

ES. EXECUTIVE SUMMARY FOR RESIDENTIAL LIGHTING PROGRAM AREA (R1)

ES.1 INTRODUCTION

This volume presents results of a comparative analysis of residential lighting programs included in the National Energy Efficiency Best Practices Study (“Best Practices Study”). The overall Best Practices Study objectives, scope, and methodology are briefly outlined in Appendix R1A of this report. More details on methods and cross-program findings are provided in separate report volumes.

The Best Practices Study team (“Best Practices Team”) reviewed six residential lighting programs for this program area study (“R1 Programs” and “R1 Study,” respectively), each of which focused on increasing the efficiency of residential lighting through natural replacement purchases and occasional special events. Technologies addressed include compact florescent lamps and fixtures. The R1 Programs are listed in Exhibit R1-E1 below and presented in the body of this report. A discussion of the program selection process is provided in Appendix R1A.

ES.2 KEY CATEGORY THEMES

All of the R1 Programs provided clear examples of the value of using coordinated efforts. All were part of either regional or statewide coordination efforts, and each leveraged the Environmental Protection Agency’s (EPA) promotion of ENERGY STAR® -labeled products. Due in part to the nature of regional coordination and perhaps the lessons learned in efforts to work within existing market structures, the programs relied heavily on relationships with an array of market actors: manufacturers, distributors, retailers, and customers. Even for programs with clear resource acquisition targets and metrics, market activities were an important part of program efforts. Market transformation as a strategy is incorporated in all of the R1 Programs.

Three components that drive residential lighting program success were identified: partnerships and collaboration, relationship building, and simplicity of participation.

Strategic Partnerships and Collaboration improve program effectiveness and leverage resources. Program design has evolved in all R1 Programs to include a substantial amount of partnering and collaborating with other energy organizations and with market actors, including manufacturers, distributors and retailers. R1 programs demonstrate that attempts to work with the market are best accomplished as a group of energy organizations working together to influence market actors.

Relationship Building enhances trust and communication between market actors and program implementers. Making a long-term commitment to be active in the residential lighting market and build relationships with market actors is critical to success, particularly as programs evolve over time.

Simplicity of Participation drives program success by reducing barriers like consumer confusion and market actor “hassle factors.” Successful programs make it simple for customers

and other market actors to participate. Program elements that simplify participation include participation agreements with market actors that are limited to one page; bar codes on coupons that simplify retail redemption; forms and information that use clear language; and an overall willingness to problem solve. Additionally, focusing efforts on ENERGY STAR-labeled products has helped to simplify participation by enabling consumers to quickly identify program-qualifying energy-efficient choices.

Balancing regulatory requirements and program simplicity is an on-going issue in the residential lighting market, where most purchases are less than \$50. Clearly, in regulated environments verifying that the program actually delivered the products it claims it did and achieved its stated goals is a primary concern. In California, regulators were willing to forgo the surety of customer-level data in the interest of dramatically lower administrative costs and less hassle for consumers. This may become increasingly common as the per-unit costs for efficient lighting declines and the quantity and quality of available lamps increases.

ES.3 BEST PRACTICES SUMMARY

Best practices are identified in this study for each of the four major program components used to organize data collection and analysis. These program components are Program Design (including program theory), Program Management (including project management, reporting and tracking, and quality control and verification), Program Implementation (including participation process and marketing and outreach) and Program Evaluation. Best practices were developed by analyzing information from detailed interviews of program managers and thorough review of all relevant secondary sources such as program filings and evaluations. Exhibit R1-E2 presents the list of best practices developed from the analysis of R1 programs. The R1 Study also identified some specific lessons learned around the program participation process; these lessons are provided in Exhibit R1-E3. Exhibit R1-E4 provides the rationales associated with each best practice. The remainder of this report provides detailed analysis and discussion of program features and best practice rationales.

The scope of this study also includes a California gap analysis. A comparison of the best practices presented in this report with the practices employed in California's Statewide Residential Lighting Program is in progress and will be published when complete in a separate document.

Exhibit R1-E1
R1 Programs: Residential Lighting Programs Reviewed For R1 Study

Program Name	Implementer/s	Abbreviation for R1 Report
2002 California Crosscutting Statewide Residential Lighting Program	Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric Company (SDG&E)	CA SW Res Lt
2002 Efficient Products Program – Lighting Component	Efficiency Vermont (EVT)	EVT EPP Lt
2002 Massachusetts Electric – Residential Lighting Program	Massachusetts Electric	ME Res Lt
2002 Midwest Change a Light, Change the World Campaign	Midwest Energy Efficiency Alliance (MEEA)	MEEA Change a Lt
2001 ENERGY STAR® Residential Lighting Program	Northwest Energy Efficiency Alliance (NW Alliance)	NW Alliance ES Lt
2000-2001 Retail Lighting Program	United Illuminating	UI Retail Lt

Exhibit R1-E2
Summary List of Best Practices for Residential Lighting Programs

Program Theory and Design
<ul style="list-style-type: none"> • Conduct sufficient market research • Develop sound program plan; if possible have a clearly articulated program theory • Link program tactics to the stated theory
Program Management: Project Management
<ul style="list-style-type: none"> • Clearly define program management responsibilities to avoid confusion as to roles and responsibilities • Clearly articulate program changes and maintain flexibility in order to respond to market changes • Clarify requirements for implementation through RFP and contracting processes
Program Management: Reporting and Tracking
<ul style="list-style-type: none"> • Articulate data requirements needed to measure success and relate directly to program plan or theory • Develop accurate algorithms and assumptions on which to base estimates of savings • Establish system to collect/track these data over time • Conduct regular checks of tracking reports to assess program progress and make corrections to ensure success
Program Management: Quality Control and Verification
<ul style="list-style-type: none"> • Verify accuracy of rebates, coupons, and/or invoices to ensure that the reporting system is recording actual lighting product purchases by the target market • Assure quality of rebated bulbs through independent testing procedures, such as PEARL • Assess customer satisfaction with lighting product quality through evaluation activities
Program Implementation: Participation Process
<ul style="list-style-type: none"> • Develop participation strategies that are multi-pronged and inclusive • Allow participation strategies to evolve or change with time and success • Keep participation simple • Choose program participation tactics that are clearly associated with the program theory and success indicators
Program Implementation: Marketing and Outreach
<ul style="list-style-type: none"> • Leverage marketing dollars through cooperative marketing efforts, sponsorship by manufacturers and through coordination with national or regional efforts to promote similar products • Include adequate retail outreach and support to ensure that the product is stocked and advertised and that point of purchase (POP) materials are accurate and clear
Program Evaluation
<ul style="list-style-type: none"> • Support program review and assessment at the most comprehensive level possible • Require that evaluation documents be clear and contain specific information necessary for documenting program progress goals and objectives • Involve program staff in the evaluation process and create a culture whereby evaluation findings are valued and integrated into program management

Exhibit R1-E3
Residential Lighting Programs Lessons Learned – Participation Tactics

Participation Tactic	Lessons Learned
Retailer Agreements	<ul style="list-style-type: none"> • Make them short and clear, ideally not more than one page • Assure correct use of logo
Retailer Outreach/Support	<ul style="list-style-type: none"> • It takes time to develop the personal contacts and relationships required • Can be expensive, but may be critical to assure appropriate use of POP materials and consistency
Coupon Redemption	<ul style="list-style-type: none"> • Barcodes greatly simplify redemption for retailers • Watch fulfillment costs and price point. As the price for CFLs decreases, the proportional cost of coupon redemption may become burdensome • Avoid devaluing the product by giving it away
Retailer Reimbursement	<ul style="list-style-type: none"> • Due diligence requirements from regulators can put undo burden on retailers regarding risk of ineligible customer • Establish a quick turn around time
Marketing	<ul style="list-style-type: none"> • Avoid “over-marketing” a limited supply • Marketing can be very expensive, leverage dollars whenever possible
Invitation to Participate (ITP) or Industry-Sponsored Initiatives	<ul style="list-style-type: none"> • Can reduce the risk and administrative burden associated with coupon redemption • Engages manufacturers to create a market for their own products • Market transformation strategy – may require some agreement from regulators regarding the acceptable level of uncertainty
Upstream Buy-downs	<ul style="list-style-type: none"> • Can exacerbate due diligence issues with regulators – reporting requirements will dictate how simple a buy-down strategy can be • Investment can reduce the price point and have a profound impact in the marketplace • A high leverage strategy in budget scarcity situations

Exhibit R1-E4
Summary of Best Practices Rationale and CA Gap Summaries for Residential Lighting Programs

Best Practice	Rationale
Program Theory and Design	
Conduct sufficient market research	Successful programs develop long term relationships with market players, align the interests of those players with their own goals and offer clear information and stable funding so the market can respond to changes.
Develop a sound program plan; if possible have a clearly articulated program theory	Having a stated program theory can facilitate adaptive management by providing a basis for assessing progress and identifying when tactics need to be revised or adjusted in response to market changes.
Link program tactics to the stated theory	Articulating a program theory and structuring program tactics to be in line with the program theory enables the program administrator to think through the likely outputs and outcomes of the program tactics, potentially improving the likelihood that the strategic approach will lead to the anticipated results.
Program Management: Project Management	
Clearly define program management responsibilities to avoid any confusion as to roles and responsibilities	There is no indication of specific cost savings or administrative benefits in a given approach. Other factors drive the choice in program management. Regardless of structure, clearly defined responsibilities are critical to effective program management.
Clearly articulate program changes and maintain flexibility in order to respond to market changes	While the market values stability, program adjustments are inevitable. Making changes slowly, communicating them clearly and assisting market actors in managing the change are all ways to mitigate the impact of program shifts while maintaining flexibility.

Best Practice	Rationale
Clarify requirements for implementation through RFP and contracting processes	The choice of implementing structure is less important than agreement and understanding of the scope and expected activities. The ability to clearly define roles and responsibilities and articulate them in RFP and contract language while maintaining flexibility to respond to market changes can enhance the probability of program success.
Program Management: Reporting and Tracking	
Articulate data requirements needed to measure success and relate directly to program plan or theory	Describing what “success” looks like is one of the first steps in deciding what to track.
Develop accurate algorithms and assumptions on which to base estimates of savings	Reviewing and revising the algorithms and assumptions as market conditions change is important to assure the program is actually achieving its goals.
Establish a system to collect/track these data over time	The lack of data tracking and reporting systems was not considered acceptable by any of the organizations interviewed for the R1 Study. In all cases the organizations needed to demonstrate to either their regulator or to their funding sources that they had in fact successfully achieved the goals that they had set for the program effort.
Conduct regular checks of the tracking reports to assess how the program is working and make program corrections to ensure success	This can be very important for monitoring the program and making adjustments as needed.
Program Management: Quality Control and Verification	
Verify accuracy of rebates, coupons, and/or invoices to ensure that the reporting system is recording actual lighting product purchases by the target market	It is critical to ensure that quality lighting products are in the market and that the payments to subcontractors and customers are for qualified and legitimate purchases of lighting products. Additional activities can also be conducted as part of evaluation efforts to provide further verification.
Assure quality of rebated bulbs through independent testing procedures, such as PEARL	PEARL offers an independent review of ENERGY STAR products, ensuring the reliability of lighting products and their compliance with ENERGY STAR specifications.

Best Practice	Rationale
Assess customer satisfaction with lighting product quality through evaluation activities	It is possible that issues affecting measure life emerge in “real life” use, customer satisfaction surveys can identify unanticipated problems or benefits related to a particular product.
Program Implementation: Participation Process	
Develop participation strategies that are multi-pronged and inclusive	Multi-pronged strategies are more likely to allow many market actors to participate in a variety of ways. The exact mix of activities will vary depending on the unique circumstances of an individual program’s environment.
Allow participation strategies to evolve or change with time and success	Early market efforts seek to benefit most from trying to increase supply while later efforts benefit the most by seeking to maintain market demand. Keep participation simple. Simplicity of participation has been a key success factor for all the programs, although its form depends on the chosen tactics. Simplicity is important regardless of the target market – retailers, manufacturers or consumers.
Keep participation simple	Keeping participation simple decreases the likelihood that program prospects choose not to participate because of apparent complexity.
Choose program tactics that are clearly associated with the program theory and success indicator	A benefit of a program theory is for framing what tactics and success indicators will fulfill the theory. Only two programs have explicitly done this but it has proved to be a dynamic tool for ensuring that the program tactics were on target to achieve the program goals.

Best Practice	Rationale
Program Implementation: Marketing and Outreach	
Leverage marketing dollars through cooperative marketing efforts, sponsorship by manufacturers and through coordination with national or regional efforts to promote similar products	The market for ENERGYSTAR lighting products is including more retailers and the cost of reaching these retailers is increasing to the point where it is less cost effective for energy organizations to do outreach. At the same time, the manufacturers and distributors are increasing their investments in the market place. An emerging best practice is to leverage retailer and manufacturer resources with energy organization funds to facilitate product specific or retailer specific campaigns that increase energy-efficient product sales.
Include adequate retail outreach and support to ensure that the product is stocked and advertised and that point of purchase (POP) materials are accurate and clear	Retailers are key to long-term viability of program implementation. Outreach to retailers helps maintain relationships, keeps program staff apprised of what is happening in the market, and ensures that the marketing messages are clear.
Program Evaluation	
Support program review and assessment at the most comprehensive level possible	For some programs, this will mean a comprehensive market assessment and impact evaluation, for others it may mean a program review document created in-house. Program process issues, market progress and estimation and verification of program impacts are key activities to consider in designing the evaluation.
Require that evaluation documents be clear and contain specific information necessary for documenting program progress goals and objectives	The document should clearly describe the program goals, strategies and lessons learned so that program staff and stakeholders and other interested parties who want to know what happened will be able to find out.
Involve program staff in the evaluation process and create a culture whereby evaluation findings are valued and integrated into program management	Evaluations are not report cards. They are designed to provide information important to improve program implementation. Program staff reported that evaluations had been very helpful in improving their programs.