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January 28, 2013

VIA EFILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor (filing room)
PO Box 3265
Harrisburg, PA 17105-3265

RE: Petition of PPL Electric Utilities Corporation for Approval of an Energy Efficiency and Conservation Plan; Docket No. M-2012-2334388; **SUSTAINABLE ENERGY FUNDS MAIN BRIEF**

Dear Secretary Chiavetta:

Enclosed for filing with the Commission is an original Main Brief of the Sustainable Energy Fund of Central Eastern Pennsylvania. This filing has been served in accordance with the attached Certificate of Service.

If you have any questions concerning this filing, please do not hesitate to contact my office.

Very truly yours,

Craig R. Burgraff

Craig R. Burgraff
Counsel for The Sustainable Energy Fund of Central Eastern Pennsylvania

CRB/jld/152727.1
Enclosures
cc: Administrative Law Judge Dennis J. Buckley (via email and via first class mail)
Per Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing document upon the parties, listed below, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a party).

VIA ELECTRONIC AND FIRST CLASS MAIL

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Dated: January 28, 2013

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PPL Electric Utilities Corporation for Approval of an Energy Efficiency and Conservation Plan	: : :	Docket No.: M-2012-2334388

MAIN BRIEF
OF THE SUSTAINABLE ENERGY FUND
OF CENTRAL EASTERN PENNSYLVANIA

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Dated: January 28, 2013

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I. INTRODUCTION AND PROCEDURAL HISTORY

PPL Electric Utilities Corporation ("PPL Electric") filed, on November 15, 2012, its Petition of PPL Electric Utilities Corporation for Approval of its Act 129 Phase II Energy Efficiency and Conservation Plan ("Phase II EE&C Plan"). The Phase II EE&C Plan was filed pursuant to the Public Utility Commission's ("Commission") August 3, 2012 Implementation Order[1] in which the Commission established the Phase II Energy Efficiency and Conservation Program. PPL filed the testimony of three (3) witnesses on December 4, 2012. This case was assigned to Administrative Law Judge ("ALJ") Dennis J. Buckley for the development, and certification to the Commission, of a record in this proceeding. The Sustainable Energy Fund of Central Eastern Pennsylvania ("SEF") petitioned to intervene in this proceeding on December 7, 2012, and ALJ Buckley granted that intervention in his December 12, 2012 Second Prehearing Order. Other parties participating in the case were the Office of Consumer Advocate ("OCA"), the Office of Small Business Advocate ("OSBA"), Citizens for Pennsylvania's Future ("PennFuture"), CAUSE-PA, Walmart (Wal-Mart Stores East, LP and Sam's East, Inc.), the Commission on Economic Opportunity, the UGI Distribution Companies, the PPL Industrial Customer Alliance ("PPLICA") and Comverge, Inc. Pursuant to the adopted schedule, SEF filed the Direct Testimony of John M. Costlow, SEF's Director of Technical Services, on December 28, 2012. SEF participated in the January 16, 2013 hearing in this docket, in which Mr. Costlow's testimony and exhibits were entered into the record. Other intervenor testimony was submitted by the OCA, CAUSE-PA, and UGI Distribution Companies. This testimony was also entered into the record.

[1] Energy Efficiency and Conservation Program Implementation Order, Docket Nos. M-2012-2289411 and M-2008-2069887 (August 3, 2012) ("Implementation Order").

In addition, the Implementation Order provided for Comments regarding the Phase II EE&C Plan.[2] Comments were filed by PPLICA, PennFuture, the OCA and Comverge, Inc. on December 21, 2012.

II. DESCRIPTION OF THE PHASE II EE&C PLAN

PPL Electric's Phase II EE&C Plan will cover the period June 1, 2013 through May 31, 2016, as required by the Commission's Implementation Order.[3] It is designed to meet the Commission's Act 129 Phase II three (3) year 2.1% of 2009/2010 forecast consumption reductions within the designated expenditure cap of 2% of 2006 annual revenues for each year of the three (3) year plan, or approximately $184.5 million for Phase II.[4]

The proposed Phase II EE&C Plan includes a portfolio of energy efficiency and energy reduction initiatives consisting of thirteen (13) programs. These programs include the following programs continued from Phase I:

- Appliance recycling;
- Residential Retail Program;
- Residential Energy-Efficiency Behavior & Education;
- Low-Income WRAP Program (with changes);
- E-Power Wise Program;
- Prescriptive Equipment Small C&I, Large C&I and GNI Program (with additions); and
- Custom Incentive Small C&I, Large C&I and GNI Program.

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[2] Implementation Order at 62.
[3] Implementation Order at 22.
[4] PPL Petition at 4-5.

These programs include the following new programs in Phase II:

- Residential Home Comfort Program (hybrid combining the Phase I Audit and Weatherization Program; the portion of Phase I Residential Efficient Equipment Program that includes HVAC and insulation; pool pumps; and a new home component;
- Student and Parent Energy-Efficiency Education Program;
- Low-Income Energy-Efficiency Behavior Education Program;
- Master Metered Low-Income Multifamily Housing Program;
- Continuous Energy Improvement Program; and
- School Benchmarking Program.[5]

PPL Electric posits that the Phase II EE&C Plan meets the requirements of the Implementation Order that a minimum of 10% of all consumption reduction requirements are achieved from the GNI sector, a minimum of 4.5% of the total required reductions are achieved from the low-income sector and the proportion of measures to the low-income sector is at least 9.5% of the total measures available to all customer sectors.[6]

III. SUMMARY OF ARGUMENT

PPL Electric's Phase II EE&C Plan should be modified to open the heat pump water heater component of the Residential Retail Program to the alternative energy sources listed in Tier 1 of Act 213, including solar thermal water heaters, as well as natural gas. PPL Electric's Phase II EE&C Plan in this regard favors electricity over other energy sources by restricting the program to heat pump water heaters and is not, therefore, fuel neutral. The preamble to Act 129[7] notes that it is in the public interest to expand the use of alternative energy and to explore the feasibility of new sources of alternative energy to provide electric generation in the

[5] PPL Petition at 9-10.
[6] Id. at 5.
[7] 2008, Oct. 15, P.L. 192, No. 129 [Nov. 14, 2008]; 66 Pa. C.S. § 2806.1.

Commonwealth. PPL Electric's heat pump water heater program simply promotes electricity use despite the fact that solar water heaters and natural gas water heaters have greater annual consumption savings.

Rebate levels for alternative energy and natural gas water heaters should be established on an equitable kWh or energy proportional basis. The benefits to this approach are: (1) the programmatic costs are not changed in order to shift load to other energy sources; (2) the incentive does not provide economic advantage to any given technology or energy sources; (3) the incentive is easy for PPL Electric to administer; and, (4) the program is easy for providers to conduct and promote. The SEF's recommended incentives are appropriately proportionally based on PPL Electric's existing proposal and produce the same amount of savings at the same cost as the proposed heat pump water heater program.

The Commission should remove all business equipment rebates to low-income farms under PPL Electric's proposed Small C&I Prescriptive Equipment Program. Business equipment is used for the production of goods of value, which are then sold. Residential ratepayers should not bear the cost of rebates for farm business equipment. Rather, the residence on a low-income farm should be treated like any other low-income residence, and have access to the same incentives limited to residential application and not include equipment whose sole purpose is business.

IV. ARGUMENT

The SEF has three concerns with PPL Electric's Phase II EE&C Plan. These concerns are the lack of fuel neutrality in PPL Electric's proposals, the lack of renewable energy measures in PPL Electric's proposals and the inclusion of business interests in the low-income programs.

A. PPL Electric's Phase II EE&C Plan should be modified to open the heat pump water heater component of the Residential Retail Program to the alternative energy sources listed in Tier 1 of Act 213 and natural gas.

PPL Electric's proposed Residential Retail Program groups energy efficiency products used by residential customers and found in retail stores for rebates. This includes various components, including energy efficient light bulbs, smart strips and other energy efficient equipment. Included in the proposed list of eligible equipment are electric heat pump water heaters with an incentive rebate range of $200-$300.[8] PPL Electric estimates that 3,600 energy efficient heat pump water heaters will be eligible for customer rebates over the three (3) year Phase II EE&C Plan, or 1,200 per year.[9] The Residential Retail Program includes no rebates for any non-heat pump water heaters, and is therefore, not fuel neutral.

Fuel neutrality is an EE&C program's state of being neutral or not supporting or favoring one energy source over another. PPL Electric's Phase II EE&C Plan favors electricity over other energy sources and, therefore, is not fuel neutral.[10]

Fuel neutrality is important since, as SEF witness Costlow noted, the basic tenet of fuel neutrality is that programs are structured in such a way that the consumer, i.e. the energy user, makes the energy source choice within the context of the program's objectives, not the objectives of the sponsoring entity, which in this case is PPL Electric.[11] PPL Electric is in agreement that the customer, and not PPL Electric, should choose the energy source. As noted in SEF Exhibit 1, PPL Electric stated that it believes it is more appropriate for a customer, not PPL Electric, to

[8] Phase II EE&C Plan, Section 3 at 40-41.
[9] Id. at 47; UGI Hearing Exhibit 1. The low-income WRAP program provides a heat pump water heater replacement component with an estimated participation level of 200 heat pump water heater replacements each year of the three (3) year Phase II EE&C Plan. Phase II EE&C Plan at 71-72, 74.
[10] SEF Statement No. 1 at 2.
[11] Id. at 3.

decide whether to heat their home, heat their water, cook or dry their clothes with gas, electric, oil, propane or other energy sources.[12]

The Commission also believes that fuel neutrality is central to the concept of fuel switching. Through orders approving the 2009 EE&C Plans, the Commission directed its staff to convene a Fuel Switching Working Group to address the various issues related to fuel switching. One of the issues addressed by that group, in which SEF and PPL Electric participated, was fuel neutrality. In Comments filed by PPL Electric, PPL Electric witness Cleff stated that the Working Group agreed that any fuel switching measures, if permitted by the Commission, should be fuel neutral and, therefore, should include natural gas, oil, propane or other fuels.

The Commission adopted the Fuel Switching Working Group Staff Report and issued a Secretarial Letter on May 21, 2010. In its Report, Staff agreed with First Energy and PPL Electric that the consideration of fuel switching programs must be fuel neutral.

PPL Electric's proposed Phase II EE&C Plan includes incentives for measures that use electricity as an energy source that could also utilize alternative energy sources. However, as PPL witness Cleff testified, PPL Electric proposed no fuel switching measures in its residential programs.[13] PPL Electric has proposed incentives for heat pump water heaters that utilize electricity.[14] However, other energy sources such as solar thermal energy and natural gas can also be used to heat water. The heat pump water heater, solar water heater and natural gas water

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[12] As opposed to providing fuel neutral water heating options and rebates to allow customers to choose under the Phase II EE&C Plan, PPL Electric did not conduct any cost-effective evaluation with high efficiency natural gas water heaters and did not consider fuel substitution for water heaters, or other purposes, under the assumption that this would somehow restrict the customers' ability to choose. SEF Exhibit 1. This is completely counter-intuitive and results in the Catch-22 proposition that customers should not be allowed to choose in the Phase II EE&C Plan because it would impede their ability to choose.

[13] PPL Electric Statement No. 4-R at 4. In its Phase I EE&C Plan, PPL Electric did offer fuel switching in its Efficient Equipment Incentive Program for its Residential Thermal Storage ("RTS") customers, issuing 156 rebates. Id. at 3.

[14] PPL Electric Act 129 Phase II EE&C Residential Retail Program, Table E3A; Residential Home Comfort Program, Table F3 and Low Income WRAP Program, Table J5.

heater are all alternatives to the traditional electric water heater. PPL Electric only included heat pump water heaters despite the fact that solar water heaters and natural gas water heaters have greater annual consumption savings. The solar water heater has annual consumption savings at the high end of the range for the heat pump water heater (1,623 kWh versus the range of 1,474 – 1,689 kWh) as delineated in the 2013 Technical Reference Manual ("TRM"), while the natural gas water heater has annual consumption savings significantly greater than the heat pump water heater (3,191 kWh versus the range of 1,474 – 1,689 kWh) as delineated in the 2013 TRM.[15]

These energy savings are clear. UGI Distribution Companies witness Raab notes that PPL Electric assumes savings of 1,613 kWh per year from the installation of a heat pump water heater in the PPL service territory.[16] Thus, the solar water heater produces greater savings. Witness Raab, using the TRM electricity savings of 3,191 kWh per year for a natural gas water heater, notes that the natural gas water heater yields almost twice the electricity savings compared to the heat pump water heater. Even factoring in the increased natural gas use associated with a natural gas water heater, a program that promotes the installation of natural gas water heaters saves 14% more energy than PPL Electric's proposed program.[17]

Given these electricity and energy savings, SEF witness Costlow recommended that PPL Electric should cure the lack of fuel neutrality in its Phase II EE&C Plan by opening the heat pump water heater program in the Residential Retail Program to the alternative energy sources listed in Tier 1 of Act 213[18], as well as natural gas.

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[15] SEF Statement No. 1; Table SEF-1 at 5.
[16] UGI Statement No.1 at 9.
[17] Id.
[18] 2009, Nov. 30, P.L. 1672, No. 213 (73 P.S. §§1648.1-1648.8) ("Act 213"). Tier 1 includes solar photovoltaic, solar thermal, wind power, low-impact hydropower, geothermal energy, biologically derived methane gas, fuel cells, biomass energy, coal mine methane, black liquor and large scale hydro. SEF Statement No. 1 at 3.

The expansion of the heat pump water heating program to embrace fuel neutrality is consistent with and in furtherance of Act 129. In enacting Act 129, the General Assembly found that:

> (3) It is in the public interest to expand the use of alternative energy and to explore the feasibility of new sources of alternative energy to provide electric generation in this Commonwealth.[19]

SEF witness Costlow's recommendation results in PPL Electric establishing a rebate program whereby the customer actually has the ability to choose the energy source that will be employed.

PPL Electric's principle argument against providing for alternative fuels in its residential programs is that it would be discriminatory. PPL Electric stated that any significant focus on switching from electricity to gas as an energy conservation measure would be discriminatory against electric customers who do not have access to gas service, regardless of whether this measure is cost-effective. In addition, it would be discriminatory against customers who choose to use oil, propane, wood or an energy source other than natural gas.[20] PPL witness Cleff notes that fuel neutrality is inequitable since less than half of PPL Electric's customers have access to natural gas.[21]

This argument is meritless. As SEF witness Costlow noted, there are measures throughout the Phase II EE&C Plan that, although paid for by an entire rate class, can only be used by a specific group within that rate class. In its entirety, the number of ratepayers that can participate in the proposed Phase II EE&C Plan is a subset of all ratepayers since plan funding is limited.[22]

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[19] 66 Pa.C.S. §2806.
[20] SEF Exhibit 1.
[21] PPL Electric Statement No. 4-R at 5.
[22] SEF Statement No. 4.

UGI Distribution Companies witness Raab makes the same cogent point, noting that in virtually every case there are customers who cannot take advantage of a specific program for some reason – either it is not available or otherwise inapplicable – but this does not make the program discriminatory.[23]

PPL Electric witness Cleff also argues that "fuel switching contradicts the concept of energy efficiency by providing an incentive for customers to conserve one energy source by increasing the use of another.[24] However, UGI Distribution Companies' witness Raab evidenced the paucity of this argument relative to natural gas, testifying that, even factoring in the increased natural gas use associated with a natural gas water heater, a program that promotes the installation of natural gas water heaters saves 14% more energy than PPL's proposed program.[25] Additionally, providing incentives for customers to switch from electric water heating to solar water heating supports, not contradicts, the concept of conservation of fossil fuels.

B. The rebate levels should be established on an equivalent kWh or energy proportional basis.

SEF witness Costlow recommends that rebate levels be established on an equivalent kWh or energy proportional basis. For example, the Commission's TRM at Section 2.18[26] prescribes the average energy savings from a residential hot water electric to gas conversion as 3,191 kWh annually. Section 2.14 of the TRM prescribes the average energy savings from a residential solar water heater as 1,623 kWh annually.[27]

In its Phase II EE&C Plan, PPL Electric, as noted earlier, has proposed under the Residential Retail Program to provide a $200 to $300 rebate for the installation of a heat pump

[23] UGI Statement No. 1 at 23.
[24] PPL Electric Statement No. 4-R at 5.
[25] UGI Statement No. 1 at 9-11.
[26] 2013 Pennsylvania Technical Reference Manual at page 75.
[27] Id. at 60.

water heater, which has a savings of 1,474 to 1,698 kWh. Therefore, for solar thermal systems, SEF witness Costlow recommends an energy reduction proportional rebate of $220 to $330 and for natural gas water heating systems recommends an energy reduction proportional rebate of $432 to $649. As shown in Mr. Costlow's testimony, the rebates average 11.7¢ to 20.3¢ per kWh for a heat pump water heater. For alternative energy measures, the rebates average 13.5¢ to 20.3¢ per kWh for both solar thermal and natural gas water heaters. Without a prescribed reduction, SEF witness Costlow recommends PPL Electric utilize this same methodology to determine the rebate amount for other technologies, which is annual kWh times 20.3¢.[28] Since the proposed incentives are proportionally based on PPL Electric's existing proposal, the cost of 13.5¢ to 20.3¢ per kWh would remain constant regardless of technology and energy source, and would not increase the incentive and, consequently, the program costs.

The use of an equivalent kWh or energy proportional basis for establishing fuel neutral rebates is equitable and provides numerous benefits. First, the programmatic costs are not changed in order to shift loads to other energy sources. Second, the incentive does not provide economic advantage to any given technology or energy source. Third, the incentive is easy for the Electric Distribution Company ("EDC") to administer. Fourth, the program is easy for providers to understand and promote.

In addition, alternatives to heat pump water heaters are not inherently less cost effective. As SEF witness Costlow noted, in a recent report funded in part by the Pennsylvania Department of Environmental Protection that assesses the technical and market potential of onsite solar energy in Pennsylvania, the American Council for an Energy Efficient Economy ("ACEEE") states: "[o]verall, the use of solar energy to heat water is one of the most cost-effective renewable energy applications on the market today. SWH [solar hot water] systems supply hot

[28] SEF Statement No. 1 at 5-6.

water at a cost of $7.00 to $8.00/MMBTU or $0.03/kWh delivered, which is competitive with (or cheaper than) oil, natural gas, propane, and electric water heaters."[29]

In his rebuttal testimony, PPL Electric witness Cleff states that PPL Electric is prepared to voluntarily modify its Phase II EE&C Plan in response to SEF witness Costlow's and UGI Distribution Companies' witness Raab's testimony as a pilot program. With regard to rebates, PPL Electric witness Cleff notes that the participation guidelines for a pilot progam include the requirement that rebates will be the same as the comparable electric device (heat pump water heater, air source heat pump) because the incremental cost of the efficient measure is the same, i.e. the rebate is based on a percentage of the incremental cost of the measure.[30] With regard to water heaters, it should be noted that the PPL Electric proposed rebate of $200 to $300 for a heat pump water heater is similar to Mr. Costlow's recommended equivalent kWh or energy proportional rebate of $220 to $330 for a solar thermal water heater. For a natural gas water heater, Mr. Costlow's equivalent kWh or energy proportional rebate of $432 to $649 exceeds PPL Electric's incremental cost based rebate.

PPL Electric witness Cleff believes the rebates recommended by Mr. Costlow are excessive since they are inconsistent with PPL Electric's methodology. That methodology, while considering the energy savings in establishing a rebate level, relies primarily on the incremental cost of the measure, i.e. a rebate should cover a certain percentage of that incremental cost.[31] Mr. Cleff gives an example for a replacement natural gas water heater with a rebate of $150.[32]

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[29] SEF Statement No. 1 at 6.
[30] PPL Electric Statement No. 4-R at 9-10.
[31] Id. at 10-11.
[32] Id. at 10.

PPL Electric's approach highlights the wisdom of establishing rebates on an equivalent kWh or energy proportional basis. First, the use of incremental cost as a primary factor for determining a rebate for a measure is a unilateral choice of PPL Electric. Second, PPL Electric does not always employ this factor in establishing a rebate. As PPL Electric witness Cleff noted, PPL Electric, as part of a settlement regarding modifications to its Phase I EE&C Plan at Docket No. M-2009-2093216, agreed to offer a solar thermal domestic hot water pilot program for its remaining RTS customers. PPL Electric agreed to provide rebates toward the installation of the solar thermal systems at the same rebate level approved for electric heat pump water heaters, and not at incremental costs.[33]

More importantly, the strict use of incremental costs, certainly for natural gas water heaters acts to provide an economic advantage to electric energy as an energy source by providing disproportionally low rebates as opposed to a rebate calculated on an equivalent kWh or energy proportional basis. This is unacceptable, and is corrected by equivalent kWh or energy proportional rebates, which allows for effective customer choice of energy source.

PPL Electric also opines that rebates for solar thermal water heaters should not be offered at all since they are not cost-effective.[34] Much of Mr. Cleff's analysis is undocumented and erroneous, and is of no merit. Mr. Cleff's opinion is based upon the undocumented statement that the simple payback period for a customer that installs a solar system is more than fifteen (15) years, and that it, therefore, is not prudent to use ratepayer funds to encourage customers to install equipment with a payback that exceeds the useful life of the equipment. Mr. Cleff also notes that the Statewide Evaluator's ("SWE") Market Potential Study provides that the TRC for

[33] Id. at 13-14.
[34] Id. at 14. Mr. Cleff also notes the same judgment relative to solar photovoltaic systems.

the solar thermal water heaters is 0.28.[35] The fifteen (15) year period is a convention used in the Total Resource Cost ("TRC") test, and does not equate to a program or measure's effective life. Benefits and savings may well accrue beyond the fifteen (15) year period, they are just not employed in the cost/benefit ratio calculation. Also, solar thermal water heaters have useful lives beyond fifteen (15) years. PPL Electric witness Cleff's suppositions are incorrect.

PPL Electric witness Cleff goes on to state that PPL Electric believes that, even if the payback was as low as ten (10) years, that would be too long for most customers. In addition, PPL witness Cleff cites PPL Electric's three (3) month Phase I solar thermal pilot program as evidencing a lack of customer interest.[36] These reasons are unavailing. In the first instance, despite its professed belief that customers should make their own energy choices, PPL Electric is paternalistically determining on its own that a designated payback period is too long for customers. That decision should not be PPL Electric's. In the second instance, a three (3) month pilot program is hardly a representative period to gauge customer interest.

PPL Electric's payback period analyses are also both inconsistent and unreliable. Initially, as noted in SEF Exhibit 2, PPL Electric witness Haeri determined a simple payback period for solar thermal systems of over thirty-five (35) years. Ostensibly relying on the TRM and the Market Potential Study, this was based upon an estimated 2,088 kWh of savings per year at an incremental installed cost of $7,414 and an assumed electric rate of $0.10 per kWh on average. PPL witness Cleff, on the other hand, used an incremental cost of $5,000, annual savings of 2,000 kWh and a total cost of electricity of $0.13 per kWh in arriving at a nineteen (19) year payback period.[37] Thus, PPL Electric cannot even agree definitively on an appropriate

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[35] Id.
[36] Id. at 14-15.
[37] Id.

payback period. Regardless, Mr. Cleff makes the unilateral determination that a payback period of ten (10) years would be unacceptable to customers with no support for this conclusion.

As SEF witness Costlow noted, a measure does not need to have a TRC greater than one (1) to be included in the Phase II EE&C Plan.[38] The entire plan must have a TRC greater than one (1). In addition, the SEF submits that payback, better known as Simple Payback, is not an economically sound method to use for the evaluation of more complex, long-term or higher up front cost measures such as solar thermal systems. As SEF witness Costlow noted, as set out previously, the ACEEE has definitively stated that the use of solar energy to heat water is one of the most cost-effective renewable energy applications on the market today. Solar hot water systems supply hot water at a cost of $7.00-$8.00/MMBTU, or $0.03/kWh delivered, which is competitive with (or cheaper than) oil, natural gas, propane and electrical water heaters.[39]

Solar thermal water heaters are cost-effective, and customers should determine whether they desire those systems, not PPL Electric through the guise of shifting payback analyses and unsubstantiated solar thermal effective lives.

C. The lack of renewable energy programs in the Phase II EE&C Plan, contrary to the intent of Act 129, reinforces the need for an energy savings equivalent rebate for all energy sources in the Residential Retail water heater program.

PPL Electric's Phase II EE&C Plan contains no incentives for renewable resources.[40] As noted earlier, this is contrary to the intent of Act 129 wherein the General Assembly found that it is in the public interest to expand the use of alternative energy and to explore the feasibility of new sources of alternative energy to provide electric generation in Pennsylvania.[41] In fact, Act

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[38] SEF Statement No. 1 at 7. UGI Distribution Companies witness Raab correctly makes the same point, noting that the Commission's 2012 TRC Order states that, for Phase II, the TRC test should continue to be applied at the plan level. Thus, while some measures may not pass the TRC test, the EDC's EE&C Plan will be deemed cost-effective so long as all of the programs in the EE&C Plan taken in total pass the TRC test. UGI Statement No. 1 at 12.
[39] Id. at 6.
[40] SEF Statement No. 1 at 7.
[41] Id.

129 specifically includes solar and solar photovoltaic panels in the definition of energy efficiency and conservation measures.[42]

PPL Electric did offer incentives for both solar photovoltaic systems and solar thermal systems in its Phase I EE&C Plan.[43] In fact, those programs were subscribed to a degree not anticipated by PPL Electric. In its February 2, 2012 Petition for approval of changes to its Phase I EE&C Plan, PPL Electric proposed to close the residential photovoltaic and residential ground source heat pump portions of the Renewable Energy Program earlier than expected since each was fully subscribed. In like fashion, PPL Electric proposed to close the GNI portion of the Renewable Energy Program earlier than expected since the program was also fully subscribed. In fact, PPL Electric stopped accepting applications for the solar photovoltaic program in August of 2010, and stopped accepting applications for ground source heat pumps in December, 2011.[44]

PPL's February 2, 2012 EE&C Plan Black-line showed the success of its residential programs, noting that the Residential Sector Renewable Energy Program was launched on March 10, 2010 with a projected four (4) year plan total of forty-five (45) photovoltaic systems. It was closed on May 10, 2010 with 128 photovoltaic systems. The ground source heat pump portion was launched on February 10, 2010 with a projected four (4) year plan total of nine hundred (900) ground source heat pumps. It was closed to residentials in January, 2011 with 1,429 ground source heat pumps.[45] The success of the solar renewables is demonstrated by PPL Electric's customer participation rates.

PPL witness Cleff attempts to downplay PPL Electric's failure to include solar photovoltaic systems in the Phase II EE&C Plan by referencing a TRC of 0.33 and a high free-

[42] 68 Pa.C.S. §2806.1(m)(2).
[43] SEF Statement No.1 at 7; PPL Electric Statement No. 4-R at 13.
[44] Petition of PPL Electric Utilities Corporation for Approval of Changes to its Act 129 Energy Efficiency and Conservation Plan at 16, Docket No. M-2009-2093216 (February 2, 2012) ("February 2, 2012 Petition").
[45] February 2, 2012 Petition EE&C Plan Black-line at 115-116.

ridership rate.[46] However, as noted earlier, individual TRC ratios are not determinative. In addition, as noted by SEF witness Costlow, the Phase I solar photovoltaic program's level of free-ridership was a direct result of PPL Electric's own actions. PPL Electric sent letters to customers who had previously installed solar photovoltaic systems and offered them a rebate. Since those systems were already installed, the rebate did not influence the customer and consequently resulted in high levels of free-ridership.[47] Thus, the level of free-ridership was not intrinsic to solar photovoltaic systems, but was a creation of PPL Electric's own actions.

While the SEF is not proposing that PPL Electric implement a specific renewable energy incentive, PPL Electric's failure to offer, let alone expand, measures incorporating the use of alternative energy simply reinforces the need to provide an energy savings equivalent rebate, as part of its Residential Retail water heater program, for all energy resources listed in Tier 1 of Act 213.

D. Low-income farm residence incentives should be limited to residential applications and not include equipment through the Small C&I Prescriptive Equipment Program whose sole purpose is business.

PPL Electric has proposed to provide energy efficiency and conservation measures to businesses as part of its Low-Income program. PPL Electric witness Thompson Grassi noted that the rural characteristics of PPL Electric's service territories were included to address the potential that some farms may be low income.[48]

Within the Small C&I Prescriptive Equipment Program, there are measures and services available to farmers. Some farms in the service territory have a Residential rate class. As PPL Electric noted, although the Prescriptive Equipment Program will manage this component of Small C&I, savings and costs from residential agricultural customers who participate will be

[46] PPL Electric Statement No. 4-R at 13.
[47] SEF Statement No. 1 at 8.
[48] SEF Statement No. 1 at 8; SEF Exhibit 3.

credited to the Residential sector.[49] All low-income customers are eligible to participate in all general residential programs.[50] The Small C&I Prescriptive Equipment Program includes automated milker take offs, dairy scroll compressors, livestock water heaters, low pressure integration systems, snack machine controls, commercial lighting jobs and steam cookers that would be available to low-income customers.[51]

It is clear that farms are businesses. As SEF witness Costlow noted, 91.4% of Pennsylvania Farms are sole proprietorships, 2.3% are family-held corporations, 5.2% are partnerships, 0.4% are corporations and 0.7% are owned by cooperatives, estates, trusts or institutions.[52]

Incentives for business equipment should not be offered to residential ratepayers. Business equipment is used for the production of goods of value, which are then sold. As SEF witness Costlow correctly testified, it is unfair for residential ratepayers do bear the cost of rebates for business equipment such as milkers, livestock water heaters and steam cookers.[53]

SEF recommends that PPL Electric should encourage farms, which are businesses, to switch to a small commercial and industrial rate class, such as GS-1 and remove all business equipment rebates from the low-income portion of its Phase II EE&C Plan. However, the residence on the farm should be treated like any other low-income residence and have access to the same incentives. Again, those incentives should be limited to residential applications and not individual equipment whose sole purpose is business.[54]

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[49] PPL Phase II EE&C Plan at 67.
[50] Id. at 68.
[51] PPL Electric Phase II EE&C Plan, Table M3 at 92-94.
[52] SEF Statement No. 1 at 9.
[53] Id.
[54] Id.

V. CONCLUSION

The Sustainable Energy Fund respectfully submits that the Public Utility Commission should modify PPL Electric's proposed Phase II EE&C Plan to expand the Residential Retail water heater program to include rebates to the alternative energy sources listed in Tier 1 of Act 213 as well as natural gas. Rebates should be established on an equivalent kWh or energy proportional basis as delineated herein which will produce the same amount of savings at the same cost as PPL Electric's proposed heat pump water heating program. In addition, the Commission should remove all business equipment rebates to low-income farms under the Small C&I Prescriptive Equipment Program, with the residence on each farm treated like any other low-income residence with access to the same residential incentives.

Respectfully submitted,

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