

Quick Start Programs: A Framing Document

Kansas Corporation Commission Workshop on Energy Efficiency March 25 and 26, 2008

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Objectives:

- Use the experiences from elsewhere to choose programs that are highly likely to pass a total resource test, and which can be staged and implemented quickly and successfully.
- Give experience to utility and regulatory staff on managing and implementing programs that will likely be successful and can set a pattern for success that will apply as programs become more numerous and complex.
- Minimize the time between a decision to make energy efficiency a priority and the time consumers get the message.

Background Document Included Here:

Report of the Arkansas Energy Efficiency Collaborative in Arkansas PSC, Docket 06-004-R, pages 5-20.¹

Considerations:

Quick start programs stand for the idea that “good enough” is better than perfection when it comes to getting started with energy efficiency. This view implies is that managing and regulating energy efficiency programs is a process of continuously improving understanding of customers and what it takes to move them to invest in energy efficiency, so it is unreasonable pressure at the outset to expect the thoroughness in decision-making that may emerge naturally after a few years. It is hard to think of another task among regulated utilities for which this Quick Start concept is apropos, but this only highlights how different energy efficiency is from other utility tasks. It also relies on the cumulative positive reports from other states about what works.

The contrary view is that energy efficiency is like any other utility task, and should be approached in the same deliberate way other investments are done. With this view, a comprehensive set of programs should be designed, assessed for their benefit cost ratio and other attributes. Choices should be based on this information, with little weight given to the experiences elsewhere. An extension of this view is that a potential analysis of energy efficiency in a utility territory or state is necessary to provide sufficient information to make the best decisions on which programs to implement.²

Another path a state can take at the outset is to develop an array of generic program templates. A commission can either require utilities to implement these programs, or direct utilities to choose

¹ http://www.apscservices.info/efilings/Docket_Search_Documents.asp?Docket=06%2D004%2DR&DocNumVal=46 (March 15, 2008)

Also recommended: Dan York, Marty Kushler, Patti Witte, Compendium of Champions: Chronicling Exemplary Energy Efficiency Programs from Across the U.S. ACEEE February 2008.

² http://www.epa.gov/cleanenergy/documents/potential_guide.pdf (March 15, 2008)

from among them, with direction on how to choose. Texas has established program templates for its utilities to use.

The Quick Start approach to a potential analysis is to get experience first, and then when ready to expand in less obvious directions, prepare a potential analysis to inform choices at that time. A potential analysis at the outset takes time, stopping momentum to implement programs, and also costs hundreds of thousands of dollars, which can be harder to spend in the absence of the good news of accruing savings from active programs.

Lessons Learned and Best Practices:

Arkansas is offered here as a best practice of focusing on a “Quick Start” program strategy, sticking to it, and successfully implementing it. Some might be disappointed at the initial scale of programs there, but this can be balanced against the initial support the programs are receiving from most stakeholders, notably the utilities.³

There are many lessons that have been learned from starting up energy efficiency programs, of which a few appear here.

- An important lesson is to create and maintain a customer a focus. For all the administrative aspects of regulation, these should be hidden from customers, since the success of the programs essentially rides on selling a set of products and services – the result of this effort should be what the customer sees. How does this take form?
- Programs should be offered consistently, or for a defined period. A program that “runs out of money in June” because it was too generous confuses and discourages customers whose needs are not defined by program budget years.
- A program that is hard to navigate because too many people are involved or where recordkeeping is a hassle will languish.
- Another lesson is that the regulator has to actively consider the right balance between traditional oversight with all its precision and flexibility to allow for trial, error and innovation that does not always succeed. The right answer to this question is more the commitment to strong communication and collaboration to deal with matters as they emerge than a guidebook. Arkansas invested time up front in collaboration, which served to clarify many issues for the commission and stakeholders as the emphasis shifted to implementation
- In most states, there are particular types of customers that concentrate in the state. Developing energy efficiency expertise and delivering that to these customers can be cost effective and at the same time vital to state interests by supporting an important core business sector. Developing this expertise, for example, for aircraft assembly, or a particular type of farming, can be done most effectively when scale economies are considered.

³ KCPL has done a good job getting started with programs in Missouri in conjunction with the Iatan 2 settlement.

- States should be careful with lighting. Compact Fluorescent Lightbulbs (CFL) conversions have delivered significant savings in energy efficiency portfolios wherever they exist. CFLs are not standard quite yet, but with maturing marketing and technology and reducing prices, the end is in sight for the need for programs to sell CFLs. Any CFL programs started today should take care to avoid any message that this is permanent. Program administrators may see CFL savings as “easy” in the current market. There remains significant need for lighting programs, however, to address the design of lighting in new and remodeled buildings – to right size lighting. In addition, programs are needed to move LED (light emitting diodes) lighting into the market.
- Where combined electric and gas utilities exist, the issue of how energy efficiency affects gas and electric end uses seems to be managed on the merits. Where gas and electric companies are separate, issues of market share, attrition, and potentially distorting customer messages seem more prevalent. Regulators should consider paying explicit attention to this issue to assure that customers are respected with sound information and that efficiency dollars are not wasted.
- The Internet is a powerful tool. Using to provide information on what services are available and how to take the next step moves customers. A website can also communicate success stories.
- Trade allies are the retailers, wholesalers, inventory managers, architects, builders – essentially the life blood of how energy choices are made. If trade allies make it easy for customers to make energy efficient investments, success follows. The converse is also true. Early attention and investment in trade allies can smooth the acceptance of energy efficient products and services by consumers over time.

Follow Up on the Arkansas Report:

The utilities do, in fact, collaborate on public information and market transformation with the Arkansas Energy Office. This collaboration is called EE Arkansas.

The order and rule in Arkansas PSC docket R06-004 was issued in mid-January 2007. Programs were implemented by all electric and gas companies by October 2007. The utilities also worked together to establish a consistent, efficient evaluation protocol that made use of deemed savings for some measures.

These are the Quick Start programs implemented by AEP in Arkansas:

- Emergency Load Management QSP
- Commercial and Industrial QSP
- Residential and Small Commercial ENERGY STAR[®] Compact Fluorescent Lighting QSP
- Residential and Small Commercial ENERGY STAR[®] Appliance QSP
- Statewide Targeted Residential Energy Efficiency QSP For Severely Energy Inefficient Housing
- Statewide Energy Education “Energy Efficiency Arkansas” QSP

Excerpted from A Report to the Arkansas Public Service Commission: A Collaborative Stakeholder Process Addressing Energy Efficiency in Arkansas Pursuant to Docket 06-004-R, November 2, 2006

The nature and design of energy efficiency and conservation programs that can be started quickly and produce near-term benefits for Arkansans.

Programs – It is important at the outset to note that some electric and gas program opportunities may be distinct in Arkansas, and so aspects of them will be discussed separately. Initially, electric and gas programs should be substantially similar to the extent reasonable.

The collaborative also discussed the merits and challenges of coordinating programs statewide. Generally, utilities are less interested in coordination than some other participants, though they accept that there may be some tendency to coordinate on their own over time. There was some interest in some unified public information program, perhaps involving by the Arkansas Energy Office.

The collaborative members with the exception of the Attorney General generally favored the creation of a pre-reviewed list of programs. The PSC Staff suggested a list that appears in a text box with some amendments. The list is intended to encompass most of the programs that will be offered in Arkansas for electric and gas customers. The collaborative suggests that upon acceptance of this report, the PSC should identify the initial program administrator and should direct program administrators to provide evidence needed to “characterize” these programs, indicating that specific utility programs that are consistent will have a presumption of prudence. Characterizing a program means identifying the services provided, the expected target population of customers, the way barriers to investment by the customer are addressed (including any limits on financial incentives), the goals of the program and the indicators of success, the way performance of the program will be measured, and how the program will be evaluated and improved, if appropriate. The programs would also be justified by providing the Commission with benefit/cost test results. See section 7 on benefit/cost tests.

The Attorney General argues that each program should get a complete benefit/cost review before it is implemented and should have evaluated program results before any cost recovery decision is made.

The issue of who should administer energy efficiency programs is taken up later in this section. The administrator should have the ability to recommend program plan modifications from time to time, and to be able to introduce new programs not on the pre-reviewed list, with the specific permission of the Commission.

Implementing pre-reviewed programs as planned would provide support for cost-recovery – this will be discussed further elsewhere in the report. Administrators would have flexibility within this list to deliver the most appropriate programs for the service area at the time.

There is little enthusiasm for a specific list of programs for each sector that all utilities in that sector would have to deliver.

PSC Staff's Recommended List of Initial Program Categories

Education: This would include the education of customers of all classes on energy efficiency and conservation. It should, to the greatest extent possible, be a consistent statewide group of messages. It should include education of builders and installers of equipment. All messages should be fuel neutral. The messages should encourage the efficient use of electricity and gas. The messages should increase awareness of opportunities to use electricity and natural gas more efficiently. This category of programs would apply to all customer classes.

Energy Audits, Evaluations leading to savings: This would include home and commercial energy audits and audits of commercial and industrial processes and equipment. The audits and evaluations would produce recommendations for opportunities to implement site specific efficiency and conservation measures. Programs would be designed for audits to lead to savings results, and could include cost-effective and economically justified customer incentives to encourage the implementation of site specific measures. This category of programs would apply to all customer classes. A training component to increase the number and quality of auditors will be needed.

Inspection and tune up of heating and air conditioning systems: This would be applicable to residential, commercial, and industrial systems. This category of programs would apply to all customer classes.

Lighting: Improved lighting for residential, commercial, and industrial customers. This category of programs would apply to all customer classes.

Increased deployment of demand response programs: Many programs already exist. This would look for additional opportunities to offer demand response programs including interruptible service, curtailment service, off-peak service, etc. In the near term, this category of programs would apply to commercial and industrial customer classes and may eventually extend to residential customers.

Weatherization: A Residential weatherization program that would be based solely on efficiency criteria, targeting least efficient homes first. Establish clear criteria to target the least efficient homes first. This category of programs would apply to the residential customer class.

Commercial and industrial process improvement program: This program would target the least efficient commercial (including institutional and public sector customers) and industrial processes, providing some funding for technical assistance and improvements.

Some parties, however, prefer a third-party program administrator independent of the utilities. Such an entity, which is used in some other states, would presumably offer a consistent menu of programs throughout the state. The Attorney General emphasizes the importance of coordination. Consistency may be helpful to both customers and providers of energy efficiency products and services. The Attorney General suggests that program offerings should be limited to programs that can be coordinated, especially if utility administration is chosen.

The collaborative discussion has revealed the need for balance between program flexibility and consistency.

Participants recognize the importance of selecting programs that will have a high probability of producing aggregate ratepayer benefits for the majority of customers⁴ and will be available to all classes of customers in all utility territories. This will have the effect of demonstrating the value of the programs to Arkansans who might demand more evidence, and will also contribute to assuring the immediate costs per saved kWh or ccf are acceptable despite some significant start-up costs that will not produce direct savings. On the other hand, participants also seem to support some percentage of the program budget going to market transforming programs, from which savings may develop slowly. Initially, education programs will likely be the only “transforming” program that will have a high probability of producing aggregate ratepayer benefits for the majority of customers (though most energy efficiency programs have some transforming qualities).

The collaborative discussed the possibility that a popular program could exhaust resources allocated to it during the program year. Program plans should anticipate this possibility and explain what action the administrator will take in this event.

As many states operate energy efficiency programs, the issue of importing programs from elsewhere has emerged. Utilities and other participants are interested in learning from other states, but want to ensure that programs will provide benefits for Arkansas and do not want to simply copy programs from elsewhere.

All utilities advocate that programs should pass a benefit/cost test (this subject is addressed elsewhere in this report).

To avoid competitive issues at this early stage of program development, the collaborative participants are generally supportive of a program approach that seeks to make existing end uses more efficient in a fuel neutral way without encouraging fuel switching, at least for the near future. The Attorney General expressly opposes load building. Some gas company and renewable participants would prefer to leave this issue open. Participants were supportive of program designs that encouraged multiple measures at a premise and a holistic approach to building energy efficiency. Initial programs should present customers with a listing of available options from which the customer can select the items that he or she determines to be most desirable or affordable.

Issues related to coordinating electric and gas programs will be discussed in section 4, though fuel neutrality between electricity and gas is also discussed in this section.

It is likely that contractors will be deployed by program administrators, especially to launch programs quickly, but the collaborative did not focus on this much. Out-sourcing would enable smaller utilities to draw quality experience to Arkansas. The collaborative discussed the value of

⁴ This phrase is used many times in this report and elaborates on the meaning of “cost-effective.”

developing an in-state workforce to support energy efficiency programs, but beyond the training components of some programs, came to no recommendations on this point.

Programs, Generally – The utilities suggest that program options be evaluated using a “program prioritization process” that includes:

- measuring the relative benefit/cost tests;
- expected savings;
- how fast results can be achieved; and
- risks and uncertainty around expected results.

Public information is a program focal point that all parties seem to support. The collaborative identified three categories that the Commission may find useful:

- general information about energy efficiency that the state would financially support;
- utility specific energy efficiency messages that the utility would support from general revenues; and
- energy efficiency program specific information that would be supported by program funds.

Some participants favor an all-utility approach to public information (organized by utilities, perhaps involving the Energy Office) to ensure some consistency and coordination, while the electric and gas utilities wish to focus on energy efficiency within their own sectors. Advocates for a statewide public information effort suggest that the Commission can articulate situations in which generic statewide messages would be appropriate. These criteria might include:

- capability of the Energy Office or other appropriate group to manage the message;
- economies of scale in delivering the message with a statewide focus;
- distinct advantages of a statewide approach as compared to utility-specific strategies, like use of a logo or a catch-phrase, or specific promotions at stores in many utility territories;
- cooperative initiatives that utilities develop themselves.

This report will discuss public information on energy efficiency in each of the electric and gas program sub-sections, touching on opportunities to merge efforts.

The Attorney General does not have confidence that general energy efficiency messages can be successfully coordinated under gas and electric utility administration due to the stress of conflicting messages among the companies.

The collaborative discussed the role of the Commission to review messages to assure that they are consistent with the public interest purpose of energy efficiency. Some felt strongly that utilities should have the opportunity to communicate what they wish to customers. The coops argued against placing the commission in the position of approving communications with their customers. Others, while not disagreeing, asserted that cost recovery for the expenses associated with these communications should depend on meeting some public interest standard that only the Commission can judge. Objective standards, like Energy Star, would provide tools to make judging these messages easier, but these are not yet comprehensively available.

The collaborative discussed the pros and cons of programs specifically designed for low income families in recognition of distinct barrier to energy efficiency investments that they tend to face. As discussed later in the report, the collaborative concluded that it cannot recommend a low income-specific program to the Commission due to ambiguous legal grounds for it to order any low income oriented program, though Centerpoint demurred from this conclusion.⁵

Public schools represent a statewide initiative that can capture the attention of the public in a positive way, and make a difference in the operating budgets of school systems. Recognizing that school construction is expressly handled elsewhere in state government, the collaborative recommends that the Commission and the Energy Office communicate with the appropriate state officials about any new energy efficiency opportunities which may be available for new school construction. Schools will come up as well in the following discussion on consumer education energy efficiency programs.⁶

Some, including the Attorney General, suggested that the popular success of retail point of sale discount or rebate programs in other states indicates that it would be a good choice for Arkansas if it is used for a strategic number of products,⁷ if the promotions are managed and updated as necessary, and if Energy Star is used to support promotions. Such programs are run by program administrators, and rely on cooperation from retailers (Wal-Mart indicated that expecting such cooperation is reasonable). Training for personnel in stores cooperating with point of sale programs is important.

Other participants expressed doubt about this program choice. They are concerned that they would cost too much to make a difference in customer behavior compared with other opportunities to improve construction skills and provide widespread efficiency messages. Another challenge is assuring that a given customer's utility gets credit for savings from a sale in a store which could draw customers from many utilities, though the collaborative clear ways to meet this challenge. An added factor are increased appliance efficiency standards which appear to narrow the savings available from point of sale initiatives. One suggestion was to begin a process of training appliance installers and sellers, and bring on a point of sale program later.

Entergy offered three "quick start" program templates that could be offered by utilities and joined with a group of other participants on a fourth. The three Entergy proposals address commercial air conditioning, industrial processes and public education. The fourth addresses severely inefficient homes. All four can be found in their entirety in Appendix D. The severely inefficient homes proposal was developed in concert with the Community Action Agencies, AWG and AOG and is discussed in more detail later in this section. In total, they represent

⁵ See *Arkansas Gas Consumers, Inc. v. Arkansas Public Service Commission*, 354 Ark. 37.118 S.W. 3d 109 (2003)

⁶ Ark. Code Ann. §6-20-405 permits schools to contract for energy savings, conservation, and efficiency measures. Programs addressing school should make use of this authority and avoid conflict.

⁷ The Attorney General suggest some particularly promising opportunities:

- retail purchase of off-the-shelf "plug and play" equipment and appliances (refrigerators, washers/dryers, dishwashers, room air conditioning units, lighting products (bulbs, lamps, and to a lesser extent fixtures);
- installation of energy efficient equipment and weatherization materials (central air conditioners and furnaces, water heaters; insulation, windows, weather-stripping); and
- new construction (residential and commercial).

templates that could be fleshed out and approved by the commission. Utilities would be able to design programs consistent with these templates.

The Energy Office discussed the value of including home energy ratings and mortgage lenders in residential programs.⁸ Gas companies expressed concern that home energy rating systems should have no bias between fuel types and discouraged reliance on this tool if concerns about bias are not resolved.

The PSC Staff provided a list of general programs. The list identifies categories of programs the Commission could establish. The initial Commission order would establish the initial program categories and direct the utilities to offer specific programs within each category. All programs filed should have a high probability of providing aggregate ratepayer benefits to the majority of customers. Individual utilities would file programs within the categories. All programs should be fuel neutral. Gas and electric programs would be consistent.

During the Collaborative the participants discussed the possibility of “pre approved” programs. Most participants agreed that it would be unlikely that a specific menu of programs ready to implement could be developed in this process.

To address the Commission’s expressed desire to implement programs quickly, the PSC Staff proposed a process whereby the Commission could identify a limited number of “quick start pilot programs”. Based upon the Commission’s stated intention of entering an order around the beginning of 2007 (roughly two months from the date of this report), the PSC Staff observed that the Commission could, in that order, identify “quick start pilot programs”. If an order is issued at the beginning of 2007, and if utilities are given administrative responsibility, utilities could make filings in April 2007 proposing utility-specific implementation of the “quick start pilot programs”. The Commission could then provide a schedule for the review, analysis, and consideration of those programs. A schedule that would permit implementation by September 2007 would be reasonable. Some compression of this time may be possible, but care must be taken to make these initial efforts successful.

The utility specific “quick start pilot programs” would have to include some evidentiary support demonstrating that the programs had a high probability of providing aggregate ratepayer benefits to the majority of ratepayers. The Commission could require a modified cost effectiveness showing for the “quick start pilot programs”. Because the programs would be pilots, the Commission may not require the full battery of benefit / cost tests included in its rules. Instead, an alternative showing, such as an avoided cost comparison exclusively, may be deemed sufficient for the pilot programs. The utilities could provide additional information if it were available. Owing to the pilot status of the programs, the utilities would provide clear questions that program results can address which will be applicable to up-scaled and new programs in the future. The “quick start pilot programs” could be introduced quickly while the more detailed program plans could be more thoroughly developed and filed in 2009.

⁸ Efficiency Vermont offers through its Home Performance with Energy Star program a reduction of 3.5% on the interest rate for energy efficiency home improvement financing. Efficiency Vermont makes a lump sum payment to the cooperating financing institution to buy down the interest rate, so the administrator is not acting as a bank, but is directly addressing a barrier to energy efficiency.

The PSC Staff suggested the “quick start pilot programs” in the text box in this section. The numbers of “quick start pilot programs” should be limited in order to enable implementation during 2007. The “quick start pilot programs” could serve to provide valuable information regarding the effectiveness of the programs, experience in delivering programs, potential customer response to conservation and energy efficiency programs, and other information.

In addition to the discussion of the “quick start pilot programs”, Entergy and other utilities raised the possibility of the development of a template of programs and common inputs that the utilities could develop jointly and present to the Commission for pre-review. If approved, each utility would then be able to submit a utility-specific filing consistent with the approved template and common input items. All the utility would be required to add would be the utility specific cost information and implementation criteria. This approach could simplify the review of the utility specific program filings, because the templates and common input items would be reviewed in a single joint proceeding. The utilities indicated an interest and willingness to participate in the joint development of such templates. The Attorney General prefers focusing all review on the actual program plan proposals. The participants agreed that it would not be necessary for the rules to address that process.

Gas Programs - The gas utilities offered a straw proposal of “fast-track” programs to build on in order to develop a list of programs. They support a public awareness campaign to promote energy conservation and available programs. Examples of media include educational fact sheets; public awareness campaigns using television or radio advertisements; bill inserts; direct mail; educational seminars; email/fax campaigns; and website promotions. Educational and public awareness materials on energy efficiency should be developed and provided to both end-use customers (residential and commercial/industrial) and to business partners such as mechanical contractors and consulting engineers that may influence a customer’s decision on energy efficiency.

They suggest several programs that would be pre-reviewed should be considered for implementation at some near future time, such as:

- incentives for residential high-efficiency furnaces, boilers and water heaters;
- weatherization and replacement of inefficient appliances in inefficient homes in collaboration with the Community Action Agencies;
- residential low-flow showerheads and faucet aerators;
- commercial heating system incentives; and
- commercial foodservice incentives.

Other suggestions for programs include wrapping water heaters and providing energy audits.

The gas companies indicate that implementation of rebate programs will take time to ramp up and implement in Arkansas primarily because of the need to engage third party trade allies and various vendors of goods and services; therefore, while they have a relatively swift development phase, they appear not to meet the fast-track expectations for implementation in Arkansas. Others are more optimistic that some rebate programs can work quickly. In any cases where rebates are used, they must be demonstrated to be a component of a cost-effective program, as discussed in detail in section 7.

Electric Programs – The electric companies point out that some of them have significant energy efficiency and demand response programs underway now (see text box). They suggest several program initiatives that can be started quickly and produce near-term benefits for Arkansas.

The electric utilities also support the inclusion of energy efficiency communications and educational programs among pre-reviewed energy efficiency programs. The electric companies suggest that benefit tests for these expenditures are not meaningful and should not be required, since direct savings cannot be tracked. Others suggest implementing immediate surveys to provide a baseline to evaluate changes in customer behavior attributable to these programs. Additional support for efficiency education may be found in Ark. Code Ann. § 23-4-207 (c) (4) statute.⁹ While the statute pertains to the recovery of “advertising costs”, the statute supports the concept that efficiency education is encouraged by Arkansas law and should be recoverable in rates.

The electric cooperative utilities prefer to engage in education that is directed to their own consumers and do not wish to participate in a joint “statewide” educational mandate. A menu of public education topics includes:

- Residential, commercial, and industrial efficiency audits for existing and proposed construction
- Field investigations for high usage and high bill complaints
- The construction and demonstration of model homes which stress efficient construction methods and efficient appliance selection (including heating and cooling)¹⁰
- Public seminars and programs offering energy efficiency information
- Working with schools to educate students regarding the benefits of energy efficiency
- Education of builders and installers and support for trade organizations stressing efficient sizing and proper installation of heating and cooling units
- Educational efforts directed toward efficient appliances (ground source heat pumps, high efficiency water heating, and high efficiency air-to-air heat pumps, etc.)
- Education about Energy Star rated appliances
- Mass media efforts stressing the benefits of energy efficiency, proper construction, and retrofit methods
- Making books, pamphlets, electronic energy efficiency educational materials available to schools, public libraries, and consumers
- An energy efficiency web-site
- Provide consumers with information regarding warm and cool room retrofits inside existing homes
- Educate consumers about available savings through existing demand response rates or credits

⁹ Ark. Code Ann. § 23-4-207 (c) (4)

¹⁰ This is a current practice of some cooperatives. As a program, this idea produced some strong negative reactions for its tendency to drift toward a fuel bias toward electric uses.

Note that some of these, like audits, or Energy Star appliance information, may better fit in other programs that offer specific energy efficiency services and incentives. Additional purposes of a public information program that the collaborative discussed are: assembling lists of contractors and promoting energy efficiency behavior in school children. Administrators would have to evaluate priorities in terms of benefit/cost, time to implement and savings potential. Please see the gas-electric coordination section of the report on whether and how fuel options available to the customer should be handled.

Acknowledging the prior discussion on point of sale rebates, the electric utilities suggest a menu of non-educational energy efficiency programs:

- Home weatherization programs and measures, including rebate programs,¹¹ including:
 - Insulation
 - Air infiltration sealing
 - Heater / Air Conditioner tune-up
 - Programmable thermostats
 - Duct system replacement or retrofit
 - Replacement of inefficient appliances;
- Purchase or lease of high efficiency water heating appliances;
- Geo-thermal heat pumps;
- High efficiency air to air heat pumps;
- High efficiency air conditioners exceeding federal standards;
- Energy efficiency loan programs;
- Promotion and sale of high efficiency and compact fluorescent lighting;
- Commercial lighting replacement or retrofit.

Energy Efficiency Programs Underway by Some Arkansas Electric Utilities

- Free or low cost energy audits for existing and planned construction
- A model home program stressing efficient construction methods and efficient appliance selection (including ground source heating and cooling)
- Public seminars teaching energy efficiency
- Some utilities offer energy efficiency loans
- Mass media education stressing energy efficient construction methods and appliance selection
- Education in schools
- Public education and the sale of compact florescent lighting
- Some utilities offer a leasing/sales program for ultra efficient water heating
- Field investigations for high usage

¹¹ During the collaborative's discussion of rebates, participants addressed the challenge of fuel neutrality with respect to end uses in common with electric and gas. The collaborative acknowledged that rebates should not introduce an undue bias to fuel selection by customers, especially with utility administered programs, concluding that programs should be fuel neutral. Associated messages should give customers information to help make informed choices based on their needs. Some observed, however, that if the customer wants to fuel switch and improve the efficiency of the end use in the process, and the only barrier is money, then energy efficiency programs should be able to make that happen. This scenario underscores the importance of resolving the full fuel-cycle efficiency issue and how it influences program design.

The electric utilities are also interested in improved use of demand response. The PSC Staff list includes this category, which could be expanded include investments in devices on the customers' premises that support demand response, such as smart thermostats. In addition to demand response programs that may be initiated or expanded in this docket, addressing rate designs that influence consumption on peak is addressed elsewhere in this report.

Further Discussion of Programs, Generally – The collaborative spent significant time discussing an inefficient homes program. The discussion focused on the potential to address a significant reservoir of inefficient energy use in a manner consistent with Ark. Code Ann. Section 23-3-403(1).

Because the state weatherization program addresses inefficient homes today, some, led by the community action agencies and some utilities, suggested that this delivery system would work well for a statewide inefficient homes program. The community action agencies would be able to do more with the expertise they have amassed, and they would allocate the costs of services they would provide between federally-funded weatherization and consumer-funded energy efficiency. The community action agencies and the Attorney General point out how quickly the agencies could mobilize to implement this program. The agencies would deliver the program on behalf of the program administrators, which would retain overall responsibility and report results as part of overall reporting requirements. Proponents also suggested that the program should be more comprehensive in each home than the current weatherization program. The community action agencies report that they spend an average of \$2800 per home with the weatherization program at the roughly 1100 homes they treat per year. They suggested an expected budget average of \$3500 per home with the inefficient homes program; the difference is greater attention to replacing inefficient appliances.

Some participants expressed several different concerns.

- Some were concerned that the appearance of the community action agencies delivering the program and the state's human service agency administrative responsibilities would leave an unresolvable suspicion that the program is a means tested service, regardless of how it is billed;
- Some were concerned at the administrative costs;
- Some wanted the chance for administrators to choose implementers other than the community action agencies;
- There was also a discussion whether the program should extend to even more homes, rather than striving to be comprehensive, but serve just 1100 additional homes;
- The cooperatives expressed concern about a third-party interrupting their relationship with their customers.

A scaled back version of the inefficient homes program appears in the group of quick start programs offered by Entergy in Appendix D of this report. The collaborative fielded suggestions from participants, including a full fledged proposal from the PSC Staff, but there was no consensus on a specific residential weatherization program. Both proposals appear in Appendix E.

State and local government can set an example for others to invest in energy efficiency. State and local governments in other states rely on energy efficiency programs especially ones directed at the commercial class, for significant technical support and incentives. One program that can be mobilized quickly with local government is an investment in LED traffic signals.

CLEAResult suggested the following criteria for quick start programs:

- Consideration of programs that can be implemented relatively quickly either due to the program nature or for the conditions present in Arkansas that allow for quick implementation of the program.
- No consideration of whether the programs could be implemented by a third-party program implementer or by the utility.
- Consideration of available measurable savings in the period in which the program expenses were incurred.
- Consideration of market segments that are particularly attractive or important to Arkansas.
- Consideration of programs that could be leveraged by both electric and gas utilities

Program suggestions appear in text boxes above with comments on some from other collaborative participants. Note that the PSC Staff proposal is more limited than the CLEAResult lists. PSC staff recommends that the initial effort start small and implement programs that are very clearly cost-effective.¹² In the discussion of the collaborative, the group coalesced around the PSC Staff list, identifying reasons why some of the CLEAResult ideas would be best left to be implemented later.

CLEAResult discourages residential new construction, residential lighting programs and residential windows programs. They suggest that housing starts are slow, that compact fluorescent bulbs are available in mainstream stores at reasonable prices, and that energy efficient windows are the norm in home stores.

¹² In describing cost-effective, PSC Staff used the following term, “high probability of providing aggregate ratepayer benefits for a majority of customers.”

CLEAResult Suggestions for Commercial and Industrial Quick Start Programs

Programs for both Electric and Gas

- **Retrocommissioning** – This program focuses on re-commissioning buildings to operate as efficiently as they were intended to operate. This program usually has very high returns with fast paybacks. This program provides incentives for efficiency measures implemented, training to building owners and operators, as well as improving the skills of technicians providing services to building owners. This program can identify efficiency improvements for both electric and gas technologies, however the savings will be more heavily weighted to the electric technologies.
- **Schools Conserving Resources (SCORE) Program** – This program focuses on improving k-12 public school districts' energy performance and provides incentives for energy efficiency upgrades that are completed. This complements existing capital needs of schools throughout Arkansas. This program is popular in Texas.
- **Prescriptive Incentive Programs** – These programs offer a fixed-dollar incentive for multiple defined prescriptive measures such as lighting, HVAC replacements, occupancy sensors, motors, etc. Program participants are provided incentive levels and participation forms, and small businesses select their own contractors or service providers to install the efficiency measures.

Programs for Electric Only

- **A/C Tune-Ups** – This program focuses on improving the performance of commercial A/C systems. Based on national studies, over 67% of A/C systems are installed incorrectly with improperly charged refrigerant and improper airflow across the coil. Over time, system performance further degrades and A/C systems become even more energy intensive. For commercial programs such as this one, training to improve service skills should be provided to contractors. Large savings are achievable for relatively low costs for this type of programs. Savings will lag until training is complete.

Industrial

- **Compressed Air Programs** – These programs provide auditing and incentives for improving the performance of compressed air systems. Compressed air systems usually leak substantially, and training and awareness of more efficient systems offers high returns for both the utility and the customer. This program can be leveraged with the U.S. Department of Energy Compressed Air Challenge Program.
- **Industrial Process Programs** – These programs focus on improving the energy efficiency of industrial processes. Industrial customers are worked with on an individual basis to identify opportunities for energy savings that are specific to their circumstances and operations.

CLEAResult Residential Quick Start Program Suggestions

Residential Programs for Electric and Gas

- **Home Performance with ENERGY STAR** – This program focuses on improving the whole-house energy performance of existing homes by evaluating the envelope tightness, insulation, ducts, windows, and HVAC systems.
- **Appliance Programs** – These programs provide incentives to consumers for the purchase of high-efficiency appliances. Such appliances are usually required to meet or exceed ENERGY STAR standards. These programs are usually limited to clothes washers, refrigerators, and/or hot water heaters. Gas companies have pointed to the limitations of Energy Star for gas.
- **Manufactured Housing Tune-Up** – These programs usually focus on sealing the ducts in manufactured housing and improving energy performance. This program offers excellent savings returns for the utilities and for the program participants.
- **Low-Income Programs** – These programs focus on improving energy performance for low-income customers and can be leveraged with existing Weatherization Assistance Programs (WAP). While the returns on these programs may not be as attractive as other programs, they target the consumer group with the highest need for energy efficiency and cost savings. The collaborative has been clear that a means tested program is not possible in Arkansas at this time.

Residential Programs for Electric Only

- **A/C Tune-Ups** – This program focuses on improving the performance of existing A/C systems, which have similar problems as commercial systems regarding installation and maintenance. Performance degrades over time. In addition to training service providers, the program works with the residential new construction market to insure that new systems are installed and commissioned properly. Tuning up existing A/C systems can save up to 50% of an A/C unit's total energy use.
- **A/C Replacement Programs** – This program provides incentives for the replacement of existing A/C systems with new high efficiency systems. This program can be offered as a market transformation program to include training for HVAC industry professionals that achieves lasting market change or through a prescriptive approach. The collaborative discussed the value of a time limited opportunity to stimulate response and control costs.

Administration – There were distinct views within the collaborative on how to organize energy efficiency program administration.¹³ The utilities had several reasons for favoring utility administration. They agreed that energy efficiency is a utility service, they hope to use energy efficiency programs to improve customer relations, and they hope to earn incentives if implementation is successful. Utility administration is the norm in most states. Centerpoint argues that the wording of the statute leads to utility administration.

There was a different view on the part of some participants, favoring third-party administration independent of the utilities. This was a foundational point for the Attorney General. Advocates of this perspective express concern that the connection between utility sales and utility profits is a fundamental handicap attached with utility administration, that utilities in some other

¹³ For more on energy efficiency program administration, see Who Should Deliver Ratepayer Funded Energy Efficiency? A Survey and Discussion Paper, Cheryl Harrington and Cathie Murray, Regulatory Assistance Project, May 2003. <http://www.raponline.org/Pubs/RatePayerFundedEE/RatePayerFundedEEFull.pdf> (October 30, 2006)

jurisdictions have been found to overstate savings, and that there are examples elsewhere, including where utilities are vertically integrated, where independent administration is working well under appropriate supervision and producing superior results. They also note the possible reduction in regulatory burden if there is a single state administrator as compared with overseeing the programs of each electric and gas utility. The Commission can delegate the administration of energy efficiency programs, as in Vermont, without relieving utilities of the statutory responsibility. For a quick rollout of programs, creation of a new entity or contractor for this purpose statewide would be a challenge, but the Attorney General argues that it is more important and fundamental to get the right system at the beginning than to assume Arkansas can change it later. Centerpoint argues that the energy conservation act mandates utility administration.

Regardless of administration, out-sourcing to contractors or other utilities can provide an opportunity to avoid burdening existing staff, and it should be expected that some level of program contracting is likely for most utilities. Out-sourcing does bring contractors from elsewhere, and may cause leakage of economic development benefits and expertise from energy efficiency programs.

The position of the Attorney General in this collaborative on many issues was contingent of the outcome of the administration issue. The Attorney General's process requirements were less with independent administration due to several concerns

During the collaborative discussion, larger consumers suggested that energy efficiency programs include an option for customers already committed to energy efficiency to "self-direct" the monies they would otherwise pay in rates for Commission supervised programs. These customers object to paying for energy efficiency services that they do not expect to use. The funds would go instead to energy efficiency investment that the customer would direct, and the customer would forego service from the consumer-funded program. The customers appear to agree that there must be significant criteria, a high bar, to allow this option, including compliance with EM&V reporting and specific approval by the PSC, perhaps annually.¹⁴

Others flatly opposed allowing this option. Reasons for this include the value to all customers of energy efficiency as a resource, potential inconsistency between customers' investments, the broad-based programs available to all customer classes that should be offered, the uncertainty introduced in program management if program budgets change due to customer choice to self-direct, and the fact that all consumers benefit to some extent from energy efficiency investments. This last issue could be managed by only allowing a customer to opt out of part of the charge it would otherwise pay.

Participants heard that self-direction is allowed in some other states, and that this option is designed so that only very large customers are eligible, and those choosing the option must meet high standards, such as a detailed demonstration of significant and regular efficient and

¹⁴ Wal-Mart's representative to the collaborative responded to a request for criteria by suggesting that retail customers utilizing the "self-directed" option be approved by the PSC, and that approved customers can self-direct funds on approval of the utility (the utility would have 30 days to reply to a request).

sustainable facility investments, pressure from foreign competition, and reporting to the state's commission on a regular basis to maintain eligibility.

Scale of the Energy Efficiency Programs – Generally, the following issues have been covered:

- There is an interest among participants to gauge the size of the portfolio of programs to a residential bill effect, expressed as “a cost per month.” The discussion seemed to find comfort within a range of \$0.25 and \$1.00 per month, with more comfort at the lower half of the range.¹⁵ See Tables 1 and 2. (note: annualized numbers are used – the first year spending may actually be for a fraction of a calendar or program year so figures should be adjusted accordingly)
- There is an interest in doing all cost-effective energy efficiency, but also a recognition that for most if not all utility territories, there will be more cost-effective program opportunities than is likely to be afforded by the likely approved budget levels. In the meantime, programs should be clear winners with a high probability of system benefits for all customers.
- Parties favor starting relatively small with an expectation to learn lessons and grow over time as appropriate. Even a relatively small commitment to energy efficiency may appear to be a lot to cooperatives, according to them.
- The severely inefficient homes program (see Appendix D for the quick start version and Appendix E for two longer term proposals) has a statewide budget attached. At lower total budget amounts, the inefficient homes program either dominates the programs, or it must be significantly curtailed or scrapped.
- While there may be an interest in scaling the programs to produce a certain amount of savings, there is insufficient experience and information to choose a savings target at this time.

¹⁵ The collaborative members had use of a spreadsheet tool that related monthly residential bill effect to total program budget and percentage of net utility revenue in two ways. See Appendix C-3.

- One way assumed that the amount that would be raised from residential customer would be grossed up based on the proportion of **sales** to residential customers as compared with total sales. So if residential sales are 50% of the total sales, this calculated amount is doubled. This is consistent with the idea that the more energy a customer uses, the more value the customer gets from energy efficiency, both as a resource and as a service.
- Another way assumed that the amount that would be raised from residential customer would be grossed up based on the proportion of residential **customers** to all customers. So if residential customers are 80% of the total customer count, this calculated amount is increased by 25%. In other words, the budget would be based on an **average** bill effect to **all** customers.

Based on this tool, a residential monthly bill effect of \$0.50 for electric and gas customers would produce by the first method a statewide annual total of nearly \$24 million for energy efficiency programs. This represents 0.83% of net revenues for electric companies and 0.90% of net revenues for gas companies. By the second method, a residential monthly bill effect of \$0.50 for electric and gas customers would produce a statewide annual total of around \$13.4 million for energy efficiency programs. This represents 0.35% of net revenues for electric companies and 0.54% of net revenues for gas companies.

One particular anomaly among the utilities is important to note for the Commission. Mississippi County Cooperative industrial sales represent almost 98% of its total 2004 sales. This is the only utility with more than 50% of sales to industrial customers. Any general approach to the scale of energy efficiency programs should be examined from the perspective of this utility to see if an exception may be warranted.

- There is a tension between letting utilities have varying budgets and forcing budget uniformity, at least at the beginning.
- Other states scale their energy efficiency budgets based on a percentage of net revenue. This method appears not to be favored by the collaborative, but this measure as an outcome to the scale method is a useful comparison to the programs of other states.

Table 1: This table shows sales-driven results from the spreadsheet tool. Based on a desired monthly rate effect on residential customers, a total budget is estimated by grossing up the total in proportion to 2004 sales to all customer classes. Note: if C&I customers have their payments for energy efficiency capped, or if some elect to “self-direct” and “opt out” to some extent, the program budgets will be reduced based on this method.

		Electric Program Budget	Gas Program Budget
Dollars per month on Residential Utility Bill	\$0.25	\$8,935,161	\$3,075,027
	\$0.50	\$17,870,322	\$6,150,415
	\$1.00	\$35,740,643	\$12,300,830

Table 2: This table shows customer count-driven results from the spreadsheet tool. Based on a desired average monthly rate effect on all customers, based on 2004 data.

		Electric Program Budget	Gas Program Budget
Average Dollars per month on Utility Bills	\$0.25	\$3,820,069	\$1,863,060
	\$0.50	\$7,640,178	\$3,726,120
	\$1.00	\$15,280,356	\$7,452,240

One caveat raised in the discussion is to assure that critical mass of a given program is maintained at a minimum, or else it would not be worth doing. Some programs may be dubbed “pilot programs.” In such instances, there should be specific questions that the pilot is designed to answer with the expectation of implementing the answers and potentially upscaling the program.

The collaborative also discussed but came to no consensus on whether the Commission should establish a funding plan for multiple years, say three years. The approach would give administrators and others maximum certainty about how activity will evolve from the start and several parties were supportive for this reason. On the other hand, there is so much uncertainty at the start that perhaps it is best to budget one year at a time.