

**Pennsylvania Act 129 Phase I Economic Impact Assessment Report**  
**Bureau of Technical Utility Services**  
**PA Public Utility Commission**  
**August 2014**

Statement of Intent

On February 25, 2014 Commissioner Cawley testified before the Pennsylvania House of Representatives Consumer Affairs Committee regarding the costs and benefits of Act 129. The information available at that time was limited solely to the expenditures made by electric distribution companies (EDCs), including administrative costs and the value of energy savings realized by and to the entirety of Pennsylvania's economy. During Phase I of Act 129 the EDCs spent \$803.7 million in rate-payer funds to save consumers 5.4 million megawatt-hours of electricity while also reducing peak energy demand by 1,540 megawatts. This resulted in meeting 123% and 113% of their obligatory energy and peak demand obligations, respectively, while spending only 82% of their authorized budgeted funds. The cumulative net economic benefit to Pennsylvania's economy associated with these Phase I energy reductions was \$2.4 trillion.<sup>1</sup> No effort was made to also account for the additional effect that the financial savings from these energy reductions has on the entirety of Pennsylvania's economy but multipliers on the order of 2X are cited as typical for energy efficiency and conservation savings however, the Bureau of Technical Utility Services (TUS) has since sought to bolster the direct economic savings referenced above with additional data that was believed could come from Conservation Service Providers (CSPs).

In June 2014, TUS conducted a survey of all registered CSPs to determine if their participation in the Phase I implementation of Act 129 was a benefit to them and to the Commonwealth. The intent of this report is to present our findings in terms of jobs and dollars invested in those jobs by occupation category. The time frame covered by this assessment is Phase I of Act 129 (June 1, 2009 through May 31, 2013).

Background

On October 15, 2008, Governor Rendell signed HB 2200 into law as Act 129 of 2008 (Act), with an effective date of November 14, 2008. The Act expanded the Commission's oversight responsibilities and imposed new requirements on electric distribution companies (EDCs), with the overall goal of reducing energy consumption and demand.

The Commission's implementation of Act 129 involved the adoption of an energy efficiency and conservation (EE&C) program by January 15, 2009, which requires EDCs with more than 100,000 customers to file an EE&C plan to meet the stated requirements of the Act. The Act requires each EDC plan to "include a contract with one or more conservation service providers selected by competitive bid to implement the plan or a portion of the plan as approved by the Commission."<sup>2</sup> Act 129 defines

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<sup>1</sup> Act 129 Statewide Evaluator Final Annual Report Phase 1: June 1, 2009 – May 31, 2013

<sup>2</sup> 66 Pa.C.S. § 2806.1(b)(1)(i)(e)

“conservation service provider” as “an entity that provides information and technical assistance [to an EDC] on measures to enable a person to increase energy efficiency or reduce energy consumption and that has no direct or indirect ownership, partnership or other affiliated interest with an [EDC].”<sup>3</sup>

On February 5, 2009, the Commission established a registry of approved businesses qualified to provide conservation services to all classes of customers as required by Act 129, known as the Conservation Service Provider (CSP) Registry.<sup>4</sup> All entities that provide services directly and solely to customers or the public in general, such as equipment installers or suppliers, are not defined as CSPs and therefore are not included in the Commission’s CSP registry. In establishing the CSP Registry, the Commission developed an application for registration and established the minimum experience and qualification requirements each CSP must meet to be included in the registry.

### Methodology

The Commission researched available resources pertaining to job surveys and designed a four-part survey (Appendix A), which was emailed to 151 CSPs that were registered with the Commission as of May 23, 2014. A letter describing the purpose of the survey and providing instructions for completing the survey was included in our communications (Appendix B). In order to track and measure the CSP response rate, Part I of the survey includes the CSP’s Commission-issued “identifier,” known as the Docket No. The Commission received responses from 75 CSPs, for an overall response rate of approximately 50%. During Phase I there were 47 CSPs working under contract with one or more EDCs to implement Act 129 EE&C plans. All CSPs that were awarded contracts in Phase I (100%) responded to the survey.

To determine the number of jobs pertaining to Phase I of Act 129, Part 2 of the survey focuses on the total billable “man-hours” by job category. The Commission solicited the reporting of these man-hours by occupation, having selected relevant occupational categories from the U. S. Bureau of Labor Statistics (USBLS) Standard Occupational Classification (SOC) codes. These SOC codes are identified in the Occupational Employment Statistics Query System for the Electric Power Generation, Transmission and Distribution (NAICS code 221100) Industry Period: May 2013.<sup>5,6</sup> The Commission determined to use this method in part to protect the confidentiality of CSP contract agreements and in part because the simplicity would likely enhance the response rate for those CSPs operating under contract.

Consistent with USBLS methodology the Commission equated 2,080 man-hours to one full-time equivalent (FTE) position and estimated the total number of jobs associated with eight predetermined USBLS occupational categories. After reviewing CSP responses, the Commission found that five

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<sup>3</sup> 66 Pa.C.S. § 2806.1(m)

<sup>4</sup> Implementation of Act 129 of 2008: Phase 2 – Registry of Conservation Service Providers, Final Order at Docket No. M-2008-2074154 (entered February 5, 2009) <http://www.puc.pa.gov/PCDOCS/1032442.doc>

<sup>5</sup> U.S. Bureau of Labor Statistics Occupational Employment Statistics Query System; Data extracted on February 14, 2014 – see <http://www.bls.gov/soc/home.htm>

<sup>6</sup> NAICS code: North American Industry Classification System code – see <http://www.bls.gov/bls/naics.htm>

additional occupational categories were reported, presenting 13 distinct occupational categories for consideration in all. To estimate the economic gain in terms of business dollars invested by occupation, the Commission multiplied the total number of man-hours as reported by the CSPs for each category, by the Hourly Mean Wage (HMW) associated with each occupational category, which is also consistent with USBLS methodology.

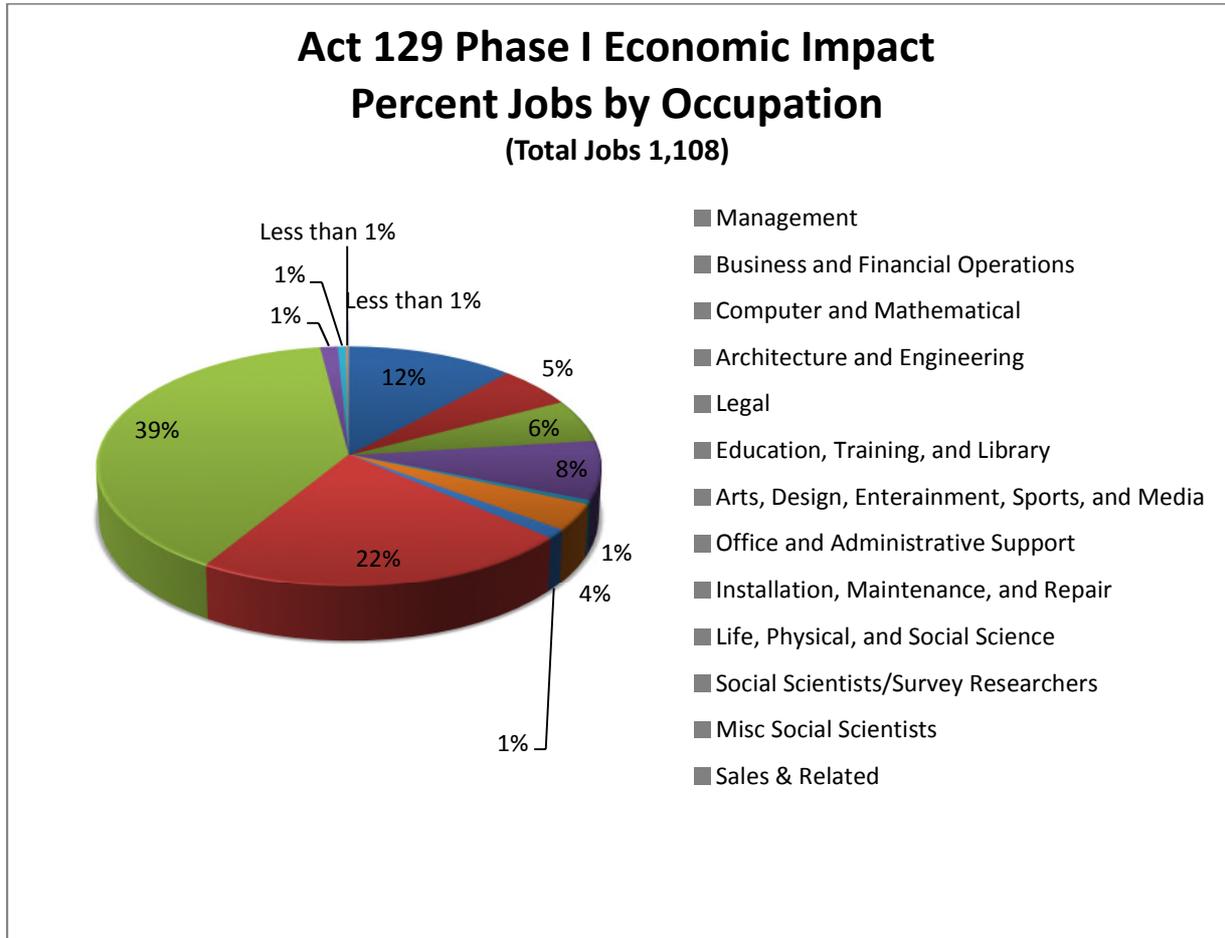
In Part 3 of the survey the Commission asks four general questions about Act 129 to ascertain if Act 129 provided added value in terms of creating and maintaining business opportunities and jobs in the Commonwealth. Part 4 of the survey is presented as a “placeholder” for CSPs to provide additional information and/or comment.

### Economic Impact

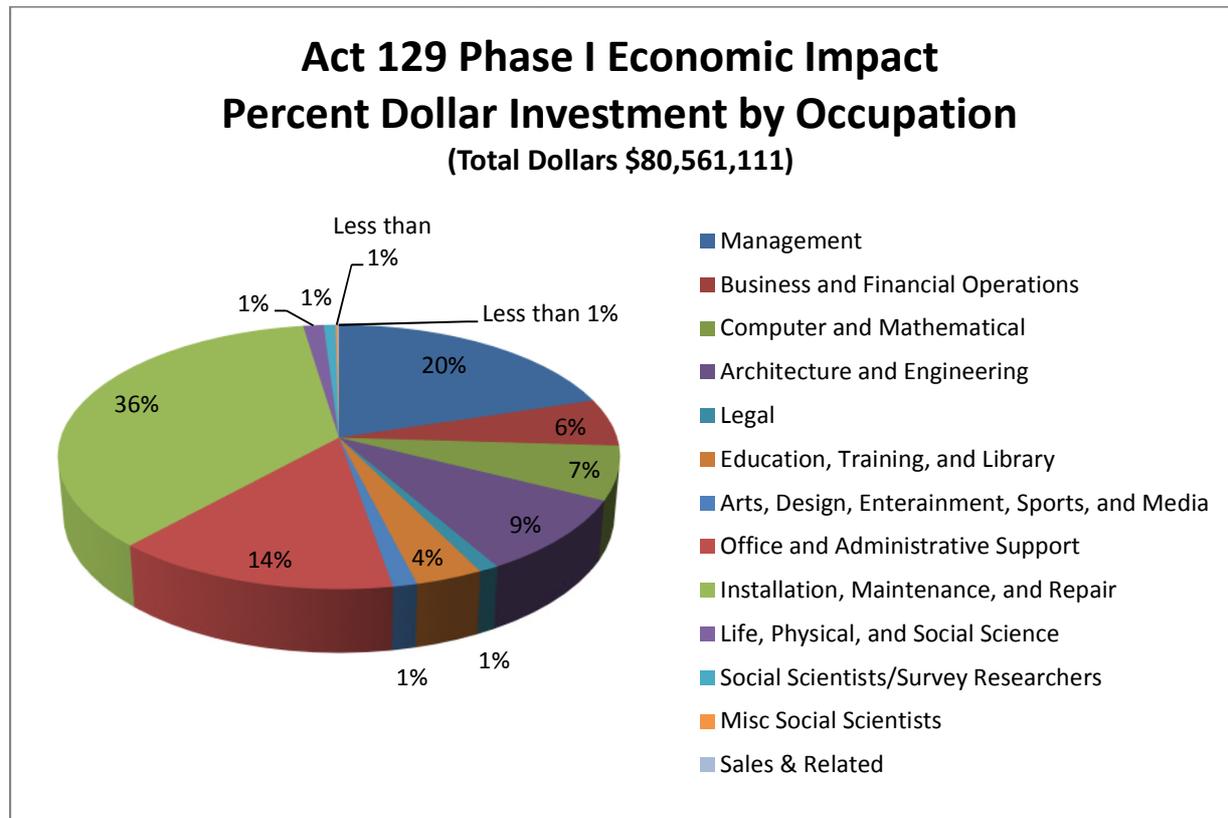
#### *Number of Jobs, Occupation Types & Estimated Dollars Invested*

The economic impact of Phase I of Act 129 is illustrated below in Charts 1 and 2, as a percent of the total FTE jobs and as a percent of the total dollars invested in the 13 occupational categories. The actual man-hours as reported by CSPs in response to Part 2 of the survey and the pertinent USBLS data used in the calculation of these percentages, is delineated in Table 1. Based on the data in Table 1, we determined that a total of 1,108 FTE jobs, equivalent to approximately \$81 million of investment, resulted from Act 129 Phase I implementation.

Chart 1 - Percent of Jobs by Occupation



**Chart 2 – Percent Dollar Investment by Occupation**



**TABLE 1 - Economic Impact - Act 129 Phase I\***

<i>USBLS Standard Occupation Classification</i>	<i>Man-Hours Reported by CSP</i>	<i>USBLS Hourly Mean Wage (Dollars)</i>	<i>Full Time Equivalent Jobs</i>	<i>Total Estimated Investment (Dollars)</i>
Management	272,547	59.44	131	16,200,194
Business & Financial	126,238	37.36	61	4,716,245
Computer & Mathematical	132,006	39.77	63	5,249,873
Architecture & Engineering	185,357	40.03	89	7,419,845
Legal	12,553	64.26	6	806,656
Education, Training & Library	82,435	33.32	40	2,746,734
Arts, Design, Media	28,418	34.58	14	982,703
Office & Administration	515,472	22.49	248	11,592,961
Installation, Maintenance & Repair	904,203	32.02	435	28,952,580
Science	28,202	38.49	14	1,085,480
Social & Research	13,524	46.46	7	628,302
Misc. Social Scientists	2,437	46.46	1	113,211
Sales	2,029	32.69	1	66,328
<b>TOTAL</b>	<b>2,305,420</b>	<b>NA</b>	<b>1,108</b>	<b>80,561,111</b>

*\*Due to the rounding effect of actual data reported by CSPs, totals for each column do not necessarily equal the summation of numbers presented but are derived from actual calculations of reported data and are provided for informational purposes only.*

### Top Occupational & Investment Categories

As can be seen by a comparison of the data in the Table 1, 435 FTE jobs (39%) are found within the “Installation, Maintenance and Repair” occupation, which represents the largest number of FTE jobs in any category. Second place falls within the “Office and Administrative Support” occupation category, showing 248 FTE jobs (22%). In addition the greatest dollar investment in any occupation is identified with the “Installation, Maintenance and Repair” category with approximately \$29 million invested (36%). However, the second most significant level of investment was within the “Management” category with over \$16 million (20%) attributable to Act 129 Phase I.

According to the USBLS, the hourly mean wage for Installation, Maintenance and Repair occupations is \$32.02—higher than the hourly mean wage for Office and Administrative Support but lower than the other eleven remaining occupational categories. Despite this, it is interesting to note that the investment of over \$28 million in this occupational category represented approximately 120% of the \$23 million dollars invested over the four-year period in ten of the higher-paying occupations, excluding Management. It is also interesting that more than 11% of the total number of jobs related to Act 129 Phase I activity was in Management with an hourly mean wage of \$59.44—nearly double the hourly mean wage for Installation, Maintenance and Repair occupations.

### Two Companies Created Solely as CSPs

In reviewing all responses to the four questions in Part 3 of the Survey, we found that two CSPs responded affirmatively to all four questions, indicating that these business entities were established specifically for the purposes of providing services in response to Act 129. These companies indicated that their businesses function solely as registered CSPs and that they are located in the Commonwealth or have an associated entity operating within the state’s jurisdiction. These CSPs also indicated that they have benefited financially as a registered CSP and that they intend to continue CSP registration in the next implementation phase (Phase II). Combined, these two companies created 56 FTE jobs in the Commonwealth, resulting in an investment of approximately \$3.4 million over the entirety of the Phase I period.

### Impact on Pennsylvania Business

Based upon the scope of this survey, the specific economic impact of Act 129 on Pennsylvania business was positive. In response to Part 3 of the survey, 51 CSPs (68%) indicated that they are located in or have operations within the state’s jurisdiction. A total of 691 FTE jobs (62%) are associated with the data reported by these CSPs, representing over \$47 million of investment resulting from Act 129. While it would be imprudent to conclude that all of these jobs were created solely because of Act 129, it is significant that over 59% of the total CSP investment dollars are returning to Pennsylvania ratepayers in the form of jobs, revenues and taxpayer benefits.

### CSP Financial Perspective

Part 3 of the survey also asked CSPs if registration as a PA CSP benefited the company financially and if they plan to remain a registered CSP in Phase II. Fifty-two CSPs (69%) responded affirmatively, indicating that Act 129 participation was financially beneficial for their respective businesses. While two CSPs (3%) stated that they would not renew their registration as a CSP for Phase II, 73 CSPs (97%) intend to continue registration in the next implementation phase. Unfortunately, an accurate count of the registered CSPs at the start of Phase I is not easily obtainable for comparative purposes. Currently, the total number of CSPs registered to do business in the Commonwealth is 151, up slightly from 147 near the end of the Phase I period (May 30, 2013). Undoubtedly, those Phase I CSPs operating under contract, as well as others, have seen an economic advantage to continue participation into Phase II.

### CSPs Comments Regarding the Economic Impact of Act 129

A few CSPs commented that they were not doing business in Pennsylvania during the Phase I time period. However, most CSP commenters stated that the Phase I experience had been positive. For many, the economic benefits came from actively participating under contractual agreements with the EDCs. For others, economic benefits resulted from their ability to work with subcontractors or to work as subcontractors themselves. A list of those comments supplied by CSPs that were engaged in work for Act 129 Phase I include the following:

- *"The economic impact of Act 129 has been positive. It has helped provide job security for employees, provided funding for needed equipment and training and been beneficial to the local community as well, since this is a non-profit government agency providing energy education and conservation measures to low income clients."*
- *"The benefits of this program outweighed the cost and [the Company] looks forward to seeing this program continue in the future."*
- *"Act 129 has had a very positive effect on our firm. In [our] experience working in several states, you only get a robust network of healthy energy efficiency firms where you have some type of programmatic support such as Act 129. Prior to Act 129, there were relatively few independent energy consulting firms in PA and they primarily served the ESCO/performance contracting market. This market is highly unpredictable so the firms stay small. Where you have the predictability of programs like Act 129, firms can take the risk to hire and grow."*
- *"[The Company's reported] hours reflect the period starting July 2010 to May 2013".*
- *"We are a small but national company with offices in several states. Act 129 has enabled us to create a job position in PA. Of the hours [reported], 51,019 are for ADM Associates. The remaining 12,842 are for subcontractors and are mostly in the first two categories, along with office and administrative support. The hours for subcontractors are estimated because some of them charge us per unit of work completed rather than by the hour, but estimates have been made based on the time needed to complete certain tasks."*
- *"Most of our work was through ESCO contractors for whom we designed, installed and maintained HVAC and Controls systems as part of a larger energy savings project."*
- *"Rebates are crucial to sell lighting projects in this market. Customers need to know the state and the utility supports those performing the upgrade. Most customers would rather not do a*

*project, even one with a great payback, if they don't feel like someone else, mainly the state, is sharing in the financial burden. Rebates are "key" to keep jobs moving."*

- *"[Act 129] enabled us to respond to RFPs."*
- *"The hours totaled in Part 2 covers the period Jan 1, 2012 - May 31, 2013. Data prior to January 1, 2012, resides in a legacy system and is not available."*
- *"[Worked as a subcontractor to [CSP]. We have not as yet realized much revenue and it will require involved bookkeeping to extract the level of detail requested. [Company] worked as a subcontractor to [CSP]. We do plan to continue as a CSP for Phase II."*

These comments are helpful for several reasons. First, they convey messages of specific value realized by CSPs via Act 129. Second, the comments provide insight into the value and public perception offered through rebate programs. Third, the comments reflect that some data was underreported and therefore somewhat conservative. Finally, agency staff recognizes that to improve upon better and timelier data reporting it may be best to conduct additional surveys on a more frequent basis, such as annually. This would prepare the PUC to better address legislative inquiries that can be expected closer to the end of Phase II and in keeping with what transpired at the end of Phase I.

#### Conclusion & Recommendation

The Commission's effort to solicit feedback from CSPs on the number of jobs and economic impacts associated with the implementation of Phase I of Act 129 has been relatively successful. Use of the selected methodology and the USBLS resource, as well as the assumptions respecting both, produced a relatively high response rate and serves as a useful basis for general information purposes and for future assessment and trend analysis. The assessment of the data reported by CSPs strongly suggests that the implementation of Phase I of Act 129 has had a positive impact on Pennsylvania's economy in terms of new jobs and new business. Moreover, it must be noted that this report undoubtedly underestimates, perhaps significantly, the economic impacts associated with Act 129, as only registered CSPs were surveyed. As noted earlier, entities that provide services directly to customers and that do not provide information and technical assistance to an EDC in designing, implementing or evaluating the EDC's EE&C program, are not CSPs and were therefore not surveyed. While these entities were not under contract with an EDC, they would have experienced an increase in sales or services as a result of the Act 129 program, which was not captured in this survey. Therefore, in addition to continuing to gather data from registered CSPs on an ongoing and timelier basis, the Commission believes it would also be informative to implement a survey process to collect similar data from entities that are not registered CSPs, but that also sell equipment or provide services to end use customers that reduce electric consumption or demand.

Currently, we are one year into Phase II Implementation of Act 129, which covers the time period June 1, 2013, through May 30, 2016. The Commission should be prepared to respond to state legislative inquiries with up-to-date information on the economic impact of Act 129. We also need to be responsive to the organizational and record-keeping needs of CSPs if we are to gather complete data on a timely basis. The 30-day deadline given CSPs to respond to the survey was insufficient. Commission staff required additional time to individually contact non-responsive CSPs that were working under

contract, in order to encourage them to submit the requested data. We note that one CSP commented that “data prior to January 1, 2012, resides in a legacy system and is not available.” Another CSP stated that a response to the survey “will require involved bookkeeping to extract the level of detail requested.”

To address these concerns going forward, TUS and Law Bureau recommend that the Commission survey CSPs on an annual basis throughout the various phases of Act 129 Implementation. Data should be requested for the period June 1 of the current year through May 30 of the following year. In addition, a sixty-day deadline should be established for receipt of CSP responses, and a sixty-day, consecutive time-frame should be provided Commission staff for the collection and analysis of CSP data and for preparing the report. Due to current time constraints, the solicitation of CSPs should be conducted as soon as feasible, with an October 31 deadline for receipt of the previous program year’s Phase II CSP data.

<b>ACT 129 PHASE I CSP JOB SURVEY</b>										
<b>PART 1</b>						<b>Docket No.:</b> A- _____ -				
<i>Instructions: Please enter your Docket Number in the space to the right. Your company's Docket No. is the eleven-digit file number that is assigned to your company that appears on the CSP Registry, e.g. A-2014-XXXXXXX.</i>										
<b>PART 2</b>										
<i>Instructions: Please report total manhours relating to jobs in which the wages or salaries were associated with work performed as part of Phase I of Act 129 (June 1, 2009 through May 31, 2013). Report all billable manhours attributed to Act 129 Phase I funding for the appropriate Standard Occupational Classification (SOC) code that appears in the table below. For a complete description of all SOCs, search the web for U.S. Bureau of Labor Statistics 2010 SOC Major Groups (see <a href="http://www.bls.gov/soc/major_groups.htm">http://www.bls.gov/soc/major_groups.htm</a>).</i>										
Management (110000) Hours	Business & Financial Operations (130000) Hours	Computer & Mathematical (150000) Hours	Architecture & Engineering (170000) Hours	Legal (230000) Hours	Education, Training & Library (2500000) Hours	Arts, Design, Entertainment, Sports & Media (270000) Hours	Office & Administrative Support (430000) Hours	Installation, Maintenance & Repair (490000) Hours	Other* Hours	
									( )	
									( )	
									( )	
<i>*For "Other" please indicate SOC code in parentheses for associated hours reported. Use Part 4 if more space is needed.</i>										
<b>PART 3</b>										
<i>Instructions: Please answer the following four questions by placing an "X" in the YES or NO column.</i>										
<b>Questions</b>							<b>YES</b>	<b>NO</b>		
<b>1</b>	Was your company created solely to function as a registered CSP in PA?									
<b>2</b>	Is your company or an associated operating entity located in the Commonwealth of PA?									
<b>3</b>	Has registration as a PA CSP benefited your company financially?									
<b>4</b>	Do you plan to remain a registered CSP in Phase II?									
<b>PART 4</b>										
<i>Instructions: Please use the space below to provide any additional data and/or comment (optional) relating to the economic impact of Act 129 Phase I on your specific business enterprise in the Commonwealth of PA. <b>Please note that your response to this survey will be held confidential and that only aggregated data from all CSPs will be reported.</b></i>										



COMMONWEALTH OF PENNSYLVANIA  
PENNSYLVANIA PUBLIC UTILITY COMMISSION  
P.O. BOX 3265, HARRISBURG, PA 17105-3265

IN REPLY PLEASE  
REFER TO OUR FILE

May 30, 2014

**To All Commonwealth of Pennsylvania Registered Conservation**

**Service Providers Re: Act 129 Phase I CSP Job Survey**

The Pennsylvania Public Utility Commission's (Commission) Bureau of Technical Utility Services (TUS) is interested in learning the economic impact the Act 129 Energy Efficiency and Conservation Program (Act 129 EE&C Program) had on jobs and job creation in the Commonwealth of Pennsylvania. Specifically, TUS seeks your response to the enclosed Job Survey. Any data marked confidential or proprietary will be treated confidentially such that no company-specific information will be made public.

Please complete the white/non-shaded areas in Part 1, Part 2 and Part 3 of the attached survey. Part 4 is available for your use to provide additional data or comment on your specific business enterprise activities in the Commonwealth.

In Part 1 of the survey please enter your CSP Registration Docket Number. In Part 2 please report total billable man-hours attributed to the Act 129 EE&C Program by job classification code. These codes refer to selected U. S. Bureau of Labor Statistics 2010 Major Standard Occupational Classification (SOC) groups designated for the Electric Power Generation, Transmission and Distribution Industry (NAICS Code 221100). If the appropriate SOC code is not listed, please use the "Other" category to report man-hours and indicate in parentheses the actual SOC code attributable to those hours.

For a complete description of all SOCs, see the U.S. Bureau of Labor Statistics 2010 SOC Major Groups at [http://www.bls.gov/soc/major\\_groups.htm](http://www.bls.gov/soc/major_groups.htm). Part 3 is a series of four short questions. Please respond "Yes" or "No" by checking the appropriate box. Please email the completed document to Ms. Annunciata Marino at [annmarino@puc.gov](mailto:annmarino@puc.gov). Please direct any questions to Ms. Marino by calling (717) 772-2151. **Please submit the completed survey by June 30, 2014.**

The Commission appreciates your time and effort to complete this Survey. Your response is important to the assessment of the economic impact of Act 129 on jobs in the Commonwealth.

Sincerely,

Rosemary Chiavetta Secretary

Enclosure