

An Innovative Approach to Low Income Energy Education – Helping Customers Help Themselves Through Aggressive Energy Education

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ABSTRACT

This report presents selected results of a process and impact evaluation of Cinergy's low-income pilot education program called the "Learn and Earn Program" implemented in late 1997 and early 1998 serving 100 customers. The program provided four in-home educational sessions over a 5-6 month period, linked with incentives for participation in each session and for reducing energy consumption. The process evaluation examined the operations of the program and the implementation activities of Cinergy and its contractors. The impact evaluation examined the amount of energy saved by participants following program participation.

Introduction / Overview

In 1998 Cinergy initiated a new and innovative program designed to educate low-income customers in its' Cincinnati Gas & Electric (CG&E) service territory about ways they can reduce their energy consumption and control their utility costs. The pilot program, called the Learn and Earn Program (L&E), was designed by Cinergy and Morgan Marketing Partners for the Cinergy/Community Energy Partnership (CCEP). The CCEP is a board of community representatives that guides Cinergy on residential DSM and Low-Income programs.

The Learn & Earn program was provided to 100 customers in Cincinnati to test a multi-session delivery concept and to gain operational experience for the program. The program was targeted only to individuals on CG&E's Percent of Income Payment Program (PIPP) in which customers pay a percentage of their income for electric and gas service regardless of their consumption. This is a significant challenge since these customers can pay utility bills based on income not in relation to their consumption. The program had 4 key elements:

1. *Repetitive in-home education sessions* - There were 4 in-home educational sessions rather than the typical 1 or 2 provided by other programs. These sessions were held 4 to 6 weeks apart over a 6-month winter implementation period. The 1st, 3rd and 4th sessions were devoted to energy education.
2. *Budget Counseling* - Unlike programs that focus only on energy, the L&E Program included a session devoted to household-specific and need-specific budget planning. During the 2nd session a budget was developed and reviewed for each home.
3. *Home Energy Audit* - During the 1st visit a detailed home energy analysis was conducted focusing on low-cost and no-cost measures and energy efficient behaviors. This audit was used to drive the information presented during the 3 visits.
4. *Incentives to Participate* - Two different incentives were used to increase participation. The first was a financial incentive, with a portion of the incentive paid after each visit. The maximum participation incentive totaled \$200 if a customer participated in all four visits.

Customers received incentives in the form of bill credits. If the credit was above monthly bill the balance was used to reduce the customer's arrearage. Customers also received an energy savings bonus; for every dollar reduction obtained over an established historic baseline for the test period, the customer received a matching bill credit applied to their arrearage balance.

A unique aspect of this program was that customers must have been previously weatherized before the historic baseline period. This allowed the study to focus on behavioral changes and on the impact of the educational sessions rather than the impact of newly installed weatherization technologies. (Weatherization typically included low cost measures such as showerheads and weather-stripping as well as insulation. Furnaces were changed in a few homes when necessary.) This paper focuses on the lessons learned from the implementation and evaluation efforts.

Evaluation Methodology

In order to evaluate the L&E Pilot Program, Cinergy contracted with TecMRKT Works to conduct a process and impact evaluation. The evaluation consisted of four activities:

- Interviews with Cinergy program designers, managers and implementers,
- Interviews with Morgan Marketing Partners, consultants and program designers,
- Interviews with implementing contractors, including PWC (People Working Cooperatively Inc.), WIN (Working In Neighborhoods Inc.), ABC (Adams Brown Counties Inc.) and HDMC (Honeywell-DMC),
- An examination of Cinergy and HDMC customer files and tracking systems and,
- Weather normalized energy analysis of participant and non-participant pre and during-program energy consumption.
- Telephone interviews with participating customers.
- Telephone interviews with customers who enrolled in the program but who did not complete the program.

The interviews with Cinergy and the contractor staff focused on the design and operation of the program, the program marketing and customer enrollment efforts, and the delivery of the four home visits. The records examinations consisted of reviews of Cinergy's program records and participation files and the participation records and tracking systems maintained by the implementing contractors. The energy analysis efforts included a pre- and during-program, weather adjusted comparison of changes in electric and natural gas consumption with the same information of a comparison group of non-participants selected from eligible pre-weatherized customers who were not offered the program. The use of the comparison group allows the evaluation to predict what consumption would have occurred for the participant group had they not taken part in the program. The telephone interviews were conducted with 78 participants who completed the program and 6 participants who did not. The survey asked about customer opinions of the program and the implementation activities associated with the program. The interviews with the 6 participants who did not complete the program focused on their opinions about the program and the reasons why they did not complete the visits.

Evaluation Findings

Customer Recruitment and Retention

Each of the implementing community action agencies were given a participation quota of 50 customers and a contact list of eligible customers and their addresses. It was up to each agency to contact the customers in their "service area," to offer the program in a way that attracted customers, and to deliver the program to those customers. Each of the implementing agencies used direct mail as their primary method. One agency used a follow-up mailing to a limited number of customers and one agency used a secondary telephone contact.

The participation rates for the enrollment efforts were very similar for the two urban agency mailings producing 26% and 28% enrollment rates. However, one agency conducted a second mailing and this added an additional 7% for a total participation rate of 33%.

The third agency (serving primarily rural customers) had an enrollment rate of 2% from a single mailing. The reasons for the differences between the urban and rural response are not known because the evaluation methodology did not include a survey of customers who were offered the program but who did not participate.

The participant survey revealed that a minority (30%) of all participants were familiar with the implementing agencies prior to the L&E program and 58% of these, or 17% of all participants, had participated in one or more agency program, activity or event during the previous year. It does not appear that having an established relationship with the implementing agency significantly impacted the L&E participation rate and the data do not support the conclusion that having a pre-existing relationship with the service provider significantly increased response to the marketing letter introducing the program.

When customers were asked about their reasons for participating, 32% said they wanted help paying their utility bill, 23% said they wanted to learn how to save energy, 19% said they wanted to pay off their utility debt, and 17% said they wanted to reduce their utility bill. All of these reasons directly relate to ways to reduce the financial impact of their utility costs. When customers were asked how important the incentive was to their decision to participate, the mean score was 9.1 on a 10 point scale, where 10 is "extremely important".

The program originally enrolled 130 individuals. Of these, 27 were dropped from the program by Cinergy following qualification checks. Of the 103 participants, 9 left the program for one or more reasons for a drop-out rate of 9%. The team was able to interview six of the drop-outs to identify their reasons for discontinuing. The remaining three drop-outs could not be contacted. The primary reasons given by the customers who elected to drop-out of the program were scheduling problems, health problems, and lack of time.

Program Management

The evaluation included a review of Cinergy's program records and tracking system, interviews with Cinergy program managers and interviews with each of the agency's program managers and program delivery staff. The review concluded from the records investigation and program interviews that the L&E program was well designed, managed and implemented.

Program Operations

From both the customer and provider perspective the four sessions appear to be working. There was some indication from the providers that they would prefer the schedule be changed to provide 3 visits over a shorter period of time with a follow-up visit several months later, or that the visits be completed at equal intervals over a longer period of time.

During the survey each customer was asked if four visits were too many, too few or about right. Ninety-one percent of the customers said that the four visits were about right.

Customers were also asked what time of the year they would like the home visits. The largest group of customers don't know or don't care when they are scheduled as long as there are financial benefits from the sessions. The length of time, over which the 4 sessions are delivered, is not a major consideration for the customer. When customers were asked about the best time to participate in the educational sessions 80% of the customers said that weekdays are best and 29% said that weekends are best.

Table 1 presents the customer satisfaction scores for the various educational components. The table begins with a score of 5 because there were no customers who rated any component lower than 5. The satisfaction items are arranged from high to low based on the average score for the item. On a 0 to 10 scale, responses in the 9 and 10 range indicate very strong satisfaction. A response of 8 usually means that there may be some minor dissatisfaction with one or two elements of the program components. Scores of 5 to 7 typically mean there is strong dissatisfaction with one or more program components that need to be addressed. And scores below 5 mean that there is very strong dissatisfaction with one or more components. The scores presented in Table 1 indicate that satisfaction scores for the educational components are very high and reflect very positively on the implementing agencies and on Cinergy.

Table 1 Satisfaction scores for the educational components.

Satisfaction with educational components	5 to 7	8	9 to 10	Avg. score
Knowledge of the energy specialist	2	3	95	9.8
Recommendations made by the energy specialist	4	4	91	9.7
Energy audit report	5	3	92	9.6
Knowledge of the budget specialist	6	5	88	9.6
Budget review session and recommendations	9	7	84	9.4
Overall education you received from the program	3	5	92	9.6

Customers were very satisfied with the educational services and gave "helpfulness" scores for these services that all averaged above 9.0 on a 0 to 10 in Table 1. These are high satisfaction scores and indicated that customers are very satisfied with the educational services. The education component with the lowest "helpfulness" score was the budget session which received a 9.0 score, indicating that even the budget session received a strong score.

In addition to the satisfaction scores, TecMRKT Works found the implementing staff to be knowledgeable and informed energy specialists. It is clear that the educational component of the program was well thought out and professionally delivered.

The Four Educational Sessions

It is difficult to determine which sessions were the most effective as each session had a different purpose and covered different subjects. The individual helpfulness scores for each session provide some indication of helpfulness. However, the scores are all 9 or above and it is difficult to determine if one session was more effective than another, especially in light of their different purposes. From the customer's perspective, sessions 1, 3 and 4 received higher helpfulness scores (9.6, 9.5 & 9.5 respectively) than session 2, the budget session (9.0). The scores indicate that customers valued the energy education sessions more than the budgeting session.

The First Session, the Audit Visit. In the first session the program was introduced and an audit was conducted. Following the audit the inspector sat with the customer and reviewed ways to save energy. Customers reported that the most important things they learned from this session were how to save energy by taking specific actions with respect to their home or to the appliances they use. Customers provided a long list of general and specific things they learned as a result of the session. It is clear from these items that customers learned a significant number of important ways to reduce or control their energy consumption. Specific non-prompted actions reported by surveyed participants include:

Table 2 What customers learned from first session.

<p>Appliances and Behavior</p> <ul style="list-style-type: none"> • cutting back on appliance use • reducing refrigeration costs • learning what appliances cost to run • learning how much appliances use 	<p>Furnace / AC</p> <ul style="list-style-type: none"> • learning to prevent furnace problems • detecting and stopping gas leaks • turning the heat down in the winter • turning temperature up in summer
<p>Building Shell</p> <ul style="list-style-type: none"> • putting plastic on windows • learning how to regulate window use • learning to seal holes and air leaks • installing insulation • installing better doors and windows • sealing around door and windows 	<p>Hot Water Heater</p> <ul style="list-style-type: none"> • reducing the hot water temperature • learning to insulate pipes <p>Lighting</p> <ul style="list-style-type: none"> • using CFLs to reduce lighting costs • turning off lights and appliances
	<p>Other</p> <ul style="list-style-type: none"> • learning how to read the bill

When customers were asked about what they would change in the first session only five customers replied. Recommended changes were to shorten the visit so that it takes less time, and give more CFL bulbs (3-4 bulbs were given per customer). In conducting the interviews with the field staff, comments were made by the auditors about the length of time needed to conduct the first visit. Auditors also commented on the layout and complexity of the audit instrument and the time needed to deal with the audit forms.

In addition to conducting the audit, the first visit included the distribution of 3 or 4 energy efficient compact fluorescent bulbs (CFL's). Customers were instructed to install the bulbs in the fixtures where they would be used the most in most cases installation was assisted by the auditor. When customers were asked if they had installed and used the bulbs, 97% said

that they had. When customers were asked how many bulbs they had installed, the average response was 3.5 bulbs suggesting that most all of the bulbs were installed by the customers or by the auditor.

Customers were also asked if the CFLs were better or worse than the bulbs that they replaced. Eighty-seven percent of the customers said the bulbs were either better or much better with 77% indicating they were much better. When asked if participants plan to continue to use the bulbs, 96% indicated they would. When asked if they would recommend the bulbs to their friends, 94% said they would.

The Second Session, the Budgeting Session. An examination of the comments on the budgeting session indicates that 95% of the customer comments were about new information or skills that were learned. Only 5% of the comments indicate that customers did not learn from the session or that the session covered material they already knew.

The comments indicate that customers learned how to look at what they are spending, how to see where their income is going, how to understand the limitations of their income, how spending reductions could be made, and the need for more income. Several customers commented that this was the first time they had ever done a budget. Several customers provided suggestions for improving the budget sessions while a few provided comments indicating that the budget session is not needed or appreciated.

The Third Session, the Audit Report Review. In the third session the energy auditors presented the audit report to the customer, reviewed the findings and recommendations, and discussed the customer's consumption using the baseline comparison tables. These tables allowed the program managers, auditors, and the customer to look at the customer's energy consumption before and during the program and to compare how the customer was doing.

This session was designed to confirm recommendations offered in the first session, to present additional recommendations, to address any energy issues the customers had, and to review the progress the customer was making.

On average customers reported that they were able to understand all or most of the audit report. While 46% indicated that they could understand all of the report, 33% said that they could understand most of the report, 14% said they could understand, and 5% said they could understand little of the report. These results indicate that most participants could understand the audit report, however the audit report may need to be reviewed for complexity and for the educational level at which information is presented. Because almost 80% said they could understand all or most of the report, improvements in the comprehension level of the report may be difficult. However, experience elsewhere indicates that many of the low-income customers participating in PIPP type payment plans have little education, may be educationally handicapped in one or more ways, and may be challenged by printed materials unless they are specifically tailored to the handicaps of the targeted group. While the audit report may be a challenge for a small percent of participating customers, 85% said that they have used the report to identify things they could do to save energy and reduce their bills.

Customers were also asked to identify the most important things they learned from this visit. The list is very similar to the list of things learned from visit one. Customers were asked for recommendations on how to improve the third visit. Three customers provided recommendations for program changes. Two people recommended having the third visit be

scheduled during the winter months when bills are high and one suggested the auditor should show up on schedule.

The Fourth Session, the Review of Savings and Progress. During the fourth and final session the auditor reviewed the customer's progress with respect to the actions they had taken and the savings they were achieving. During this session the auditor reviewed up-dated baseline energy consumption tables with the customer so that they could see how their consumption had changed between the baseline period and their consumption during the program participation period. In addition, the auditor encouraged customers to keep up the savings and to pay attention to their bills and their consumption.

In order to understand whether customers understood the comparison of their energy consumption levels with previous levels, the survey asked if they could explain to a friend how much energy they used before the program, their current consumption, and estimate how much they had saved. To this question 87% said that they could make the comparison and explain it to a friend. Only 1% said that they could not make the comparison and 12% said they were not sure. Customers reported that they understood the energy consumption comparison to the extent that they could explain it to a friend and identify if they saved energy. This is a significant accomplishment for the low-income population and indicates that the program was able to convey the concepts pertaining to how much energy they use from month to month and how to compare consumption across months.

When customers were asked to rate the helpfulness of the last session the average score provided was 9.7. When customers were asked to identify the most important thing they learned from the fourth visit, they were able to list energy saving actions, provide indicators of their ability to help control their consumption, and information about their actions over the course of the program. Customers listed energy conservation actions similar to those listed for visits one and three. There were also indications that they had learned what they could achieve by watching their consumption and managing their energy use.

When customers were asked what they would like to see changed about the fourth session, only one customer responded. The response was that their PIPP payment amount should not be raised as a result of participation in the L&E program. This customer had connected an unrelated change in their PIPP payment plan with their program participation.

The Baseline Comparison in Session Four. During the process interviews the field staff indicated that the baseline comparison was of particular interest to customers and helped the field staff demonstrate to the customers how energy is used, what influences energy use, and how consumption characteristics are reflected in their bills. Each of the managers interviewed felt this was a valuable educational tool and helped the customer understand their consumption and what influences consumption. These observations are supported by the survey results where customers said that they understood the baseline consumption information and that they could explain it to a friend. From a program perspective, this is a significant accomplishment and documents the importance of the baseline comparison to both the ability of the program staff to educate the customer, and to the customers understanding of what impacts their utility bill.

The Influence of the Participation Incentive

The program offered incentives to encourage customers participation. The total incentive that a customer could receive for the four sessions was \$200. If the customer was able to reduce their consumption (weather adjusted) they received an additional amount of one dollar for each dollar they saved. The customers were informed of the incentive during the marketing efforts and were informed of the specific amounts of the incentive during the enrollment process.

The survey showed that the incentive is the primary reason why customers elected to participate. Customers saw the incentive as a way to help reduce their debt to CG&E and as a method of obtaining needed financial assistance.

Customers were also asked if they would have stayed in the program if they had not received an additional incentive for the energy they were able to save. Overwhelmingly customers said that they would have stayed in the program without the energy savings incentive. A total of 84% said they definitely would have stayed with an additional 14% saying they probably would have stayed. It is clear from these results that the energy saving incentive is not needed to maintain participation in the program once the customer is enrolled and participating.

When asked if they would have stayed in the program through all four sessions at different incentive levels, almost all customers said they would have stayed in the program even if there were no incentives. This demonstrates that the incentive serves as an enrollment and early participation mechanism.

Participant Satisfaction

Program satisfaction is very high for the program visits and the program as a whole. The satisfaction rates for the educational efforts are all above 9.4 on a 0 to 10 scale. These ratings are presented in Table 1. Satisfaction rates for the individual sessions can be inferred from the session helpfulness scores which range from a low of 9.0 on a 0 to 10 scale for the budgeting session to a high of 9.6 for the first session, all very high scores.

When customers were asked if they were satisfied with the implementing agencies delivery of the program, 92% said that they were very satisfied and an additional 8% said they were somewhat satisfied. No participants reported that they were somewhat or very dissatisfied or that they were neither satisfied nor dissatisfied. These are high levels of satisfaction with the implementing agencies.

Likewise when participants were asked to rate the professionalism of the implementation staff, 94% said that the level of professionalism was excellent and 6% said it was good. No one indicted that the professionalism was fair or poor.

When participants were asked about their overall satisfaction, 92% said that they were very satisfied and 7% said they were somewhat satisfied. An additional 1% said they were somewhat dissatisfied with the overall program.

When participants were asked if they would recommend the program to a friend or neighbor 82% said that they would definitely recommend the program and 15% said that they would be somewhat likely to recommend the program. One percent said that they would not recommend the program and 1% were not sure.

Customers were asked if they thought that they were saving money on their energy bills as a result of program participation. To this question, 83% of the participants said that they thought they were saving money. The average amount participants think that they are saving is about \$30 a month, with the median reported savings being \$25 a month. The distribution was bi-modal, with a mode at \$10 a month and another at \$25 a month. Customers think they are saving a considerable amount on their monthly energy bill and this provides added support for customers' satisfaction with the program. While the energy savings estimations conducted for this study do not show this level of net savings, it should be noted that customers make their estimates of savings by thinking about the actions they have taken and the behavior changes they have made, and estimate what they think their bill would have been without these changes. When customers were asked if they believe that they are reducing the amount of money they owe the utility, 85% said that they thought so.

Program Induced Energy Savings

Information from other program evaluations show that it typically takes time for people to respond to information programs. Because many of the actions recommended during the pilot sessions require the purchase and installation of conservation materials or the maintenance of energy efficient behaviors, we did not expect to see statistically significant consumption reductions right away. In an evaluation conducted by TecMRKT Works for Cinergy's Home Energy House Call Program, (*J. Riggert, IEPEC, 1999*) where participant's annual income averaged over \$50,000, we found the implementation of similar recommendations took an average of about 2 months, with some taking up to 12 months. While we did not expect better performance from the low-income participants, we wanted to conduct a rapid feedback impact evaluation the month following the last session to see if savings had started. We reasoned that because the last two sessions focused specifically on energy efficiency measures and behaviors, (the first focused on the audit, the second focused on budgets) there might be some savings as early as the closing of the last session. This meant that the evaluation needed to be conducted directly after the month following the last session to allow changes to show up in the monthly meter reads. There is almost no data in the evaluation community on how soon to expect energy/dollar savings from educational programs provided to low-income customers. Most of the studies we reviewed for this paper examined savings from 6 months to more than 1 year following participation. The issue of how soon to expect savings is new to the low-income evaluation community. Yet, we hypothesized that if the program was effective, we would expect to see at least some level of savings shortly after the last session.

In conducting a short term impact evaluation we knew that a simple weather adjusted consumption analysis of participants would not be adequate. We needed a more aggressive PRISM type analysis that normalized each home's individual performance and compared changes over time. We also needed a matched control group from the Percent of Income Payment Program, and whose home had been weatherized through the standard weatherization program.

The savings analysis in this early feedback impact report is based on a modified pre-and post- comparison group design incorporating these conditions. This design required identifying the difference in energy usage before program enrollment, with consumption patterns during, and up to 2 months following participation, compared to the difference in

energy usage over the same period of time for the untreated comparison group. The difference in usage of the L&E group is then subtracted from that of the comparison group to determine the net savings. The strength of this design is the use of the comparison group, which helps to account for external factors such as changes to the economy or changes in the social welfare system that might influence the energy consumption of low income customers independently of the L&E program.

Typically, a billing analysis is based on twelve months or more of pre-treatment energy consumption and twelve months of post treatment data to estimate savings. In this instance, twelve months of pre-treatment data were available but the program design called for rewarding customers for savings in the billing periods immediately following receipt of services. Thus, it was necessary to calculate monthly energy savings shortly after the receipt of services.

To accomplish this a participant group of 94 households was used for which complete and valid data were available for the pre-treatment period and for the six-month interval following program enrollment. The control group consisted of 162 weatherization treated cases who were eligible for the program but who were not sent program enrollment materials and for which consumption data were available during the same periods. Depending on when participants started the program, the pre and post-program energy analysis for their dwelling was done for November to April or December to May.

The impact analysis indicates that the participants had a small increase in weather adjusted gross energy consumption between the pre-treatment and the treatment period. However, when the participants are compared to the non-participants, there are net savings. This is because non-participants had larger increases in energy consumption between the pre- and the post-treatment periods.

The net savings are \$17.43 if several outliers in the evaluation team's estimate are included and \$22.73 if they are removed. What this means is that participants actually had a smaller increase in energy consumption than the comparison group during the test period and that a net savings of \$17.43 or \$22.73 can be attributed to the program. On an annual basis the net savings are estimated to be \$25.27 when the outliers are included and \$32.96 if they are removed. This estimate assumes that the savings occur in proportion to usage. As a percentage of the total consumption this net savings represents an average savings of between 2% and 3% annually and is already within the range of savings typically associated with other educational programs. The 2% to 3% savings achieved by this program documents that low-income programs can produce savings immediately following participation. These findings are even more significant when we consider that these program participants are all on a Percent of Income Payment Plan and typically receive no direct financial rewards for reducing consumption. This program will be reevaluated in the fall of 1999 to document the longer term savings.

We also wanted to look at the rate of consumption change to give us an early picture of what to expect when the longer-term impact evaluation is conducted. To do this we looked at the rate of change in energy consumption for both groups. What we found was that the control group was increasing consumption at twice the rate of the participant group. However, because these findings were calculated using only a few months of data we consider them preliminary indicators of performance and not documented findings.

The evaluation evidence to date for this program indicates that savings can occur very quickly and may grow as energy efficiency actions are taken and maintained. The savings

over the life of the implemented measures and changed behaviors can be substantial, especially if these new behaviors include lower consumption levels, more timely payments, payments more consistent with consumption levels and reduced arrearages. These aspects will be examined near the end of 1999 when program impacts are more fully established

Validating the Program's Estimate of Savings Used to Calculate Incentive Payments.

One of the purposes of this study was to validate the savings estimation methods used by the program to calculate energy saving incentive payments for each participant. To calculate incentive payments implementation staff used a weather adjusted pre and post-program monthly comparison of consumption for the same period of time the previous year. This estimation method was compared with the savings estimations produced by PRISM.

Figure 1 is a bi-variate plot of the two sets of estimates. In general, there is a good fit between the two sets of estimates as is evidenced by the fact that the points are closely clustered along a diagonal running from lower left to upper right.

The differences between the estimated savings from the two approaches are a function of the method of calculation. The evaluation team's approach is based on the linear fit of temperature and energy consumption data. In most cases the fit of the data is very good. Ninety-four percent of the households had an explained variance of 90% or better and 77% had an explained variance of 95% or more. In the cases where the fit is very good the evaluations team's estimates are probably better than that of the program's estimate. This is true for one key reason. The evaluation team used reference temperatures for each home rather than the standard degree-days values such as 65°F in calculating degree-days.

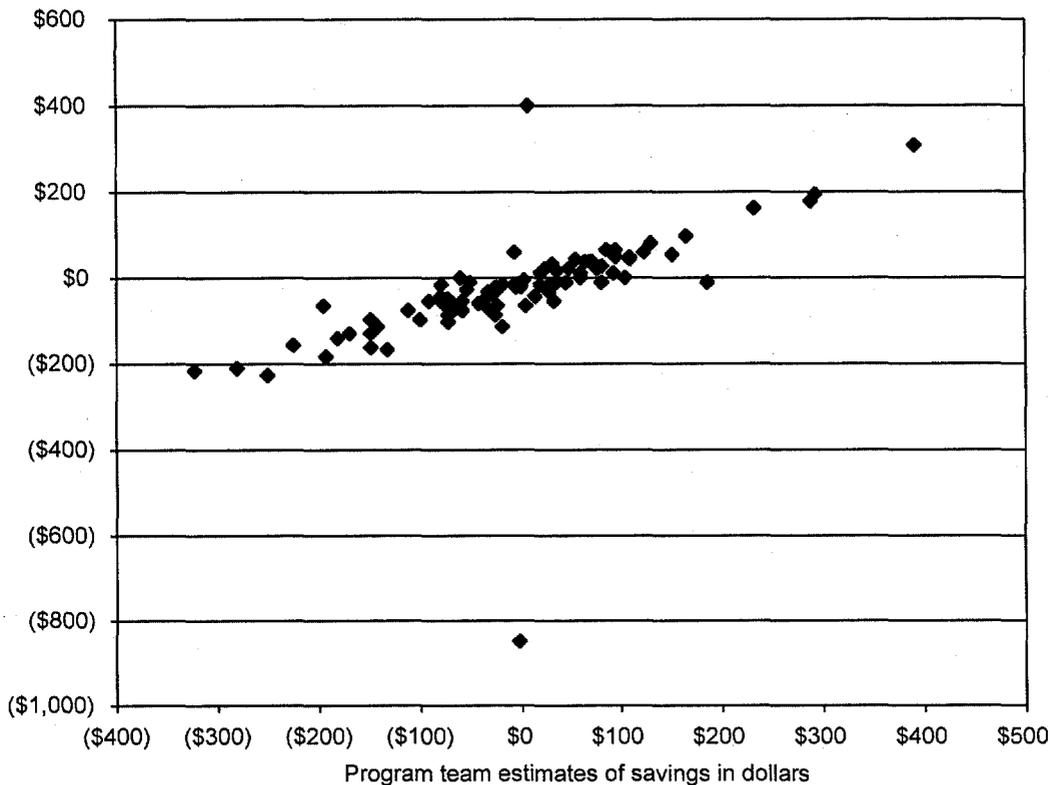


Figure 1 Comparison of the program and the evaluation teams savings estimates.

Demographics

By a wide margin participants are retired or disabled with 76% coming from homes within this classification. Only 16% of the heads of the households are employed full time and 5% are employed part time. Only 3% considered themselves to be unemployed. This program primarily serves the retired and disabled low-income population who has trouble paying their utility bills.

Just over half of the participants own their own home and 70% have a high school education or less. Only 5% of the participants are college graduates, while about 25% have had some college or technical school training.

The L&E program serves primarily unmarried female customers with 75% of all participants indicating they are either unmarried with partner 3%, single never married 13%, single divorced 27%, or single widowed 32%. Only 24% of the participants are married. Eighty-five percent of the L&E participants are female.

The household income for program participants is low to very low with the majority of customers having a total household income of less than \$10,000 a year, very near the extreme poverty levels set by the Federal Government for 1999 of \$8,240 for a single person household and \$11,640 for a 2 person household. This classifies these customers as living in extreme poverty. Eighty-two percent have incomes less than \$15,000 a years. It is clear that the L&E program is reaching household in need of the program services.

Program Recommendations

A number of recommendations were provided to Cinergy as a result of the evaluation. A selection of these recommendations are summarized below:

- ✓ The audit tool used in the L&E program is a very comprehensive home energy audit that collects a wide range of energy and non-energy data. The comprehensiveness of the audit can be considered a draw back to the program in that it increased the time of the audit process, asked unnecessary and sometimes inappropriate questions and took time that could have been used to interact with the customer or to serve additional customers.
- ✓ The interviews with the agency audit staff indicate that the audit forms are not structured for ease of implementation consistent with the auditors movement through a home. It was suggested that the forms be restructured and tested to see if a different layout can improve the audit process.
- ✓ If the program is to be continued or expanded, Cinergy may want to consider test marketing and delivering services on weekends to determine if the participation rate can be increased.

- ✓ Cinergy should adopt a more aggressive method for estimating baseline energy and changes in consumption that is similar to the methodology used to estimate energy savings in the evaluation.
- ✓ Cinergy should consider extending the period over which customers are encouraged to modify their behavior, install actions, and obtain their energy savings incentives. This change will provide the time needed for customers to take new actions and the extended incentive calculation period will provide greater opportunity to reinforce the changes.
- ✓ Cinergy should consider developing a system that provides customers with routine feedback on how they are performing with respect to their energy consumption and their estimated savings. Customers who can see their progress can be expected to perform significantly better than when feedback is minimal or comes at the end of the period.

Cinergy and Morgan Marketing Partners redesigned and expanded the program in the fall of 1998 and adopted all six of the evaluation recommendations suggested above.

Conclusions

The Learn and Earn Program produced measurable energy savings over a very short period of time during which the program visits were implemented. Customers were consistently satisfied with the program and the implementing agencies, providing very high satisfaction scores for all components of the program, including the enrollment process, and all four in-home sessions. The primary force behind program enrollment was the \$200 incentive. However, once customers were enrolled and had participated in several sessions, customer satisfaction with the services delivered was high enough to over-shadow the importance of the incentive in their decision to stay in the program. While the incentive achieved the initial participation, the program services provided added value in the eyes of the customer to the extent that they would have continued in the absence of an incentive.

With regards to measures learned and taken, customer reported that they have learned and taken new actions that save energy. The implementation of the actions learned provided program induced savings, achieving a 2% drop in consumption when compared to a control group of identically selected non-participants that were increasing consumption at twice the rate of the participants. The true test of participant energy savings will need longer monitoring than the short period in this initial study, to see if the education efforts result in persistent savings behaviors.

With regards to program files and records of both Cinergy and HDMC files, records and tracking systems provide the information needed to effectively and efficiently deliver program services and document program implementation activities.

In summary, the program was well planned and implemented and customers benefited from their enrollment with an enhanced energy and financial education and short-term energy savings. The program will need to continue monitoring savings over time to better understand the long-term benefits and energy savings of the ongoing education sessions.