Evaluation Broad and Deep: Getting the Most Out of Nonresidential Portfolio Evaluations

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ABSTRACT

In recent years, energy efficiency program evaluators have observed a trend toward conducting nonresidential portfolio evaluations instead of discrete evaluations for each program or implementer. For the purpose of this discussion, we define portfolio evaluations as those where multiple programs delivered by one implementer (i.e. utility) or single programs delivered by many implementers in large geographic regions are evaluated simultaneously. In a do-more-with-less environment, portfolio evaluations can provide cost efficiencies and ensure that evaluation resources are targeted most effectively. This paper is designed to share insights with utilities and other regulatory bodies about the strategic pros and cons to a portfolio-focused approach for nonresidential programs, drawing on examples from DNV KEMA's experiences around the United States. This paper addresses nonresidential portfolio evaluations from a utility or regulatory perspective, presented by an evaluator who has managed multiple evaluations of this nature. The author provides a framework and suggests successful strategies for utilities and regulatory bodies to aid in determining which type of evaluation best meets their needs. This discussion covers:

- The definition of portfolio evaluation.
- The advantages and disadvantages of doing portfolio evaluations.
- Best practices to complete an effective portfolio evaluation.
- Examples from evaluations conducted across the United States.

Introduction

Deciding how to evaluate a program and allocate often limited resources is a complicated decision. This paper identifies the strategic pros and cons of a portfolio-focused approach to nonresidential energy efficiency program evaluation and presents methods that sponsors can use to obtain the greatest value for their investment in such evaluations. It highlights the considerations to assess before deciding whether portfolio evaluation is a good match to sponsors' evaluation objectives and resources. This paper represents only our experience and perspective, not an industry-wide study. We illustrate our analysis using examples and lessons learned from DNV KEMA's experience conducting portfolio-based evaluations throughout the United States.

The paper begins by defining portfolio evaluation in greater detail. We next discuss advantages and disadvantages to conducting portfolio evaluations based on our experience. We conclude by offering our view of best practices for conducting a portfolio evaluation and provide examples and lessons.

Portfolio Evaluation – Definition

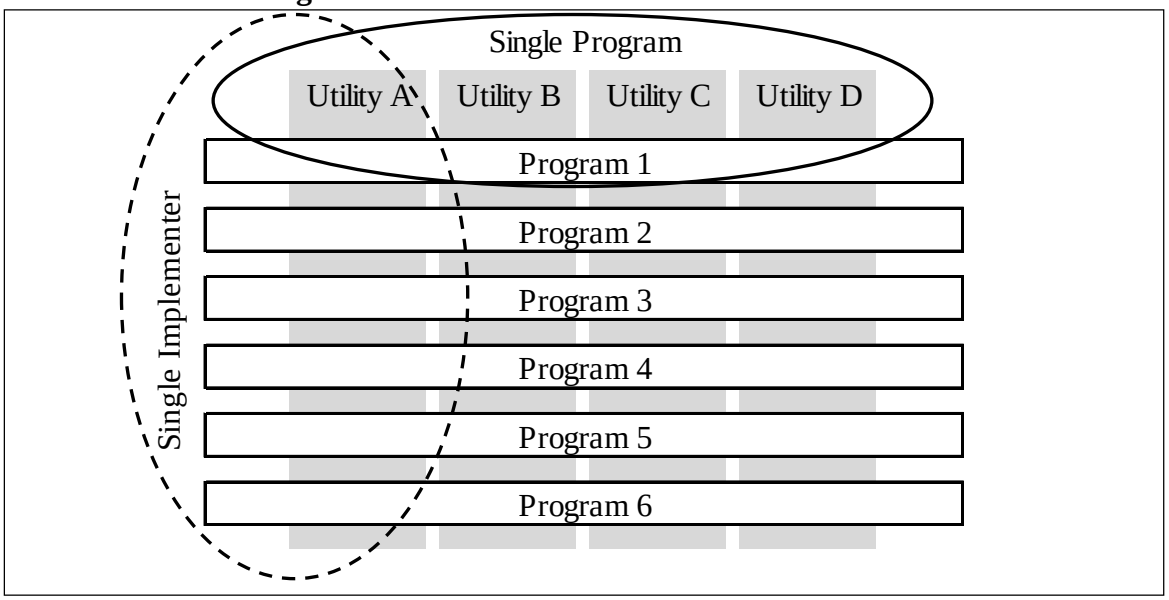
Nonresidential programs are diverse in their delivery and target markets. Programs target different sectors, such as large commercial and industrial (C&I) customers, small businesses, agriculture facilities, schools, and government buildings. They may focus on existing buildings and systems or new construction and major retrofits. Different energy sources may be addressed, including natural gas, electric energy, and electric demand. They can also deliver energy audits, prescriptive rebates, custom rebates, education, or feasibility studies. Many programs address end-use customers or the delivery chain, including manufacturers and distributors of energy efficient equipment. Programs can also be delivered by a single utility or implementation contractor or by multiple implementers within a given area (i.e. state).

A single evaluation contract can accommodate this diversity. This paper defines portfolio evaluations as those that address one or more of the following situations:

- **Single Implementer:** Multiple programs offered by a single utility or program implementer.
- **Single Program:** Substantially similar programs offered by multiple utilities or program implementers that must satisfy the same regulatory requirements.

Figure 1 illustrates a model that depicts two types of portfolio evaluations. A single program portfolio evaluation addresses multiple utilities but one program "stripe," indicated by the solid horizontal oval. A single implementer portfolio addresses multiple programs but one utility "stripe," indicated by the dashed vertical oval. The most complex portfolio evaluation would address multiple programs offered by multiple utilities.

Figure 1. Illustration of Portfolio Evaluations



Portfolio evaluations may also include multiple types of evaluation (process, impact, market research) under a single umbrella and may include multi-year or multi-round evaluations.

Increasingly, this author sees a trend toward evaluations being conducted at the portfolio level instead of the traditional single program, single utility model.

Advantages and Disadvantages of Portfolio Evaluations

Portfolio evaluations may not be the right answer (or even possible) in all situations. For single program portfolios, the versions of the program offered by multiple sponsors may not be similar enough to favor a portfolio evaluation. Tracking systems, rollout, and marketing or customer engagement strategies may be substantially dissimilar, preventing consistent evaluation methods (Bruchs, Azulay & Wirtshafter 2011). For single implementer portfolios, individual programs may require radically different evaluation methods, reducing some benefits of portfolio evaluation.

Often, this decision can depend on the entity that is required to complete the evaluation, whether that is a state agency, an individual utility, or a consortium of utilities. Utilities and regulatory bodies should consider the size of their budget to determine if individual evaluations for each program are cost prohibitive. They should also consider the diversity of their portfolio; for very diverse portfolios, a portfolio-level evaluation may not be feasible. Timeline is another consideration. Multi-year or multi-round evaluations allow the evaluator to build on previous experience and tools developed in the early rounds and produce more complex evaluation results in later rounds. The goals of the evaluation, the knowledge and experience of internal evaluation staff, and the evaluation management model will all affect the decision.

For situations that lend themselves to portfolio evaluations, the advantages and disadvantages fall into three categories:

- Economies of scale
- Consistency of methodology and results
- Cross-program results and portfolio-level decision making.

Economies of Scale

Economies of scale are the most obvious benefit to portfolio-level evaluations. For both single implementer and single program models, the trade-offs of advantages and disadvantages include:

- **Administrative cost savings:** Portfolio evaluations require one Request for Proposal (RFP) and one proposal process as well as centralized project management. A contract manager may be able to negotiate a “preferred” rate with evaluators for very large evaluations. For multi-year evaluations, rates can be locked in for the length of the contract.
- **Consistent analysis v. exploration of nuances:** Consistent analysis methods can often share tools and data collection instruments across programs, such as interview guides, analysis code, and reporting templates, which reduces review time. Consistent methods may not address nuances in program delivery or delivery environment such as urban vs. rural territories.
- **Single analysis of shared program elements v. program-level accuracy:** Often programs or implementers share a single element, such as a technical resource manual

(TRM), that can be evaluated once and cover many programs or implementers. However, these single resources provide less accuracy for a single jurisdiction or program because they often use territory-wide averages that may or may not accurately reflect the reality for a single implementer or program.

- **Smaller sample sizes v. sufficient sample resources for infrequent or emerging measures:** Portfolio evaluations can focus on the portions of the portfolio that provide the greatest savings, which generally provides greater statistical accuracy with reduced data collection costs because a greater portion of the energy savings are represented in the sample. However, such focus will provide too little data collection for emerging and new technologies that may become more influential in the future. In addition, portfolio evaluations often do not allow for statistically defensible results at subgroups such as the implementer or end-use level, particularly for subgroups that are a small portion of the overall portfolio.

For single implementer models, the advantages and disadvantages include:

- **Easy to meet regulatory requirements:** Single implementer portfolio evaluations are an efficient way to meet regulatory requirements because the same regulatory rules and goals are applied to each program. Once those requirements are defined by the utility or regulator and understood by the evaluator, they can be applied repeatedly.
- **Process costs are reduced:** The per-program process evaluation cost is reduced for programs that share or have common elements, such as tracking databases, marketing materials, and application forms.
- **Short-term disruption v. increased staff work load**: The time necessary to fulfill evaluation data requests and participate in process evaluation interviews can be minimized when all programs are examined at once. However, the administrative savings may be offset by responding to review and data requests all at one time, potentially disrupting much of an entire energy efficiency department instead of just one program.
- **Additional study efforts:** Portfolio-level evaluations allow for data collection that benefits a number of program evaluations but is not generally cost-effective for single programs, such as non-participant or trade ally surveys. The additional data collection may provide more accurate results for spillover, program awareness, and barriers to participation. It also allows study of cross-cutting efforts such as training programs.
- **Reduces customer burden v. making connections:** Some customers participate in more than one nonresidential program. Portfolio-level evaluations allow those customers to be contacted once for all of the programs in which they participated. This only works, though, if the data allows customer records from one program to be clearly connected to customer records in another program. When the implementation entity is NOT a utility, tracking customer participants between one program and another is often challenging.

For single program models, portfolio evaluations make it possible to produce results for even the smallest programs and evaluation budgets. However, larger implementers end up subsidizing the evaluation of smaller implementers, which may be difficult in a politically contentious environment.

Table 1 provides a summary of the advantages and disadvantages of portfolio evaluations associated with economies of scale for single implementer, single program, and those that apply to both program models.

Table 1. Advantages and Disadvantages of Portfolio Evaluations by Program Model Economies of Scale

Single Implementer	Both	Single Program
Advantages: • Cost-effective to meet minimum regulatory requirements • Overall process evaluation • Reduces implementation disruption • Allows for additional study efforts • Evaluate each customer once no matter how many programs	Advantages: • Administrative savings • Consistent analysis method allows reduced costs • Multiple programs share same elements (i.e. TRM) • Likely to focus on largest savings category	Advantages: • Affordable for very small programs
Disadvantages: • More work in a limited time • May not be able to connect customers	Disadvantages: • Lose analysis nuance • Potentially lose accuracy • Small sample for emerging measure • No sub-group results	Disadvantages: • Political consequences

Consistency of Methodology and Results

Methodological consistency produces economies of scale, but it also provides other benefits. For both single implementer and single program models, it costs less to repeat the same analysis method across multiple programs or implementers. However, a single analysis method also requires compromise to identify the best overall approach across all programs or implementers rather than the ideal approach for each program or area, which may result in a more shallow evaluation (Tannenbaum et al. 2011). Multi-year or multi-round evaluations allow the evaluator to build on previous experience and tools developed in the early rounds and produce more complex evaluation results in later rounds.

For single implementer models, the evaluation is easier to administer with only one evaluation team, as discussed in the economy of scale section. Evaluators become knowledgeable about program staff, especially in multi-round or multi-year evaluations, and those relationships facilitate communication and a smoother working environment. However, the selected evaluator may be the one that is the most competent across all programs (a generalist) rather than the evaluator that is the expert for each program individually (a specialist). For large projects, the need for expert evaluation encourages teaming among many evaluation contractors, which may alleviate the problem, but may also reduce the proposal competition to one or two choices. Evaluation teams also bring their own advantages and disadvantages; contracting with teams shifts administrative burden from the utility or regulator to the prime contractor, but it can also introduce coordination issues among the evaluation team.

For single program models, the advantages and disadvantages to consistency of methodology and results are:

- **Comparison, but limited:** A consistent methodology allows for comparison among program implementers and may indicate stronger program delivery methods (Share & Sherman 2011). However, the comparison will be limited to the specific issues studied in the evaluation and will not account for other differences between programs, such as urban vs. rural environments or the strength of the local economy. Consistent methods also produce reliable, comparable results that can be used in regional power system planning and to assess other environmental policy goals (Michals and Titus 2008).
- **Easier assessment of attribution v. ignores interaction:** A portfolio-level approach allows for attribution assessment that encompasses the effects of nearby programs offered by other utilities. This is especially important in areas where customers from multiple utilities inhabit a single retailer market, such as when one utility operates in a rural market and another operates in an urban market. Rather than determining implementer-level attribution estimates, the evaluator can concentrate on a single estimate that shows the attribution of the overarching program. However, by definition, this methodology ignores the interactions between the programs offered by different implementers.
- **Enables program-level cost benefit analysis:** A consistent methodology allows the evaluator to easily assemble the inputs necessary to conduct a program-level cost benefit analysis. Multiple evaluations for multiple implementers may result in "orange" results from Implementer A that do not fit with the "apple" results from Implementer B because the evaluation methods are inconsistent.
- **Outcomes that support policy changes:** A single evaluation that covers all programs subject to a given set of regulations allows the evaluator to make recommendations that may change the underlying policy, not just identify areas where the policy falls short. If the evaluator is looking at a single program in a territory, recommendations can be made to the program, but the program does not have the ability to change the policy. On an extreme scale, however, portfolio evaluations that cover very large territories (across states) can suffer from differing regulatory requirements, despite the fact that the programs themselves are similar.
- **Incomplete data:** The evaluator is dependent upon the availability of implementer resources, such as the electronic data collected, and will have to depend on the lowest common denominator to design the evaluation in many cases. This penalizes program administrators that are more effective at data tracking.

Table 2 provides a summary of the advantages and disadvantages of portfolio evaluations associated with consistency of methodology and results for single implementer, single program, and those that apply to both program models.

Table 2. Advantages and Disadvantages of Portfolio Evaluations by Program Model Consistency of Methodology and Results

Single Implementer	Both	Single Program
Advantages: • Easier administration • Evaluators become more vested and knowledgeable about program staff	Advantages: • Costs less to repeat same analysis • For multi-round, increasingly complex analysis	Advantages: • Allows comparison • Easier assessment of attribution • Territory-wide influence • Enables program-level cost benefit analysis
Disadvantages: • Generalist, not expert • Limits evaluation competition	Disadvantages: • Shallow evaluation, compromise	Disadvantages: • More differences than just program delivery • Data may not exist to allow consistent methods • Ignores program interactions

Cross-program/implementer Results and Portfolio-level Decision Making

Portfolio evaluations allow for results that cross programs or implementers. It also allows for portfolio-level decision making. For both single implementer and single program models, the advantages and disadvantages include:

- **High-level decision making:** Cross-program/implementer results and the high-level analysis provided by a portfolio evaluation allow for very high-level decision making. A portfolio evaluation can address questions such as, "Should implementation money be moved from Program A to Program B?" or, "How is our nonresidential energy efficiency portfolio viewed by our customers?" (Border et al. 2011)
- **Methods endorsed by many industry professionals:** Portfolio-level evaluations that involve teams of evaluators encourage evaluation methods that are endorsed by a number of contractors, resulting in fewer outside challenges.
- **Misleading results:** Cross-program and cross-implementer comparisons can be misleading if they are not supported by significant levels of analysis to ensure consistency in the indicators. An analysis that does not account for the strongest influences may produce inaccurate results and can lead program implementers astray.

For single implementer models, the advantages and disadvantages to cross-program results and portfolio-level decision making are:

- **Evaluator determines effective approach:** When awarding a contract for one program evaluation at a time, the program administrators decide how much money to allocate to each program's evaluation, which might not be the most cost-effective way to evaluate the portfolio. Some programs with large implementation budgets (such as prescriptive rebates) may not cost as much to evaluate as smaller programs (such as pilots). This is especially advantageous for utilities or regulators with limited or inexperienced evaluation staff. Allowing the evaluator to propose the distribution of funds will ensure a

more cost-effective overall evaluation, but may also take some of the control away from the evaluation administrator.

- **Cross-cutting evaluations and sector-level market forces:** A portfolio evaluation allows a comprehensive look at cross-cutting programs such as trade ally networks or education and training programs. It also provides a sector-level look at the forces acting on the energy efficiency market (Mahone and Hall 2010), and allows evaluators and implementers to determine whether programs are addressing hard-to-reach customers and ensuring that all ratepayers have access to program benefits.
- **More realistic view of programs from a customer perspective**: Customers often do not view programs individually (whether they are marketed that way or not), but rather see them as a family of services and incentives that they can tap into. Portfolio evaluations more closely reflect that perspective and allow evaluators to look at the interactions between programs and how they influence customer participation.

For single program models, portfolio evaluations make it possible to identify program best practices that can be transferred from one implementer to others and allow utilities to learn from each other. However, those same analyses can identify and single out "winners" and "losers," which may introduce a political element to the evaluation that is difficult to overcome.

Table 3 provides a summary of the advantages and disadvantages of portfolio evaluations associated with cross-program results and portfolio-level decision making for single implementer, single program, and those that apply to both program models.

Table 3. Advantages and Disadvantages of Portfolio Evaluations by Program Model Cross-program Results and Portfolio-level Decision Making

Single Implementer	Both	Single Program
Advantages: • Evaluator determines cost-effective approaches • Cross-cutting evaluations • Pays for small programs • Acknowledges market forces within an entire sector • Customer view of programs	Advantages: • Allows high level decision making • Methods endorsed by many evaluation professionals	Advantages: • Can sometimes identify transferable solutions between implementing entities
Disadvantages: • Lose control of how funds distributed	Disadvantages: • Cross-program/implementer comparisons can be misleading if not supported by significant levels of analysis to ensure consistency of indicators	Disadvantages: • May not reflect political realities • Winners and losers can be singled out

Best Practices of Portfolio Evaluations

There are a number of best practices that can improve the effectiveness of a portfolio evaluation. Many of these also apply to non-portfolio evaluations, but become even more important when dealing with the complexity and size typical of a portfolio contract.

- Choose the best evaluator or evaluation team.
- Clearly define the scope.
- Plan ahead.
- Create a realistic schedule.
- Set administration up for favorable outcomes.

Choose the Best Team (Evaluation Partner)

Many portfolio evaluations are large and/or diverse contracts that require more than one evaluation firm to complete. If RFP administrators wish to receive quality bids from the best qualified teams, then the RFP timeline should allow sufficient time for these teams to be negotiated and formed. For single program evaluations, choose the team with expertise in a number of subtasks, such as measurement and verification, net to gross analysis, or cost effectiveness. For single implementer evaluations, choose the team with expertise in the specific program or segment that is the most important to you. Although this compromises the evaluation of the other programs, it provides you with the best possible information in the area that you are most interested. Make sure the winning team has a history of working together effectively and has the capacity to complete the work (with the team identified in the proposal) within the established timeline.

Clearly Define the Scope

Authors of RFPs and program administrators would do well to clearly define the evaluation scope and objectives prior to releasing the RFP. Why are you doing the evaluation? To meet regulatory requirements? To achieve all possible cost-effective energy efficiency? To learn more about your markets? Once the objectives are defined, use them as a litmus test for each portion of the evaluation and ensure that every proposed study helps to meet those objectives. Determine whether a spillover analysis or market transformation study is desired, and clearly define the parameters (i.e. market) before issuing the RFP. Evaluation dollars may be set aside for high level, cross-cutting analysis and ad hoc activities that come up in the course of the evaluation.

Plan Ahead

Planning for a portfolio evaluation is different for the single implementer and single program models.

Single implementer. To facilitate a single implementer portfolio evaluation, it helps to develop a portfolio-level view of the programs. Create a high level view of the marketing plan and develop portfolio-level and program-level logic models that define what barriers the programs address and how they overcome them. Develop portfolio-level evaluation questions for the team to study, and write a data dictionary defining the database variables and how they are used to help the evaluators navigate your tracking data. Your evaluator can help you navigate these questions. Incorporate evaluation requirements into your third-party implementer / contractor agreements and inform them of the expected timeline. Also inform the internal resources that will be affected, such as the database administrator, customer service, and account managers.

Consider informing other stakeholders as well, such as citizen action groups, regulators, and other utilities in the area.

Single program. To facilitate a single program portfolio evaluation, first define what the single program is. What are the common factors that define this program for all of the program implementers? What must the implementers do to meet the program and regulatory requirements? It is often useful to develop a program logic model (your evaluator can help) that defines what barriers the program will address and how it will overcome them. In addition, define a single source for savings estimates (TRM) and a single data tracking structure and require all implementers to conform to that structure. Gain agreement from all of the implementers and form a team that can address implementation and evaluation questions as they arise. As the program starts, collect implementation history such as when the program began in what territories, challenges and how they were overcome, and any inconsistencies in program rollout among the different implementers. Require interim reporting to give an idea of program progress and trends, ensure all of the implementers are following the process correctly, force them to "practice" data delivery, and spread out the work necessary to provide data for the evaluation. Just prior to the evaluation, inform the implementers of the evaluation, tell them what to expect, and gain their buy-in and support of the evaluation. Consider informing other stakeholders as well.

Create a Realistic Schedule

When determining the schedule for an evaluation, start by identifying any hard deadlines that the evaluation will have to meet, such as regulatory filing deadlines. Work around other deadlines that will involve a department, such as program planning, vacations, or holidays. Include time for internal and external review and define review periods and penalties for non-compliance. Spread out the deadlines for your portfolio evaluation rather than requiring one large deliverable on a single date. Distributing the deliverables will make it easier on the evaluator, easier to review, and produce a better final product. It will also allow the progress of the evaluation to be gauged and show the likelihood that it will be finished on time.

Set Administration Up for Favorable Outcomes

Portfolio evaluations cost less to administer than individual program evaluations, but they also require a lot of organization to manage. Choose a single project manager that is detail oriented, well organized, and can lead your internal team. Require a single point of contact from your evaluator. Stay involved in the evaluation throughout the process through regular meetings and interim deliverables. Review the deliverables to make sure the evaluator understands and addresses the needs of the project. Clearly define the invoicing and reporting requirements and don't be the reason for delays. Work to meet the evaluation schedule for data and documentation delivery and deliverable review. Expect surprises over the course of the evaluation. Consider getting stakeholders involved from the beginning as necessary.

Examples and Lessons Learned

DNV KEMA has conducted a number of portfolio evaluations, including both single implementer and single program. Some have been public benefits programs whose evaluations were administered by state agencies, some have been private utilities, and some have been for consortiums of utilities using a single program implementer. This paper concludes with a presentation of recent portfolio evaluations, how the portfolio model was effectively used, and lessons learned.

Example Utility 1: Single Implementer

We evaluated 21 energy efficiency programs, including 6 nonresidential programs, for a single utility within 1.5 years.

Effective Use of the Portfolio Approach:

- Each program manager at the utility was responsible for 1 – 4 programs. Early in the evaluation, we were able to develop relationships with those managers that made the later program evaluations easier to complete.
- We identified customers that participated in multiple programs and made sure they were only contacted for the evaluation once.
- We used participant surveys to ask about non-participant awareness and questions about other programs.
- Multiple programs used prescriptive savings estimates based on the same assumptions. The portfolio evaluation allowed the prescriptive savings estimates to be reviewed only once, rather than once per program.
- Because of the portfolio-level evaluation, we were able to study three pilot programs effectively through cost savings in other areas.
- We were able to pay for a broadly delivered customer survey that identified the potential for additional energy savings as a result of the utility's general education programs. Although follow-up work is necessary to develop defensible results, the original evidence would not have been found without the portfolio-level evaluation.

Lessons Learned:

- The project was originally set up to have the evaluation for all 21 programs due on the same date. The evaluation team could not meet that schedule and submitted reports for only 6 programs by that date, though even that small amount made review cumbersome. Later deliverables were spread to one program report per week, which was easier to produce and to review.
- We struggled with the utility's database, which was the primary database for most of the large programs. General variable names held different information for each program. The utility did not have a data dictionary which slowed the initial data preparation tremendously.
- Some of the programs offered by the utility were "statewide," in that the other investor-owned utilities in the state offered the same programs with the same savings estimates

and general program delivery. Since we were only evaluating the single utility, it hampered our ability to make substantive recommendations about the portions of the program that had been negotiated by the group. The utility that hired us did not have the authority to make the recommended changes.

Example Utility Group 2: Single Implementer

We evaluated 8 to 10 energy efficiency programs, including 3 nonresidential programs, for two utility consortiums that contracted with a single program implementer. Two rounds of evaluation were conducted over 2.5 years under two contracts; one for each consortium.

Effective Use of the Portfolio Approach:

- At the consortiums' request, we originally submitted two separate budgets, one for each consortium, and produced a single combined budget after the contract was awarded. We were able to reduce our overall costs by 30 percent by reducing fixed costs associated with database verification, survey instruments, sampling, survey delivery, analysis, and reporting.
- We were still able to produce verified results at the required statistical level for both consortiums.
- We added trade ally surveys and retailer interviews that would not have been possible if the programs were evaluated individually. During the second round, we also added general population surveys to study awareness, customer barriers, and spillover.
- We produced certified results for utilities with extremely low implementation budgets in the hundreds of dollars.

Lessons Learned:

- We struggled initially with the evaluation. Different utilities in the consortiums implemented different measures for each program. Once we gained experience with the portfolio organization, we were able to overcome the initial confusion.
- We kept the initial evaluation team small to ensure consistency and build on the experience gained with the analysis method and single implementation contractor. As a result, the evaluation took longer to implement, and early regulatory deadlines meant that we were not able to include the entire program year in our sample.

Example Public Benefits Program 3: Single Implementer

We are leading a comprehensive multi-year evaluation of a statewide large commercial and industrial energy efficiency program. In this role, we are responsible for the successful planning, execution, and delivery of all C&I evaluation activities in the state for 2010 through 2012. This evaluation is really a hybrid of the single program and single implementer model.

Effective Use of the Portfolio Approach:

- We assembled a strong technical team with a history of successful collaboration. The team is comprised of seven firms with complementary and redundant skill sets. Expertise in all facets of energy research is represented. The team is well positioned to address all the potential research needs of the client over the multi-year evaluation period.
- Experienced and engaged evaluation leadership teams were convened for the evaluators and utilities. Both teams are led by experienced project managers with a shared understanding of their roles and the purpose of the evaluation.
- We provide weekly and monthly project-wide written status updates. Additionally, we meet weekly with the utilities' evaluation project manager to share information, insights and ensure all projects are on track.
- We divided the evaluation into three research areas (1) Impact Evaluation, (2) Process Evaluation and (3) Market Characterization/Other Studies. Evaluation staff and utility "Leads" were assigned to the research area based on experience and expertise.
- Under the guidance and direction of the utility Leads, we led the development and execution of the individual projects. The utility and evaluation Leads collaborated on the collection of input from all stakeholders; including evaluation and implementation staff at all utilities in the state, the regulatory body and its consultants, and other interested parties.
- The statewide evaluations have yielded evaluation cost savings; ensured consistency of reporting and encouraged consistency of program delivery across utility service territories.

Lessons Learned:

- Early on in the evaluation, we learned that all stakeholders were not able to actively engage in the research due to competing responsibilities. Several efforts and characteristics of the team enabled the research to successfully proceed in this environment; including: strong leadership and built trust among the utilities; concise and repeated status updates; clear review and stakeholder input protocols; staging of deliverables; and reoccurring conference calls.
- There are unlimited risks for a project of this scale. Effective and honest communication internally and with the client is paramount. The internal leadership team meets every Monday followed by a meeting with the client.

References

Bordner, R., C.A. Dickerson, M. Rufo, J. Schlegel. Panel on Portfolio-level Evaluation. *Impact Through Evaluation*, Boston, MA: International Energy Program Evaluation Conference, August 2011.

Bruchs, D., G. Azulay & R. Wirtshafter. "Different but the Same: Assessing the Statewide Standardization of Historically Independent Programs." *Impact Through Evaluation*, Boston, MA: International Energy Program Evaluation Conference, August 2011.

Share, S. & M. Sherman. “A Common Evaluation Framework for Comparison of Smart Grid Program Impacts Across Utilities.” *Impact Through Evaluation*, Boston, MA: International Energy Program Evaluation Conference, August 2011.

Tannenbaum, B, C. Stemrich, L. Schauer & R. Prahl. “Lessons Learned: 10 Years of Focus on Energy Evaluation.” *Impact Through Evaluation*, Boston, MA: International Energy Program Evaluation Conference, August 2011.

Mahone, D. & N. Hall. “Pursuit of Aggressive Energy Savings Targets: Aligning Program Design and Evaluation.” In *Proceedings of the ACEEE 2010 Summer Study on Energy Efficiency in Buildings*, 5:240-254. Washington, D.C.: American Council for an Energy-Efficiency Economy.

Michals, J. & E. Titus. “The Development of an Evaluation, Measurement and Verification Forum for the Northeast Region.” In *Proceedings of the ACEEE 2008 Summer Study on Energy Efficiency in Buildings*, 5:206-218. Washington, D.C.: American Council for an Energy-Efficiency Economy.