delivery System for Increased Sustainability (MEDSIS), now referred to as Power Path DC. Commission staff are drafting a working group report, with stakeholder input, using the NSPM BCA framework to help guide creation of a primary cost-effectiveness test that would apply to all utility DER investments. A draft report will be completed this summer, with a final report to the commission by mid-October.

OTHER STATE DEVELOPMENTS ON BCA FOR DERS

In the past quarter, references to the NSPM appeared in various forms and included:

KENTUCKY

In its net metering tariff order, the Public Service Commission incorporates key NSPM principles to help guide compensation for eligible customer-generators, based on testimony filed by Karl Rabago on behalf of Joint Intervenors (Mountain Association for Community Economic Development, Kentuckians for the Commonwealth, and Kentucky Solar Energy Society).

MISSOURI

Evergy IRP filing includes a Solar Valuation Study (Appendix 8f) in which it examines several BCA frameworks (including the NSPM) and compares which impacts are included in each.

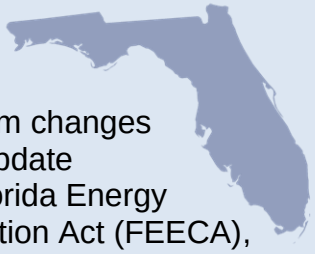
Although all three frameworks include utility system benefits and costs, the NSPM is the only one that suggests consideration of any societal impacts based on Missouri's applicable policy goals.

OHIO

Testimony was submitted by Chris Neme (Energy Futures Group) on behalf of the Environmental Law and Policy Center focusing on improvements to efficiency cost-effectiveness practices using the NSPM.

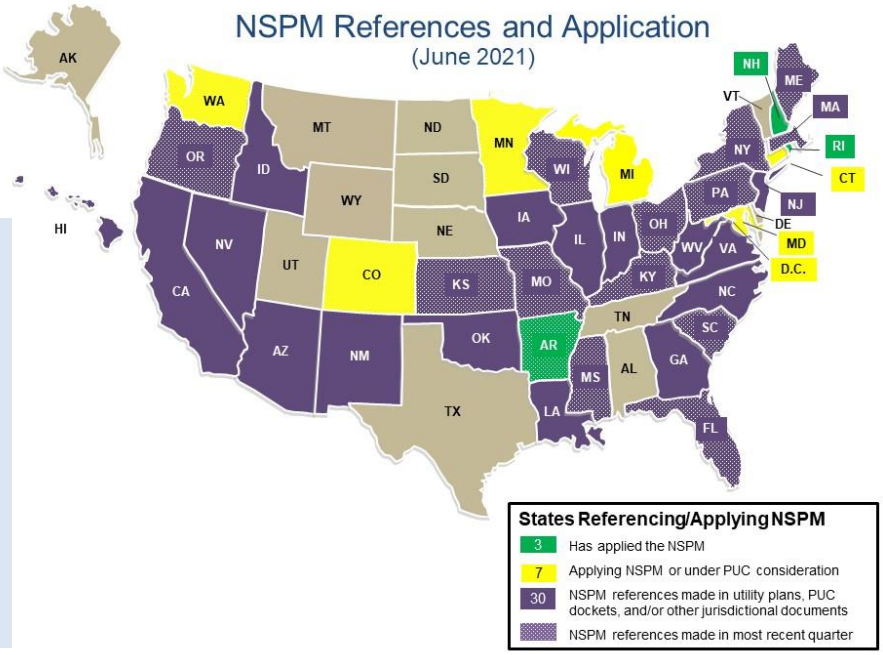
FLORIDA

The Public Service Commission held two workshops to address energy efficiency program changes as part of its docket to update program rules for the Florida Energy Efficiency and Conservation Act (FEECA), including cost-effectiveness testing practices.



Florida is the only state that currently uses the Rate Impact Measure (RIM) test as their primary test; Tim Woolf (Synapse Energy Economics) provided comment at the two workshops on the importance of separating BCA from rate impact analyses. See also his article on this topic in the last issue of the NESP Quarterly.

This map captures where NSPM references have been made to date in states in the context of DER valuation/ BCA dockets and/or studies. It also indicates the varying stages of NSPM interest. For details, see the NSPM References.



NEW RESOURCES TO SUPPORT NSPM APPLICATION

NESP is undertaking two large projects this year to create supplemental resources to help jurisdictions conduct BCAs of DERs. These resources will be available in late 2021.

METHODS, TOOLS & TECHNIQUES FOR QUANTIFYING DER IMPACTS

You asked, and we listened!

While the NSPM provides guidance on how to identify what impacts should be accounted for in a jurisdiction's primary cost-effectiveness test, it doesn't answer "how does one quantify or consider those impacts?" We receive this question from many NSPM users. The new "library" of methods, tools and techniques (MTT) for quantifying the full range of potential BCA inputs is being developed by Synapse Energy Economics (lead consultant), and will:

- cover utility system and non-utility system impacts, as well as cross cutting variables, from Chapters 4-5 of NSPM (and further elaboration on gas utility and other fuel system impacts);
- be based on existing and evolving practices for quantifying DER benefits and costs;
- offer pros and cons of different MTT approaches, where warranted;
- address how impacts are relevant for different DER types; and
- provide a bibliography of publicly available documents, data sources and modeling tools that can be used to develop BCA inputs.

The MTT project aims to serve as a one-stop-shop to make it easier for users to 'weed' through various resources on how to quantify or account for a full range of DER impacts.

DER BCA CASE STUDIES

Taking the NSPM a step further…

The NSPM for DERs includes simple, illustrative case studies in Chapters 11-12 (grid-interactive efficient buildings, non-wires solutions). Now we will take them to another level, by documenting BCAs of single and multi-DER technology use cases. This will demonstrate application of the NSPM BCA Framework and how DER use cases drive DER assessment.

Led by Smart Electric Power Alliance and supported by ICF, the selection process will be informed by real-world examples and generalized into hypothetical examples. The project team is identifying a set of priority examples of utility investments. A preliminary list includes:

- Distributed solar + distributed storage;
- Electric vehicles (managed charging and rate design); and
- EE + DR + building electrification (weatherization, smart thermostats, heat pumps)

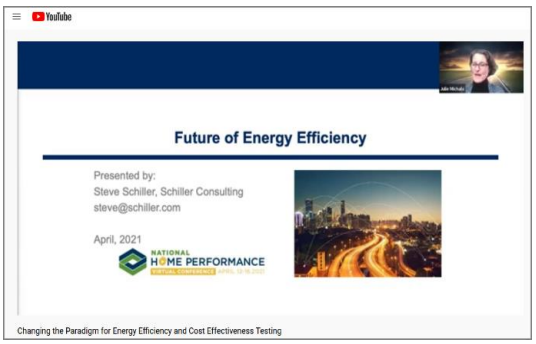
Cross-referencing the MTT project (see above), the case studies will illustrate approaches to accounting for impacts in BCA when certain data is unavailable (e.g., primary research/study, use of proxy value/percent adder, qualitative assessment). Each will incorporate supplemental data and analysis as needed to fill gaps.

Importantly, the case studies will address accounting for key impacts (GHG emission reductions, energy equity, resilience), and a mix of key cross-cutting issues (e.g., locational and temporal values and demand flexibility, interactive effects, behind the meter considerations). Examples of differentiating between BCA and rate impact analyses will be illustrated. Results will be presented in both numeric form and visualizations.

THE CHANGING PARADIGM OF ENERGY EFFICIENCY

Do you wonder about the future of energy efficiency? At NESP we certainly do. We recommend tuning into a session from the annual (virtual) National Home Performance Conference held in April 2021, where Steve Schiller highlights market drivers and future market attributes. With increasing variable renewable generation, decreasing gas consumption, movement toward reducing social inequities and more, Steve points to increasing focus on demand reductions and locational and temporal adjustments to ensure demand flexibility.

Julie Michals provides an NSPM overview and discusses impacts and the need for consistent cost-effectiveness testing practices. She then focuses on NSPM application and BCA framework across all DERs. Shayna Fidler then focuses on the Symmetry principle, explaining why it is important in avoiding bias in cost-effectiveness testing. Using the Database of Screening Practices, she shows how common asymmetry is, in current practice.



View on YouTube here.

ACCOUNTING FOR ENERGY EQUITY/JUSTICE IN BCAS

"Energy justice refers to the goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those disproportionately harmed by the energy system." --Initiative for Energy Justice

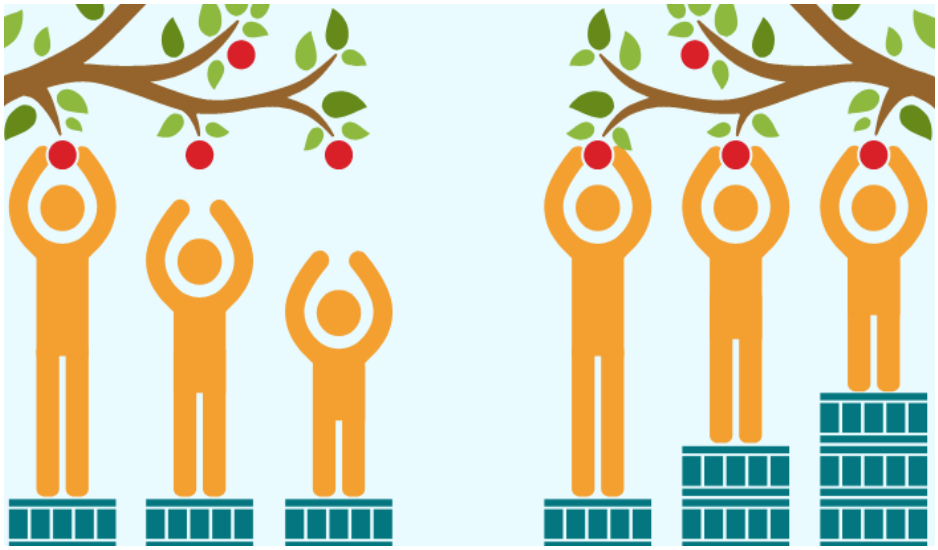


Image source: https://healthequity.globalpolicysolutions.org/about-health-equity

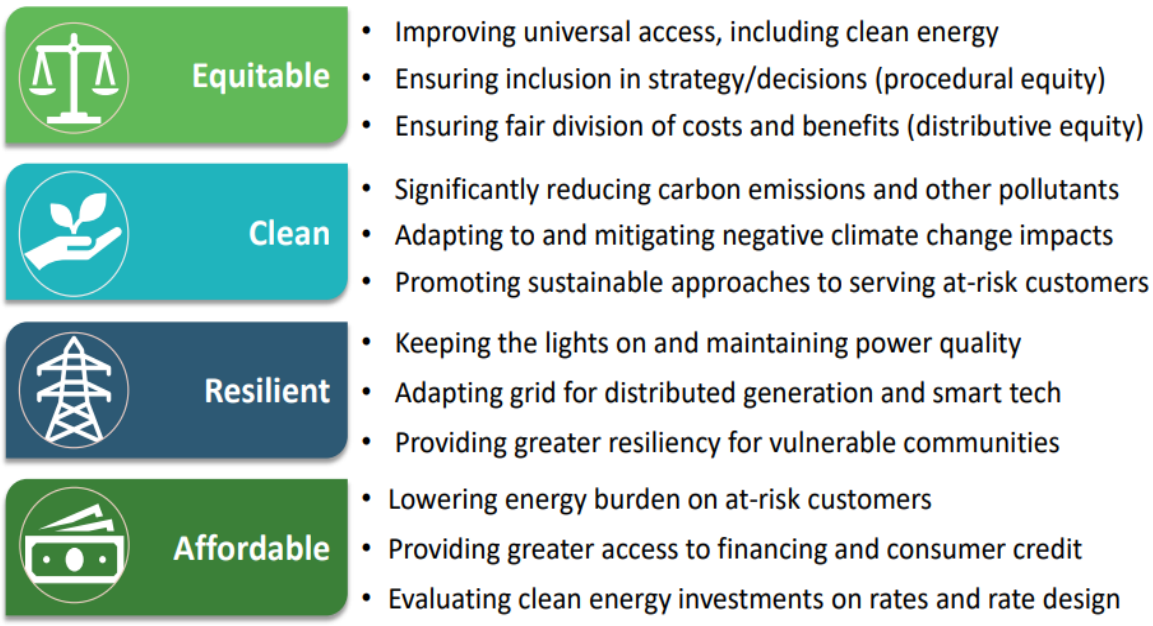
As the US energy industry transitions to a cleaner economy, energy equity has taken center stage as a critical issue. Studies show that BIPOC and low-income communities suffer a larger energy burden than a typical U.S. citizen. This energy burden comes with a slew of challenges that are both physical and economic, as recognized by the Biden-Harris Administration in its *Justice40 Initiative* and its subsequent creation of the US DOE Office of Economic Impact and Diversity. A recent Better Buildings Residential Network webinar provides an overview of the energy burdens borne by vulnerable and disadvantaged communities.

States are steadily establishing energy equity/justice committees and stakeholder groups to identify key metrics for ensuring a fair and equitable transition to a clean energy economy. National initiatives are also addressing this topic, e.g., by planning to develop standardized measurements of progress toward energy equity. These include the Equity in Clean Energy Economy (ECEE) Collaborative and the Energy Equity Project.

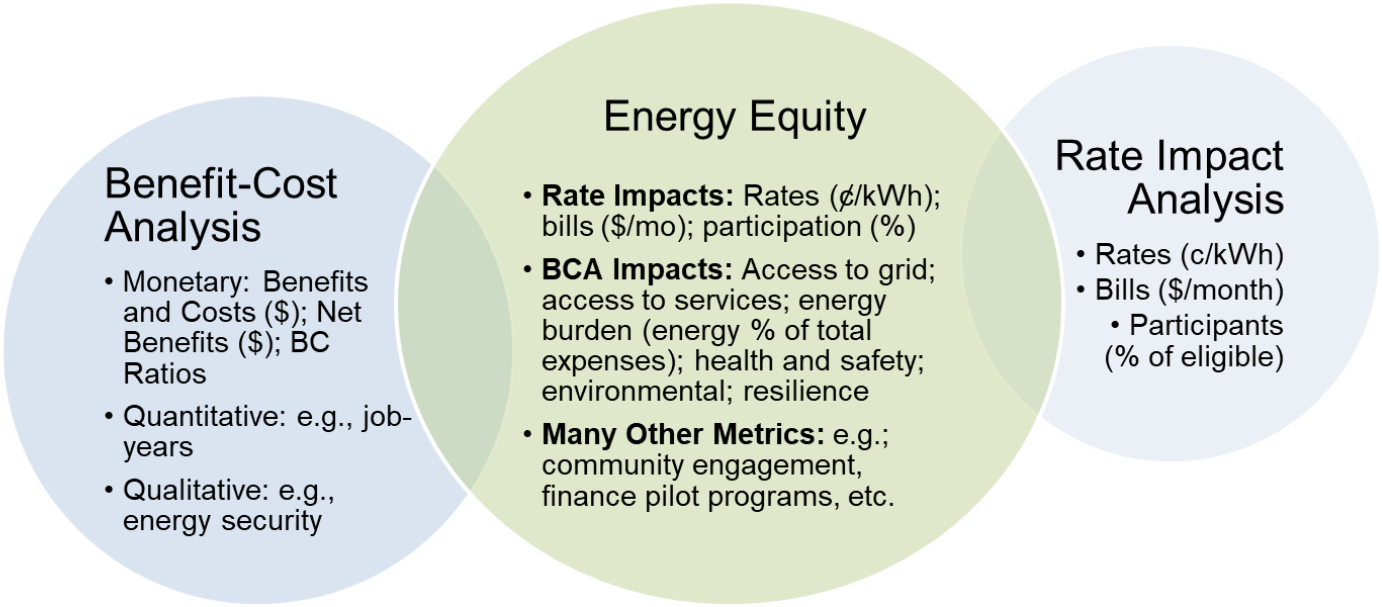
HOW DO WE ACCOUNT FOR ENERGY EQUITY IN BCAS?

The NESP Advisory Group tackled this question in June, to gauge thinking on how to explain where energy equity metrics fit into BCAs versus rate impact analyses and other metrics outside of these analyses. The principles set forth by ECEE below are particularly relevant.

Principles for Clean Energy Economy
(ECEE)



Many of the principles articulated by ECEE above align with key BCA metrics, as shown in the diagram below, while others fall within rate impact analyses. Other topics fall outside these analyses (e.g., metrics related to “procedural equity”).



With feedback from our advisory group, NESP plans to develop further guidance on accounting for energy equity in BCA and otherwise, building on the above concepts and in coordination with national efforts. Illustrative examples will be provided in BCA case studies.

BCA FROM A SEO PERSPECTIVE

By Rodney Sobin

A consistent benefit-cost analysis (BCA) framework is increasingly important for utilities, regulators, and state energy offices (SEOs) to make decisions on DER investments as distributed, flexible, and interacting energy resources multiply. The NSPM for DERs can provide a useful framework for BCAs of state energy programs, plans, and activities.

Rodney Sobin is Senior Program Director at the National Association of State Energy Officials (NASEO)

The Role of SEOs:

The nation's 56 State, Territory, and District of Columbia Energy Offices are diverse, with multiple and varied responsibilities State energy offices' remit extends across promoting economic development, supporting energy affordability and equity, advancing environmental objectives, and ensuring system security, reliability, and resilience. They cover energy use ("delivered" fuels, electricity and gas). They are policy and technical advisors to Governors and Legislatures. Most develop state energy plans. They develop and administer energy-related programs and regulations. Improving energy efficiency is central to their missions.

SEO Perspectives:

State energy offices must consider different perspectives to correctly assess the cost-effectiveness of policy and program actions. As state agencies, they discern how costs and benefits affect varied stakeholders (including the utility system) and society as a whole. They see how actions do – or do not – comport with state policy objectives, including emissions, affordability and equity, and resilience, consistent with the "regulatory" perspective presented in the NSPM.

At times, SEOs – and sister agencies such as general services departments – take the perspective of the "host customer" to look at benefit-cost ratios of implementing DERs in state and public facilities. This "participant" perspective is captured in the Participant Cost Test (PCT), but often links to state policy goals and directives.

States may apply the NSPM to evaluate grid-interactive efficient building (GEB) features or microgrids across a portfolio of state buildings: e.g., energy bills (including peak charges, time-of-use, and, perhaps, grid service provision), building service, and O&M impacts, plus emissions goals and resilience requirements.

Host Customer Impacts
Host portion of DER costs
Inter-connection fees
Risk
Reliability
Resilience
Tax incentives
Non-energy Impacts (NEIs)

Host Customer NEIs
Transaction costs
Asset value
Productivity
Economic well-being
Comfort
Health / safety
Emotional well-being
Empowerment*
Power/Quality*
DER Integration*
Reduced Utility Bills**

* Benefits associated with demand flexibility
** Applies only when using Participant Cost Test

The NSPM can help guide SEOs on the full range of host customer impacts to consider in its BCA – as shown at left – and relevant societal impacts.

An agency may also evaluate grid or wider energy system

impacts more broadly by including the full range of utility system impacts provided in the NSPM, along with applicable state policy goals (i.e., a jurisdiction specific test or JST). In these cases, comparing BCA results of DER investments using a broad JST versus a PCT can help SEOs prioritize investments, as well as compare similar programs across SEOs and utilities.

The NSPM principles help guide SEOs in accounting for relevant DER cost and benefit impacts and help ensure the symmetrical treatment of those impacts to avoid any bias that can lead to over- or under-investment. The NSPM serves as a valuable tool for our State Energy Offices.

NASEO is a member of the NESP, and Rodney serves on the NSPM Advisory Group and promotes awareness and education on the NSPM and NESP resources. See recent NSPM presentation and recording for the NASEO-NARUC GEB Working Group which Rodney co-leads.

NSPM RELATED EVENTS

UPCOMING:

July 13, 2021: AESP Cost-Effectiveness Training will cover NSPM for DER elements. **Register here.**

October 19-27, 2021: 2021 ACEEE National Conference on Energy Efficiency as a Resource. **Register here.** E4TheFuture will host two sessions on Case Studies and Non-energy Benefits.

January 18, 2022: NESP will co-lead a BCA training workshop with Opinion Dynamics at the 2022 IEPEC Energy Optimization: Evaluation for a Clean & Equitable Future.

IN CASE YOU MISSED:

June 15, 2021: Northeast Energy Efficiency Partnerships, Policy Framework Webinar Series: Cost-Benefit Tests.

May 6, 2021: California Efficiency Demand Management Council's Spring Symposium, Cost-Effectiveness Reform: Best Practices & Methods.

May 4, 2021: NASEO Webinar "Benefit-Cost Analysis for Grid-interactive Efficient Buildings (GEBs) and Other Distributed Energy Resources (DERs)". See slides here. See recording.

April 1, 2021: AESP Webinar Valuing DERs using a Consistent BCA Framework – Applying the NSPM.

Your continued interest in the NESP's work is greatly appreciated.
We hope you have a safe and healthy summer. See you next quarter!

Contact Us:

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NATIONAL ENERGY SCREENING PROJECT

The National Energy Screening Project (NESP) mission is to improve cost-effectiveness screening practices for distributed energy resources DERs. NESP joins organizations and individuals with a common interest in improving cost-effectiveness assessments of distributed energy resources (DERs). Note that the NESP name was modified from National Efficiency Screening Project to National Energy Screening Project in Summer 2020 upon publication of the NSPM for DERs.