

**COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**ACT 129 ENERGY EFFICIENCY AND
CONSERVATION PROGRAM PHASE TWO**

Docket No. M-2012-2289411

**COMMENTS ON BEHALF OF OPOWER, INC. IN RESPONSE TO THE ACT 129
ENERGY EFFICIENCY AND CONSERVATION PROGRAM PHASE TWO
SECRETARIAL LETTER**

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AND NOW COMES, **Opower, Inc.** (“Opower”), for the purpose of these "Comments" with respect to this proceeding before the Commonwealth of Pennsylvania Public Utility Commission ("PUC" or the "Commission") pursuant to 52 Pa. Code §§ 5.71-5.74. In support of this docket, Opower avers the following:

1. Opower is a behavioral energy efficiency and smart grid software company. Opower currently works with over 65 utilities in 24 states, including Pennsylvania, to deliver energy- and bill-saving information to more than 10 million households across the United States and United Kingdom. By providing customers with better information on their energy use and personalized energy saving advice, Opower motivates customers to use less energy and save money on their monthly bills.

In Pennsylvania, Opower’s Home Energy Reports program already reaches 100,000 PPL customers and will soon reach First Energy customers as well. The program consistently motivates customers to save an average of 1.4-3.3% on their energy bills and has been measured and verified independently by a dozen consultants and economists across multiple geographies.¹ At a cost of \$0.03 – \$0.05 per kWh saved, the Opower program is among the most cost effective

¹ Allcott, Hunt. 2011. “Social norms and energy conservation.” Journal of Public Economics.

² Custom Measure M&V Protocol: PPL Electric’s Opower Energy Education Program.

programs in the residential energy efficiency market. In 2010, GDS Associates approved a custom protocol for evaluation, measurement, and verification of behavior-based programs administered by PPL Electric Utilities².

2. Opower operates specifically in the Commonwealth of Pennsylvania as a Conservation Services Provider, providing residential households with behavioral energy efficiency services. On April 3, 2012, in Docket A-2009-2096837, the PUC approved Opower's Application to re-register as an Act 129 Conservation Services Provider.

3. On March 1, 2012, a Secretarial Letter was entered in this proceeding seeking comment on a number of important topics that will be instrumental in designing and implementing any future phase of EE&C Programs.

4. On March 17, 2012, the Secretarial Letter was published in the PA Bulletin.

5. Opower would like to submit the following Comments in response to the questions posed in the Secretarial Letter.

6. All correspondence and pleadings in this docket should be directed to:

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² Custom Measure M&V Protocol: PPL Electric's Opower Energy Education Program.

**COMMENTS TO THE ACT 129 ENERGY EFFICIENCY & CONSERVATION PROGRAM PHASE TWO
SECRETARIAL LETTER**

Opower appreciates the opportunity to submit comments on the Act 129 Energy Efficiency and Conservation Program Phase Two Secretarial Letter. Opower is a member of the Keystone Energy Efficiency Alliance (KEEA), and generally supports their comments, but offers additional comments here to supplement the record in advance of the Tentative Order.

Opower offers comments focused on the following topics in the Secretarial Letter, identified based upon their numbering in the letter. In addition, Opower offers comments on key issues and topics not addressed in the Secretarial Letter.

I. Priority Issues:

- A. Set Clear Cumulative Goals with Interim Annual Targets (not in Secretarial Letter)
- B. Length of second EE&C Program (Issue #2)

II. Additional Issues:

- C. Planning Timeline (Issue #1)
- D. Performance Incentives (not in Secretarial Letter)
- E. Inclusion of a DR Curtailment Program (Issue #3)

I. Priority Issues

A. Set Clear Cumulative Goals with Interim Annual Targets

As noted in the Secretarial Letter, Act 129 directs the Commission to set new incremental consumption and peak demand reductions, if the benefits of the Program and plans exceed the costs.³

Opower encourages the Commission to clarify that the energy efficiency goals in Phase 2 will be cumulative, and to require EDCs to demonstrate and report on their consistent progress towards achieving the overall cumulative reduction goals, in addition to reporting on yearly goals.

Cumulative goals measure the total energy savings accrued over a given time frame, such as the total length of a compliance period, due to energy efficiency measures installed or implemented during that period. In contrast, incremental annual savings goals measure the energy savings achieved in a specific year. Cumulative goals ensure that the total energy savings intended are achieved in the compliance period, while annual incremental goals ensure that such savings occur on a consistent and steady basis. Cumulative goals augmented by clear annual goals are consistent with the legislative intent of Act 129, and are a hallmark of successful energy efficiency resource standards in other states.

1. The Phase II Implementation Order should provide greater specificity on the goals to ensure expectations are clear for market participants

Opower requests that the forthcoming Phase II implementation order provide more clarity than the January 2009 Implementation Order on the definition of the goals. Our understanding is that the intent of Act 129 was to achieve cumulative savings of 3% measured across the period with annual incremental goals, which would be consistent with EERS best practices across the country. The Commission's Implementation Order from January 2009 largely follows the structure of Act 129, which established a 1% goal by May 2011 and 3% goal by May 2013. As a result, the implementation was silent on expectations for savings in the middle year (i.e. 2011-2012) and did not clearly articulate the expectation of a cumulative savings goal for the period:

³ See 66 Pa.C.S. §§ 2806.1(c) and (d).

Each EDC subject to the Act is directed to file with the Commission, within 45 days after May 31, 2011, and after May 31, 2013, (at the EDC's EE&C plan docket, and serving the parties to that docket) information documenting their consumption reductions for June 1, 2010, through May 31, 2011, and for June 1, 2012, through May 31, 2013, respectively. This filing must provide total savings and savings by class of customer.⁴

Opower is concerned that this order does not give clear direction to market participants regarding expectations for savings in between program years 1 and 3. As illustrated in Figure 1 below, the EDCs are required to demonstrate savings for '12-'13, but not '11-'12. If we assume 1000 GWh of savings in year 1, 2000 GWh of savings in year 2 and 3000 GWh of savings in year 3, the expected savings for the compliance period would be 6000 GWh.

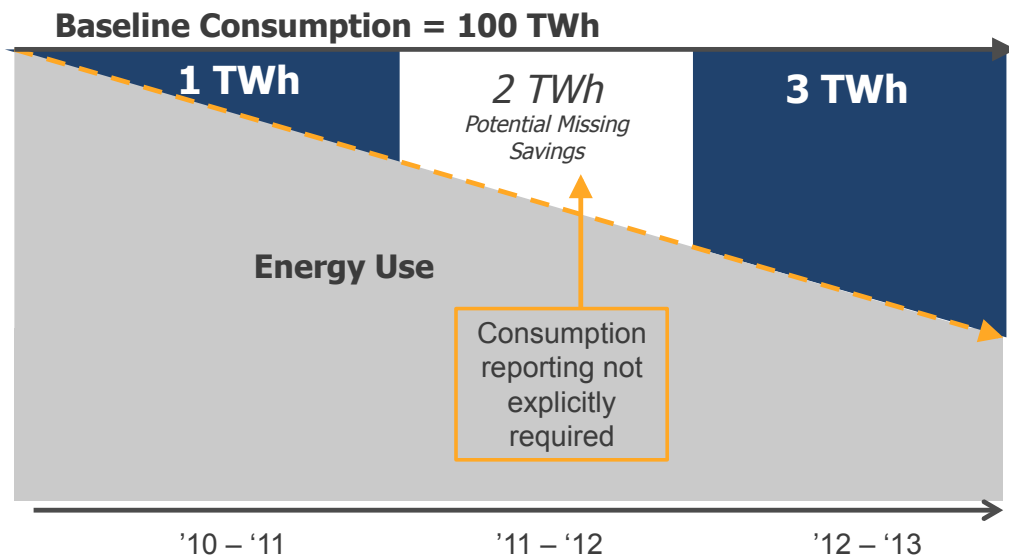
Without additional clarity in the phase 2 implementation order, it is possible that an EDC could reduce investment in energy efficiency in year 2, and then ramp back up in year 3 in order to meet the final goal, leading to less total energy savings for ratepayers. Thus, rather than achieving 6000 GWh of saving over the three years, EDCs could save somewhere between 4000 GWh (Year 1 + Year 3) and 6000 GWh (Year 1 + Year 2 + Year 3). The current structure ensures that the savings from energy efficiency measures with measure lives of more than a year count towards the existing compliance goals. However, there is a risk of missed savings for measures with a shorter measure life, like behavioral programs, because EDCs would only be required to run them in the compliance year to count for savings. This would lead to lower cumulative savings achieved during the compliance period. Opower believes that missing out on these savings was not the intent of Act 129.

⁴ Docket M-2008-2069887. Implementation Order, adopted January 16, 2009.

Figure 1

What Savings COULD Look Like

(Note: TWh's are illustrative for simplicity)



Act 129 gives the Commission broad authority to “adopt additional required incremental reductions in consumption.” Given that broad discretion, Opower recommends that the Commission set cumulative goals and annual “check-in” targets throughout the compliance period to ensure that the Commission clearly communicates expectations to market participants and delivers the intended level of energy savings for ratepayers.

2. Counting cumulative savings over a compliance period with annual goals is consistent with best practices for energy efficiency goal-setting in other states.

Nearly half of the states in the U.S. have a mandatory energy efficiency resource standard (EERS) requiring utilities to achieve reductions in energy consumption. Many have similar standards to the one enacted in Pennsylvania, which count total savings over a particular compliance period. These states have targets in incremental years, but still require a total volume of savings, or “cumulative savings”, by a target date (for examples, see Table 1 below).

Table 1. States Which Count Savings Cumulatively, and have Incremental Program Year Accounting⁵

State		Authority
Illinois	Electric: 0.2% savings in 2008, ramping up to 1% in 2012, 2% in 2015 and thereafter Natural Gas: 8.5% cumulative savings by 2020 (0.2% annual savings in 2011, ramping up to 1.5% in 2019).	Public Act 96-0033
Indiana	0.3% annual savings in 2010, increasing to 1.1% in 2014 and leveling at 2% in 2016	Cause No. 42693, Phase II Order
Maryland	15% per-capita electricity use reduction bot by 2015, calculated against a 2007 baseline (10% by utilities)	MD PUC Code 7-211
Missouri	(Note: not included in ACEEE report)	4 CSR 240-20.094 Demand-Side Programs
New York	Electric: 15% cumulative savings by 2015 Natural Gas; ~14.7% cumulative savings by 2020	NY PSC Order, Case 07-M-0548
North Carolina	Renewable Standard of 12.5% by 2021 for IOUs, with energy efficiency capped at 25% of 2012-2018 targets and 40% of 2021 target.	N.C. Gen Stat. 62-133.8

Illinois provides model implementation order language that combines cumulative goals with annual program year targets. Illinois law establishes incremental annual electric goals of 0.2% annual savings in 2008, ramping up to 1% in 2012, 2% in 2015 and thereafter, and natural gas goals of 8.5% cumulative savings by 2020 (0.2% annual savings in 2011, ramping up to 1.5% in 2019).⁶ The implementation order clarifies these goals, making it clear that they are to be counted cumulatively, stating, “each year’s energy efficiency and demand response goals are in addition to achievement of the previous year’s goals.” However, the statutory language that

⁵ Sciortino, Michael, Seth Nowak, Patti Witte, Dan York, and Martin Kushler. 2011. Energy Efficiency Resource Standards: A Progress Report on State Experience. American Council for an Energy-Efficient Economy. Available at: <http://aceee.org/research-report/u112>

⁶ Public Act 095-0481; Implementation Order February 6, 2008. Docket 07-0540

insists on achievement of new energy savings each year ensures that new energy efficiency savings occur in each year.

Although the EERS language authorizing energy efficiency goals in each of the above states is different, all focus on counting total savings in each year from a baseline compliance year. Counting savings cumulatively from a set baseline helps guarantee that the full volume of energy efficiency savings is achieved over the life of the program. Identifying incremental goals without cumulative targets creates risk that a new program cycle will ignore savings that decay after the useful measure life from previous cycles. When measures installed in previous program cycles are no longer installed or operating, the savings from those measures are no longer available on the grid, creating “savings decay.” In some cases, the programs will have induced behavioral change or market transformation such that the equipment will be replaced by another efficient unit, but in some cases the customer may revert to the original, “pre-measure” level of efficiency. In addition, a focus on cumulative savings helps utilities prioritize deeper, longer-term savings.

In its 2011 review of EERS progress across the United States, the American Council for an Energy-Efficient Economy notes that incremental targets within long-term compliance periods are important to ensure consistent savings:

"Another reason some states are falling below target levels in 2010 is that some EERS policies set long-term goals, which place emphasis on long-term, rather than annual achievements. Pennsylvania and Vermont, for example, set two- and three-year savings targets for 2011, respectively. Past experiences in Vermont and California have demonstrated that it is common for states to make a major push in the final year to make up for lower savings in prior years. This trend seems to be continuing in Pennsylvania, where savings in the first two quarters of its second program year far outpaced levels of its first.

(Vermont exceeded three-year targets for 2006-2008 due to 2008 savings that made up for shortfalls in the prior two years. California came close to meeting 2004-2008 goals due to 2008 savings that made up for shortfalls in the prior two years.)”

Although these utilities eventually met the overall goals, annual goals would have helped ensure market consistency throughout the compliance period for vendors, businesses, and ratepayers in those states.

The Commission has clear authority to set “incremental targets,” and Act 129 does not specify the nature of those incremental targets. For the aforementioned reasons, Opower advocates for the Commission to set clear annual goals with the expectation that savings should be counted cumulatively.

B. Length of second EE&C Program (Issue #2)

Opower recommends that the Commission establish the second EE&C program for five years. A longer compliance period would create market certainty by ensuring uninterrupted, clear market signals to address barriers to energy efficiency adoption. A five-year compliance period allows the small energy efficiency providers in the Pennsylvania market to plan without worrying about possible shutdown of programs as they ramp up.

Another advantage of a longer compliance period is that it creates a longer planning time horizon, incentivizing deeper energy efficiency investment by the utilities. Further, Opower agrees with the Commission’s points in the Secretarial Letter that a longer compliance period would reduce administrative burden on the commission and utilities, and therefore reduce overall program costs for ratepayers.

Theoretically, a shorter-term length could enable the use of more accurate forecasts regarding a consumer’s ability to adopt energy efficiency (EE) measures. However, as long as utilities are given flexibility in program design and the ability to submit adjusted program plans in the event of market changes, a 5-year compliance period should not be problematic. In addition, setting a 5-year program cycle does not preclude the Commission from having a “mid-course correction” to goals, based upon a mid-cycle potential study.

II. Additional Issues

C. Planning Timeline (Issue #1)

In general, Opower is supportive of the timeline established in the Secretarial Letter and appreciates the staff's efforts to compress a busy timeline into the next 14 months to ensure program continuity.

However, Opower is concerned that the concurrent release of the Tentative Implementation Order, Statewide Evaluator's Pennsylvania Electricity Baseline Study Results, and Statewide Evaluator's Pennsylvania Electricity Market Potential Study Results on May 10, 2012 reduces transparency and could create delays later in the process.

Opower recommends releasing the SWE Pennsylvania Electricity Market Potential Study before the Tentative Implementation Order. The goals for Phase II of the EE&C program will be based on the potential identified in the potential study, so it is important that parties have ample time to review and comment on the study. There are often errors or oversights in initial potential study drafts, which is why states generally release the potential study first to allow comment and correction before basing a draft order on its conclusions.⁷ By releasing the market potential study in advance of the Tentative Order, the Commission will increase transparency in the process and ensure that the Tentative Order is based on the best set of information.

D. Explore Performance Incentives for EDCs

Without the appropriate regulatory structures, utilities do not have an economic incentive to help their customers be more energy efficient. Short term lost revenue between rate cases and reductions in the need for long-term supply-side investments, on which they can earn a rate of return, create a disincentive to pursue energy efficiency. Pennsylvania is one of only a few states with a policy that requires utilities to meet energy efficiency resource standard goals and

⁷ For example, see Docket R.09-11-014 in California.

includes a penalty for non-compliance, but neither lost revenue recovery nor performance incentives⁸.

Across the country, utilities have proven to be effective at reducing demand for energy when they are properly incentivized to do so. There are a variety of structures and mechanisms that can allow efficiency to compete more fairly with supply side alternatives. When properly designed, lost revenue recovery mechanisms can remove the “throughput disincentive”, and performance incentives can create a positive incentive for successful utility-run efficiency programs.

Two illustrative states demonstrate how energy efficiency performance incentives can encourage utilities to meet and exceed goals.

- In Texas, where utilities have a performance incentive for every 2% they achieve beyond their efficiency goal, a local utility, Oncor, exceeded its statewide energy efficiency target by 85% percent in 2010.
- Colorado presents another successful example -- last May the Colorado Public Utility Commission (PUC) reaffirmed its strong commitment to energy efficiency. In addition to increasing its annual savings goal, the CPUC provided Public Service Company (PSCo) the ability to earn a percentage of net economic benefits from energy efficiency programs, program cost recovery, and lost revenue compensation. The company estimates that its electric program alone will result in \$227 million in net economic benefits for customers over the lifetime of energy efficiency measures installed due to its 2010 Demand Side Management (DSM) program.⁹

Act 129 did not establish performance incentives, but Opower believes that the Commission’s broad rate-setting authority allows it to set rates of return for utility investments, which could enable the establishment of performance incentives for utilities. Act 129 requires cost recovery

⁸ Only Illinois and Ohio also have energy efficiency goals with penalties but no incentives. (Hayes, Sara et.al. Carrots for Utilities: Providing Financial Returns for Utility Investments in Energy Efficiency. Report U111).

⁹ Sciortino, Michael, Seth Nowak, Patti Witte, Dan York, and Martin Kushler. 2011. Energy Efficiency Resource Standards: A Progress Report on State Experience. American Council for an Energy-Efficient Economy. Available at: <http://aceee.org/research-report/u112>

of energy efficiency program administration expenses, but is silent as to whether a utility can be compensated in excess of that amount for performance incentives.¹⁰ Our interpretation is that the legislation does not prevent these incentives, which could allow the Commission to have authority to set incentives under its broader rate-setting authority.

Further, Act 129 specifically addresses both lost revenue recovery, which it sets as an unrecoverable cost, and penalties, which it establishes for EDCs that do not meet goals. The fact that it is so specific about these policies but does not address performance incentives may leave an opening for the commission to establish this type of policy.

Act 129 is very specific about lost revenue recovery, noting:

“In no event shall lost or decreased revenues by an electric distribution company due to reduced electricity consumption or shifting energy demand be considered any of the following: . . . (II) a recoverable cost.”¹¹

The absence of any explicit language preventing performance incentives, given that “decoupling and lost revenue recovery” is very explicitly prevented, suggests that there may be an opening for the Commission to establish these type of incentives.

The Pennsylvania Commission would not be alone in putting in place energy efficiency incentives for investor owned utilities through rulemaking rather than statute. A number of state commissions have used their discretion to establish performance incentives without direct statutory instruction, as described in the Table below.

State	Authority for Utility Performance Incentives¹²
Arkansas	Docket 08-137-U, Order No. 15
New Hampshire	Order 23.574
New York	Case 07-M-0548

¹⁰ 66 Pa. C.S. section 2806.1 (k)

¹¹ 66 Pa. C.S. section 2806.1 (k)

¹² Institute for Electric Efficiency. State Electric Efficiency Regulatory Frameworks. June 2011.

Rhode Island	Docket 3635, Order 18152
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Opower recommends that the Commission explore whether it has the authority to consider implementing performance incentives to help motivate EDCs to meet and even exceed state efficiency targets as a part of the Tentative Order or a separate rulemaking process.

E. Inclusion of DR Curtailment Program (Issue #3)

Opower looks forward to learning the results of the forthcoming demand response program and evaluation for Pennsylvania EDCs. Although there are a wide array of open questions related to demand response programs given the “100 hours” structure in Act 129, Opower submits that if these programs are deemed to be cost-effective, they should be continued.

For residential customers in particular, the upfront cost of installing devices suggests use of a 5-year program rather than a program focused on 100 hours in one year. Customer satisfaction can be affected by programs that “start and stop” and do not provide market certainty. Given the considerable investment in demand response in Pennsylvania to date, it makes sense to ensure that the previous investment provides as much ratepayer benefit as possible.

F. Conclusion

Opower thanks the Commission and staff for consideration of these comments, and looks forward to engaging on these issues throughout the stakeholder process.

Sincerely,

Jim Kapsis
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Opower