

PECO STATEMENT NO. 7

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

DOCKET NO. R-2008-2028394

**DIRECT TESTIMONY  
OF  
KATHLEEN A. LENTINI**

**Presenting PECO Energy Company's Proposed  
Natural Gas Conservation and Energy Efficiency Programs**

**Date: March 31, 2008**

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DIRECT TESTIMONY  
OF  
KATHLEEN A. LENTINI

INTRODUCTION AND PURPOSE OF TESTIMONY

1 **1. Q. Please state your full name and business address.**

2       mo     My name is Kathleen A. Lentini. My business address is PECO Energy Company,  
3             2301 Market Street, 11<sup>th</sup> Floor, Philadelphia, Pennsylvania 19101.

4 2.   Q.     **What is your current position within PECO Energy Company ("PECO" or "the**  
5             **Company")?**

      A.     I am PECO's Manager of Marketing.

7 **3. Q. What are your responsibilities in this position?**

8       mo     I am responsible for the development and execution of PECO's marketing strategies  
9             for the natural gas and electric customers in its service territory. I am also responsible  
10            for managing several of PECO's conservation, alternative energy, and energy  
11            efficiency programs; specifically, PECO's demand response programs, its  
12            PECOWIND product offering, and its residential energy efficiency kit promotions.

13   o   Q.     **Please describe your educational background and your professional experience**  
14             **in the energy industry.**

15       mo     I earned my Bachelor of Science degree in Marketing from LaSalle University in  
16             1984. I earned my Masters of Business Administration, also from LaSalle, in 1998.

1 I began my career in the energy industry in 1995 as a PECO Account  
2 Manager. In this position, I developed and sold energy conservation products for the  
3 residential homebuilder market.

4 In 1997, I was promoted to Key Account Executive and worked as PECO's  
5 single point-of-contact for its large hospital and healthcare electric customers. A  
6 significant part of my responsibilities in this position was helping these customers  
7 assess their energy needs and options.

8 In 1998, I joined PECO's affiliate Exelon Energy. While at Exelon Energy, I  
9 was promoted through several positions with increasing responsibility, including that  
10 of Affinity Group Business Developer, Distribution Channel Sales Manager and,  
11 ultimately, Director of Sales Operations.

12 I returned to PECO in 2001 and became the Marketing Manager for PECO's  
13 natural gas business. My key responsibility in this position was overseeing the gas  
14 business' customer acquisition efforts. In 2005, I took over my current  
15 responsibilities managing PECO's natural gas and electric customer marketing  
16 initiatives and its energy conservation and efficiency programs.

17 ◦ **Q. What is the purpose of your direct testimony today?**

18 mo The purpose of my direct testimony is to describe the natural gas conservation and  
19 efficiency programs PECO is proposing to implement as part of this case.

20 ◦ **Q. How is your testimony organized?**

21 mo First, I will discuss the methodology PECO applied in selecting its proposed  
22 programs. Second, I will describe the programs in detail, including the incentives

1 PECO is proposing to offer to encourage customer participation in the programs, the  
2 programs' expected energy savings, PECO's Energy Efficiency Outreach and  
3 Education plan, and the costs of each of the programs. Third, I will discuss how  
4 PECO plans to inform consumers about these programs to ensure that they garner  
5 robust participation and I also will discuss how PECO plans to evaluate the success of  
6 the programs. Finally, I will discuss the total program costs and explain why the  
7 Commission should approve the proposed programs.

8 **Before beginning your testimony, please provide an overview of the conservation**  
9 **and energy efficiency programs PECO is proposing in this proceeding.**

10 mo PECO is proposing to offer its existing residential and commercial customers a mix  
11 of rebate programs to encourage them to replace old, inefficient furnaces, boilers, and  
12 water heaters with high efficiency units, and to encourage consumers in its natural gas  
13 service territory with non-natural gas furnaces to convert to high efficiency gas  
14 furnaces. PECO is also proposing an outreach and education program to inform its  
15 customers about natural gas conservation and energy efficiency in general.

16 so **Q. Why is PECO proposing these programs as part of this proceeding?**

17 Ao PECO is proposing these programs for two reasons. First, our programs are designed  
18 to help natural gas consumers in PECO's service territory save energy by upgrading  
19 to more efficient gas appliances. Second, the Company seeks to give natural gas  
20 consumers in its service territory the tools and information they need to make  
21 conservation choices to save on their natural gas bills.

## II. PECO'S PROGRAM SELECTION METHODOLOGY

1 9. **Q.** Please explain how PECO selected the conservation and energy efficiency programs it is proposing.

3 mo PECO selected these programs by engaging in a comprehensive four-step process.  
4 *First*, PECO looked for conservation and energy efficiency programs that have  
5 already been shown to work by surveying programs offered by other natural gas  
6 utilities in the American Gas Association. *Second*, PECO reviewed energy efficiency  
7 technologies and standards, and available high-efficiency equipment in the  
8 development of these recommendations. *Third*, PECO undertook an economic  
9 analysis of each candidate program to identify its individual benefits and costs, and  
10 then prioritized the programs according to their costs and cost-effectiveness. *Fourth*,  
11 PECO selected its proposed programs based on their positive benefit-to-cost ratios,  
12 ease of implementation, and expected consumer interest.

13 10. **Q.** What costs were included in PECO's economic analysis of the candidate  
14 programs and what tests did PECO use to determine the programs' cost-  
15 effectiveness?

16 mo PECO's economic analysis included all relevant program costs, including the costs of  
17 incentives, program outreach and education, program administration, and program  
18 evaluation. PECO used the Total Resource Cost Test ("TRC Test") to determine the  
19 programs' cost-effectiveness.

20 11. **Q.** Briefly explain what the TRC Test measures.

1 The TRC Test measures the net cost or benefit of a program based on a comparison of  
2 the total costs and benefits of the program, including those experienced by the utility  
3 and the program's participants.

4 12. **What were the results of the TRC Test analysis for the selected programs?**

5 mo The results are shown on PECO Exhibit No. KAL-1, which is attached to my  
6 testimony. This exhibit shows the net present value ("NPV") and benefit-cost results  
7 ("BCR") for each of the selected programs.

### III. PECO'S PROPOSED NATURAL GAS CONSERVATION AND ENERGY EFFICIENCY PROGRAMS

#### Ao Residential Programs

8 13. **What are the residential conservation and energy efficiency programs PECO is  
9 proposing to implement?**

10 mo PECO is proposing to implement the following four residential programs: the  
11 Residential Gas Furnace Replacement Program; the Residential Gas Efficient Boiler  
12 Program; the Residential Gas Water Heater Replacement Program; and the  
13 Residential Gas Furnace Conversion Program.

14 14. **Q. Please describe the Residential Gas Furnace Replacement Program.**

15 mo The Residential Gas Furnace Replacement Program will offer PECO's existing  
16 natural gas customers rebates of \$300 per unit to replace their old gas furnaces with  
17 new high-efficiency gas furnaces. To qualify for the rebate, the customer will have to  
18 upgrade to a furnace having a 90% or higher Annual Fuel Utilization Efficiency

1 ("AFUE") rating. By way of background, AFUE measures a furnace's heating  
2 efficiency by quantifying the amount of heat the furnace actually delivers to a home  
3 compared to the amount of fuel the furnace uses. Thus, a gas furnace having a 90%  
4 AFUE converts 90% of the gas it uses to heat.

5 **15. Q. How long will PECO offer this program and what are the projected benefits and**  
6 **costs of the program over its lifespan?**

7 mo We plan to offer all of the proposed natural gas conservation and energy efficiency  
8 programs over the next five years. At the end of five years, we expect that the  
9 Residential Gas Furnace Replacement program will have provided the following  
10 benefits and costs:

11 **Residential Gas Furnace Replacement Program**  
12 **(Benefits and Costs over Five Years)**  
13

| Customer Participation | Mcf Savings | Rebate Payments | Total Program Costs |
|------------------------|-------------|-----------------|---------------------|
| 23,844                 | 925,596 Mcf | \$7,155,000     | \$8,347,000         |

14  
15 **16. Q. Why do the total program costs exceed the rebate payments?**

16 mo In addition to the rebate incentives, total program costs for each program include the  
17 program outreach, program administration, and program evaluation costs.

18 **17. oo Moving to the next program, please explain what a boiler is and describe**  
19 **PECO's Residential Gas Efficient Boiler Program.**

1 A boiler is a device in which water is boiled to produce either hot water or steam for  
2 heating. PECO's Residential Gas Efficient Boiler Program will offer our residential  
3 customers with boiler rebates of \$300 per unit to replace their old gas boilers with  
4 boilers of 85% AFUE or higher.

5 **18. Q. What are the projected benefits and costs of the Residential Gas Efficient Boiler**  
6 **Program?**

7 mo We expect that the Residential Gas Efficient Boiler program will have provided the  
8 following benefits and costs at the end of five-years:

9 **Residential Gas Efficient Boiler Program**  
10 **(Benefits and Costs over Five Years)**

| Customer Participation | Mcf Savings | Rebate Payments | Total Program Costs |
|------------------------|-------------|-----------------|---------------------|
| 2,649                  | 132,210 Mcf | \$796,000       | \$1,086,000         |

11  
12 **19. Please describe PECO's Residential Gas Water Heater Replacement Program.**

13 mo Through this program, PECO will offer its natural gas customers rebates of \$50 per  
14 unit to replace their old storage tank water heater with a new storage tank water  
15 heater having at least a 0.62 Energy Factor ("EF"). The EF standard measures a  
16 water heater's overall energy efficiency based on the amount of hot water produced  
17 per unit of fuel per day.

1 20. **What are the projected benefits and costs of the Residential Gas Water Heater**  
2 **Replacement Program?**

A. At the end of five years, we project the program will provide the following results:

4 **Residential Gas Water Heater Replacement Program**  
5 **(Benefits and Costs over Five Years)**  
6

| Customer Participation | Mcf Savings | Rebate Payments | Total Program Costs |
|------------------------|-------------|-----------------|---------------------|
| 6,968                  | 65,842 Mcf  | \$348,000       | \$1,292,000         |

8 21. **Q. Please explain PECO's fourth residential program, the Residential Gas Furnace**  
9 **Conversion Program.**

10 mo Under this program, PECO will offer residential consumers in its natural gas service  
11 territory that are currently using non-natural gas furnaces a \$300 rebate to convert to  
12 gas furnaces with a 90% or higher AFUE.

13 22. **Qo What is the purpose of this program?**

14 mo The purpose of this program is to encourage consumers in PECO's service territory  
15 that are already planning to switch from propane-fueled or oil-fueled furnaces to  
16 natural gas to choose high-efficiency natural gas furnaces.

17 23. **Qo What are the projected benefits and costs of this program?**

18 A. We expect the following benefits and costs for the program at the end of five years:

1 **Residential Gas Furnace Conversion Program**  
2 **(Benefits and Costs over Five Years)**

| Customer Participation | Mcf Savings | Rebate Payments | Total Program Costs |
|------------------------|-------------|-----------------|---------------------|
| 1,190                  | 48,440Mcf   | \$357,000       | \$676,000           |

3

4 24. **Q. None of these programs appears to be specifically targeted to low-income**  
5 **consumers. Does PECO have any energy conservation or efficiency programs**  
6 **targeted to its low-income customers?**

7 mo While these rebate programs are not solely targeted to low-income consumers, low-  
8 income consumers can participate in them. However, as part of this proceeding,  
9 PECO is also proposing to expand its Low-Income Usage Reduction Program  
10 ("LIURP"). Specific details on that program and its proposed expansion are  
11 discussed in the testimony of Mr. Manus J. McHugh, PECO's Director of Revenue  
12 Management (PECO Statement No. 6).

Bo **Commercial Program**

13 25. oo **Please describe the conservation and energy efficiency program PECO is**  
14 **proposing to implement for its commercial customers.**

15 mo PECO plans to offer these customers a Commercial Gas Furnace Replacement  
16 Program. Through this program, PECO will offer businesses rebates of \$300 per unit  
17 to replace their old commercial gas furnaces with new gas furnaces having AFUE  
18 ratings of 90% or higher.

1 26. Q. What are the projected benefits and costs of the Commercial Gas **Furnace**  
2 **Replacement Program** after five years?

3 Ao We expect the following benefits and costs for the program at the end of five years:

4 **Commercial Gas Furnace Replacement Program**  
5 **(Benefits and Costs over Five Years)**

| Customer Participation | Mcf Savings | Rebate Payments | Total Program Costs |
|------------------------|-------------|-----------------|---------------------|
| 529                    | 24,624Mcf   | \$158,000       | \$805,000           |

6

7 27. Qo Why **did PECO select** this program to offer to its commercial customers?

8 Ao Consistent with the selection methodology I mentioned previously, we determined  
9 that the Commercial Gas Furnace Replacement Program was the most cost-effective  
10 and widely applicable program that could be implemented for our commercial  
11 customers.

**C. Energy Efficiency Outreach and Education Program**

12 28. Qo Will conservation and **energy efficiency** information be available to PECO  
13 customers who do not participate in the proposed rebate programs?

14 Ao Yes. PECO's conservation and energy efficiency proposal includes an Energy  
15 Efficiency Outreach and Education Program. The purpose of the Energy Efficiency  
16 Outreach and Education Program is to educate consumers in PECO's service territory  
17 on how they can implement easy and inexpensive changes in their homes and  
18 lifestyles to use less natural gas and save money. The program will include media

1 advertisements, bill inserts, and web information. The program’s conservation and  
2 energy efficiency information will be available - and helpful - to all of PECO’s  
3 customers, regardless of whether they are in the market to upgrade their natural gas  
4 appliances.

5 29. **Q. What are the projected costs of the Energy Efficiency Outreach and Education**  
6 **Program?**

7 mo The projected costs are \$2.6 million over five years. These costs are included in  
8 PECO Exhibit No. KAL-2.

IV. PROGRAM OUTREACH AND EVALUATION

9 30. **How does PECO plan to inform consumers in its natural gas service territory**  
10 **about its conservation and energy efficiency programs?**

11 mo For residential consumers, we plan to build awareness of our programs through:  
12 1) outreach partnerships; 2) media advertisements; 3) bill inserts; and 4) interactive  
13 information about these programs on the PECO website.

14 For our commercial customers, we will build awareness of our rebate program  
15 through business development groups, bill inserts and the PECO website. Larger  
16 commercial customers will also be able to obtain information about our commercial  
17 program through their PECO account manager.

18 31. oo **Will the programs involve partnerships with contractors in PECO’s service**  
19 **territory?**

1 No Yes. Participating contractors will be our education and delivery partners in rolling-  
2 out these programs. The program budgets include the costs of the necessary training  
3 and assistance activities for participating contractors to ensure that consumers get  
4 accurate program information and that eligible equipment is properly installed.

5 32. **How will PECO evaluate the success of its conservation and energy efficiency**  
6 **programs?**

7 In two ways. First, a PECO program manager will monitor and track consumer  
8 participation, understanding and ease of use, and energy savings in these programs.  
9 Second, PECO will engage an independent, third party auditor to verify the energy  
10 savings.

No **TOTAL PROGRAM COSTS AND BENEFITS TO BE INCLUDED IN BASE**  
**RATES**

11 33. Qo **Have you prepared an exhibit summarizing the total cost of PECO's proposed**  
12 **conservation and energy efficiency programs?**

13 No Yes. PECO Exhibit No. KAL-2 summarizes total program participation numbers,  
14 Mcf savings, rebate incentives and costs over five years.

15 34. **What is the total cost for PECO's proposed programs?**

16 A° The cost of the programs over five years is \$14,806,000. First year program costs are  
17 \$2,477,000. Program costs over the next four years will rise to \$3,179,000 annually  
18 starting in year three due to expected increases in customer participation. PECO  
19 Exhibit No. KAL-3 illustrates the annual costs over five years.

**1 35. Q. Are these programs currently ready for implementation?**

2       mo    No. PECO is seeking approval to pursue final development of these programs and  
3       recover their costs in its annual rates. Assuming timely Commission approval of  
4       PECO's rate request, we expect to have these programs up and running beginning in  
5       the first quarter of 2009.

**6 36. Q. Please explain why the Commission should approve these programs.**

7       mo    The reasons the Commission should approve these programs mirror PECO's purpose  
8       in proposing them: 1) to help natural gas consumers in PECO's service territory save  
9       energy by upgrading to more efficient gas appliances, and 2) to give natural gas  
10      consumers in PECO's service territory tools and information to empower them to  
11      save on their natural gas bills. Let me provide a few examples of how PECO's  
12      proposed programs accomplish these goals:

**Gas Furnaces**

14           Because homeowners usually replace gas furnaces only after they fail, some  
15      furnaces in use today can have AFUE's lower than 65%. Not only are consumers  
16      with these furnaces wasting natural gas, they also are not getting the most heat for  
17      their energy dollar.

18           The U.S. Department of Energy ("DOE") currently requires that all new  
19      furnaces sold in U.S. have a minimum AFUE of 78%. The most efficient gas  
20      furnaces available today have a 96% AFUE. PECO's Residential and Commercial  
21      Gas Furnace Replacement Programs, with their 90% or higher AFUE requirement,

1 give consumers and businesses both an incentive and assistance to conserve energy  
2 by purchasing the most efficient furnaces.

3 For example, let's assume that a customer is considering replacing their old  
4 gas furnace, and is initially looking at purchasing a furnace with a minimum AFUE of  
5 80%. If the customer uses the Residential Gas Furnace Replacement Program's  
6 rebate to purchase a 90% or higher AFUE furnace, they can save up to 14 Mcf per  
7 unit, per year, over the 80% AFUE unit, which translates into annual cost savings of  
8 roughly \$208 per unit. Of course, their savings would be even more if the furnace  
9 they are replacing is less than 80% efficient.

10 Similarly, commercial customers can expect to save 16 Mcf per unit, per year  
11 with a high-efficiency furnace, versus an 80% efficiency furnace, which means  
12 savings of \$237 per unit, per year.

### 13 Gas Boilers

14 Boilers are also equipment that most consumers will run until failure.  
15 Therefore, some boilers in use today could have AFUE's as low as 55 to 65%. That  
16 means as much as 35% to 45% of the energy produced by the natural gas fueling the  
17 boiler is wasted.

18 Currently, the DOE's minimum AFUE requirement for gas boilers is 80% and  
19 the most efficient boilers have an AFUE of 85% or higher. PECO's Residential Gas  
20 Efficient Boiler Program provides consumers with rebates to motivate them to buy  
21 the most efficient boilers, which could allow them to save up to 18 Mcf per unit, per  
22 year or \$269 per unit, per year. Again, these figures are based on comparing the

1 minimum efficiency units available today to the high-efficiency units (85% AFUE or  
2 higher) that PECO is promoting.

### 3 **Gas Water Heaters**

4 Federal standards require a minimum EF of 0.58 for a new 50-gallon gas  
5 water heater. However, older gas water heaters currently in use can have EFs as low  
6 as 0.48. In contrast, the most efficient gas water heaters with storage tanks have EFs  
7 of up to 0.67.

8 PECO's minimum 0.62 EF standard for its Residential Gas Water Heater  
9 Replacement Program would motivate and help its customers buy the higher-  
10 efficiency gas water heaters. By doing so, they would save up to 3.25 Mcf per unit,  
11 per year or \$49 per unit, per year, compared to what they would save purchasing a  
12 water heater with a 0.58 EF.

### 13 **Non-Natural Gas Fueled Furnaces**

14 Natural gas is currently cheaper than propane and oil, and is generally more  
15 efficient than oil for home heating. Thus, the average customer converting from  
16 propane or oil furnaces to high efficiency natural gas furnaces (instead of furnaces  
17 meeting the minimum standard of 80% AFUE) could save up to 14 Mcf and \$208 per  
18 year, per unit.

### 19 **Energy Efficiency Outreach and Education Program**

20 While natural gas consumers, especially those with older appliances, can  
21 achieve significant savings by switching to more efficient appliances, consumers also  
22 need general advice on how to conserve natural gas. Simple measures, such as  
23 turning down a thermostat, or reducing the water temperature on a water heater can

1 save hundreds of dollars per year. Knowledge is power, and PECO' s Energy  
2 Efficiency Outreach and Education Program will provide customers with these and  
3 other energy saving tips to empower them to make decisions and take steps to reduce  
4 their natural gas bills.

5 37. Q **In addition to customer savings, are there any broader, environmental benefits**  
6 **that will result from these programs?**

7 mo Yes. We estimate that if consumers participate in PECO' s proposed programs at the  
8 levels projected, there will be a reduction in natural gas usage of 1.2 million Mcf over  
9 the life of the programs, which translates into a carbon reduction of approximately  
10 144 million pounds of carbon dioxide.

11 38. oe **Is the Company seeking recovery of lost distribution revenue associated with the**  
12 **reduced usage that will occur?**

13 mo Yes, the Company is seeking the recovery of the first year lost revenue, estimated to  
14 be \$221,000 for the residential programs and \$5,000 for the commercial programs.  
15 These figures are quantified in PECO Exhibit KAL-4 and they are also reflected in  
16 PECO Exhibit RLO- 1, Schedule D- 16.

17 39. oo **What rate treatment is the Company seeking for the costs of the programs?**

18 The Company is seeking recovery of the start-up costs of \$300,000 and the first year  
19 operating costs of \$2.477 million, which are documented in Exhibit KAL-3. These  
20 unbudgeted costs are reflected as a pro forma test year adjustment in PECO Exhibit  
21 RLO-1, Schedule D-16. The start-up costs are amortized over three years.

VI. CONCLUSION

**1 40. Q. Please summarize your testimony.**

2 mo PECO is proposing to offer residential and commercial consumers in its natural gas  
3 service territory a mix of rebates and consumer education to encourage them to install  
4 higher efficiency gas appliances, reduce their energy consumption and, thereby, save  
5 on their natural gas bills. PECO urges the Commission to approve these programs so  
6 that PECO can finalize their development and begin their implementation in early  
7 2009. In sum, the Commission should approve all of PECO's proposed programs,  
8 and rate recovery for the programs, because they will save energy, help natural gas  
9 consumers in PECO's service territory save money, and benefit the environment.

10 **41. Q. Does this conclude your direct testimony?**

11 A. Yes.