June 25, 2012

HAND DELIVERED

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

Re: Energy Efficiency and Conservation Program Tentative Implementation Order
Docket No. M-2012-2289411

Dear Secretary Chiavetta:

Enclosed please find one original and three copies of PennFuture’s Comments in the above-referenced proceeding.

Please do not hesitate to contact me should you have any questions.

Sincerely,

[Signature]

Courtney Lane
Senior Energy Policy Analyst
Citizens for Pennsylvania’s Future (PennFuture)
Energy Center for Enterprise and the Environment

Enclosures
COMMENTS OF

CITIZENS FOR PENNSYLVANIA'S FUTURE (PENNFUTURE)

I Introduction

PennFuture is a statewide public interest membership organization, working to enhance Pennsylvania’s environment and economy, with offices in Harrisburg, Philadelphia, Pittsburgh and Wilkes-Barre. We appreciate the opportunity to provide comments on the Energy Efficiency and Conservation Program Tentative Implementation Order, Docket No. M-2012-2289411.

We commend the Commission proposing to continue the Act 129 program. The continuation of Act 129 is essential to protecting ratepayers and improving the overall reliability of our electric system. Investment in energy efficiency lowers system-wide electricity costs, reduces customers’ electricity bills, reduces peak demand and strain on the electric grid, reduces environmental impacts, and promotes economic development all while costing less than generating, transmitting and distributing electricity.

The manner in which Phase II is designed and implemented will have lasting effects on whether or not Pennsylvania is able to capture the full energy efficiency potential allowed by Act 129. The Phase II goals should not be influenced by EDC’s fear of penalties. The goals should be established based on actual acquisition costs in Phase I, data from energy efficiency program costs in other states, the remaining availability of low-cost measures and program design. These goals should reflect a balance between providing the most benefit to ratepayers and ensuring achievable savings for EDCs. As detailed below, based on experience from other states and the potential remaining in Pennsylvania, we believe greater savings can be captured in Phase II than are proposed within the Tentative Order.

PennFuture generally supports the Commission’s proposals for Phase II and will focus its comments on: the Electric Energy Efficiency Potential Report, proposed reduction targets, aligning
targets and funding, peak demand reductions, on-bill financing, the low-income set-aside, banking of excess savings and budgets and contracts with Conservation Service Providers.

II Comments on Tentative Implementation Order

A. Electric Energy Efficiency Potential Report

PennFuture appreciates the work of the Commission and the statewide evaluator (SWE) in preparing the Electric Energy Efficiency Potential for Pennsylvania Final Report (Potential Report). We commend the Commission for working with the SWE to go beyond the original scope of work to assess the potential in each of the seven applicable electric distribution company (EDC) service territories. While we understand the Potential Report is final, we did not have the opportunity to provide input beforehand and therefore hope the Commission will consider the following technical comments on assumptions made within the report that have been informed with the help of leading experts in the field of energy efficiency, including: Energy Futures Group, Optimal Energy and The American Council for an Energy-Efficient Economy (ACEEE).

There are several reasons why the Potential Report is likely to have overestimated the acquisition costs and therefore underestimated the achievable savings goals as summarized directly below.

i) Inflation of program costs in Phase II

- **Report assumption:** The Potential Report assumes a 25% increase for incentive and non-incentive costs to account for uncertainty about future costs. The Potential Report also assumes fixed costs for energy efficiency measures over time.

- **Comments:** The Potential Report does not provide any specific data to support the 25% mark-up of program costs for Phase II. The assumed cost of achieving energy savings in Phase II is one of the primary drivers of the resulting proposed savings goals and therefore should not be determined arbitrarily. This mark-up in costs is not supported and does not take into account the actual acquisition costs in Phase I, data-from energy efficiency program costs in other states, decreases in measure costs or the remaining availability of low-cost measures, which we detail below.
a) **Phase I acquisition costs:** The SWE indicates that it bases its proposed Phase II savings goals on Phase I performance; however, it is unclear to what extent. The SWE states that the average acquisition costs for Phase I of Act 129 is $222.29 per first year megawatt-hour (MWh) savings but that the budget for the final two years of Phase I only allows for an acquisition cost budget of $167.71 per first year MWh savings.\(^\text{1}\) This assumes that EDCs use their entire budget to achieve the required savings and does not take into account the actual costs of savings in Phase I. The fact is that EDCs were able to achieve 1.7 million MWh of savings in the first two program years of Phase I at a statewide weighted average acquisition cost of only $139.38 per first year MWh savings.\(^\text{2}\) In addition, several EDCs are on track to achieve their Act 129 Phase I goals well under their 2% budget caps. However, the SWE is proposing to increase the Phase I acquisition cost of $139.38 to $221.39 for Phase II – an increase of 59%, when there is nothing to justify such an increase in costs.

b) **Comparison to other states:** According to data compiled by ACEEE, the EDC Phase I acquisition cost of $139.38/MWh is on par with what utility energy efficiency programs in other states have experienced over the past 5 to 6 years, which ranges from $140 to $190/MWh.\(^\text{3}\) For example, utilities in the Pacific Northwest are implementing energy efficiency programs at a levelized cost of $0.15/MWh. This is roughly equivalent to a cost of $140 per first year MWh savings. Even more significant is the fact that these costs have remained relatively constant over the past 15 years, as detailed in Figure 1 below.\(^\text{4}\) This is in direct opposition to the SWE’s assumption that Act 129 costs will increase in Phase II. It’s also important to note that during this time there have been changes to baseline conditions from improved energy building codes, appliance standards, and increased market saturation of energy efficient equipment, yet the Pacific Northwest’s acquisition costs have remained constant. This directly contradicts the SWE’s assumption that these factors automatically lead to increased costs for energy efficiency programs.

---


\(^\text{3}\) The American Council for an Energy-Efficient Economy (ACEEE), 2012.

\(^\text{4}\) ACEEE, 2012
Given the fact that Pennsylvania’s energy efficiency programs have only been in place for three years (4 years when Phase II begins), it is also important to examine data on program costs from states that have had programs in place for a similar amount of time. In the Southwest, programs have only been in place for 5 years and provide a good benchmark for this comparison. For the years 2009 and 2010, utilities in these states achieved program savings at an average cost of $160 - $190 per first year MWh savings (Xcel - Colorado = $180/MWh; Rocky Mountain Power - Utah = $190/MWh; and Arizona Public Service = $160/MWh). Similarly, costs for newly developed energy efficiency programs in several Midwestern states including Ohio, Michigan, Illinois, Iowa and Arkansas have been approximately $120 per first-year MWh. 

(c) Decreases in energy efficiency measure costs: The Potential Report assumes fixed energy efficiency measure costs over time. This assumption leads to an overestimation of program costs and therefore lower proposed savings goals. The tendency is for measure costs to decrease, not remain constant. For example, the cost of CFLs has decreased over the last decade, from about $10 to $3 - $4 dollars per CFL. The same downward trend is expected

---

5 Northwest Power Conservation Council (2011 Presentation)
6 ACEEE, 2012
for LEDs over the next several years, but the SWE assumes fixed measure costs for LEDs ($20 for general service lamps and $30 for reflector lamps) in the Potential Report.  

Additionally, the SWE’s projection that non-incentive program costs will increase over time is not supported by any evidence. In Phase II the EDCs will no longer be dealing with start-up costs for most of their programs and will benefit from existing customer awareness and economies of scale. A recent report by Synapse Energy Economics, Inc. supports this assumption that while acquisition costs will fluctuate over time, the trend is for energy efficiency program costs to decrease over time. Further, additional cost-savings can be achieved through greater statewide coordination of EDC programs, including common program implementation, marketing and rebate processing contractors. While the EDCs noted potential contractual and procurement challenges in working on a consistent and coordinated statewide basis, none of the concerns raised seemed insurmountable.

d) Low-hanging fruit: While the SWE stated that much of the “low-hanging fruit” or lowest-cost measures had already been attained in Pennsylvania, it presented no evidence to support this assertion. Information from the residential and commercial baseline studies, such as current residential CFL saturations of only 17%, appears to contradict this claim. In addition several of the EDCs, including PECO and PPL, already have waitlists for commercial and industrial programs. Clearly there is more demand and untapped savings potential from existing programs at current incentive levels.

ii) Program design

- **Report assumption**: The Potential Report assumes when multiple measures “compete” for the same baseline technology that equal numbers of those measures are installed.

- **Comments**: This is a simplified assumption that doesn’t attempt to quantify the fact that through program design an EDC will attempt to maximize savings and minimize the cost of those

---


savings. For example, the Potential Report gives the following example of equally allocating measure participation across all residential electric hot water measures:

"In instances where there are two (or more) competing technologies for the same electrical end use, such as heat pump water heaters, water heater efficiency measures and high-efficiency electric storage water heaters, an equal percentage of the available population is assigned to each measure using the applicability factor."\(^{10}\)

There are five cost-effective replace at burnout (ROB) domestic hot water (DHW) heaters that would compete with one another: three electric storage water heater measures with small incremental costs and small savings, and two heat pump water heater measures with significant increases in incremental costs and with savings fractions approaching 50 percent or more. The report text implies that DHW replacement opportunities would be spread equally across all five measures. This assumption does not reflect the fact that the higher savings measure would be adopted over the others. While the SWE noted that the Potential Report was not a program design document, it is being used to establish program savings goals. Modeling of measure installation rates, particularly for the achievable and program potentials, should attempt to reflect likely program design. Few if any efficiency programs would adopt the lower savings DHW. This assumption leads to an underestimation of the savings potential in Phase II.

iii) EISA Lighting Standards

- **Report assumption:** The Potential Report assumes The Energy Independence and Security Act of 2007 (EISA) lighting standards will have a large impact on the availability of low cost savings from lighting measures.

- **Comments:** Even with the new minimum federal lighting efficiency standards, energy efficiency lighting products will continue to offer a major opportunity for cost-effective energy savings over the next 8 to 9 years.\(^{11}\) We firmly believe that the Potential Report does not fully account for this savings potential.

---


In addition, it appears the detailed measure characterizations in the Potential Report do not reflect an accurate interpretation of the EISA standards. Specifically, only three residential CFL measures are characterized: 100 watt, 75 watt and 40 watt CFL replacements. The 2012-2014 provisions of EISA only apply to general service lamps. There are over 20 lamp categories excluded from EISA coverage including reflector lamps, globe and candelabra lamps, three-way lamps, and more. Program administrators throughout much of the country have been increasingly focusing their CFL program efforts on these and other “specialty” CFL lamp categories since savings from these lamps will be higher as their baselines will not need to be adjusted upwards for EISA related efficiency improvements. The Potential Report does not appear to explicitly address these classes of lamps that are exempt from EISA coverage. This assumption arbitrarily lowers the potential savings from lighting in Phase II of Act 129.

B. Proposed Reduction Targets

Based on the analysis above, PennFuture firmly believes that the recommended Phase II savings goals are extremely conservative. The Potential Report underestimates the Phase II reduction targets by overestimating acquisition costs, not taking into account programmatic efficiencies and underestimating program potential. Based on the data above, we believe that Act 129 Phase II savings can be achieved at an acquisition cost closer to $170 to $190 per first-year MWh savings. Using this more reasonable and supported acquisition cost would shift the SWE’s proposed Phase II goals to the highest level of its presented Probable Range as detailed in the chart below.

<table>
<thead>
<tr>
<th>Utility</th>
<th>2009-2010 sales (GWh)</th>
<th>2013-2016 Goal (MWh)</th>
<th>% of Sales</th>
<th>2013-2018 Goal (MWh)</th>
<th>% of Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duquesne</td>
<td>14,085</td>
<td>352,125</td>
<td>2.5%</td>
<td>591,570</td>
<td>4.2%</td>
</tr>
<tr>
<td>Met-Ed</td>
<td>14,865</td>
<td>401,355</td>
<td>2.7%</td>
<td>668,925</td>
<td>4.5%</td>
</tr>
<tr>
<td>Penelec</td>
<td>14,399</td>
<td>388,773</td>
<td>2.7%</td>
<td>633,556</td>
<td>4.4%</td>
</tr>
<tr>
<td>Penn Power</td>
<td>4,773</td>
<td>119,325</td>
<td>2.5%</td>
<td>195,693</td>
<td>4.1%</td>
</tr>
<tr>
<td>PPL</td>
<td>38,200</td>
<td>1,031,400</td>
<td>2.7%</td>
<td>1,719,000</td>
<td>4.5%</td>
</tr>
<tr>
<td>PECO</td>
<td>39,385</td>
<td>1,220,935</td>
<td>3.1%</td>
<td>2,048,020</td>
<td>5.2%</td>
</tr>
<tr>
<td>West Penn</td>
<td>20,939</td>
<td>439,719</td>
<td>2.1%</td>
<td>732,865</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

In addition, while it may not be within the purview of the SWE to consider the effect of policy and programmatic decisions on acquisition costs and proposed goals, it is within the ability of the Commission to examine the results of the study in this manner. For example, the effects of banking excess savings, increased use of low-cost behavioral programs, increased programmatic efficiencies learned from Phase I and the potential for joint program implementation will all add to the ability of EDCs to meet these higher Phase II savings goals well within the 2% budget cap.

We also want to reiterate the importance of setting annual incremental consumption reduction targets in addition to cumulative targets to ensure that EDCs are on track to meeting their required goals. For example, for the SWE’s proposed three year savings goal of 2.9% for PECO, the annual savings targets should be 0.96% each year for three years. This provides for consistency and ensures that EDCs are investing in programs evenly each year to provide for clear signals to both the marketplace and customers. In addition, since both the cost-recovery mechanism and the 2% spending cap are annual in nature, it only makes sense for the savings goals to have an annual component. At a minimum we urge the Commission to direct EDCs to file Energy Efficiency and Conservation (EE&C) Plans that detail their annual savings goals as was done in Phase I. The Commission should also make it clear in the Final Order that EDCs must demonstrate they have met these annual goals in their annual-report filings, and if not, provide a detailed explanation of why they fell short and what they will change going forward to address any shortcomings.

C. Aligning Targets and Funding

PennFuture supports the Commission’s proposal to adopt consumption reduction requirements based on the full 2% of 2006 annual revenue being spent for the energy efficiency programs in each year of Phase II. We believe this supports the original intent of the enabling legislation that allows for each EDC to spend up to its 2% cap each year. Adjusting the savings goals for each EDC allows for energy efficiency savings to be captured in each service territory to the fullest extent possible under the law. We believe this proposal provides the best compromise between the need to address discrepancies in EDC Act 129 budgets while maximizing investment in energy efficiency for the benefit of the ratepayers.

We urge the Commission to adopt this proposal in the Final Order. With all the benefits energy efficiency can bring, it should be the policy of the Commission to require EDCs to procure as much cost-effective energy efficiency as possible within the constraints of Act 129. Reducing
EE&C plan budgets for larger EDCs would arbitrarily limit the amount of investment occurring in energy efficiency, which would reduce benefits to ratepayers and our electric grid.

D. Peak Demand Reductions

PennFuture supports the continuation of demand response programs in Phase II of Act 129 and has signed onto the Joint Demand Response Comments in response to the Commission’s Tentative Implementation Order filed in this docket.

E. Inclusion of On-Bill Financing

PennFuture appreciates the Commission’s proposal to convene a working group to examine the potential of on-bill financing. We urge the Commission to set a date in the Final Order for the first meeting of this working group.

PennFuture supports on-bill financing, particularly on-bill repayment, where programs can be underwritten and financed by private, third-party capital, such as community development financial institutions (CDFI), or banks and credit unions, allowing the EDC to avoid liabilities on its balance sheet. These programs are critically important to furthering the ability of Act 129 to penetrate hard-to-reach customer sectors like the small-commercial class. As participation rates in Phase I of Act 129 have shown, this customer class is difficult to reach due to tight operating budgets, lack of upfront capital and split incentive issues where the business may rent, not own, its office space. A working group for on-bill repayment will be invaluable to moving this innovative and proven practice forward in Pennsylvania. There are several states with exemplary on-bill repayment programs that could share their experience with the working group, including: Illinois where a community bank, Covenant, is providing $12.5 million in permanent capital and Pennsylvania’s own AFC First Financial Corporation is the program administrator; and Kentucky, where their How$martKY program is administered and financed in part by a CDFI, The Mountain Association for Community Economic Development.13

F. Low-Income Measures

PennFuture supports the Commission’s proposal to require each EDC’s Phase II EE&C Plan to obtain a minimum of 4.5% of its consumption reduction requirements from low-income

customers. Based on the data the Commission cites from approved Phase I EE&C Plans and current savings levels being achieved in this sector, this goal seems reasonable. We believe that a savings carve-out is a better metric to ensure that low-income customers receive a fair share of the Act 129 benefits as opposed to requiring EDCs to offer a certain number of measures consistent with their percentage of low-income household usage.

While we support the 4.5% carve-out for low-income customers, we do not support expanding this carve-out to include households up to 250% of the Federal Poverty Income Guidelines (FPIG). First, the statute clearly indicates at 66 Pa.C.S. §2806.1(b)(1)(i)(G) that the low-income programs are to be directed at households with incomes at or below 150% FPIG. Secondly, while we understand that many customers face significant financial hardships, it is those customers at or below the 150% threshold that need these programs the most. As stated in their comments to the March 1, 2012 Secretarial Letter, CAUSE-PA points out that these customers represent more than 1.2 million heating and non-heating households and there is still a significant number of customers that have not been reached.\textsuperscript{14} We are concerned that if EDCs expand the low-income programs to customers above the 150% level that there will be less funding available to those customers that need it most.

If the Commission believes that EDCs cannot meet the 4.5% carve-out without including savings captured by customers above 150% and below 250% of FPIG, we would ask the Commission to lower the carve-out and restrict these programs to customers at or below 150% of FPIG.

G. Accumulated Savings in Excess of Reduction Requirements

PennFuture supports the Commission’s proposal to allow EDCs to accrue savings beyond their 3% target during Phase I and to use those savings towards Phase II consumption reduction targets. Allowing for EE&C programs to continue up until the start of Phase II, or until budgets are exhausted, will ensure that there are no disruptive gaps in programs that would create confusion to customers, retailers and contractors resulting in harm to the existing market transformation achievements of Act 129. However, we only support this proposal if Phase II budgets are not reduced due to banking of excess savings. We also urge the Commission to state within the Final

Order that its policy on banking will remain in effect for any future phases of Act 129. Setting a clear policy now will help avoid any confusion by the EDCs near the end of Phase II as to whether they can continue to invest beyond their Phase II goals and bank those savings for Phase III. This determination will help avoid the program waitlists now occurring while EDCs wait for a determination on this issue in the Final Order.

We also urge the Commission to clearly indicate in the Final Order that it expects the EDCs to continue spending Phase I Act 129 funds in a manner that ensures all EE&C programs continue seamlessly into Phase II. This would include having EDCs reopen any waitlisted programs so long as there are still Phase I funds available. Without this direction, there is nothing prohibiting an EDC that has met its Phase I goals from shutting down programs and creating a black-out period we all hope to avoid.

H. Application of Excess Phase I Budget

PennFuture supports the Commission’s proposal to allow the EDCs the full Phase II budget regardless of Phase I spending and consumption reduction attainment. This will better allow EDCs to go after deeper savings in Phase II, which is important to market transformation.

However, PennFuture urges the Commission to reconsider its proposal to return unused funds to ratepayers at the end of Phase I. We believe ratepayers would be better served if those funds were carried forward for use towards Phase II EE&C programs. As noted in Optimal Energy’s recent analysis of Act 129, every dollar spent on energy efficiency programs in the first two years of the Act created $8 dollars in customer savings over the lifetime of those installed measures.\(^\text{15}\) Investments in energy efficiency also benefit customers that do not directly participate in Act 129 programs. Energy efficiency has been shown to produce Demand Reduction Induced Price Effects (DRIPE) where the reduced energy demand from efficiency programs allows for the shedding of the most expensive resources on the wholesale margin thus lowering the overall costs of energy. This reduces the wholesale prices of energy and demand, and this reduction in a relatively deregulated market, could be passed on to retail customers. DRIPE effects in New England are now estimated to last 11 years for peak capacity reductions, and 13 years for energy reductions. The per kWh values of DRIPE vary based on energy period and region, but for New England it ranges from $0.001/kWh to $0.032/kWh for energy depending on energy period and

region, and from $2.23/kW to $59.07/kW for peak demand, depending on region.\textsuperscript{16} Investments in energy efficiency also reduce the need for expensive transmission and distribution expenditures, the costs of which would be passed down to ratepayers.

I. Procedures to Require Competitive Bidding and Approval of Contacts with CSPs

PennFuture urges the Commission to reconsider its proposal to require all EDCs to rebid contracts with Conservation Service Providers (CSPs).

While we understand the Commission’s view that rebidding contracts could result in lower rates due to current market conditions, we’re concerned that any savings would be offset by the inefficiencies of having to pay start-up costs again for new CSPs. The existing CSPs have made significant strides with contractor relationships, contact databases and have already come up to speed with the intricacies of Act 129 including the Technical Reference Manual.

PennFuture believes it is in the best interest of the EE&C programs to allow for EDCs to stay with existing CSPs if they are performing well. An EDC should only be required to issue a new bid for a CSP if they are beginning a new program or if a CSP is no longer providing the needed results. Providing the option of utilizing existing contracts will enable EDCs to spend less time and money on issuing additional requests for proposals and bringing the new CSPs up to speed. This will better promote the seamless transition of well-performing Act 129 programs to the next phase.

Where EDCs are implementing new programs for Phase II and therefore issuing new CSP bids, we urge the Commission to encourage joint programs across EDCs where possible. Joint EE&C programs improve economies of scale, avoid unnecessary program overlap that may cause confusion among customers and contractors, improve transparency, and increase the effectiveness of marketing and branding, all allowing for energy savings to be captured more cost-effectively. We believe that experience in Phase I shows that this type of joint effort is possible and feasible. FirstEnergy is an excellent example of a model that could be applied on a state level. While incentive levels differ across FirstEnergy’s service territories, they offer the same programs and utilize the same conservation service providers (CSPs). For instance, Met-Ed, Penelec and Penn Power all offer the same energy audit, energy efficiency rebate, HVAC and Easy Cool Rewards programs to name a few. FirstEnergy also uses the same marketing materials and branding for Met-

Ed, Penelec and Penn Power's commercial and industrial programs. Other EDCs have also gained experience with program collaboration through their appliance recycling programs that utilize the same CSP, JACO Environmental.

PennFuture understands many EDCs will start residential new construction programs and look to whole home retrofit programs in Phase II, making this an opportune time to examine the possibility of joint or statewide implementation of these programs. Residential new construction and residential retrofit programs engage builders, developers, architects, contractors, and trade allies that work in multiple service territories and even in multiple states. Marketing these programs occurs at the national, state, local and individual levels. When delivering these programs, it is important that they have consistent standards and consumer information. Marketing to the building community tends to occur at home/trade shows and builder conferences that are often attended by multiple regions of the state. Consumer marketing is by market regions that transcend utility service regions. Having inconsistent or multiple new construction and residential retrofit programs across the state would prove ineffective and confuse the marketplace. A single primary program contractor greatly eases coordination and delivery of services and facilitates development of strong relationships with builders.