Reaching Business and Industry:
Lessons from 30 Years of Process Evaluation

Marjorie McRae and Jane S. Peters, Research Into Action, Inc.

ABSTRACT

This paper presents insights and lessons learned about commercial and industrial energy efficiency programs based on 30 years of process evaluation experience across 18 evaluators. As most process evaluations do not generate publicly available documents, the authors interviewed 16 experienced process evaluators and drew on their own experiences to identify lessons learned that can be applied to program design and development.

These lessons learned may seem like common sense at this point, yet, placing them in a single location has the benefit of assisting future program developers to learn from others. Key lessons learned include: Effective programs take business cycles—economy-wide and sector- and firm-specific—into account in their marketing, funding, and goal setting. The business of business is business and effective energy-efficiency and climate-change programs need to be responsive to businesses' concerns, constraints, and conditions. This includes understanding the financial and non-energy motivations for efficiency investments and understanding the business of the market actors that support the targeted actions. Above all, keep it simple!

Introduction

Program process evaluations examine how program are operated and implemented. As defined by the *California Evaluation Framework* (TecMarket Works, 2004) a process evaluation is *a systematic assessment of an energy efficiency "program" for the purposes of (1) documenting program operations at the time of the examination, and (2) identifying and recommending improvements that can be made to the program to increase the program's efficiency or effectiveness for acquiring energy resources while maintaining high levels of participant satisfaction.*

Program effectiveness and efficiency refers to several factors: the improvement of programs so that cost effectiveness is greater, as well as so that the ability to reach the target audience is greater, and that the administrative burden to the implementation organization and to the target audience and mid market actors are minimized.

Researchers have been conducting process evaluations of energy efficiency programs for nearly 30 years and these evaluations have generated numerous insights and lessons learned about how to make energy efficiency program design and delivery more effective. Process evaluators have been among the most important contributors to the body of knowledge of what works and what does not work for efficiency programs, yet the results of process evaluation work tend to be lost in unpublished internal reports and missing from conference proceedings due to the tendency of process evaluations to have a perceived lower value than program impact studies.

Confirmation of this can be seen in reviewing the paper and panel sessions for the 1987, 1995 and 2007 Energy Program Evalution Conference. In 1987, two of the 32 (6%) sessions at the conference included process evaluation in the title of the session. At the 1995 conference none of the 40 sessions included process evaluation in their title and while five papers included

process evaluation in their titles and throughout their papers, three papers are typically required for a session, thus less than two sessions included process evaluations. The 2007 International Energy Program Evaluation Conference shows some resurgence of interest in process evaluation as the growth in energy efficiency programs is underway. Of the 39 sessions, process evaluation while not included in any session titles or paper titles, was the primary focus of two sessions (5%). With electronic searching more advanced in 2007, it was also easy to confirm that despite the re-emergence of process evaluation it remains under-reported in the literature. At the 2007 conference there were 25 papers with process evaluation results reports and 41 with impact evaluation results reported.

Among process evaluators it is common knowledge to find that the lessons learned in one program often have to be relearned by each new program manager or program designer because they do not have ready access to the lessons learned from past efforts. Certainly while the potential for program improvement was great at the onset of energy efficiency programs in the late 1970s and early 1980s, yet it has not diminished over time, both because the lessons learned are not well known and because new program ideas have continued to emerge and still need to be vetted through experience and evaluation efforts.

Because process evaluation results are poorly document, Research Into Action conducted interviews with leading process evaluators to identify lessons learned and seminal articles and insights into how to effectively design and implement energy efficiency programs and to conduct effective and useful process evaluations. In addition, the authors used the responses to spark additional insights drawing on their years of experience conducting evaluations beginning in the early 1980s.

This investigation is timely as the energy efficiency profession is seeing a greater interest on the part of private and public organizations on how to stimulate more investment in energy efficiency and energy conservation in order to reduce greenhouse gas emissions. Among the results of this effort are important findings about how to reach business and industry, which is very important as business and industry offer the greatest opportunity for reduction in energy use and carbon emissions.

Method

The authors identified 17 well known and respected process evaluators for interviews in August and September 2007 and sent them an email requesting their participation. Other than one person being out of town, all were willing and able to participate. The email included an interview instrument so that the respondents had an opportunity prior to the interview to reflect on what they believed to be the most important lessons learned from their process evaluation work.[i]

We completed all 16 interviews. In addition to the 16 evaluators interviewed, the authors included their own experiences in the analysis for a total of 18 evaluators' experiences being included in the study. As shown in Table 1, these evaluators, while largely in private consulting organizations at the time of this investigation, include those who have worked as internal evaluators of energy organizations. Most of the interviewed evaluators have over 20 years experience and have provided services as external evaluators during at least part of their careers. External evaluators have in essence become the institutional memory for the profession, as the expansion and contraction of the energy efficiency departments of private organizations over 30 years has resulted in significant departmental staffing changes.

Table 1. Characteristics of Evaluators Contacted

Characteristic	Interviewed (N=16)	Authors (N=2)
Evaluator Type		
Internal	2	
External	9	2
Both Internal and External	5	
Years of Experience		
25 Years of More: Entered field by 1982	6	2
20-24 Years: Entered field 1983-1987	3	
15-19 Years: Entered field 1988-1992	5	
10-14 Years: Entered field 1991-1997	0	
Less than 10 Years: Entered field 1998-20007	2	

The evaluators typically had broad-based experience across multiple sectors (residential, commercial, industrial and some agricultural). Most had been involved in both comprehensive process and impact evaluations as well as stand-alone process evaluations. The questions used in the interview asked them to reflect on key lessons learned across the breadth of their experience in each of six areas: program design, program implementation and delivery, program administration, reach market actors, reaching customers and process evaluation itself.

The full findings from the discussions with the process evaluators are detailed in a white paper prepared for the Behavior Energy and Climate Change Conference (Peters, 2007). The white paper presents results on each of the focus areas design and implementation, program administration, reaching the market, and reaching the customer. This current paper focuses on the lessons learned about programs for business and industry and includes additional insights not previously reported.

Overview of Business and Industry Process Research

Energy efficiency program evaluation began in the late 1970s and as most programs focused on the residential sector, so did most early program evaluation efforts. In the mid-1980s the Bonneville Power Administration began to offer programs to business customers as did other utilities around the country. As these programs began to emerge, program evaluation resources were increasingly allocated to the commercial sector. For instance the 1987 National Energy Program Evaluation conference had 32 paper and panel sessions. Of these 32 sessions five (15%) included any presentations on commercial, institutional or industrial buildings while at the 1995 International Energy Program Evaluation Conference of the 40 paper and panel sessions 12 (30%) included presentations on commercial, institutional or industrial buildings a doubling of the percent of papers concerned with business and industry programs. The first biannual ACEEE Summer Study on Energy Efficiency in Industry occurred in 1993.

Clearly the growth of commercial and industrial programs between 1987 and 1995 was substantial. More recently, the 2007 International Energy Program Conference shows a continuation of interest in business and industry evaluation sessions. With 39 total paper and panel sessions, 10 sessions (25%) specifically targeted commercial, industrial or institutional programs.

Energy Efficiency for Businesses and Industry

There is enormous technical potential for energy-efficiency improvements in business and industry, especially industry; as a result, understanding business and industry has been a major focus of process evaluators especially since the late 1980s.

Much of the efficiency potential is sound economically, with less than two-year paybacks for many equipment choices. While it might be expected that business and industry would easily see the economic benefits of energy efficiency over the years program participation has been necessary to get most businesses to make these investments. Many, if not most, business have failed to make the investments and programs will often report that they need to find more participants. Process evaluations have revealed some simple lessons learned that have helped to improve program design and delivery to overcome these challenges.

Barriers to Energy Efficiency Investments for Business

It is commonly believed that businesses, especially industrial firms, take a more rational economic approach to decision-making than other energy consumers. However, as one of the evaluators noted: "Businesses want a higher rate of return or shorter payback period than programs expect; first cost is a big issue. Different kinds of businesses have different issues. Even bigger businesses have split incentives in their internal operations – e.g., between operating and capital budgets" (Tannenbaum, 2007.)

A split incentive occurs whenever the investor in a project does not receive the benefit from reduced costs of operating the equipment. This situation is common in new construction and tenant-landlord relationships. Process evaluators have also found that the split-incentive occurs within large organizations, where the operating budgets and capital budgets are treated separately. In this common situation, facility directors aren't rewarded for energy cost savings by a corresponding increase in funding available for other needs.

In the course of multiple evaluations, the authors have heard businesses claim certain payback periods as their benchmark for project viability. Yet the evaluations found payback periods to be much longer than the asserted benchmarks, indicating non-financial benefits were a key part of project decisions. Conversely, customers have often been found not to do projects that were within their payback parameters because other projects were deemed more important or because the strictly economic basis was insufficient. Not surprisingly non-energy costs and benefits are often the most critical criteria for decisions about investments involving energy efficiency.

Cyclical Influences on Business Decision Making

There are a number of cyclical patterns that affect the ability of businesses to undertake energy efficiency upgrades, including business cycles, annual cycles, and purchasing cycles. Programs that are effective learn how the targeted business types are organized and respond to these cycles. Program implementation processes and budgets then reflect these cycles.

Business Cycles

There are boom times and slow times for every business, which may or may not be coincident with the larger business cycle. Firms that serve multiple industries may be insulated from business cycles while other firms are hugely affected.

During the later 1980 when the wood products industry in the Pacific Northwest was very slow, some wood products firms were active participants in energy efficiency programs, others were not, similarly working with microelectronics firms in the late 1990s and early 2000s some were active participants and some were reluctant.

The businesses that did participate tended to operate from the perspective that they expected to be around for the next boom— they noted to the author that they were more easily able to participate in programs during slow economic periods because their permanent staff was more available to deal with the planning, paperwork and other issues of project implementation. On the other hand, those businesses that were less willing would note that their businesses were operating on slim margins and they could not make investments during slow periods because they lack the capital or they judged the risk to be too great.

While it did not always turn out that the participants thrived in the next business boom, nor that the nonparticipants failed, it does appear that some firms are more able to participate actively in efficiency programs during lulls in the business cycle and that it is worthwhile to seek these firms out.

Annual Cycles

Many businesses have annual cycles that affect their ability to participate. For example, most retailers depend on the Halloween to New Year's period for their major sales and are not able to do any projects during that time period. Annual cycles can also favor efficiency upgrades. Some industrial firms have an annual plant shutdown and like to schedule all projects to occur during that time period.

Purchasing Cycles

Most industrial firms and large commercial enterprises plan their major equipment purchases a year or two in advance of installation. As a result, programs experience long project lead times, which in turn delays savings acquisition beyond that which is often anticipated by program goals and, conversely, requires advance commitment of program funds, often confounding the program budgeting and accounting processes.

Mulholland (2007) noted that several implications follow from the existence of purchasing cycles. One implication is that firms make major purchasing commitments annually, at the time the capital budget is approved. A second implication, following on the long lead times associated with purchasing cycles, is that program funding needs to be stable from year to year.

Effective programs have goals that realistically consider any purchasing cycles among the targeted subsectors, have procedures to support the advance commitment of program funds, and tracking systems to accurately capture such commitments. Marketing efforts need to be concentrated sufficiently in advance of budget approval periods to attain the interest of the facility manager, conduct the necessary technical studies, and prepare a financial argument in support of the project.

The Role of Communication and Relationships in Reaching Customers

Programs that provide incentives for specific, listed equipment such as lighting and motors are typically marketed through trade allies. But programs targeting custom equipment, large projects, or even large customers are most effective when a relationship is developed with the decision-makers. Thus relationship-building is essential for programs that seek to encourage on-going behavioral change in businesses.

Industry, in particular, faces many challenges – obsolete equipment, labor cost pressures from overseas, pressures from investors for profits, new regulations to comply with, pressures from competition, etc. But all commercial enterprises generally have these concerns and consequently developing relationships with the business decision-makers is important to be able to engage them in facilitating energy-efficiency efforts.

This section discusses insights and lessons learned by process evaluators regarding the communication and relationships in customer decision-making, the perspective of the customer, marketing messages, case studies, and technical expertise.

Decision Making

Evaluators have found there are often "champions" who make projects happen within large organizations. The reason for this is there are multiple levels of decision-making in larger organizations; someone has to be willing to bring the project up to each decision-making level and be able to respond to questions and comments. Evaluating several industrial programs in the 1980s and '90s, it became increasingly apparent champions were important. If the champion changed jobs, the projects would likely never go forward (Peters et al. 1996).

Fundamentally, even large businesses are composed of individuals who work in a system to make decisions about how the business should be operated and capitalized. While it is possible to understand the decision-making within any one organization, the process will change as individuals in the organization come and go.

Because the champion is not necessarily easy to find, programs that effectively work with large businesses and industry will contact people at multiple levels of the organization and establish long-term relationships with those in enough positions to facilitate the project over time. The relationships do not need to be "deep," but they must be trusted.

Establishing such relationships reduces a number of barriers to energy efficiency. In large organizations, there is a high degree of specialization creating communication barriers across the organization. For example, in hospitals the authors have seen the facilities group and the financial group unable to find a common language to discuss why a project should or should not be funded (Peters, et al, 2008). Similarly, in organizations of all sizes, cost competitiveness has led to such lean staffing that there are not enough people to do all the things that need to be done, something the authors have seen in grocery stores and hospitals as well as industry.

To establish trust, the program message needs to clearly explain how program participation will assist them in achieving their highest priorities. Perhaps of greater importance, the technical recommendations made by the program must be accurate and consistent with field experience of the business facility and operations people. Businesses whose facilities are highly regulated (e.g., health, safety, or environmental regulations) often have very specific requirements for the performance of their major equipment systems. An efficiency solution that

works in most businesses may not work for them. Both the message and the necessary technical expertise are discussed further in the following sections. (Peters, et al., 2008).

Internal Focus is on the Business, Not on Energy

Process evaluators have found, typically, that no one in a business knows much about energy. Energy is usually less than 5% of the total cost of doing business, often as low as 2%. Although in a few businesses it can approach 20%, mostly businesses are concerned with labor costs, raw materials costs, and dealing with health, safety, and other regulations. Energy almost never makes it onto the agenda of a budget meeting; it tends to be treated as a fixed cost.

It can be difficult for management to see the value in saving 10% to 20% of a cost item that constitutes 2% to 5% of total costs, which translates to less than 1% of total costs.

Yet there are many businesses where the profit margin is less than 5%. Thus, when program representatives are able to develop a message that translate the value of energy savings as a positive impact on profit margin, benefits of as little as 1% can be quite attractive and businesses become much more receptive.

Another effective way of discussing energy costs is as a percent of readily controlled *variable costs*, rather than a *percent of total costs*. If an organization does not want across-the-board cuts to its labor budget, few costs are within its control. Energy use constitutes a large proportion of these controllable costs and thus looking just at the variable costs and the effect from savings on the variable costs can be compelling.

The difference in variable and total costs can help the business understand that dollar savings for energy cost reduction go directly to the bottom line, but the message must be tailored to the business type. Energy savings of $50,000 is equivalent to $1,500,000 in revenues for a business with a 3% operating margin, this type of message is appealing to large institutions such as hospitals. A persuasive approach for grocery stores and other types of retail is to refer to an improvement in cash flow such as: one dollar in energy savings may equal $50-80 in increased sales revenue. For real estate the message is that energy savings leads to increased net operating income, which leads to increased asset value (Peters, et. al, 2008).

In each of these cases, the target is the variable cost and the effects on the bottom line of most interest to the business type. Developing this understanding is not easily done. The work the authors have done with the Northwest Energy Efficiency Alliance has shown that it can take one to two years of interaction with the market before the most effective and compelling message is identified and translated into an effective tool for communication.

Marketing Messages

There is no generic message that appeals to all business people. As one of the evaluators noted, "Mass marketing works to build awareness, but doesn't do much to effect behavior change, except in a crisis period. The business world is relationship-based. Understanding relationships and building on them, not just providing information, will build successful results" (Dethman, 2007).

Process evaluators often ask business people the names of publications they read; in addition to national business publications, the answer is usually a trade publication specific to the industry, sometimes even to their region of the country. They may read the general business

press, but it is examples of success in their trade industry publications that makes the difference in whether they believe an idea is relevant to their needs or not.

This point may be easy to miss, yet each special type of business typically have a variety of trade publications published either by a trade association or by specialty business publishers catering to businesses. The purpose of the trade publications is to facilitate business-to-business marketing for the specific types of items the business category might need – building management supplies and security systems in Buildings Magazine, different types of display units and marketing strategies in Progressive Grocer. It is these magazines that are of greatest interest to real estate managers or regional grocery store owners in order to understand the trends in their business type, not the local general business magazine or local newspaper. What owners have told the authors is that when they owners read about energy efficiency successes in these trade publications they take notice.

Case Studies

Many programs have realized they need to develop case studies of projects to motivate businesses. But the program staff may not realize the importance of developing case studies that speak to the conditions of each industry and business type in the target market, even to the extent of separate case studies for each. And publicizing the case studies in the trade press for each specific industry is even more important than simply making them available via a package of printed program materials.

At the same time, case studies should also be posted on the sponsoring organization's website. One example of this is the *betterbricks.com* website. BetterBricks uses case studies of successful energy efficiency projects from around the country in order to expand the success stores to cover a wider range of business types than BetterBricks has actually been able to work with. This enables the website to have sufficient examples to appeal to all of the target markets they are addressing.

It is not important to show businesses that other businesses have been satisfied with a *specific program* being promoted, but rather that other businesses *specifically like them* have been satisfied with the results of taking energy efficiency actions similar to the ones promoted by the program. Case studies help businesses in their risk assessment; knowing that firms with similar constraints as they face had successful experiences with similar efficiency actions reduces their estimates of risk.

Technical Expertise

For commercial and industrial programs that promote complex, custom efficiency upgrades, finding people with the appropriate knowledge and expertise is critical for success. In most situations, the customer's in-house staff is quite skeptical of the possibility that an outside expert they do not know will be able to address their needs. Thus the outside expert needs to *really* know how the equipment works and operates in the specific business environment. At the same time the expert needs to be very respectful of the experience of the in-house teams. The outside experts need to be very familiar with the conditions the audience they are dealing with face on a day-to-day basis. They need to be able to speak the language of their audience and not talk up or down.

We have seen examples where otherwise well respected energy efficiency experts have tried to advise customers in sectors with which they had little on-the-ground experience. In these situations, the energy efficiency experts made recommendations that were not specific enough to the business needs or made recommendations that might be good for an office building but were dangerous in a hospital. These situations nearly stopped the progress with those organizations because the experts were not, in fact, more expert than their client organizations on some important issues.

Ultimately, the in-house staff and management need to feel that they have been doing a good job and that the outside expertise available through the program is a bonus. The outside expert needs to really know the issues so that they are able to truly provide help in an effective and efficient manner.

Lessons about Communications and Relationships

Businesses are focused on running their business and typically are not knowledgeable about energy use and possibilities. An effective way to discuss the financial benefits of an energy efficiency investment are to present energy savings as a proportion of controllable costs and contribution to profits or operating margins. Marketing messages, including case studies, need to be tailored to the specific business submarket targeted.

Program representatives should initiate relationships at various levels and groups within the organization and look for a project champion—someone who has a strong interest in attaining the value offered by the project. The program representative needs to be trusted in the role of assisting staff in achieving their highest priorities, and the technical recommendations made by program representatives must be on target.

Market Actors in the Commercial and Industrial Market

Market actors are those firms, businesses, and individuals who offer services and products to businesses and consumers. These include the electricians, contractors, designers, and engineers whose services enable energy-efficient products to be specified, installed and maintained. Market actors also include the distributors, wholesalers, retailers (also known as vendors), and manufacturers who make and sell the products.

No matter what the type of trade ally, a key complaint from trade allies that most process evaluators have heard is that programs should not stop-and-start or suddenly change dramatically. Change is difficult for all types of market actors. Most businesses operate year in and year out. They do not have regulatory cycles. Different seasons come and go and, in some cases, drive sales (Christmas for retail merchants, annual shut downs in certain industries, etc.); but, by and large, it is difficult for market actors to understand why a program structure changes when it does. Several contacts pointed to this area, and one said, "You can't stop and start programs – it upsets vendors when they promise things to people and then can't deliver." (Tannenbaum, 2007)

Reaching Trade Allies

Trade allies in many ways encompass all of the businesses mentioned, though to many program managers, *trade allies* specifically refers to the plumbers, electricians, contractors, and

others in the building trades who build and maintain residential, commercial, and industrial buildings.

Some program administrators have learned that program cycles are difficult for market actors and they have specifically developed approach that inform their trade ally networks in advance – holding meetings with the local contractor groups or electrical union to explain the program changes before they are implemented. Some programs contract with a firm that recruits trade allies into the program, trains them, and then keeps them informed as the program changes occur.

Trade allies are important to program success. "The challenge for utilities is to learn to insert themselves into the business model of the trade allies" (Hazzard, 2007.) As discussed below, a key point for reaching consumers and businesses is at the time they are making a purchase or choosing to remodel a building or replace equipment. If the program is not working with trade allies, then those natural market-decision points are missed.

In working with trade allies, it is important to remember, "They are in the market to make a living" (Dethman, 2007.) When they have invested time – both their staff's time and their own – to learn program requirements and procedures, they have a legitimate expectation the program will continue. Additionally, program changes about which they have not received advance notice can leave them with excess inventory. Not informing trade allies about changes can make them reticent to participate in the future. Several of our contacts noted situations where trade allies were reluctant to participate in programs due to previous experiences with programs changing direction too rapidly or with no warning.

Training about program rules and procedures is helpful in improving trade ally ability to participate. Similarly, if the processes are too complicated, even for trade allies who are knowledgeable about the technical aspects of the products and services, the cost of retrieving that knowledge on a customer-by-customer basis to complete program forms is too much.

Process evaluators have found when trade allies are able to receive the incentive payment directly, rather than the incentive going to the consumer, the trade allies tend to be more willing to complete the paperwork and meet other program requirements. There are risks in doing this, as some evaluators have also found, but inspections and quality assurance oversight can be used to manage the risk and improve the ability of the program to deliver savings.

Lessons Learned about Professional Service Providers

Engineers and architects have been among the most targeted of professional service providers. There has long been an implicit expectation that if architects and engineers fully understand energy efficiency they will be able and willing to market these capabilities and ensure buildings were designed in an energy-efficient fashion. Part of this expectation likely arises from the fact many energy-efficiency program designers and implementers are themselves engineers or architects.

Yet architects and engineers face considerable challenges in the marketplace. They typically are not the decision-maker, but rather the service provider to a client – the building owner or manager, who is the person who makes decisions. If the owner does not explicitly call out a requirement for energy efficiency, then the service provider is unlikely to put that need in the building program.

The same experience occurs for the developer of equipment for a factory. If the engineer developing the equipment for the factory is told in the specifications the equipment must meet

some energy-usage threshold, then it will be met in the equipment; if a threshold is not required, then the engineer will not consider the issue.

Service providers of all types must respond to the client's specifications and requirements. When energy usage is included as a parameter, the service provider will address that requirement along with other specifications. In considering climate change, the same issue is likely to emerge – if the specific greenhouse gas output is specified as a requirement, then it can be considered; but if it is not mentioned, it will be ignored.

Evaluators have learned architects and engineers will contend they are familiar with the design issues of energy-efficient buildings because, after all, they studied it in school. However, the principles and the practice are not the same. Process evaluators of programs that seek to work with architects and engineers hear from these designers it is only through participating in programs that help them include energy efficiency in their practice that they learn the practical application skills necessary to implement energy-efficient designs.

So, as with other areas of energy efficiency, there is a need to work closely with professionals to aid them in developing the skills and practical knowledge in order for them truly to design energy-efficient buildings.

Summary of Market Actor Lessons

Process evaluators have found repeatedly that programs founder when they specify procedures that don't work for the market actors. The timelines are wrong; the money (total program budget) ebbs and flows, or runs out prior to the end of the year, necessitating a wait until January for additional funding; the incentive levels and eligible measures change without warning; incentivized equipment is not readily available in sufficient quantities; program requirements necessitate additional (read "costly") visits to the customer site, such as for inspections or signatures at various stages of the process.

Sometimes, in an effort to simplify the program for customers, programs specifications cut into the roles of market actors or take on some of their roles—such as limiting equipment choices to certain manufacturers or requiring a technical study that supports the assumptions used in the calculation of the incentive.

Program procedures and roles that conflict with the functioning of the market-actor markets can lead a program to struggle to reach customers because the program will always be a secondary player in the market. Programs and their funding levels come and go; market actors have existed and will continue to exist as long as businesses have facilities and equipment. If a program doesn't work for the market actors, they won't support it. If they don't support it, participation will be limited, at best, customers will receive mixed messages, and all chance of influencing the market for the long haul will be lost.

In the long run the key lesson is to keep it simple and keep it consistent. Multiple participation steps and forms increase the burden on customers and market actors and slow down (and potentially derail) project progress. Frequent changes to the program upset the market process.

Conclusions

Process evaluations of energy efficiency programs targeting businesses and industry have identified many important lessons for program designers and implementers. Unfortunately, most

of these lessons have not made it into the body of energy efficiency literature for a variety of reasons. This paper identified key insights for business and industrial programs from 30 years of process evaluations, including the following:

Effective programs take business cycles—economy-wide and sector-specific—into account in the marketing, funding, and goal setting.

The business of business is business, and program designers need to make it easy for businesses to understand the benefits in terms that make sense to them and to adopt the more efficient or more carbon-neutral behavior.

Making it easy for businesses necessitates developing an understanding of the market actors supporting the targeted actions. Program roles, processes, and requirements should be designed and critically assessed from the perspective of both end users and supporting market actors. Above all, keep it simple!

References

Dethman, Linda. 2007. Personal communication, August 30.

Hazzard, Rich. 2007. Personal communication, August 31.

Mulholland, Carol. 2007. Personal communication, September 5.

Peters, Jane S. *White Paper: Lessons Learned After 30 Years of Process Evaluation.* Prepared for Behavior, Energy & Climate Change Conference, November 7-9, 2007. October 26, 2007.

Peters, Jane S., David Cohan, Marjorie McRae, and Rick Kunkle. 2008. *W Bedpans, Baked Beans, and Businessmen: Changing the Business Practices that Drive Energy Use in Hospitals, Grocery Stores, and Commercial Real Estate.* In *Proceedings from the 18th National Energy Services Conference and Exposition.* Phoenix, Ariz.: Association of Energy Services Professionals.

Peters, Jane S., Margaret Seratt and Robin Way. 1996. "Energy Investment Decision Making in Industrial Firms." *Energy Services Journal* 2 (1) Winter.

Tannenbaum, Bobbi. 2007. Personal communication, August 27.

TecMarket Works. 2004. The California Evaluation Framework. (Project Number K2033910) California Public Utilities Commission, San Francisco, CA. February 2004.