

**PECO ENERGY COMPANY
STATEMENT NO. 3**

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

ENERGY EFFICIENCY AND CONSERVATION PROGRAM

DOCKET NO. M-2020-3020830

DIRECT TESTIMONY
SUPPORTING PECO'S PETITION FOR APPROVAL
OF ITS PHASE IV EE&C PLAN

WITNESS: WILLIAM R. SUPPLE

SUBJECT: GUIDEHOUSE ROLE IN SUPPORTING PLAN
DEVELOPMENT, PROGRAM SAVINGS,
EXPENDITURES AND COST-EFFECTIVENESS

DATED: NOVEMBER 30, 2020

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1 specialized in assisting electric and natural gas utilities with portfolio resource
2 assessment, design planning, and cost-effectiveness analysis to meet EE resource
3 standards in Pennsylvania, Massachusetts, Maryland, Ohio, Illinois, and Nova Scotia.

4 **5. Q. What is the purpose of your testimony in this case?**

5 A. Guidehouse was retained by PECO Energy Company (“PECO” or the “Company”) to
6 assist in the development of the Company’s Act 129 Phase IV Energy Efficiency and
7 Conservation Plan (“Phase IV Plan” or “Plan”) for the period June 1, 2021 to May 31,
8 2026. The purpose of my testimony is: (1) to describe how Guidehouse supported
9 the development of the Phase IV Plan; and (2) to summarize PECO’s Phase IV Plan
10 projected energy and demand savings, program expenditures, and Total Resource
11 Cost (“TRC”) benefits.

12 **II. GUIDEHOUSE’S ROLE IN SUPPORTING THE DEVELOPMENT OF**
13 **THE PHASE IV PLAN**

14 **6. Q. Please describe how Guidehouse assisted with development of the Phase IV Plan.**

15 A. As detailed in the direct testimony of Mr. DeDominicis, PECO employed a market-
16 based process to determine the details of its proposed Phase IV EE programs.
17 Guidehouse supported PECO’s process by: (1) documenting Phase III learnings to
18 inform the Phase IV Plan design; (2) facilitating workshops with PECO to determine
19 the appropriate division of PECO’s mandated EE savings, budget, and peak demand
20 reductions (“PDRs”) between its five Phase IV programs; and (3) drafting requests
21 for proposals (“RFPs”) seeking bids from conservation service providers (“CSPs”) to
22 implement programs consistent with PECO’s high-level program requirements.

1 **III. PROGRAM SAVINGS, EXPENDITURES, AND COST-EFFECTIVENESS**

2 **7. Q. How were the projected energy savings and PDRs for each Phase IV program**
3 **determined?**

4 A. The projected energy savings and PDRs for each program were provided by the CSP
5 who successfully bid to design and implement that program. As part of the RFP
6 process, Guidehouse developed a workbook that incorporated 2021 Technical
7 Resource Manual (“TRM”)¹ measure characterizations as well as savings and PDR
8 achievable program targets from the Statewide Evaluator’s (“SWE”) energy
9 efficiency and peak demand reduction potential study. CSPs were required to input
10 program details into the workbook to calculate the reasonably achievable energy
11 savings and PDRs from their program design.

12 **8. Q. Please summarize the total energy savings and PDRs projected for the Plan.**

13 A. Overall, PECO anticipates saving a total of 1,605,107 MWh and achieving 327 MW
14 of PDRs in Phase IV, which represent approximately 116% and 128% of PECO’s
15 mandated targets, respectively. Tables 1 and 2 present the forecasted gross annual
16 energy and demand savings by program for each year of the Phase IV Plan.
17 Approximately 26% of MWh and 28% of MW savings come from the residential
18 sector, and 74% of MWh and 72% of MW savings from the commercial and
19 industrial sector. PECO anticipates that 97,421 MWh of the overall forecasted

¹ *Implementation of the Alternative Energy Portfolio Standards Act of 2004: Standards for the Participation of Demand Side Management Resources – Technical Reference Manual 2021 Update*, Docket No. M-2019-3006867 (Order entered Aug. 8, 2019).

savings will come from low-income targeted programs or low-income verified participants in multifamily housing programs. This represents roughly 7.1% of PECO’s Phase IV target and exceeds the required 5.8% of savings for the low-income carve-out. Note that Tables 1 and 2 provide totals by program rather than sector and table totals may not add due to rounding.

Table 1. Annual Gross Energy Savings by Program

Programs	Annual Energy Savings (MWh)					5-Year Total
	PY13	PY14	PY15	PY16	PY17	
Residential	44,174	45,513	46,914	48,389	49,939	234,929
Income-Eligible	16,967	16,969	16,967	16,969	16,967	84,841
Non-Residential	174,863	233,474	291,873	291,873	174,864	1,166,947
Residential Home Energy Reports	21,507	25,447	22,234	22,012	21,456	112,656
Income-Eligible Home Energy Reports	938	1,413	938	1,413	1,032	5,734
Grand Total – All Phase IV Programs	258,449	322,816	378,927	380,657	264,258	1,605,107

Table 2. Annual Demand Savings by Program

Programs	Peak Demand Reductions (MW)					5-Year Total
	PY13	PY14	PY15	PY16	PY17	
Residential	6.7	6.9	7.1	7.3	7.5	35.6
Income-Eligible	2.5	2.5	2.5	2.5	2.5	12.6
Non-Residential	34.9	46.7	58.4	58.4	34.9	233.3
Residential Home Energy Reports	8.4	9.9	8.7	8.6	8.4	44.0
Income-Eligible Home Energy Reports	0.2	0.3	0.2	0.3	0.2	1.2
Grand Total – All Phase IV Programs	52.8	66.4	76.9	77.1	53.6	326.6

9. Q. What are the annual and cumulative program expenditures projected for the Plan?

A. PECO expects to spend \$427.4 million over the five-year Plan period in order to achieve the projected energy savings and PDRs. This represents 100% of PECO’s spending cap under Act 129 Phase IV. Of that total, PECO expects to spend 29% of the program delivery budget for residential EE programming, 59% on non-residential

EE programming, and 12% for cross-cutting common costs. Table 3 lists the anticipated annual and total expenditures by program. Projected costs by program represent all anticipated costs to be incurred by PECO and competitively-selected CSPs for program implementation. The common costs category includes all PECO staff and material costs and third party contractor costs to be incurred by PECO for overall portfolio and program management, data tracking, education and awareness, various technical support and program design needs, research and development, and third party evaluation, measurement, and verification.

Table 3. Annual and Total Expenditures by Program

Program	Budget (Million \$)						Average Annual
	PY13	PY14	PY15	PY16	PY17	5-Year Total	
Residential	\$14.45	\$14.82	\$15.21	\$15.62	\$16.06	\$76.16	\$15.23
Income-Eligible	\$8.29	\$8.29	\$8.29	\$8.29	\$8.29	\$41.45	\$8.29
Residential Home Energy Reports	\$1.85	\$2.19	\$1.91	\$1.89	\$1.85	\$9.69	\$1.94
Income-Eligible Home Energy Reports	\$0.08	\$0.12	\$0.08	\$0.12	\$0.09	\$0.49	\$0.10
Subtotal Residential Programs	\$24.67	\$25.43	\$25.49	\$25.93	\$26.28	\$127.79	\$25.56
Non-Residential	\$39.59	\$49.23	\$61.32	\$61.32	\$37.11	\$248.57	\$49.71
Subtotal Commercial & Industrial Programs	\$39.59	\$49.23	\$61.32	\$61.32	\$37.11	\$248.57	\$49.71
Common Costs	\$10.20	\$10.20	\$10.20	\$10.20	\$10.20	\$51.02	\$10.20
Grand Total – All Programs & Common Costs	\$74.46	\$84.86	\$97.02	\$97.46	\$73.59	\$427.39	\$85.48

10. Q. What portion of the projected expenditures are for incentives?

A. PECO’s incentive budget is 57% of the total Phase IV plan. Incentives are rebates offered to program participants, CSPs, and trade allies to deliver the program, including direct installation measure costs and labor. Table 4 presents PECO’s incentive budget and portfolio incentive percent.

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Table 4. Incentive Budget and Portfolio Incentive Percent

Program	Incentive Budget (Million \$)						Average Annual
	PY13	PY14	PY15	PY16	PY17	5-Year Total	
Residential	\$6.55	\$6.77	\$6.99	\$7.23	\$7.47	\$35.01	\$7.00
Income-Eligible	\$5.65	\$5.66	\$5.65	\$5.66	\$5.65	\$28.28	\$5.66
Residential Home Energy Reports	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Income-Eligible Home Energy Reports	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Subtotal Residential Programs	\$12.21	\$12.43	\$12.64	\$12.89	\$13.13	\$63.29	\$12.66
Non-Residential	\$27.32	\$36.47	\$45.59	\$45.59	\$27.32	\$182.31	\$36.46
Subtotal Commercial & Industrial Programs	\$27.32	\$36.47	\$45.59	\$45.59	\$27.32	\$182.31	\$36.46
Total Portfolio Budget (Incentive, Admin & Common Costs)	\$74.46	\$84.86	\$97.02	\$97.46	\$73.59	\$427.39	\$85.48
Incentive Budget as Percent of Total	53%	58%	60%	60%	55%	57%	N/A

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11. Q. How did you determine cost-effectiveness?

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A. Guidehouse followed the Commission’s guidance in the 2021 TRC Test Final Order² on how to calculate the TRC test as the basis for judging the economic viability of the Phase IV Plan. To this end, Guidehouse worked with PECO to complete the SWE Phase IV Avoided Cost Calculator yielding avoided costs for energy, capacity, and natural gas reductions. The avoided cost of water as well as other important drivers including system loss factors, discount rates, maximum economic lifetime, and inflation rates were sourced from the 2021 TRC Order, the TRM, and other SWE resources. Where appropriate, costs for avoided operations, maintenance, and future equipment replacement in the cases of early replacement measures were estimated. Plan measure characterizations were largely developed using the 2021 TRM, Phase III evaluation results, the Phase IV SWE Incremental Cost Database, and CSP implementation experience. The TRC test was calculated and reviewed using both

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² 2021 Total Resource Cost (TRC) Test, Docket No. M-2019-3006868 (Order entered Dec. 19, 2019).

1 gross savings estimates and net savings estimates. Guidehouse incorporated the
2 following specific modifications to the TRC test to comply with Commission
3 guidance:

- 4 a) Measure lifetime was capped at 15 years;
- 5 b) Energy savings were calculated at the meter, without line losses, while
6 demand savings were calculated at the generator, with line losses;
- 7 c) Estimated net-to-gross ratios from previous PECO Phase III evaluation
8 findings were applied as appropriate to similar programs; and
- 9 d) Costs associated with the free provision of efficient equipment and
10 installation labor costs (e.g., low income, multifamily and single family
11 direct install, small business direct install) are all treated as incentive costs.

12 **12. Q. Is PECO's Phase IV Plan cost-effective?**

13 A. Yes. For the Plan as a whole over Phase IV, the gross TRC benefit-to-cost ratio is
14 1.14 and the net TRC benefit-to-cost ratio is 1.06, yielding total net benefits based on
15 gross savings of \$93.47 million. Table 5 shows the TRC results and discounted
16 benefits and costs for the Phase IV Plan by program.

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Table 5. Phase Total TRC Results by Program

Program	TRC Analysis				
	Discounted Benefits (Million \$) ¹	Discounted Costs (Million \$) ¹	Net Benefits (Million \$)	B/C Ratio (Gross)	B/C Ratio (Net)
Residential	\$154.32	\$130.89	\$23.43	1.18	1.04
Income-Eligible	\$40.89	\$37.68	\$3.20	1.09	1.09
Residential Home Energy Reports	\$17.20	\$8.82	\$8.38	1.95	1.95
Income-Eligible Home Energy Reports	\$0.55	\$0.45	\$0.11	1.24	1.24
Subtotal Residential Programs	\$212.96	\$177.84	\$35.12	1.20	1.11
Non-Residential	\$562.71	\$458.09	\$104.62	1.23	1.18
Subtotal Commercial & Industrial Programs	\$562.71	\$458.09	\$104.62	1.23	1.18
Common Costs		\$46.27			
Grand Total – All EE/DR Programs	\$775.67	\$682.20	\$93.47	1.14	1.06

¹ Cost and benefits discounted to PY13.

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IV. CONCLUSION

6 **13. Q. Does this conclude your direct testimony?**

7 A. Yes.

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