Completing the Conservation Cycle: Customer Education and Customer Satisfaction

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Completing the installation of measures is only one component of a successful residential conservation program. To complete the cycle, programs must also incorporate customer education and customer satisfaction components.

Educating the customer about energy efficiency helps alleviate any tensions or apprehensions about such an effort. Many of us are ''put off'' by what we do not know or understand. Explaining each measure and its specific purposes and effects prior to and especially during installation encourages the customer to take additional steps to conserve energy. Although customer education coupled with hardware installation is difficult to quantify, research has shown its effectiveness (Harrigan, Kempton and Ramakrishna, 1995).

The key to developing this education effort is to assure that all members of the installation team understand the process, are knowledgeable about the measures, and can readily explain them to the customers. This is especially important with respect to the actual installers and crew chiefs. (Whose explanation carries greater credibility with you: the car salesman or the mechanic working in the back?) Using installers as a key part of customer education gives the information much greater credibility with the customer. By sharing information with the customer, the work force can contribute to a market transformation and a cultural shift toward greater energy efficiency. It has the added benefits of encouraging improvements in the installation and in the hardware being installed. This interaction between installation team and customer also encourages a greater professional pride by the installers, both in their work and its importance.

This paper will discuss topics that should be included in customer education programs and the procedures which can be used to maximize the understanding and implementation of those techniques by the household. We will also examine procedures which can be used to reinforce and follow-up on the initial effort.

The potential for greatly increased low-cost energy savings from customer education is certainly available (Rockwell and Rose, 1994); this paper will investigate some procedures to achieve this goal.

INTRODUCTION

As an energy conservation field specialist, I know that the simple task of installing energy-efficient improvements, no matter how comprehensive the retrofit, does not maximize the long lasting effect on energy reduction. This is due to the lifespan of the hardware being installed and the lack of customer interaction. What every conservation effort must then require is a complementing regimen of customer education and customer satisfaction. By increasing the homeowner's awareness and information base on energy conservation practices and energy-efficient products, you are able to increase the potential energy savings of any energy conservation program.

To improve the overall effectiveness of residential weatherization programs, one must go beyond the installation procedures and techniques. I am no expert in measuring energy savings evidence suggests however, that many programs suffer from a pattern of high short-term energy savings, but after a year or so, a large part of the savings seem to disappear. Much of this may be blamed on customer ''take-back'' or ''rebound''. The customers, after the initial high interest, become more casual in their energy habits and wind up ''taking back'' much of the savings through higher comfort levels or lowered attention to energy conservation practices. The customer believes that since their home is efficient they don't have to be.

This pattern means that the savings realized from the installation work may not have a long lifespan. This causes a general hesitation to use residential conservation programs to their fullest potential. Increasing the performance and the lifespan of these programs' effectiveness would insure their usefulness and marketability as a demand-side management resource. Looking at the effectiveness of the installed measures is not the answer to this problem, for it is known that it is possible to make a house more energy efficient through

installed improvements. A related problem is the mobility of families. A family is not able to take an energy efficient home with them when they move. They can take an energy efficient lifestyle anywhere they go however. What we must look at then are the homeowners themselves and delineate ways in which they can be made more energy efficient and also that they retain these tendencies even after they have moved. Customer education can be an effective means of increasing and extending long term energy efficiency. By providing more thorough customer education through residential weatherization programs, we could increase the energy savings potential of this resource and improve its long range effectiveness.

(These principles should work in any type of residential program. My field work background is as a weatherization installer, crew chief and inspector, so I will use weatherization as the model.)

By concentrating on such combined-effort programs, conservation providers would be able to induce a market transformation towards more energy-efficient products and lifestyles through simple knowledge transference. The easiest way to pass on this information is through the installation crew that is already being accepted into the customers' homes.

There are some important qualities that every residential conservation team must incorporate upon entering someone's home. These basic guidelines can make the crew a more effective tool in teaching the homeowner about energy efficiency. This is where the residential conservation programs need the most evolution. If we are to cause a cultural shift towards energy efficiency, it has to be done in person in the homes; not in pamphlets, newspapers, radio or television, but through direct interaction with people in their homes.

We will examine what it takes to make the homeowner change from a customer purchasing installed measures to a student learning energy education. Many of the techniques we will explore are simple ideas, yet when combined, they will create an exhaustive customer satisfaction and customer education program.

METHODS

Customer Education

Customer education must be considered a crucial part of any comprehensive energy conservation program. It improves the customers' understanding of energy consumption and usage and allows for them to understand the reasons for installing certain energy efficient measures. The information imparted to them also increases their ability to effectively purchase and use additional conservation products in the future. To understand why customer education does this, we should first look at the ''how'' of customer education. By understanding what this education entails, we will more ably understand its effects on consumers.

Customer education in the field of energy conservation is the idea of installing in the energy consumer the ideas and information necessary to allow the customer the ability to reduce their energy consumption. It is through customer education that we are able to eliminate some of the barriers which reduce a homeowners ability to be energy efficient. Some of these barriers include: being unfamiliar with techniques and materials, being intimidated by the possible difficulty of the work and the expense of having the work done (Harrigan, 1994). We shall examine what can be taught by an installation team in the field in these aspects of customer education. It is also within this realm that the teaching of energy efficient living can be applied.

The Set-Up

The first topic which every energy conservation crew should teach the homeowner is the actual installation methods and products that will be used in that particular home. A simple, organized presentation of the measures themselves is a very effective way to begin this education. This allows the homeowner to know what is being done to their home.

When explaining the improvements to be installed, it is necessary to explain the reason for the measure and its intended effects. When describing a door sweep, you not only tell someone what it is, but also that it will reduce the draft coming from under the doorway. This explanation is too simple and misses the opportunity to educate the consumer further however. Here we have an opportunity to explain that by reducing drafts in the home the homeowners' heaters will not have to work so often to heat the house. By reducing drafts the customer can achieve the same comfort levels at a lower thermostat setting. This not only explains the product, but also what it does and why it is an energy-efficient improvement. It also begins explaining to the customer how they can work with the products to save even more than before, while combatting the potential for ''take-back''. It is necessary to explain all of these aspects to the homeowner about each portion of the installation. This gives them a confidence in each measure installed and the ability to reason out other ways to save energy in similar fashions.

In this way the installers have begun the rudiments of customer education. The interesting part is that quite often the homeowner doesn't even realize that they are being taught. From the customers' point of view they are just being told what is going to be done by the installation crew. When the

crew leaves however, the homeowner will have gained the knowledge that the work that was done will increase the home's energy efficiency. The customer may also have realized ideas of their own to improve their efficiency.

Teaching While We Work

Once the crew has begun its work, the crew chief and installers should continue to reinforce the education process. The crew need not be subtle in their efforts. This portion of the education procedure can be a little more in depth. One must find out the individual homeowners' needs and lifestyles. For example, a single person who works evenings may not benefit as much from energy efficient lighting as a college student who studies at night, but like any person with a set schedule a set-back thermostat might be useful. The installation team, therefore, must be able to learn and discuss with the customer what their individual consumption patterns are. For customer education to be successful, it should take into consideration the energy needs of that family.

Making the homeowners more familiar with ways they can reduce their energy consumption through improved products and practices is only the first step. The conservation crew must reinforce and support what they have been teaching. Installing the products is only a part of this effort. The crew must also be actively conscious of their own activities in a home. Who will listen to someone who tells you to save energy, or who discusses the importance of closing doors but doesn't turn out lights while leaving doors open? For this same reason, it is important that crew members have installed the conservation measures in their own homes and are able to relate personal experience and satisfaction. Equally important is that vans are well organized and that installation procedures are efficient in motions and time required.

One of the problems facing energy conservation programs is skepticism. As a crew chief explaining things to a homeowner, two of the most common questions heard are: ''Will it really help?'' and ''Is it really worth it?'' Every time that question is asked the answer should be yes. Sometimes however, it is difficult to explain to a homeowner why certain measures will help or why they are worthwhile. Usually a simple analysis of the payback is enough to answer the questions. Many homeowners are leery of spending fifteen dollars on a compact fluorescent light bulb, but once it is explained to them that the bulb lasts for at least four or five years and uses significantly less energy, they realize the fiscal value of such an investment. Very often this method works to explain other home-improvement suggestions that can be made to a homeowner. Having talked to hundreds of homeowners, one thing that I have found is that the energy consumers are not in the habit of looking at the payback rate of an energy-efficiency improvement. It may cost money to insulate an attic but the savings that will be realized will eventually pay for itself. This is a type of thinking that installation teams must instill within the homeowner during their time in the home.

A major part of the education program must deal with negating the ''take-back'' effect. A customer who has just had their home weatherized may no longer feel it necessary to keep the spare rooms closed off or to turn back the thermostat at night. They may believe that the measures installed will do the work for them. The best defense against this is to not only warn against the possibility of bad habits forming, but to also explain the benefits of reinforcing good habits. The installation crew has the unique advantage of being able to deal with the customer within that customer's own home. By explaining what the ''take back effect'' is the crew can reduce the chances of it occurring.

The crew is also able to show the homeowner that generally even good habits can be improved upon. For example, by simple rearrangement of lighting fixtures one might be able to light two areas with one light instead of two. Furthermore, if the customer, for security reasons, wants to leave a light on for extended periods, be sure it is the compact fluorescent units. The habit of turning off lights is still important, but now the homeowner is using less electricity even when certain lights are being left on. By not impinging on the homeowners' convenience, the crew is also increasing the homeowners' ability to be energy conscious. Through upgrading the customers' technology or through improved usage of existing technology homeowners don't need to make more drastic lifestyle changes (Soderlund, 1990). It is important to instill a sense that energy conservation does not necessarily mean a loss of comfort or convenience.

The prime responsibilities of the crew are: to assure that the homeowner is aware of the work that is being done, and that they also know the purpose behind the work. The installation team however, should also talk to the customer about other aspects of energy conservation. Every member of the installation team needs to be aware of the different aspects of energy consumption. This doesn't mean that each installer has to be a licensed air-conditioning specialist or certified thermal dynamics technician, but they must have basic knowledge about the ways in which energy is lost in a home. This gives the crew credibility with the homeowner and allows the homeowner to question the crew about things that the program may not otherwise cover. We have repeatedly seen that customers question different members of the team to see if they get the same responses, it is important that they do so. When it comes to education, repetition of a positive message is a good thing!

In summary, customer education must be a primary consideration of the installation crew. It should start with basic

information about the techniques and measures being installed by the crew and continue into teaching homeowners about product familiarity and change of lifestyle benefits. Once a crew is able to show a homeowner that energy savings is not only possible but also easy, they will be able to influence the customer towards an overall cultural shift toward energy awareness. This will maximize their efforts as installers and increase the overall potential of their efforts. These are the major ways in which customer education can be applied in any energy conservation program. For the education effort to be most effective, however, there are other aspects to the customer relationship that we must look at.

Customer Satisfaction and Customer Service

When an installation team enters a home, they usually know, to some degree, what type of work they will be doing to make it more energy efficient. Through evaluations and audits, the crew is able to find many of the deficiencies in a home—but often one resource about the home is not used. That resource is the occupant family. Although often unaware of many of the problems within their homes, consumers do know some of their more obvious problems. Through interaction with the homeowner, the crew is able to find out specific information about the unique problems of an individual home, they also earn a certain amount of respect from their customer. The customer begins to give these strangers a certain amount of credibility due solely on the fact that the crew is interested in the homeowner's insights and is trying to help solve the customer's problems. This credibility is vital to any education effort.

There are several aspects to customer satisfaction that must be assured before we can use installers in the education process. Most of the concepts involved are common sense, though this does not make them trivial in any way. The basis of customer satisfaction is customer service. This can be divided into three aspects: (1) polite treatment of the customer and of the customer's home, (2) a professional bearing, and (3) quality workmanship and materials. Furthermore, customer satisfaction not only has to be implied, but also reinforced. There are several simple ways in which this can be done to improve the homeowner's confidence in the work and also increase their trust in the information which they receive. By exploring and implementing these aspects of customer service and customer satisfaction we can improve the conservation team's respectability as a customer education resource.

Customer Service Starts With Customer Treatment

Polite, cheerful treatment of the homeowner and household is essential in that it helps the customer to feel more at ease with the crew. By treating the customer with respect and sincerity the workers gain a certain amount of trust from the homeowner. Without this foundation of trust a homeowner is unlikely to believe any information that the crew gives them. I have seen tremendous impacts from such small considerations as bringing our own floor mats and shoe coverings to prevent carpet damage and replacing the furniture and cleaning up as we finish each room. On the other hand, if an installation team appears rude or unbecoming, their customer will either hide from the crew until they are finished or not allow them to finish the work. At the very least, the customer will dismiss any information or advice provided by such a crew. In all such cases, the disrespectful crew has failed to increase customer awareness due to poor interaction.

However, I have found that politeness must be combined with an open friendliness toward the homeowner. Politeness won't win over a customer if you are too shy to talk to them. By showing interest and being polite the crew is more likely to be able to share information with the homeowner.

Professionalism In Preparation and Appearance

The question of the installation team's professionalism is a little more complex. First of all, the crew must themselves know what they are doing and be prepared for their work. This allows them to explain the program to the homeowner and give that homeowner information about what the individual measures will accomplish. A crew that knows what they are doing, and why they are doing it will be more able to answer questions from the homeowner and thereby educate them. The installation team will also be more proficient at installing the measures effectively.

The crew must also look professional. A homeowner will trust a worker in a uniform much more readily than someone in faded jeans and a tee-shirt. Although it sounds like a minor consideration, in reality it is not. For a homeowner to be interested in the work and the improvements being made on their home, they must be interested in the workers themselves. Sloppy presentation suggests to most people sloppy work habits. This puts the customer ill at ease with the crew and causes a loss of potential interaction. Trucks should be clean, free of damage and well organized; materials used should appear new and substantial; and, very important, personal tools should be spotless and well cared-for. While none of these items are essential for good workmanship, they are essential to project a professional, credible picture to the customer. For this reason, professional attire and a professional bearing are of invaluable assistance to every conservation team's efforts.

Top Quality Is Essential For Education

Finally, use of high quality workmanship and materials is the single most important prerequisite to using installers for education efforts. Quality workmanship allows for the highest savings potential per measure installed. If the measures are installed properly to make them realize their full savings potential, the program will benefit; poor installation lowers the cost-effectiveness of each measure. The customer also benefits from seeing the emphasis placed on high quality workmanship. Customers ''know'' that something worth doing is worth doing well. A job with poor workmanship makes the customer believe that conservation is not worthwhile. On the other hand, they feel confident in the work's value if they have confidence that it was done well. The feeling of security in quality workmanship can be further reinforced through a quality control follow-up, this aspect will be explored a little later.

Similarly, the conservation team has the responsibility to use quality products—and to explain why it is being used. Good equipment does a good job. A Mercedes is a better quality vehicle than a Yugo. Quality materials are very important to the energy savings, but their use is also invaluable to the education of the customer. Their use creates the opportunity for the homeowner to learn the best products on the market, for each separate measure installed. This can be a serious barrier for a homeowner who wants to participate in energy conservation (Harrigan, 1994). Through the crews use of recommended products for caulking around windows, or installation of CFL's, the homeowner is able to see firsthand which products to use. In this way we can overcome this particular barrier. When the crew uses high quality products, the homeowner is also more likely to be satisfied and not remove the improvements. In this way, if that consumer moves or decides to add other measures, they will have the necessary information and understanding to buy the best products for their new venture.

Through these basic aspects of general customer service, the conservation team is able to increase their ability to influence the customer as an educational resource. These guidelines will not only increase the companies respectability within their community but also increase their ability to save energy. By applying this to a conservation program, we should be able to increase its potential for energy savings.

A Happy, Satisfied Customer Is A Receptive Customer

A satisfied customer is a valuable aspect to energy conservation. The reasons for this are three-fold. First a satisfied customer will use the improvements that were installed for them and will be willing to further improve their own home's efficiency. Secondly, they will be more likely to pass this information on to friends and neighbors, both as an advertisement for the conservation team that did the actual work, and also as an energy-efficiency proponent. Finally, they become a useful tool in creating necessary market transformations since they already have the information and products in their homes to begin this cultural shift.

These basic principles related to the installation and its follow-up can help make an average conservation contractor into an excellent contractor by increasing their rapport with the customer. Any number of conservation providers can make the customer's home save energy, it takes an excellent organization to make the customer save energy also.

The follow-up procedures to assure high customer satisfaction are: quality control inspections, customer service feedback, and customer complaint follow-up. These three facets of the conservation effort will support and reinforce the education efforts provided by the crew and often represent the conservation team's final contacts and commitment to their customers. Through these, the homeowners are reinforced with the basics of energy conservation and its positive effects on their house. Without this final support of previously imparted information, the homeowner may forget the information and end up with just another weatherized home, instead of a truly comprehensive energy-efficiency program.

Make Inspections a Positive Reinforcement

The most important and immediate part of the customer satisfaction effort is the quality control inspection system. Upon completion of each job, the crew chief should quickly inspect the work and then do so carefully with the customer in tow. This will allow another explanation of the work and the reasons for it being done. There should also be a final inspection step through the use of separate in-house inspections completed by someone else from the organization. In addition to inspecting the work, the inspector can quiz the customer on the crew's activities, demeanor and explanations. By asking the customer to review the lessons learned under the guise of checking on his crews' explanations, the inspector is imbedding these lessons into the memory of the customer. If the crew gave an ''inadequate'' explanation, the inspector can correct and further reinforce the message.

Moreover, the very fact that the work is being separately inspected reinforces the message that the conservation work is important. Inspecting the work assures the effectiveness of each measure. The inspector's job is not just to inspect the work but to identify any missed opportunities and to fix any deficiencies without the added inconvenience of another crew visit. Beyond that they also answer any further questions that the homeowner may have and provide further

encouragement to maximize the customers' energy savings potential. This is often the last direct interaction between the service provider and the customer. It is very important for the inspector to be well-educated and professional with the homeowner. If an inspector finds a problem with the work and needs to call the crew back for corrections, they must attempt to do this without undermining the standing and reputation that each may have with the customer.

Formalized Customer Feedback a Valuable Education Tool

A formalized customer service feedback system, such as follow-up telephone surveys or customer opinion questionnaires, are very effective educational supports. A postage-paid questionnaire handed out at the time of installation can also be effective to solicit feedback. The information received from these and other feedback methods have useful roles in customer satisfaction. However, they have a useful secondary aspect for customer education. First of all, they cause the homeowner to once again think about the work that was done, causing reinforcement of the program's ideas upon the customer. This is especially true if you question the customer about the explanations provided. Secondly, these methods allow the customer to recognize that they have input into the conservation process. These two aspects make the customer more aware of the whole energy conservation cycle.

For the energy conservation company this customer feedback has values which are equally important. It allows them to know what is or is not working. It gives the installation team direct input from the customer, enabling them to fine tune installations and customer service techniques. The crews can improve their own education efforts through the way in which people respond. A crew is better able to produce an effective professional bearing when they are given input into what they are doing wrong. This type of close interaction between customer and provider also allows for improvements in the actual products being used. If homeowners are unsatisfied with a certain type of light bulb or showerhead, different products can be obtained or developed.

No Feedback System Better Than One Ignored

It is vital to respond quickly to any customer concerns, suggestions or complaints obtained through your feedback system or which come in from some other source. Through immediate personal phone calls, visits and quick intervention into any problems that develop, the conservation team can defuse any worries that the homeowner may have. It is important to understand that while each customer deserves and wants an immediate response, each customer may also have a completely different outlook. Each complaint and concern must be handled individually, not categorized for a form letter response. Even if two problems are the same, the individual customers are not. Responding to homeowner concerns can be used as another opportunity to undertake an educational effort. Making a potentially disgruntled customer happy provides them with a sense of relief and increased satisfaction with the work and the conservation provider.

Customer satisfaction is what makes a homeowner remember the work that was done for them and therefore the education that they received. By teaching installation crews and inspectors the basis of customer satisfaction, a conservation company is enabling itself to reach its savings potentials. Homeowners who are treated well, will be more apt to use the information which they have gained to improve their energy consumption. This should be a guiding factor in improving customer satisfaction within energy conservation companies.

CONCLUSIONS

The installation of energy saving measures in a home is only a portion of an effective residential conservation program. It is also important to include customer education and customer satisfaction to create the highest potential for energy savings. By stressing to the installation teams the importance of these aspects of the job, we not only educate the work force, but also prepare them to educate the homeowners. The importance of the work force's involvement in customer education cannot be overstated. It is vital for homeowners either to receive this type of information directly from the people who do the work or at least to have it strongly reinforced by such people. Education efforts carry more weight when presented by a crew member who is seen as being familiar with the ''nuts and bolts'' of the installations. Even when an energy auditor or other education specialist has made a good effort beforehand, the customer **always** asks the installers what they think. It would be wasteful **not** to use this systematically, ideally in conjunction with other education efforts, including auditors, neighborhood education programs and utility-sponsored efforts. The most effective way to educate the energy consumer will always be on an individual basis.

By improving the consumers' energy knowledge, the conservation team can improve the effective savings life of the installations. Also, by teaching the homeowner maintenance techniques and showing the homeowner how they can replace measures as they lose their effectiveness, the crew can insure an increased lifespan of the potential energy savings. By using quality products and through the use of quality

control, conservation teams will be able to further increase their work's effectiveness while impressing the importance of these approaches on the consumer. A population which is more attuned to conservation will increase the demand for a contractor's product. Economies of scale and reduced marketing costs may help contractors reduce their own costs, making conservation more affordable for residential consumers.

Through use of the education techniques discussed in this paper, a conservation provider should be able to increase their potential for energy savings while helping to induce an overall market transformation towards energy-efficient consumerism. This overall redirection of customer buying power towards more energy-efficient products is one of the keys of long term energy conservation (Harrigan, 1994). It is important to remember that no matter how long energy conservation companies work, we will never be able to treat every home in the world, therefore we must work towards creating an energy efficient society. Through use of customer education we will eventually be able to cause a cultural shift towards reduced energy consumption.

Customer education and customer satisfaction are invaluable assets to every conservation teams' efforts. Not only does it increase the credibility of the crew with the homeowner, it also improves the respectability of the company within its community. By using the techniques discussed in this paper a conservation team is able to improve its overall performance in the field and increase conservation's appeal as a resource. For these reasons, the customer education and satisfaction procedures described may greatly increase the potential for low-cost energy savings within the field of residential conservation programs.

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