

PENNSYLVANIA ENERGY CENTER PERFORMANCE EVALUATION

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ABSTRACT

Many public officials are calling for performance standards such as merit pay for public employees and teachers. This coincides with demands for public sector programs to have clear and definable performance standards. These standards are designed to act as the public sector equivalents to the private sector market test. In 1981, the Governor's Energy Council (GEC) developed performance standards that emphasize cost effectiveness and energy savings for its principal contractors: the Pennsylvania Energy Centers (PECs). This performance based evaluation allows the GEC to make rational programmatic and funding choices as it pertains to the PECs. Furthermore, it acts as a financial incentive by rewarding those PECs that excel in meeting the standards.

I. BACKGROUND AND DESCRIPTION OF THE PEC PROGRAM

The GEC decided to use a decentralized energy program approach based on the rationale that local agencies have the capability to identify energy conservation needs and opportunities within their communities. In 1980, the GEC competitively selected the PECs using a two phase process. The first step required organizations with existing energy programs to submit bidder's qualification statements identifying their experience. Qualified organizations were asked to submit formal proposals. The GEC and an energy expert advisory panel chose one organization in each of Pennsylvania's ten (10) uniform planning regions. The PECs' parent agencies are a very diverse group that includes a regional chamber of commerce, two universities, two community action agencies, and four regional planning agencies.

The PEC are required to save a minimum of two (2) barrels of oil equivalency per thirty dollars (\$30) expended. The GEC Evaluation Bureau is responsible for calculating whether they met this goal in addition to other contractual requirements.

Although the general public can take advantage of the services, the PECs were specifically designed to address the energy needs of the small business, local government, industry, and multi-unit residential target audiences.

The PEC's services have changed since their creation. During the first year, their main activities were collecting information on existing projects and identifying local energy-related organizations. The PECs also began providing site specific Energy Efficiency Team (EET) building surveys for the target audiences. These surveys are performed by a PEC staff member using a checklist of eighteen (18) low cost energy conservation measures. An EET surveyor reviews the energy and cost savings of each measure for the building being visited. Approximately one week later, the building owner is presented with a report identifying the recommended cost effective measures.

For the last three years, the EET program has continued as the PECs have expanded their services to include regionally specific projects and locally developed workshops. The regionally specific projects vary according to local needs. For example, the Philadelphia PEC conducts an industrial roundtable program resulting in \$500,000 energy cost savings. In central Pennsylvania, a successful boiler workshop program saved over 45,000 barrels of oil equivalency.

Over the years, the PECs and the GEC roles have changed. Initially, the GEC administered all workshop programs from its Harrisburg based office. In late 1981, the GEC decided to conduct a test case allowing the PECs to contract locally for workshops. These workshops proved to be not only more cost effective but also met local needs. Based on these results, the GEC has arranged all energy conservation workshops through the PECs. Since then, the PECs have provided workshops on solar hot water, boiler efficiency, woodburning safety, home energy conservation, and building energy conservation codes. Based on workshop evaluations, over 200,000 barrels of oil equivalency have been saved since 1982.

II. PURPOSES OF THE PENNSYLVANIA ENERGY CENTER EVALUATION

The GEC conducts the annual Pennsylvania Energy Center performance evaluation for the following purposes: Measuring Cost Effectiveness of Services; Measuring Energy Savings; Measuring Client Satisfaction; Determining Contract Compliance. The evaluation results in awarding 33% of the PECs annual funds.

A. Measuring Service Cost Effectiveness

The ultimate goal in the GEC evaluation process is to ensure that the PECs are providing cost effective services to Pennsylvania citizens. The cost effectiveness standard is two barrels of oil equivalency saved per \$30 dollars spent. The GEC reviews monthly program reports, workshop attendees' surveys, regional projects participant surveys, and EET clients' surveys to measure cost effectiveness.

B. Measuring Energy Savings

The second purpose is to assess energy savings from the PEC program. The data is gathered from the same sources identified in Section II A. In the performance evaluation, those categories containing energy savings (EETs and Regional Projects) are assigned the highest weightings. The energy savings are incorporated into the State Energy Conservation Program Energy Savings Report.

C. Measuring Client Satisfaction

In most service agencies, quality of service and client satisfaction are considered as essentials for organizational credibility. The GEC has included this criterion in the evaluation for two reasons. First, it determines if the clients are satisfied with the PEC's services. Second, to provide opportunities for persons being served to suggest program improvements.

D. Measuring Contract Compliance

The GEC considers contract management as an important task. A lack of meeting timelines or deliverables indicates the PECs are not managing their funds effectively. Although the GEC managers perform regular contract monitoring, the GEC has found it very useful to have the Evaluation Bureau review compliance factors and make appropriate recommendations. This measurement is included in the annual evaluation to reinforce its importance.

III. EVALUATION RATIONALE

By defining clearly the evaluation criteria in advance and using the same measurements for four successive years, the GEC met what Peter Drucker in his article "Managing the Public Sector Institution" calls his six "Requirements for Success". The GEC first determined its program objectives, and then institutionalized them in an evaluation framework emphasizing measureable energy savings, client satisfaction, cost-effectiveness, and contractual compliance.

The PEC evaluation is designed to encourage both the PECs and the GEC to manage by objectives through clearly defined contracted services. A few PEC directors have expressed displeasure with this concept stating that many of the benefits resulting from their activities are intangibles such as energy awareness. However, energy awareness lacks a clear performance measurement or "performance test". In an era of increasing demands for public accountability and declining funding resources for energy programs, the GEC strongly believes there is a need to develop a performance test that concentrate on measuring energy savings and cost effectiveness.

Through the criteria establishment and weighting, the GEC established the "priorities of concentration" for the PECs. This does not mean that because of their relative weightings, the PECs must necessarily emphasize EET surveys over Regionally Specific Projects. However, it does provide a clear GEC value signal and a framework for PEC management decisions. The GEC contractually defined what "measurements of performance" through evaluation criteria that emphasizes benefit/cost ratios such as Barrels of Oil Equivalency Saved Per \$30 Spent. By clearly defining what a successful program is and how performance will be measured, the GEC provides itself with a "feedback loop". Managers can make incremental changes as the evaluation results are available. This is an important concept. The PEC evaluation gives the GEC and the PEC decision makers a tool to make rational programmatic and funding choices in an environment normally marked by budgetary incrementalism. Instead of PEC budgets growing at an incremental rate regardless of performance, the GEC has been able to exercise funding allocation control. The evaluation requires the PECs to consider what effect their daily decisions will have on future funding.

Finally, the evaluation fulfills the most important requirement: "the need for an organized audit of objectives and results". The PEC evaluation acts as a substitute for the market test private sector businesses must confront. Those PECs providing cost effective services and tangible benefits are rewarded. The evaluation identifies and penalizes unsatisfactory performance. However, one year's performance evaluation scores does not negatively affect the following years. This allows a PEC that did not score well to have an equal opportunity to receive its fair share in the next evaluation. The system imposes a discipline normally lacking in the public sector to produce tangible results or face a significant funding reduction.

The overall evaluation theme is to force the PECs to think about why they are in "business" and what they should be producing: namely energy savings and cost effective services.

IV. PENNSYLVANIA ENERGY CENTER EVALUATION PROCESS

A. Creation Of The Evaluation Criteria

The PEC Performance Evaluation Criteria and their relative weights are as follows.

- C1=Energy Efficiency Team Energy Savings: 40%
- C2=Regionally Specific Projects Energy Savings: 17%
- C3=Energy Efficiency Team Quality Callbacks Scores: 15%
- C4=Energy Efficiency Measures Implementation Rates: 10%
- C5=Workshop Attendance Scores: 10%
- C6=Timely Submission of Reports: 5%
- C7=Completion of Regionally Specific Projects: 3%

The formulas for calculating the criteria scores for each of the PECs are as follows:

$$C1 = \frac{\text{Barrels of Oil Equivalency Saved} \times \$30}{\text{Total Federal and State Expenditures}}$$

$$C2 = \frac{\text{Barrels of Oil Equivalency Saved} \times \$30}{\text{Total Federal and State Expenditures}}$$

$$C3 = \frac{\text{Total Quality Points from GEC Telephone Surveys}}{\text{Total Number of GEC Telephone Surveys Completed}}$$

$$C4 = \frac{\text{Total Number of EET Measures Implemented By Clients}}{\text{Total Number of EET Measures Recommended By PECs}}$$

$$C5a. = \frac{\text{Workshop Attendance}}{\text{Workshop Attendance Goal}} = \# \text{ of Workshop Points}$$

$$C5b. = \frac{\# \text{ of Workshop Points} + \text{Extra Points for Exceeding Goal}}{\# \text{ of Workshops Conducted}}$$

$$C6 = \frac{\# \text{ of Contractually Required Reports Submitted On Time}}{\# \text{ of Required Reports}}$$

$$C7 = \frac{\# \text{ of Regionally Specific Projects Completed}}{\# \text{ of Regionally Specific Projects In Contract}}$$

The first four criteria measuring PEC performance are: (C1) Energy Efficiency Team (EET) Energy Savings, (C2) Energy Savings resulting from the Workshops and Regionally Specific Projects, (C3) Quality Callback Scores from EET client surveys, and (C4) Energy Efficiency Implementation Rate. The GEC identified these criteria as the most important in the evaluation. By surveying EET and workshop clients, the GEC measures the energy savings and client satisfaction. The GEC uses the energy savings from the EET visits and PEC workshops to determine whether the goal of two (2) barrels of oil equivalency saved per \$30 spent has been met.

Another evaluation measure (C5) is the PEC Sponsored Workshops Attendance Level. Each PEC sponsors energy efficiency and/or renewable resource workshops. The GEC's goal is to ensure that the workshops are well attended and cost effective. To help meet this goal, the GEC developed attendance levels for each of the PECs based on population, population density, attendance levels at past regional workshops, and each PEC's funding level.

The PECs also are required to meet reporting deadlines. In this criterion (C6), the PECs are measured through a ratio of the number of reports submitted on time versus the number of reports contractually required.

The above evaluation criteria assess the tangible results, benefits, and contractually required services. To meet the

evaluation objectives, the GEC annually reviews the PEC's contracts for required goals and deliverables. Deliverables evaluated include the completion of Regionally Specific Projects (C7) such as Industrial Roundtables, Renewable Resource Project Inventories, and PEC-sponsored workshops. All activities are clearly defined in their contracts.

B. Publish Annual PEC Evaluation Booklet

Each year, the GEC Evaluation Staff publishes a PEC Evaluation Booklet. The Booklet details: 1. the evaluation criteria, 2. the formula for measuring the criteria, and 3. the scoring methodology. The PECs have an opportunity to comment on the evaluation criteria when reviewing the draft version of the Booklet.

In past years, several criteria have been eliminated from the evaluation because they were determined to be at cross purposes with program goals. For instance, the PECs were required to produce a specific number of EET surveys each contract year and were measured against this number. This requirement often led to the PECs accomplishing numerous EET surveys without regarding service quality. PEC comments led to the elimination of this criterion.

C. Evaluation Criteria Weighting

The criteria weighting is accomplished through balloting by the PECs and the GEC. The PECs and the GEC are provided with one ballot on which they record their weighting preferences for each established criteria. The PECs and the GEC staff votes are averaged separately creating two scores. Final criteria weights are determined by averaging the two scores. This allows the PECs to have a significant role in deciding criteria weighting by influencing the core evaluation process.

D. Evaluation Data Collection Process

The GEC staff uses three data collection procedures. First, a sample of between 25% and 30% of the EET clients are contacted through a monthly telephone survey to obtain energy savings (C1), quality scores (C3), and implementation rate (C4) data. This survey occurs approximately three (3) months after the EET visits are completed. In order to reduce random errors in the sampling process, the GEC Evaluation Staff uses a stratified sample. The sampling process is as follows.

Step 1. PECs submit Monthly Reports containing Energy Efficiency Team Visit Records for each of the target audiences (Local Government, Small Business, Non Profit, Industry, and Multi-Unit Apartment Buildings). The Visit Records contain all EET surveys conducted that month, dates completed, survey code numbers, surveyor's initials, and building square footage..

Step 2. The GEC stratifies the surveys by: (a) target audience

and (b) square footage in each target audience. See Figure # 1. In the Multi-Unit sector, the GEC stratifies by: (a) publicly owned or privately owned buildings and (b) tenant, building, or complex.

Step 3. Using a random number table, the GEC systematically chooses 25% to 30% of the EET clients in each stratum to receive a telephone survey. Strata containing small numbers of EET visits receive more callbacks in proportion to strata that have larger numbers of EET visits. This reduces random error probability in the sample. In the recently completed evaluation, the GEC was able to meet a 95% confidence level with a range of 3% to 7% error margin.

Figure # 1.

ESRST		JUNE 18, 1985		ENERGY SAVINGS REPORT ENERGY EFFICIENCY TEAM PROGRAM			*** FINAL REPORT *** OCTOBER 1984 - FEBRUARY 1985		
STATEWIDE TOTALS									
	A	B	C	D C/B	E	F E/D	G	H G/C	I F/H
TARGET AUDIENCE	STRATA SIZE	CALLBACKS TO DATE	CLIENTS TAKING ACTION	ACTION RATIO	TOTAL VISITS	# of CLIENTS ACTING	IMPLEMENTED SAVINGS	AVERAGE SAVINGS	TOTAL SAVINGS
PRIVATE	Tenant	8	1	0.13	22	3	3.47	3.47	9.34
	Building	33	17	0.52	86	44	331.54	19.58	864.81
	Complex	18	6	0.68	28	12	412.78	68.78	825.48
PUBLIC	Tenant	8	8	0.88	8	8	8.88	8.88	8.88
	Building	5	3	0.68	11	7	185.46	35.15	232.81
	Complex	1	1	1.00	2	2	3767.83	3767.83	7534.86
TOTAL		57	28		141		4628.2		9465.33
SM. BUSINESS									
I	0-5000	186	58	0.55	365	288	495.26	8.54	1785.38
II	5001-25000	78	45	0.58	233	136	1585.98	33.47	4537.25
III	Over 25000	21	18	0.48	52	25	1574.47	157.45	3898.69
TOTAL		285	113		652		3575.71		18141.31
LOCAL GOVERNMENT									
I	0-5000	21	6	0.29	67	19	113.48	18.91	362.86
II	5001-15000	12	3	0.25	37	9	31.62	18.54	97.58
III	Over 15000	7	3	0.43	16	7	345.77	115.26	798.33
Total		40	12		120		490.87		1249.88
INDUSTRY									
I	0-5000	6	8	0.88	17	8	8.88	8.88	8.88
II	5001-25000	11	5	0.45	27	12	181.78	28.36	249.82
III	Over 25000	13	6	0.46	24	11	1371.79	228.63	2532.36
Total		30	11		68		1473.57		2782.34
NON-PROFIT									
I	0-10000	29	17	0.59	77	45	377.33	22.28	1881.93
II	10001-30000	9	5	0.56	19	11	188.33	36.87	388.78
III	Over 30000	6	4	0.67	12	8	3362.92	848.73	6725.84
TOTAL		44	26		108		3728.68		8188.47
GRAND TOTALS		376	198		1889		14888.93		31747.85
									NON EET SAVINGS
									47263.14
									COMBINED ENERGY SAVINGS IN EQUIVALENT BARRELS OF OIL
									79818.19
		THIS MONTH		TO DATE		SAVINGS/KWH			
* FEDERAL CONTRACT EXPENDITURES		N/A		285023		EET PROGRAM		3.34	
* EET PROGRAM EXPENDITURES		N/A		N/A		TOTAL PROGRAM		8.32	
NUMBER OF EET VISITS-FEBRUARY		192		1889					

NOTE: Callbacks listed in Col. B are to clients visited from October 1984 through February 1985. Total visits listed in Col. E are to clients visited from October 1984 through February 1985. Total savings in Col. I are based on callback results from October 1984 through February 1985. * Based on Invoices (Fed. expenses from October 1984 through February 1985).

Step 4. Three months after the EET visit is completed, the GEC contacts the EET clients to determine what conservation measures they implemented and how satisfied they were with the service. Using the energy savings estimates provided to the clients from the standard checklist, the GEC records the measures implemented and the resulting savings by fuel type.

Step 5. The energy savings are recorded on the Energy Savings Report (see Figure #1) by corresponding target audience and stratum. These are extrapolated for the total number of visits in each stratum. The Energy Savings Report is provided monthly to the PECs and GEC program managers.

Step 6. The number and types of energy conservation measures implemented are provided to the PECs monthly. Quality scores are generated from the EET clients responses and are supplied to the PECs and GEC program managers on a bi-monthly basis.

Step 7. The GEC performs additional telephone surveys at a six month interval for the EET clients in the small business, non-profit, and industrial target audiences. After twelve months, the GEC recontacts the multi-unit and local government clients. Recently, this step was added to determine if the clients had installed additional measures since the initial telephone survey. This procedure was implemented to accommodate those instances where the decision to implement an energy conservation measure takes longer than three months. Based on our research, this is especially true in the local government, non-profit, and public multi-unit target groups because of budget cycle constraints.

The second data collection procedure requires the PECs to conduct mail and telephone surveys of Regionally Specific Project and Workshop participants to determine energy savings (C2). The GEC developed standard methodologies and survey procedures for the Boiler Efficiency, Residential, Small Business, Solar Hot Water, Commercial, and Industrial Conservation workshops. No less than two months after contract termination, the PECs are required to submit their methodologies for GEC review. Because the data is self-reported, the GEC recontacts at least 50% of the participants to confirm the energy savings.

The third GEC data collection procedure is a review of the PECs' monthly reports. Information on workshop attendance (C5), report timeliness (C6), and completion of regionally specific projects (C7) is documented in the monthly program and financial reports. At the termination of each contract year, the GEC reviews the files at each PEC location to verify the Energy Efficiency Team survey data for discrepancies.

Following data verification, a mean score is determined for each criterion and a Z score is calculated for each PEC in each criterion (see Figure # 2). Each Z score is weighted by the criterion's appropriate percentage. A total weighted Z score

for each PEC is calculated by totaling the scores.

Figure # 2

	REG 1	REG 2LN	REG 3	REG 4	REG 5	REG 6	REG 7	REG 10	MEAN	STD DEV	
ENERGY SAVINGS	0.52	14.81	2.26	0.89	2.85	1.47	2.21	2.78	3.36	4.68	724
Square	0.27	219.34	5.11	0.79	4.20	2.16	4.88	7.29			244
Z SCORE	-0.61	2.44	-0.24	-0.53	-0.28	-0.40	-0.25	-0.14			
Z WEIGHT	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40			
WEIGHTED SCORE	-0.24	0.98	-0.09	-0.21	-0.11	-0.14	-0.10	-0.06			
OTHER ENERGY SAVIN	0.00	0.06	0.10	0.79	0.00	32.58	0.00	0.00	4.18	11.45	1119
Square	0.00	0.00	0.01	0.62	0.00	1036.25	0.00	0.00			1057
Z SCORE	-0.37	-0.36	-0.36	-0.38	-0.37	2.47	-0.37	-0.37			
Z WEIGHT	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17			
WEIGHTED SCORE	-0.06	-0.06	-0.06	-0.05	-0.06	0.42	-0.06	-0.06			
GOCALLBACKS	7.01	7.58	6.45	6.81	7.01	5.79	6.75	6.74	6.76	8.49	2922
Square	49.18	56.25	41.63	46.31	49.11	33.54	45.56	45.43			367
Z SCORE	0.52	1.58	-0.62	0.18	0.51	-1.96	-0.01	-0.04			
Z WEIGHT	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15			
WEIGHTED SCORE	0.08	0.23	-0.09	0.01	0.08	-0.29	-0.00	-0.01			
REGION SPEC. PROJ.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	64
Square	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			8
Z SCORE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Z WEIGHT	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03			
WEIGHTED SCORE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
REPORT TIMELINESS	0.67	0.67	0.00	0.47	0.33	0.40	0.27	0.33	0.39	0.22	18
Square	0.45	0.45	0.00	0.22	0.11	0.16	0.07	0.11			2
Z SCORE	1.26	1.26	-1.79	0.35	-0.28	0.03	-0.56	-0.28			
Z WEIGHT	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05			
WEIGHTED SCORE	0.06	0.06	-0.09	0.02	-0.01	0.00	-0.03	-0.01			
IMPLEMENT RATE	22.00	19.00	12.00	12.00	16.00	22.00	7.00	19.00	16.13	5.38	16641
Square	484.00	361.00	144.00	144.00	256.00	484.00	49.00	361.00			2283
Z SCORE	1.09	0.53	-0.77	-0.77	-0.02	1.09	-1.69	0.53			
Z WEIGHT	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10			
WEIGHTED SCORE	0.11	0.05	-0.08	-0.08	-0.00	0.11	-0.17	0.05			
W'SHOP ATTENDANCE	7.37	0.00	4.00	7.00	6.93	4.10	0.92	2.12	4.06	2.00	1052.35
Square	54.32	0.00	16.00	49.00	48.02	16.81	0.85	4.49			109.49
Z SCORE	1.15	-1.41	-0.02	1.02	1.00	0.02	-1.09	-0.67			
Z WEIGHT	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10			
WEIGHTED SCORE	0.12	-0.14	-0.00	0.10	0.10	0.00	-0.11	-0.07			
REGION	1	2	3	4	5	6	7	10			
FINAL SCORE	0.06	1.12	-0.42	-0.20	-0.01	0.00	-0.47	-0.15			
	3	1	7	6	4	2	8	5			
	1.00										

V. USES OF THE PEC PERFORMANCE EVALUATION

A. Providing Performance Funding

The GEC uses the evaluation as a means to allocate approximately one third of the PECs annual funding. The remaining funds are distributed on regional population and equal share basis. As stated previously, the main objective is to financially reward those PECs providing cost effective and quality services, saving energy, and maintaining contract compliance.

Figure # 3

FUNDING FORMULA									
BASE DATA	A	B	C	D	E		% of	% of	
REGIONS	WEIGHTED Z-SCORE	INVERSE RANK	% OF RANK	POP/EQS BUDGET	EVAL. FUNDS	FINAL BUDGET	CURRENT BUDGET	FINAL BUDGET	
II	1.12	2.59	0.22	32500	51932	84432	1.60	0.62	
VI	0.88	1.53	0.13	94250	31879	125329	0.33	0.25	
I	0.86	1.53	0.13	133250	38678	163928	0.23	0.19	
V	-0.81	1.46	0.12	48750	29274	78024	0.68	0.38	
X	-0.15	1.32	0.11	121225	26467	147692	0.22	0.18	
IV	-0.28	1.27	0.11	68775	25465	86248	0.42	0.38	
III	-0.42	1.05	0.09	58500	21854	79554	0.36	0.26	
VII	-0.47	1.00	0.08	43500	28851	65351	0.44	0.31	
		11.77	1.00	594750	236000	838750	0.40	0.28	

Figure # 3 shows the effect of the PEC Performance Evaluation on the funding of the PECs. The final weighted Z scores are arrayed in descending order. The lowest Z score is automatically given 1.00 point in the Inverse Rank Column (Column B). Each PEC score in the Inverse Rank Column above the last Z Score is measured by the distance from this Z Score. The Inverse Rank Column is then totaled. In Column C each PEC's percentage of the Inverse Rank is calculated. The PECs are awarded their percentage of available performance funding (Column E).

B. Improving Program Cost Effectiveness

The GEC's goal of improving the PEC's cost effectiveness has been demonstrated on several occasions. In two successive years, PECs with low performance scores improved their benefit/cost ratios significantly in the EET Energy Savings criteria. For example, one PEC recently improved from .33 BBL. Saved/\$30 Spent to over 2.00 BBLs Saved/\$30 Spent.

C. Justifying Program Continuation

Until FY 1984-85, the PEC program had been exclusively funded with U. S. Department of Energy funds under the State Energy Conservation Program (SECP) and Energy Extension Service (EES). Because of quantifiable energy savings and cost effective service delivery, the GEC has been able to persuade the Pennsylvania General Assembly to appropriate over \$350,000 in FY 1984-85 and \$500,000 in FY 1985-86. A major reason cited for the state appropriation is the program's cost effectiveness in terms of energy savings with over 3.34 BBLs./\$30 Spent in the EET program.

VI. CONCLUSION

The Pennsylvania Energy Center Performance Evaluation has demonstrated that the public sector is capable of managing projects by objectives, developing performance standards and tests, and awarding funds on the basis of tangible results. In an era of declining federal resources and concurrent political demands for cost effective programs, it is important for state energy offices to manage their programs in order to demonstrate tangible results commensurate with program objectives.