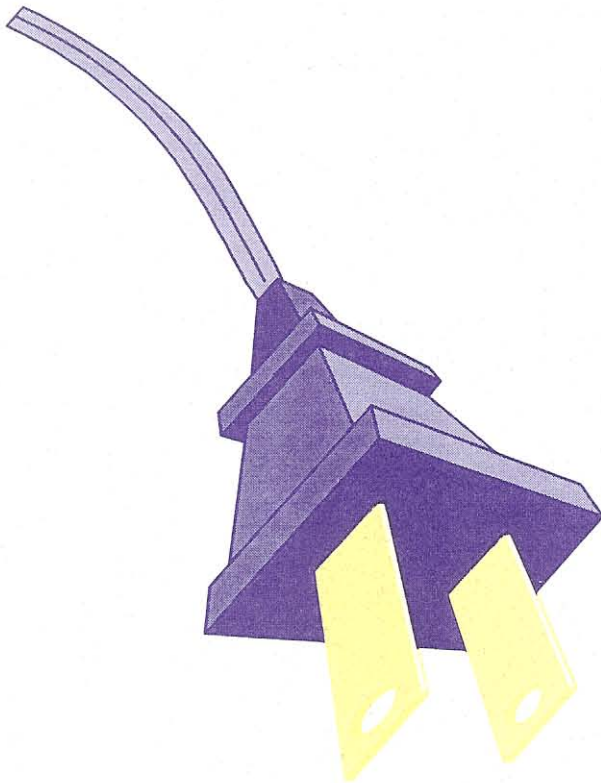


A Comparative Study of the Northwest Energy Efficiency Alliance and the Northeast Energy Efficiency Partnership



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A Comparative Study of the Northwest Energy Efficiency Alliance and the Northeast Energy Efficiency Partnership

I. Introduction

The purpose of this study is to provide an assessment of two regional market transformation efforts in the United States. The organizations facilitating these regional efforts are the Northwest Energy Efficiency Alliance (the Alliance) and the Northeast Energy Efficiency Partnership (NEEP). Both organizations emerged in late 1995 with the purpose of facilitating the implementation of market transformation for energy-efficient technologies in their respective regions.

In the wake of the restructuring of the electric utility industry, energy efficiency has received waning support from many utilities and regulators. As a result, to reduce costs and rate pressures, demand-side management (DSM) resource acquisition programs are being scaled down in many regions in the U.S. Market transformation has been advocated since the early 1990s as an alternative strategy to traditional DSM. Its promise rests on the use of leverage points to gain energy savings at reduced cost, in a manner that energy-saving investments continue beyond the life of any particular program.

A. Role of DSM Market Transformation in a Restructuring Environment

The context leading to the development of the Alliance and NEEP reflect their regional environments. Both the Northeast and the Pacific Northwest had engaged in significant DSM and energy-conservation activities during the previous ten-to-fifteen year period. This significant experience with DSM led to substantial interest in using market transformation as a vehicle for energy-efficiency efforts in a restructured, more-competitive market. Of particular significance is that the Alliance funding was initiated as a temporary energy-efficiency solution while restructuring issues in the Pacific Northwest sort out. NEEP funding has become more certain and available, as restructuring has been resolved in many of the Northeastern states. The Alliance uses a very formal, centralized structure to design, manage, and implement its market transformation programs, while NEEP's structure is more facilitative and ad hoc. Other important differences of both structure and approach are emerging in the two regions.

The difference between traditional DSM and market transformation is primarily one of focus. Both have the end goal of increased energy savings. However, traditional DSM programs have focused on resource acquisition efforts, "acquiring energy efficiency on a customer-by-customer basis, usually through rebates or direct installation"(SRC, 1996). In contrast, market

transformation programs focus on achieving lasting market effects by addressing different market participants, using the methods most appropriate to achieve a market effect with each participant group. This usually includes a mix of advertising, education and training, as well as incentives delivered differently to the appropriate combination of manufacturers, retailers and end-users.

Some traditional DSM programs have created lasting market effects; more often though, the programs have been unable to achieve significant market penetration. By using market transformation approaches with those technologies most suited to the method, financial resources are likely to be required to achieve the same or more-substantial market effects, and thus energy savings. The result, it is believed, will be more energy efficiency and more value to consumers, at lower cost, over time.

B. Challenges of Market Transformation Program Design, Implementation, and Evaluation

The promise of market transformation also holds significant challenges. In order to implement this strategy, one must understand the market in which the technologies are manufactured, sold and used. Once this is understood, one can identify appropriate strategies for stimulating the desired market effects.

Traditional DSM programs provide some guidance in this process, but there are many additional things to learn. Market participants need to be contacted and deals need to be negotiated. Skepticism on the part of manufacturers and retailers is often significant and this must be addressed for a program to be effective. The steps to effective market transformation program implementation also involve bringing multiple utility and non-utility parties together to ensure that the market is treated in a comparable manner by all who are seeking to further the program effort.

This later point is precisely the role played by the Alliance and NEEP in their respective regions. To do this, they have developed unique organizations reflective of their environment, and have begun developing and implementing programs that they believe meet the needs of their regions. This has included developing their own terminology for these efforts: the Alliance implements “ventures,” while NEEP facilitates “initiatives.” They have also each developed their own strategy for selecting, designing, implementing, and evaluating programs.

Research, for evaluation and for market assessment, is proving to be a vital component of these market transformation efforts. Both organizations have a strong commitment to research by measuring baselines, conducting market assessments, and doing evaluations, though they have approached this in different ways. The consistent message as to when research efforts should be implemented is they should be done as early and as frequently as feasible. The question of

whether market changes can be attributed to the programs is the most challenging evaluation issue facing market transformation. Both organizations see evaluation and market research as the key to addressing this issue.

It is currently too early to conclude whether either organization's approach is better than the other, or that they are equally satisfactory. Their first two years of effort have resulted in a number of successes for each organization, as well as several significant challenges. Their funding, structure, and involvement of stakeholders is different. These differences, and their impact on how the two organizations approach and implement market transformation, is the subject of this study.

C. Overview of This Study

This study report includes six chapters. This first chapter has provided an introduction to market transformation and the market transformation efforts being carried out by the Alliance and NEEP. Chapter two addresses the structure of the two organizations and how the organizations fit into the regulatory environment of their region. Chapter three provides an overview of market transformation design and implementation issues, primarily through a review of three programmatic efforts being implemented by both organizations: residential energy-efficient lighting, resource-efficient clothes washers, and energy-efficient motors. Chapter four addresses evaluation issues for market transformation programs, with particular emphases on the evaluation of these three programs. Chapter five addresses the regulatory framework issues of cost-effectiveness and financial remuneration; and chapter six provides our conclusions.

VI. Lessons Learned So Far

In this concluding chapter we discuss the preliminary lessons learned to date from the efforts of the Alliance and NEEP to transform markets for energy efficiency products and services in the Northwestern and the Northeastern regions of the U.S. Since both organizations are still relatively new and most of their programs have only been launched recently, it is really too early to draw sweeping conclusions, particularly about their ability to permanently transform specific markets. Still, important lessons are emerging with respect to the successes and challenges of establishing regional market transformation collaboratives and fielding new program efforts. It is our hope that these lessons will be useful to stakeholders involved both in the Northwestern and Northeastern regions; but perhaps more importantly, to stakeholders in other regions of the United States or in other countries who are contemplating initiating similar endeavors.

A. Getting Organized

Like with any new institution, both the Alliance and NEEP have required significant up-front commitments of both time and money to become operational. Both have organized a large number of utility and non-utility stakeholders, developed entire new organizational structures, raised funds, hired staff, and negotiated policies and criteria. It took NEEP almost two years to field their first program. The Alliance fielded programs sooner. Both began with programs that were extensions of existing programs or programs that had already been in the works when the organizations were formed. There is no doubt that establishing regional efforts is a major undertaking and requires a serious commitment of time.

When the Alliance first began, the vision was that it would be a lean-and-mean organization with only a few staff members. But the Board quickly realized that to build a \$65 million business they needed adequate staffing. The Alliance currently has 14 staff, and NEEP is up to 8.5. Both organizations supplement their in-house expertise (which in both cases is substantial, drawing on long-term DSM experts) with consultant support. NEEP's administrative costs alone are at \$1 million per year and climbing, and the Alliance's are similar. It's already very clear that running a serious regional effort is not cheap; however, it is still likely to be extremely cost-effective compared to the administrative costs of designing and implementing comparable programs utility-by-utility or state-by-state (i.e., the traditional DSM way).

Another important lesson learned so far is that regional efforts probably need to grow organically from the historic DSM institutions and structures that already exist in the region – at least initially. The Alliance established a very centralized organization to oversee the entire market transformation operation from program design, through implementation, and including evaluation. It was, in many ways, a logical extension of the Northwest political and physical

landscape where much, but not all, of the traditional DSM programs have been regionally designed and coordinated through the Bonneville Power Administration and the Northwest Power Planning Council. The Alliance also emerged like a phoenix, as many of the utilities in the Northwest were cutting their own DSM programs and staff in the face of restructuring pressures. The Alliance provided a vehicle for those utilities to continue some DSM at potentially much lower cost.

The Alliance has a very centralized structure, with a Board that directly controls the Alliance's pot of money and makes the final decisions about which ventures to pursue, in consultation with its staff. The staff is then responsible for managing the implementation and evaluation of those ventures. The Alliance's structure has a lot of appeal in that one organization, representing the various stakeholders holds the money, makes the decisions, and then manages the implementation of a single, regional effort. When properly functioning, this model can lead to substantial efficiencies and flexibility.

But in the Northeast this model was not considered a logical extension of the local DSM culture, particularly in New England where the utilities have not been cutting back on their DSM programs or staffing and have less experience with centralized structures. Although, there is some precedent in New England for coordination among certain utilities on particular programs, the utilities largely enjoy running their own programs. Also, most of the New England utilities have had long-standing collaborative processes with numerous non-utility parties which reinforces the utility-by-utility approach.

So the model that has emerged for NEEP is much more of a facilitative or collaborative type model, where NEEP staff work hard to help develop initiatives with a high likelihood of support by utilities. NEEP's Board controls neither the program funding budget nor the ability to approve final program designs. Ultimately the utilities and other potential participants/funders (e.g., NYSERDA) self-select which initiatives they wish to join, often in consultation with other stakeholders and with some guesswork as to regulatory support. Thus the NEEP process is much more ad hoc and much less predictable than the Alliance's. It also is probably more beholden to utility interests than the Alliance. Meanwhile, NEEP's role within the regional process has been the subject of on-going debate and evolution since its inception.

But despite its perhaps more cumbersome process, NEEP and its stakeholders have been able to reach agreement on numerous initiatives which are now in the field. Moreover, those initiatives both have larger budgets than the Alliance's and, given the passage of restructuring legislation and PUC orders in many states in the Northeast, have clearer prospects for long-term funding than the Alliance. Another structural advantage of NEEP's ad hoc process is that its programs can organically grow into other states and areas to forge an ever larger region. This is occurring as program sponsors expand both to other states in New England and beyond to New York, New Jersey, and even Delaware on some initiatives.

It is not entirely clear whether the Alliance's more centralized model or NEEP's ad hoc model would best serve other regions considering commencing regional market transformation initiatives. California and New York, which some argue are regions in their own right, provide yet another model of centralized statewide administration – New York through NYSERDA, a state agency, and California via bidding out administrative oversight.³⁶ Ideally, some centralization of funding and decision-making has a certain logic and appeal, given the understanding that market transformation efforts need to be regional in scope, consistent in design, and flexible enough to change course in the face of new information. But such structures may not be readily reproducible in other states or regions where there is no history of such coordination. Moreover, in places where utilities have substantial expertise and experience delivering DSM programs, and are empowered to continue doing so, a consensus-based approach such as NEEP's may be a more logical historic extension, and therefore easier to start politically. It is also possible that such ad hoc processes may prove to just be stepping-stones to more centralized organizations over time. NEEP continues to struggle with this issue.

Another key ingredient to any regional market transformation effort is obviously adequate and sustained funding for implementing and evaluating actual programs. If there's no interest by utilities, regulators, or legislatures to endorse these efforts and adequately fund them, they will not get off the ground. In NEEP's case, enough states in the Northeast have resolved restructuring issues through legislation or through PUC orders which include substantial funding for DSM over the next few years (Massachusetts, Connecticut, Rhode Island, and New York), that by all predictions, NEEP initiative funding will continue to increase in the near-term. In the Northwest, it is much less clear. The Alliance has already committed basically all of their \$65 million, three-year budget and the utilities have not yet committed additional funding – most are awaiting the outcome of restructuring legislation in their respective states.³⁷

Broad participation of diverse stakeholders in regional market transformation efforts also appears critical both for purposes of garnering good ideas as well as mustering adequate political support. This is particularly important for new market transformation efforts which hold as a central tenet the need to address markets comprehensively and with all actors (consumers, retailers, manufacturers, and other trade allies). It is also critical to have broad support for these new constructs in the midst of massive and comprehensive restructuring, where DSM is often relegated a back seat to the bigger issues of market structure and stranded-cost recovery.

While both NEEP and the Alliance have achieved a high degree of regional diversity in their organizations, there is much less heterogeneity of interests and perspective. Both organizations

³⁶ The bidding out of administrative services is still up in the air following a veto in October of a bill which included funding necessary to implement the new scheme.

³⁷ To date, only Montana has passed restructuring legislation. It does include system benefit charge monies for DSM.

are still largely dominated by utility membership. Twelve of the Alliance's eighteen members are utilities and, as discussed previously, NEEP's working group members who make the ultimate decisions on program direction and design are almost entirely utilities. This is not surprising, given the regional histories of strong utility involvement and ongoing funding by utilities' ratepayers. But both organizations are struggling with this issue. The Alliance is considering reconstituting its Board with less utilities and more diverse stakeholders once restructuring is clarified. NEEP is laying the groundwork to start an industrial customer advisory group. Still, successful regional efforts will likely ultimately require greater input and buy-in from more diverse interests.

Of particular interest to NARUC is the role that regulators might play in these regional efforts. Clearly, interested regulators will need to lay a solid policy framework foundation or these efforts cannot possibly flourish. This includes supporting market transformation efforts and allowing adequate funding and timeframes where they still have this flexibility under their state's restructuring rubric. Also, as discussed in Chapter V and later in this chapter, commissions need to clarify their policies on cost-effectiveness and financial remuneration for utilities participating in these regional efforts. Lastly, commissions, probably through their staff, should get involved in the collaborative efforts wherever possible – either directly as parties where this is legally allowable and structurally possible, or indirectly as ad hoc members or informal reviewers of interim products (Raab, 1994).

Commission staff from the four Northwestern states serve as ex officio members of the Alliance Board. This has apparently been quite helpful, both in keeping the Commissions informed about the progress and decisions of the Alliance, and in allowing the Commissions to interject concerns and ideas in the formative stages of deliberations on a range of issues from policy development to venture design. NEEP does not have a comparable means of gaining regulatory input and buy-in. Although working group meetings were originally open to regulators, they are now only periodically invited and rarely attend. NEEP does, however, periodically sponsor regional workshops on over-arching policy or design issues (e.g., cost-effectiveness, evaluating market transformation initiatives) where regulators are invited to attend and serve on panels. NEEP staff also periodically try to make presentations to regulators to update them on NEEP's activities. But regulators in the Northeast remain involved primarily at the tail-end of initiative development, when they have to review and approve them as part of utility DSM filings.

B. Designing and Implementing Market Transformation Programs

The first hurdle in designing market transformation programs is to develop criteria to use to screen all the potential candidates. Both the Alliance and NEEP developed such criteria early-on. The Alliance's criteria screen potential ventures for cost-effectiveness, their ability to leverage the market, and their likelihood of creating lasting changes in the market. NEEP

includes versions of these same criteria but also has a set of criteria related to the enthusiasm and interest of potential funders. This is another example of where NEEP is more constrained by its structure than the Alliance. Even if a potential initiative makes good sense from a regional market transformation perspective, if it does not serve the strategic interests of potential funders, currently mainly the utilities, it does not pass NEEP's screening criteria.

As of this writing, over 30 ventures have passed the Alliance's screening criteria and are in the field. NEEP has 7 initiatives in the field. Both organizations are considering introducing additional programs in late 1998 and into 1999, although the Alliance is constrained by reaching the end of its initial three-year budget.

The Alliance's ventures cover a wide range of technologies, markets, and program types. Some of its earlier efforts were largely continuations or adaptations of preexisting utility programs or programs already on the drawing boards. As such, they often resembled more traditional DSM programs than the latter programs which have been more directly tied to detailed assessments of particular markets. NEEP's programs, though fewer than the Alliance's, also cover a range of markets and approaches. Since most of the utilities in NEEP are also continuing to run their other, preexisting programs, there has been more discussion and debate in the Northeast as to how NEEP's programs would dovetail with their own. In several instances, such as residential lighting and commercial motors, the ultimate NEEP program was merely a modification of a preexisting utility program. The big difference, however, is a greater level of standardization, coordination, and joint delivery among the utilities than previously existed.

In Chapter 3 we discuss three areas where both NEEP and the Alliance offer programs – residential lighting, high-efficiency clothes washers, and commercial motors. It is still too early to draw definitive conclusions about these efforts, particularly for the NEEP initiatives which were unveiled later than the Alliance, but there are already some lessons. First, experienced people can look at similar markets and draw different program design conclusions. The Alliance's residential lighting fixture venture focuses on manufacturer rebates while NEEP's fixture program still focuses on customer rebates. We cannot yet tell the relative effectiveness.

Second, it's hard to predict with great certainty what program designs will be effective and which will not. The key is to be able to gauge effectiveness on an on-going basis and make mid-stream corrections. The Alliance's WashWise program had so many more takers than the Alliance initially predicted, capturing 10-14% of the market instead of 3%, that it was able to comfortably cut rebates from \$150 to \$130. However, the large size of the second cut appears to have been more out of a need to preserve their almost entirely committed budget, than a belief that the market was almost entirely transformed.³⁸ The Alliance's motor venture was another story.

³⁸ Notably, the Board had initially stated they would terminate incentives if and when Whirlpool (the largest washing machine manufacturer) entered the market. Coincidentally, Whirlpool did enter the
(continued...)

Participation was so low, that the Alliance canceled the program and redesigned it. Another lesson here is that regional programs will require a certain degree of tolerance for experimentation, particularly in the formative stages.

Third, the more you know about the market you are attempting to influence prior to finalizing program design the better. The evaluation of the Alliance's motor venture identified two key changes in the market that the program designers had not adequately accounted for – a movement by businesses to rely on just-in-time shipping, rather than stocking infrequently-purchased motors, and the rapid impact of EPACT's motor standards (which went into effect in October 1997) on the efficiency of available stocked motors. Market assessments and baseline studies should be conducted prior to finalizing program design whenever possible.

There is some debate in the literature and among practitioners regarding the importance of formulating clear exit strategies as an integral part of program design. The theory is that market transformation strategies should have clearly articulated and reasonably achievable beginnings, middles, and ends – with the end being some point in time when the program can end, once the market for a particular technology has been more-or-less permanently transformed. The Alliance requires an exit strategy, but defines it in a more narrow fashion – how will the Alliance wind down the program in the few years of its funding cycle in a way that “increases the probability of energy efficiency remaining after exit of the Alliance.” NEEP does not require an exit strategy, which has been pretty controversial among its stakeholders. It prefers to use the term “transition strategy” to capture the notion that initiatives may run their course, but technologies and markets are always evolving and may continue to benefit from interventions. Even so, the NEEP projects do not have clear transition strategies but do set goals and targets. The lesson emerging from the field appears to be that it is very difficult to set exit strategies at a program's beginning, and that such strategies may be more nebulous than previously envisioned. Still, there is general agreement that some vision about how programs can change and mature over time is necessary (i.e., a logical sequence for transforming particular markets with specific technologies).

In summary, regions seeking to design and implement new market transformation programs will need to figure out which markets and technologies to pursue initially. Comprehensive criteria are critical. Also, the lists of Alliance and NEEP programs are a solid jumping-off point. But each region will need to take stock of its own unique circumstances when prioritizing their efforts. Some markets and technologies that are very important to some regions – say air-conditioning in the South or manufactured housing in the Pacific Northwest – may not be big-ticket items elsewhere. Also, programs that made sense last year, may already be outdated due to the adoption of national standards or widespread adoption. Finally, the best intervention design

³⁸ (...continued)
market the same month the incentives were reduced, with full knowledge the rebates were being eliminated for end-users.

can vary from market to market due to existing infrastructure and common practice. Regions need to analyze their markets closely before leaping into the fray.

C. Evaluating Market Transformation Efforts

It is still too early to tell very much about the success of new regional market transformation programs based on evaluation results. The Alliance has only completed detailed evaluation of a few of their ventures. NEEP has not yet completed any evaluations of its initiatives. However, both the Alliance and NEEP have laid solid groundwork for future evaluations by completing baseline studies, market assessments, or both, in most of the markets they are trying to transform.

There are still some lessons learned at this early stage of market transformation program evaluation from the few evaluations and market studies that have been completed. First, evaluation of these approaches can be accomplished. However, evaluation is conducted within the context of markets. Both the Alliance and NEEP recognize that markets are dynamic and they do not normally respect utility or state boundaries. The success of WashWise is probably rooted as much in the market dynamics as in the program. This leads to another conclusion: market forces are at work that impact programs in unanticipated ways; therefore, evaluations need to be broadly focused in order to attend to the various forces.

The Alliance sees evaluation as part of an adaptive management approach, not as a report card. It has demonstrated that programs can be flexible enough to respond to findings and recommendations from evaluations, and evaluations can be flexible enough to respond to program changes. NEEP hopes to implement a similar process. However, changing program designs mid-stream may be more difficult for NEEP because of its consensus-based decision-making structure and because NEEP's utility partners still typically require regulatory approval of major program design changes.

Two evaluation issues that are still evolving are: attribution of market effects to the program and measurement of lastingness or permanence of the market effects. Methods to address these issues are likely to form the core methodological debate in market transformation evaluation, much as the issues of net savings measurement were at the core of traditional DSM evaluation debates. However, these issues are likely to be addressed through methods to develop better questions rather than through improved statistical modeling techniques. The focus on question development will be to ensure that the research team poses sufficiently detailed and probing questions to understand respondents' motives and to draw conclusions about the attribution and longevity of the market effects. Until there are multiple years of data, statistical modeling approaches will have limited value.

D. Setting the Right Policy Framework

Regional market transformation programs are being interjected at a historic crossroads – a time of sweeping electric utility regulatory reform and restructuring. The move to market transformation is in part a response to this reform – “How can we do more DSM with less funding?” The movement is also a logical extension of utility-sponsored DSM program design, which had been gravitating to both more coordinated and more highly leveraged and targeted approaches. But these new regional efforts, coming at the same time as regulatory reform, necessitate revisiting some of the basic policy framework approaches which helped to shape traditional DSM and compensate utilities for their successful implementation – cost-effectiveness testing and financial remuneration policies.

When system benefit charges are in place which set the level of DSM expenditures, cost-effectiveness testing is no longer needed to help set budgets by uncovering all the DSM “that is cost-effective.” Cost-effectiveness analysis is relegated to a smaller, but still important, role of screening potential measures and programs and helping stakeholders to allocate finite budgets among a range of different programs. But with restructuring, these functions may also be less critical. Stakeholders may be more willing to pursue programs that do not appear cost-effective in the short-run, but promise to provide significant long-term benefits; or they may even want to pursue programs for other reasons, such as low-income programs, that are often not cost-effective, even in the long-run. With respect to the allocation of funds, cost-effectiveness will remain one of several factors used to allocate budgets, including equity, comprehensiveness, and capturing lost opportunities. Equitable distribution of DSM benefits are likely to be even more important in a restructured environment than they were previously in a resource-acquisition context.

Cost-effectiveness testing for market transformation-type programs in a restructured utility environment poses certain special needs to fully capture its unique benefits and costs. It also poses some challenging questions. First, market transformation programs need to be analyzed over long enough time periods to capture their full roll-out and the market effects that are often years down the road. Second, analysts will need to try and capture the benefits of non-participant spillover or the market effects in addition to direct participants, since this is the explicit goal of market transformation and its intrinsic value. Third, market transformation programs often have many side benefits, such as saving multiple fuels and resources. How, if at all, will these be captured in cost-effectiveness analysis? Fourth, it will be much more difficult to assign causality back to particular programs, let alone single utility actors, when there are regional efforts that may comprise many actors and several different programs. These difficulties are compounded by issues new to restructuring which must be answered for all DSM programs, such as what to use for the avoided costs. Finally, which type of test is consistent with a restructuring framework and portrays a helpful and complete comparison among different programs? The leading candidates are societal-based tests and utility or electric system-based tests.

Both NEEP and the Alliance use multiple tests, over both a short and longer timeframe to explore the costs and benefits of their potential programs. Both also use sensitivity analysis to test various assumptions. The Alliance uses a total resource cost test, an electric utility test, and a consumer test (which looks at the simple payback). It does not use a societal test. NEEP uses a societal test, an electric system test, and something they call the “leveraged-benefit” test that compares the societal benefits to the electric system costs. For the three programs that we examined in Chapter 5, all are more cost-effective in the longer timeframe than the shorter timeframe for all tests. In the ten-year timeframe all the programs appear to be very cost-effective for all tests, though more so in the electric system test than the TRC or societal test.

The use of multiple tests – over different timeframes and with varying assumptions – seems to be useful in providing stakeholders with a more comprehensive picture of potential costs and benefits to help guide decision-making. Again, since the main purpose of cost-effectiveness testing in a restructured industry is to help rule out any programs that appear to be real losers and to help allocate limited budgets (as one criteria of many), undue obsession with cost-effectiveness test design is probably not warranted. Clearly, a test that does not capture market effects or non-participant spillover could seriously underestimate the value of a market transformation program – even making an otherwise cost-effective program appear to be non-cost-effective. Either a societal- or an electric utility-based test accommodates this concern. Where numerous non-electricity benefits are expected, such as in the clothes washer programs, TRC or societal tests will incorporate these while utility tests generally will not.

Meanwhile a utility or electric system-type test, which does not include customer costs, more clearly demonstrates the leveraging of the utility or SBC expenditures. Therefore, there may be value in continuing to use two or more different perspectives when assessing the cost-effectiveness of market transformation programs. Alternatively, a hybridized test (as most tests have become anyway) which includes market effects (i.e., non-participant spillover) and possibly even some non-electricity savings as benefits, but excludes participant and non-participant costs, may prove to be the most useful and accurate approach with respect to these new programs launched in a restructured industry. But jurisdictions will need to evaluate these issues against the applications for cost-effectiveness, and balance completeness and accuracy against the cost of data collection and analysis (Raab and Schlegel, 1997).

The second major regulatory framework issue is financial remuneration for utilities. Historically, regulators in most states have allowed some combination of reimbursement for out-of-pocket expenditures; compensation for any lost base revenue (LBR) associated with saving energy; and incentives to reward positive performance. Both LBR and incentives have typically been based on estimated energy and demand savings.

To the extent that utilities continue to fund and implement DSM, market transformation programs can potentially create similar financial needs and consequences on utilities. But some of the historic underlying assumptions for compensating and rewarding utilities undoubtedly

need revisiting in light of industry restructuring. Moreover, market transformation programs promise to be much more challenging than traditional DSM programs with respect to developing reliable savings estimates.

Where system benefits charges are in place, there are at least mechanisms for recovering direct costs. Even without SBCs in place, the Northwest utilities committed three-years worth of expenditures with the expectation that regulators would approve those expenditures overall. There was never an intent in the Northwest, nor has it been the practice, that utilities would seek regulatory approval for each and every venture that the Alliance Board endorsed. NEEP's experience has been different in that there are SBCs in place in some New England states, but still each and every program that utilities choose to embrace generally must be pre-approved by regulators in their respective states. As we discussed, the Rhode Island Commission decided not to allow utilities to participate in NEEP's clothes washer initiative. Obviously, the need for regulatory preapproval for initiatives that may span numerous jurisdictions greatly increases the uncertainty and can dramatically slow down both the unveiling of a new initiative and major redesigns of ongoing programs. Obviously, regulators in each state must grapple with balancing the need to feel comfortable with program design and the desire for timely, and effective regional efforts. Direct involvement of regulators in an ongoing fashion, or some pre-approved regional market transformation budget with clear expectations but less need to pre-approve each program, or both, would be a viable means to facilitate regional market transformation activities.

Market transformation programs, if they are successful, may actually generate greater lost-base revenue (i.e., unrecovered fixed costs), than traditional DSM programs due to their potential to leverage greater long-run savings per unit of investment than traditional DSM, not to mention that stranded costs may be rolled into volumetric charges. Notably, LBR can occur regardless of who designs and delivers the services. But regulators have historically required relatively precise estimates of energy savings and have typically only compensated utilities for savings attributable to direct participants and not for market effects or non-participant spillover. Neither of these factors bode well for providing LBR for market transformation programs, and it is not surprising that none of the utilities in the Alliance or NEEP have requested LBR for their new market transformation programs. Nonetheless, some are requesting higher incentives, in large part, as compensation for abandoning LBR.

Financial incentives have historically been used in DSM programs to prod utilities to increase their DSM commitment through higher budgets, and to reward successful implementation performance. If SBC charges with pre-fixed DSM budgets become the norm, budget prodding probably goes by the wayside, but the need for successful implementation remains. We note that the utilities in the Northwest have not sought financial incentives from regulators for Alliance ventures, while Northeast utilities have requested incentives for implementing NEEP initiatives. The difference is largely institutional with a longer and more uniform track record in the Northeast of receiving incentives for traditional DSM programs, plus the fact that the New England utilities continue to run many other DSM programs for which they receive incentives.

In contrast, more than half of the Alliance's budget comes from public power which has never sought financial incentives, and the Northwest investor-owned utilities are ramping down their other programs and do not have a long or uniform history of requesting incentives.

The incentives that have been sought by New England utilities for implementing market transformation programs have ranged from roughly 4 to 12% of program costs. NEEP does not directly get involved in incentive issues, leaving both the size and design to member utilities and their regulators.

There are several options for rewarding utilities (or other non-utility entities) for successfully implementing market transformation programs. Historically, incentives have been based primarily on ex post estimates of ultimate outcomes – energy and demand savings. In some states, utilities were rewarded based on one key output – the number of measures installed – using preestablished relationships between measures and savings determined ex ante and updated periodically. Regulators have been very reluctant to reward utilities based solely on inputs (e.g., dollars spent) or even activities (audits, workshops), preferring a more direct nexus to actual savings.

Utilities in New England have proposed a range of indicators for rewarding incentives spanning activities (e.g., participating in baseline studies) to estimating ultimate outcomes (e.g., energy and demand savings). But the bulk of the incentives for the programs we examined in New England are based on outputs – the number of rebated lights, motors, and clothes washers, which is really a proxy for energy and demand savings. In some programs, utilities are requesting incentives for all three types of incentives in the same program. Also, none of the indicators selected really attempt to measure market effects, or how the markets are changing. The proximate indicators being used are pretty traditional, and not uniquely targeted at measuring market transformation.

Where utilities or other for-profit administrators continue to oversee regional market transformation implementation, some form of incentive is probably not unreasonable – particularly for utilities forgoing LBR claims. But if incentives are no longer to be rewarded based on fairly precise estimates of ultimate outcomes, such as energy and demand savings, more work needs to be done to tie incentives to proximate indicators that actually attempt to gauge the changes in market penetration and the transformation of the market itself. Regulators will probably also need to tolerate less exactitude with respect to attributing these changes to specific utilities, allowing for some reasonable allocation of regional success.