

Mr. Matthew L. Homsher, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North street
Harrisburg, PA 17120

January 18, 2026

Re: Act 129 Phase V Proposed EDC EE&C Plans, RMI comments

RMI respectfully submits these comments in response to the Pennsylvania Public Utility Commission's request for public input on each Electric Distribution Company's (EDC) proposed Phase V Energy Efficiency & Conservation Plan (EE&C) (Docket No. M-2025-3052826, Docket No. M-2025-3057325, Docket No. M-2025-3057327, Docket No. M-2025-3057328, Docket No. M-2025-3057329)

About RMI

RMI is an independent, non-partisan, non-profit organization whose mission is to transform the global energy system to secure a clean, prosperous, zero-carbon future for all. Since our founding in 1982, we have grown to over 700 staff working on four continents with a global reach. Our initiatives include researching the business models, policies, technologies, and financing mechanisms necessary to decarbonize all sectors of the economy and advance an equitable clean energy transition.

Introduction

Our comments focus specifically on enhancing non-low-income residential programs, with an emphasis on households utilizing electric resistance (ER) space and water heating technology. At a high level, we recommend that EDCs:

1. Establish clear customer pathways for ER customers within residential programs
2. Establish dedicated budgets, targets, and reporting metrics for electric space and water heating
3. Deploy market-readiness initiatives
4. Adopt the definition of measures qualifying for comprehensive programs, per Public Utility Commission (PUC) guidance

These comments provide recommendations that are relevant across EDC Phase V EE&C plan filings, with specific references where relevant.

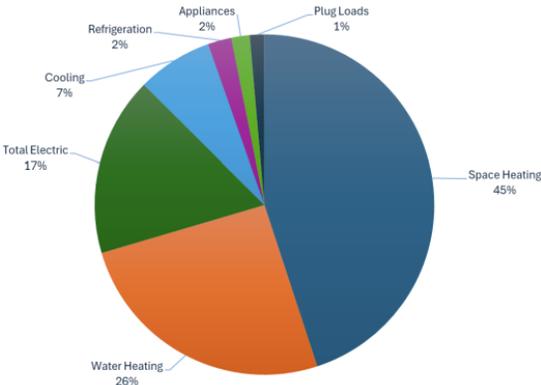
Context: The critical role of ER space and water heating customers for Phase V goals

In the recent Act 129 program evaluations, the Statewide Evaluator (SWE) has noted a prolonged shift of program activity away from the residential toward non-residential sectors. Simultaneously, the SWE has noted that Phase IV program budgets continue to come in below forecast or statutory limits.¹

The decline in EE&C program activity in the residential sector creates compounding short- and long-term risks. In the near term, residential customers forgo cost-effective efficiency investments that could improve resilience and reduce bills. Over the long term, insufficient residential energy efficiency increases the cost to serve this sector and leaves residential customers paying a disproportionate share of system costs, as other sectors reduce energy use and peak demand through efficiency investments.

The opportunity to serve the residential sector is changing. In a departure from past phases, the Phase V Energy Efficiency and Peak Demand Reduction Market Potential Study identifies space and water heating as the largest and second-largest sources of residential potential statewide (respectively), driven primarily by conversion from ER equipment to higher efficiency heat pumps.²

Figure 5: Program Potential Statewide Residential GWh Savings Distribution by End-Use, 2026–2030 Total



From Pennsylvania Energy Efficiency and Peak Demand Reduction Market Potential Study, pg. 23

There are over 384,000 single-family homes and over 527,000 multi-family units utilizing ER for space heating in Pennsylvania today, providing substantial opportunities for residential energy savings and demand reduction within Act 129 programs.³ ER customers represent a high-value segment within Act 129 due to their significantly higher electric baseline electricity usage and bill savings potential. In

¹ NMR Group, Inc., Demand Side Analytics, Brightline Group, & Optimal Energy. (2024). *SWE final annual report: Act 129 Program Year 15* (pp. 22) (Version 1.1). Pennsylvania Public Utility Commission.

² Statewide Evaluator. (2024). *Pennsylvania energy efficiency and peak demand reduction market potential study report* (pp. 22). Pennsylvania Public Utility Commission.

³ U.S. Energy Information Administration. (2023). Residential Energy Consumption Survey (RECS), 2020 [Data set]. U.S. Department of Energy.

PECO's territory, for example, an average single-family detached home could save \$1,720 annually by upgrading from an ER furnace to an air-source heat pump (ASHP).⁴

The SWE's assessments of Phase IV performance provide important context for Phase V program design. The SWE has found that absent explicit segment targeting and delivery redesign, Act 129 portfolios tend to over-rely on mature, prescriptive measures with high market saturation, while higher-impact equipment replacement measures, such as air source heat pumps (ASHPs) and heat pump water heaters (HPWHs), deliver a smaller share of net savings.⁵ These comments provide recommendations to capture high-value ER-to-heat pump customers in Act 129 non-low-income residential programming.

Recommendation 1: Establish clear customer pathways for ER customers within residential programs

ER-to-heat-pump conversions benefit from comprehensive program delivery as customers face intertwined technical and logistical barriers that rebates alone cannot address. Without a clear articulation of which segments on the customer journey EDCs are planning to support and how, projects are at risk for failing to materialize and the cost-effective savings Act 129 relies on may not be realized.⁶

EDCs should clearly demonstrate how their comprehensive program designs will enable ER space and water heating customers to complete heat pump technology transitions, including by detailing customer acquisition channels (for emergency or non-emergency replacement scenarios), incentive levels, and the customer journey from audit through install.

In their proposed Phase V EE&C plans, FirstEnergy, Duquesne Light, and PPL describe comprehensive programs primarily as lists of eligible measures rather than as structured customer pathways that ensure successful project completion. While PECO offers a more complete framing, it still does not fully explain how customers will be supported through each step of a complex retrofit process.

EDCs can look to their low-income programs, which already contain many of the elements needed for successful heat pump conversions and provide a clear model for comprehensive program design, including:⁷

⁴ RMI. *Green Upgrade Calculator*. <https://greenup.rmi.org>. Analysis assumes single-family detached home, PECO Rate R-H for residential heating service, an 8.0 HSPF2 17.0 SEER2 ASHP replacing a 1.0 AFUE electric furnace, and a HPWH with a uniform energy factor (UEF) of 3.45 replacing a 0.93 UEF electric water heater.

⁵ Statewide Evaluator. (2024). *Pennsylvania energy efficiency and peak demand reduction market potential study report* (pp. 9-21). Pennsylvania Public Utility Commission.

⁶ Amann, Jennifer, and Alex Aquino. 2025. *Developing the Market Infrastructure for Multistage Home Retrofits: The Role for Programs*. Washington, DC: ACEEE. <https://www.aceee.org/research-report/b2507>.

⁷ From EDC Proposed Phase V EE&C Plans:

- PECO's Low-Income Program: integrates whole-home assessments, multiple measure installations, and referrals to assistance programs.
- PPL's Resource Constrained Program: provides a streamlined customer experience with coordinated incentives and vendor-based project management.
- Duquesne Light's Low-Income Energy Efficiency Program: synchronized enrollment and direct-install measures based on audits.

- streamlined customer experiences and coordinated vendor workflows
- in-home energy assessments
- identification and resolution of barriers (e.g. electrical upgrades, health and safety measures)
- installation of multiple coordinated measures
- referrals to complementary programs

We also note that certain design elements that have already been proposed by specific EDCs can be integrated into a holistic program design for ER-to-heat pump initiatives and can be adopted by other EDCs to promote consistent implementation across service territories:

- **PECO, Electric Heat Assessments:** PECO’s filing does identify a greater focus on electric heating customers in the low-income program, alluding to “electric heat assessments.” This discussion was not extended to non-low-income households.⁸
- **PPL, Integration of Financing offerings (non-Act 129):** PPL’s Energy Efficient Homes program highlights conservation service provider (CSP) communication to customers around existing, non-Act 129 financing offerings, to encourage deeper measures. Financing is a particularly valuable solution for non-low-income heat pump upgrades to reduce upfront costs and unlock bill savings.⁹
- **FirstEnergy, Residential Energy Solutions Program incentives:** FirstEnergy will offer enhanced heat pump incentives levels designed to specifically support a switch away from residential electric heat.¹⁰

Recommendation 2: Establish dedicated budgets, targets, and reporting metrics for electric space and water heating upgrades

Despite the elevated importance of space and water heating in Phase V residential potential, the proposed Phase V EE&C Plans provide limited visibility to monitor or optimize this segment.

Existing measure-level projections for heat pump and heat pump water heater installations are not disaggregated by baseline condition (e.g., new construction versus existing buildings or ER versus other

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- FirstEnergy’s Residential Low-Income Energy Efficiency Program: provides households with education, weatherization, and heat pump services through the Warm Plus program.

⁸ PECO Energy Company. (2025, December 1). *Petition of PECO Energy Company for approval of its Act 129 Phase V Energy Efficiency and Conservation Plan* (Exhibit No. 1, pg. 192). (Docket No. M-2025-3057328). Pennsylvania Public Utility Commission.

⁹ PPL Electric Utilities Corporation. (2025, December 1). *Petition for Approval of its Act 129 Phase V Energy Efficiency and Conservation Plan (Phase V EE&C Plan)* (Pg. 29). (Docket No. M-2025-3057329). Pennsylvania Public Utility Commission.

¹⁰ FirstEnergy Pennsylvania Electric Company. (2025, November 26). *Phase V Energy Efficiency & Conservation Plan (For the period June 1, 2026 through May 31, 2031)* (Table 8: Eligible Measures) (Docket No. M-2025-3057327). Pennsylvania Public Utility Commission.

existing equipment). As a result, it is difficult to assess how much of the planned activity is expected to serve the existing buildings with ER that underpin the SWE's study.

We recommend that both low-income and non-low-income Residential programs include:

- **Distinct budget allocations:** EDCs should identify intended allocations for ER space heating and ER water heating upgrades specifically (ER-to-heat pump), which correspond to the measure-level reporting. EDCs may consider elevated incentive amounts for target ER customers as well.
- **Participation targets:** EDCs should outline corresponding participation targets for the number of ER households served by air source heat pump or heat pump water heater upgrades.
- **Reporting metrics:** Alongside their required reporting, EDCs should report on progress of ER-to-heat pump conversions for space and water heating, including energy and demand savings (kWh), peak demand reduction (kW), and program participation (e.g. customer class participation levels).

Recommendation 3: Deploy market-readiness initiatives

Successful comprehensive programs for upgrading ER space or water heating will require trained contractors, reliable supply chains, and proven installation pathways. This reduces project delays, lowers costs, and ensures consistent, and high-quality outcomes. Without this groundwork, EDCs risk slow uptake and uneven results, limiting the potential savings and benefits for ER customers.

EDCs should incorporate ER-to-heat pump market readiness efforts into their program plans, including through strategic pilots and work force initiatives. Select examples have already been proposed:

- **PPL, Heat Pump Installer Program:** PPL's enhanced trade ally network is designed to expand market capacity by improving contractor training, ensuring proper system sizing and installation, and offering participation incentives. Both contractors and customers who engage with the program are eligible to receive an additional incentive.¹¹ These activities directly support workforce readiness—a central component of market transformation.
- **PPL, Window Saddle Heat Pump Pilot:** This pilot explores streamlined, scalable heat pump solutions particularly relevant for multifamily buildings.¹² Findings can help establish viable pathways for a high potential but hard-to-serve segment, strengthening overall market preparedness.

¹¹ PPL Electric Utilities Corporation. (2025, December 1). *Petition for Approval of its Act 129 Phase V Energy Efficiency and Conservation Plan (Phase V EE&C Plan)* (Attachment A, pg. 29). (Docket No. M-2025-3057329). Pennsylvania Public Utility Commission.

¹² PPL Electric Utilities Corporation. (2025, December 1). *Petition for Approval of its Act 129 Phase V Energy Efficiency and Conservation Plan (Phase V EE&C Plan)* (Attachment A, pg. 112). (Docket No. M-2025-3057329). Pennsylvania Public Utility Commission.

These efforts can be applied more consistently across EDC service territories and expanded to consider market readiness for water heating upgrades (specifically, heat pump water heaters) as well.

Recommendation 4: Adopt the definition of measures qualifying for comprehensive programs, per Public Utility Commission (PUC) guidance

In the Table 8 Addendum of the Act 129 Phase V EE&C Plan Template, deeper-savings measures, such as HVAC and weatherization upgrades, are identified as comprehensive, while single-component interventions (e.g. lighting, ceiling fans, etc.) are not. These categorizations prevent an overreliance on single-component measures in comprehensive programs and orient programs toward space and water heating upgrades, which hold the most residential potential statewide and provide longer-lived services for ratepayers.

We encourage EDCs to adopt the Table 8 Addendum categorizations without modifications to optimize program savings, support the development of impactful comprehensive programs, and align with the PUC’s intent to ensure statewide consistency.¹³

Conclusion

Phase V of Act 129 represents a pivotal opportunity to realign Act 129 residential programming with the realities of the SWE’s findings on where the greatest remaining energy efficiency savings lie. ER customers constitute a large, high-value, and currently under-served segment whose participation is essential to achieving durable energy and peak demand reductions. Without intentional program design, EDC portfolios risk continued underutilization of residential budgets and overreliance on mature measures with diminishing returns. By establishing clear pathways and accountability for ER-to-heat pump residential projects, EDCs can unlock residential potential while delivering meaningful bill savings to ratepayers. We urge the EDCs and the Commission to consider these recommendations while finalizing Phase V residential program design and implementation.

Sincerely,

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¹³ “The Commission clarifies that the Table 8 Addendum list is prescriptive, in the interest of statewide consistency.” Pennsylvania Public Utility Commission. (2025, September 8). *Implementation of Act 129 of 2008—Phase V Energy Efficiency and Conservation Plan template* (Sect. 3.1.6) (Docket No. M-2025-3052826)

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