Date: September 6, 2024 *Submitted electronically via: Docket No. M-2024-3048998*

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

Re: Tentative Order on the Pennsylvania Total Resource Cost (TRC) Test, Docket No. M-2024-3048998

On behalf of Northeast Energy Efficiency Partnerships (NEEP)[1], we are pleased to submit comments relative to the Tentative Order on the Pennsylvania Total Resource Cost (TRC) Test. NEEP is a non-profit whose mission is to accelerate regional collaboration to promote advanced energy efficiency and related solutions in homes, buildings, industry, and communities.

We thank the Pennsylvania Public Utilities Commission (the Commission) for the opportunity to provide input on the Tentative Order on the TRC Test. We commend the Commission and PA electric utilities for their work under Act 129 so far, establishing a robust statewide energy efficiency portfolio and creating this opportunity for feedback on plans. The following comments are intended to provide technical assistance and resources relating to calculations and impacts included in Benefit Cost Analysis (BCA) and the process used by the PUC to finalize the TRC Test. In addition to this comment, NEEP has tools and resources available and can also provide direct technical assistance as needed.

Introduction

Regulators use benefit-cost analyses (BCAs) to assess the cost-effectiveness of energy efficiency programs and ensure ratepayer investments result in ratepayer benefits. A key part of ensuring cost-effective energy policies is acknowledging the environmental and societal impacts of our energy system. Yet many BCAs do not include these impacts because they can be hard to identify and quantify. When these impacts are not included, BCAs fail to fully capture the benefits and costs these programs provide. In addition, accounting for non-energy impacts (NEIs) can help the state identify the environmental and societal costs and benefits that go unaccounted for in energy policy and deter investment in programs that do not align with state priorities.

NEEP recommends including additional metrics that will align the TRC Test with state policy and create a more and balanced and complete picture of how energy efficiency programs benefit customers. Further, these metrics help to achieve policy goals important to regulators and other stakeholders. They also enable programs to support more comprehensive, whole-building programs and offer a more diverse set of efficiency measures to a broad range of customers. The National Standard Practice Manual (NSPM) principles call for regulators to align benefit-cost analysis with policy goals, ensure symmetry, and account for relevant, material impacts.

[1] These comments are offered by NEEP staff and do not necessarily represent the view of the NEEP Board of Directors, sponsors or partners. NEEP is a 501 (c)(3) non-profit organization that does not lobby or litigate.

NEEP supports several of the proposed changes to avoided cost and benefit calculations for the 2026 TRC Test. Inclusion of utility financial savings from low-income programs, price suppression effects, and quantifiable water savings ensure full accounting of these benefits and ensure the TRC Test captures some state priorities. NEEP recommends that the Commission include additional impacts in its benefit-cost calculations to ensure proper accounting and to align with state policy goals:

- Account for low-income NEIs
- Account for participant and societal NEIs
- Include the cost of carbon
- Account for delivered fuels separately from natural gas
- Reconsider allowing fuel switching from electric to natural gas
- Establish a process to determine program modifications for implementation of IRA Home Energy Rebates

Account for Low-Income Non-Energy Impacts

The social, health, and economic burdens created by our energy system disproportionally fall on poor communities and communities of color. Adders ensure the state accounts for the benefit of low-income NEIs, creating a more complete and balanced analysis of energy efficiency program impacts. A low-income adder, specifically, can quantify the disproportionate impacts and benefits felt by these communities without needing to identify precise numbers for each benefit. 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. Table 1 highlights states that incorporate adders in BCA tests to account for low-income non-energy benefits.

Table 1. Examples of State Adders for Low-Income Program Non-Energy Impacts (NEIs)

Adder Percentage	**50%**	**25% - 20%**	**15%**	**10%**
States	Colorado	New Mexico Nevada Maryland	Vermont	New Jersey Utah

NEEP supports the inclusion of an adder for low-income NEIs in Pennsylvania of at least 10% to capture the potential benefits of reducing hardship, improving health, lowering air emissions, and increasing comfort in the home. An adder at this level is in line with what other states have included in their BCA tests. Recently, recognizing the policy and practical benefits of accounting for low-income NEIs, states have been placing a higher value on adders and including additional impacts.

Account for Participant and Societal Non-Energy Impacts

The proposed 2026 TRC Test excludes participant and societal benefits such as health, economic development, comfort, and additional non-energy impacts (NEIs) beyond the quantifiable fossil fuel, water, and O&M impacts.

NEEP recommends that the Commission reverse this exclusion, as these are real benefits that can be quantified and should be included. Not including these programs can result in programs being undervalued.

NEEP's report, Non-Energy Impacts Approaches and Values: An Examination of the Northeast, Mid-Atlantic, and Beyond, provides information on these impacts and how different states approach accounting for them. For example, energy efficiency programs can improve indoor air quality and comfort, yielding further health benefits to participants. Research shows that comfort is a leading factor in determining if customers will make home energy upgrades. If participant costs are included in the BCA, then the benefits must also be included to conform with a balanced BCA. Public health benefits should also be considered in analysis, as decreased emissions result in decreases in pollution, which can decrease costs to the healthcare system.

NEEP recommends including a metric for participant and societal benefits in the 2026 TRC Test to account for health benefits, economic impacts, improved indoor and outdoor air quality, and other impacts. The Commission might order jurisdiction-specific studies or rely on studies from other jurisdictions. The U.S. Environmental Protection Agency (EPA) maintains the AVoided Emissions and geneRation Tool (AVERT), CO-Benefits Risk Assessment (COBRA) Health Impacts Screening and Mapping Tool, and Environmental Benefits Mapping and Analysis Program: Community Edition (BenMAP-CE) are useful tools in analyzing the impacts of emissions reductions and the monetized public health benefits from lower levels of criteria air pollutants.

To fully value the impact of programs, NEEP recommends the Commission incorporate participant and societal NEIs to the BCA through an adder of 5-10%. This metric recognizes the additional benefits of energy efficiency programs for participants and the public. Many states currently use an adder to quantify non-energy impacts that range from 5-25% as shown in Table 2. These adders recognize benefits including home value and comfort, economic benefits of programs, public health, energy security, legislative or regulatory mandates, support for regional market transformation programs, experimental and pilot programs, water and sewer benefits, and other hard-to-quantify benefits.

Table 2. Examples of State Adders for Participant and Societal Non-Energy Impacts (NEIs)

Adder Percentage	**25%**	**15%**	**10%**	**5%**
State	Colorado	New Mexico Vermont Nevada (Residential)	Maryland Illinois (7.5% for gas) Iowa (7.5% for gas) Washington Oregon Idaho Montana Nevada (Commercial)	New Jersey

Include the Cost of Carbon

The social cost of carbon (SCC) quantifies the economic and environmental harms of emitting greenhouse gases (GHGs). Pennsylvania has statewide targets of reductions of GHG emissions by 26% by 2025 and 80% by 2050 from 2005 levels; utilities in the state have also set targets to achieve zero emissions by 2050, including First Energy, PPL, and PECO. Achieving GHG reduction goals set by states will require action across all industries. For energy efficiency, it requires a paradigm shift in program planning to align energy savings with carbon savings. Including the social cost of carbon is a good step in this direction and can drive program planning by signaling to utilities, program administrators, and other parties how to align their portfolios with state climate policy. Additionally, accounting for carbon emissions accounts for the environmental and health impacts of GHGs and the benefits that energy efficiency programs have in reducing GHGs. Pennsylvania can reference the EPA's 2023 report on the social cost of greenhouse gases to identify the appropriate amount given their climate goals.

Pennsylvania can use the SCC listed in the August 2016 Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis to align with New Jersey, which has similar climate goals and priorities to Pennsylvania. The New Jersey Cost Test uses the 3% discount rate "Annual SC-CO_2," adjusted for today's dollars, for avoided emissions from both electric and natural gas.

Account for Delivered Fuels Separately from Natural Gas

Consistent with prior TRC Test Orders, the Commission proposes using the avoided cost of natural gas for all fuels rather than requiring a separate avoided cost forecast for fuel oil and propane. NEEP recommends that the Commission require fuel oil and propane to be measured and tracked separately from natural gas because the energy and emissions costs of using delivered fuels are significantly higher for customers.

Using the same avoided cost for natural gas, fuel oil, and propane is inaccurate and undervalues some of the benefits accrued to delivered fuels customers who do energy upgrades and/or who electrify their homes. The EPA has determined that #2 heating oil produces almost 40% more carbon dioxide per MMBtu than natural gas; natural gas also releases smaller amounts of other air pollutants per unit of energy than heating oil. Therefore, NEEP recommends that the Commission require a separate avoided cost forecast for natural gas as compared to propane and fuel oil.

Reconsider Allowing Fuel Switching from Electric to Natural Gas

In the past, electric distribution companies (EDCs) have been allowed to support fuel switching measures that convert equipment from electricity to fossil fuel, so long as that fossil fuel equipment meets or exceeds the current US EPA minimum ENERGY STAR performance standard. Pennsylvania's climate goals call for reductions of GHG emissions by 26% by 2025 and 80% by 2050 from 2005 levels. Replacement of existing high efficiency gas furnaces and boilers with high efficiency heat pumps and heat pump water heaters will lower the state's GHG emissions, as heat pumps consume less energy and release less emissions than fuel powered furnaces. Therefore, to align utility planning with state climate goals, NEEP recommends that the Commission remove the option for EDCs to support fuel switching from electric to fossil fuel equipment.

Other states with similar climate goals have done so and have even started to remove incentives from energy efficiency programs that promote new gas equipment to better align efficiency investments with climate goals. Further, Act 129 only regulates electric utilities, so removal of incentives for fossil-fuel based equipment would not cause any implementer to lose customers. If the Commission decides to continue to incentivize fuel switching from electricity to fossil fuels, it might consider outlining specific requirements that need to be met such as requiring that the switch be cost-effective by decreasing energy expenditures for the customer for the life of the measure.

Establish a Process to Determine Program Modifications for Implementation of IRA Home Energy Rebates

In Section A (8) *Measures Supported by both Act 129 Programs and Other Funding Streams* and in Section D (4) *Incentives from Outside of Act 129*, the Commission addresses how to treat external funding sources and programs outside of Act 129, including rebates from the Department of Environmental Protection (DEP). From the language of the order, it seems that this will likely include Inflation Reduction Act (IRA) funding through the Inflation Reduction Act (IRA) Home Energy Rebates program that will flow through the DEP. The PUC proposes to include these rebates in the TRC Test as a reduction in participant costs if any part of the measure is attributable to Act 129. The Order further recognizes that non-Act 129 funding for similar measures may increase free ridership and lower net savings, requiring further adjustments.

Because implementation of IRA Rebates with current energy efficiency programs is a complex issue, NEEP recommends the Commission establish an additional and separate technical workshop, proceeding, and/ or stakeholder process in coordination with the DEP to discuss the treatment of IRA Home Energy Rebates in relation to Act 129. A proceeding or stakeholder process, in combination with a technical workshop, can help determine how to treat the IRA Home Energy Rebates concerning the TRC Test, net-to-gross adjustments, savings goals, and other parts of the Act 129 regulatory framework. NEEP recently released a report that outlines some of these issues and provides frameworks for states to use when deciding whether and how to attribute savings from IRA Home Energy Rebates to current energy efficiency programs and the role of utilities in the implementation. The report can be found here, Expanding the Energy Savings Pie: Attribution Frameworks to Align IRA Home Energy Rebates and State Programs.

Conclusion

We thank the Pennsylvania Public Utilities Commission for the opportunity to comment. These comments are intended to support the work currently underway with the Total Resource Cost Test and we appreciate the opportunity to provide input. NEEP is available to provide technical assistance to the Commission on this and other energy efficiency policies and programs. If you have questions or would like additional information, please reach out to Erin Cosgrove, ecosgrove@neep.org.

Sincerely,

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