

TENNESSEE REGULATORY AUTHORITY



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MEMORANDUM

To: Sara Kyle, Chairman
Eddie Roberson, Director
Pat Miller, Director
Ron Jones, Director

From: Arnold Reed, Consultant, Economic Analysis & Policy Division
Acting Chair, Home Energy Conservation Task Force

Date: May 25, 2007

Subject: Docket No. 06-00309: Docket for the Collection of Data and Comments Relating to Home Energy Conservation Matters in Tennessee

The Tennessee Home Energy Conservation Task Force presented its Final Report at the November 20, 2006 Authority Conference. At that Conference, the Directors requested the Task Force to conduct a workshop to identify potential means with which to fund conservation efforts. This workshop was conducted on January 31, 2007. The Task Force met again on May 22, 2007 to finalize its report on the workshop, which is attached for your review.

The bulk of the attached report represents a consensus of the Task Force. The positions of the parties are presented for those topics (surcharge and decoupling) about which it was not possible to achieve consensus.

The Task Force could not have completed its work without the assistance and commitment of the Task Force members, including Chairman Carsie Mundy. The January 31 workshop was ably hosted by Darlene Standley and the staff of the Utilities Division. Participants in the May 22 meeting included the following:

Jack Barkenbus – Vanderbilt Center for
Environmental Management Studies
Patricia Childers and Scott Ross – Atmos
Ron Edelstein – Gas Technology Institute
Archie Hickerson – AGL Resources, Inc.
Timothy Phillips and Ryan McGehee –
Consumer Advocate & Protection
Division

Pia Powers – Piedmont Natural
Gas/Nashville Gas
Arnie Reed - TRA
Regina Surber – Tennessee Department of
Human Services
Alex Tapia – Southern Energy Conservation
Initiative

Copies to: Task Force Members
Division Chiefs

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Introduction

The Tennessee Home Energy Conservation Task Force was formed on July 24, 2006 to assess the various energy conservation programs used throughout the United States, evaluate the home energy conservation needs of Tennesseans and make recommendations for meeting these needs and to develop Tennessee's own low income home energy conservation program.

The Task Force presented a report of its findings on November 15, 2006. In addition to providing an overview of other State Conservation Programs, this report included recommendations in the areas of education, diagnostics and remediation to be incorporated in a conservation program for Tennessee.

The Task Force also recommended that a workshop be conducted to discuss the funding mechanisms that could be used to fund a home energy conservation program. This workshop convened on January 31, 2007.

Participation in Workshop

The Funding Workshop included members of the Task Force, Consumer Advocate and Protection Division of the Office of the Attorney General ("CAPD"), utility representatives and presenters of various funding options. Those attending included:

**Cindy Datig – Pennsylvania Dollar
Energy Fund**
**Kelly Ross-Gillespie - Alliance to Save
Energy**
Darlene Standley – TRA Staff
Carsie Mundy – TRA Staff
David Foster – TRA Staff
Kelly Cashman-Grams – TRA Staff
John Hutton – TRA Staff
Arnold Reed – TRA Staff
Mike Chrysler – CAPD
Dan McCormac – CAPD
Ryan McGehee – CAPD
**Dr. Jack Barkenbus – Vanderbilt
University**

**Keith Bissell (by phone) – Gas Technology
Institute**
**David Carpenter – Piedmont Natural
Gas/Nashville Gas**
Pat Childers – Atmos Energy
Ron Edelstein – Gas Technology Institute
Archie Hickerson – Chattanooga Gas
Denise Manning – Atmos Energy
Chris Potter – American Electric Power
**Pia Powers – Piedmont Natural
Gas/Nashville Gas**
**Regina Surber – TN Dept. of Human
Services' Energy Assistance Programs**

Attendees heard presentations about non-profit alliances such as Pennsylvania's Dollar Energy Fund, a survey of state low-income energy programs, funding mechanisms for low-income natural gas programs and the federal Low Income Home Energy Assistance Program ("LIHEAP"), Weatherization Assistance Program ("WAP") and Residential Energy Assistance Challenge Option ("REACH").¹ Task Force members weighed the pros and cons of the funding mechanisms that might fund a future energy conservation program. This report summarizes these ideas and comments.

¹ LIHEAP and REACH are funded by the U.S. Department of Health & Human Services; WAP is funded by the U.S. Department of Energy.

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Funding Mechanisms

How Funding Mechanisms Work

Kelly Ross-Gillespie summarized how the Alliance to Save Energy promotes energy efficiency, which is America's greatest indigenous energy resource. The newly-created Southeast Energy Alliance is modeled after regional alliances in other parts of the country. Some states require utilities to meet a percentage of their growth through energy efficiency. Other states fund weatherization through an energy tax. Money for conservation can be included in housing development funds. Investor-owned utilities can fund public benefits programs² through customer surcharges; such programs can be administered by the state or by the utilities through nonprofit agencies. Regulatory agencies may direct utilities to implement low-income plans and allow them to recover the costs in rates.

Ms. Gillespie introduced tests that measure the impact of rate increases used to fund conservation programs. The Rate Impact Measurement calculates how the expenses of a program would impact all ratepayers including non-participants. The Total Resource Cost test incorporates environmental and economic benefits to determine whether a program's benefits justify its costs. Finally, the Participant Test measures how a program benefits its participants.

Ms. Gillespie stated that money to support conservation programs can be collected in a variety of ways. It can be collected directly from customers on a usage basis or a flat monthly fee, or utilities may be required to contribute a percentage of their revenues to fund conservation programs. Additionally, participants may be asked to pay for a percentage of weatherization improvements, although this option may be out of reach for many low-income customers. Because many low-income consumers rent, it is important, although challenging,

² Public Benefits funds are also known as System Benefits Charges.

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to enlist the cooperation of their landlords. Since the federal Weatherization Assistance Program can only fund certain types of improvements, additional funding sources may fill the gaps. Ms Gillespie also discussed how building codes that mandate energy efficiency are effective for the life of the building, and also that public housing should be required to meet energy efficiency standards. Finally, she discussed decoupling and how it removes the disincentives for utilities to promote conservation. However, decoupling may be of limited help to low-income consumers, because variable rates may increase (although overall energy use and the total energy bills should be lower). Finally, Ms. Gillespie mentioned that escheat funds³ can also be used to fund energy assistance programs.

Utility Funding

The following mechanisms would be funded through the utilities.

Incentive Sharing

This option refers to a performance-based ratemaking/incentives plan in which utilities share cost savings with their customers.⁴ Conservation efforts could be added as another beneficiary. For example, a company might share cost savings 40/40 between customers and shareholders with 20% funding conservation. Another option would provide that a designated amount of cost savings or gain be devoted to such a program before sharing. For example, the first \$150,000 of annual savings realized through a Company's incentive or sharing program could be designated for the conservation program with the remainder being shared on an equal basis.

Pros: This option is partially funded by both consumers and stockholders and would not require a base rate increase.

Cons: The amount of funding can fluctuate year to year and is dependent on the results of the particular incentive program. The incentive mechanism differs across utilities at the present time. It could require changes in current tariffs and/or the mechanics of the various incentive or sharing programs that are currently in place. Since a portion of the funding would be taken from the portion of the incentive program saving or gain, it would reduce the value of such programs to the stockholders and could lessen the utilities to engage in such programs. Depending on the specifics of this approach, the CAPD may be opposed.

Percentage of Utility Revenue

This option requires utilities to contribute a certain percentage of their revenue to conservation programs.

Pros: The ease of collections.

Cons: Time delay. Utilities would seek to increase rates in order to recover their costs, which intervening parties may oppose.

Such charges would be a recoverable cost, and as such, the utilities would be entitled to have the opportunity to recover the cost through rates. As a result, the implementation of such a procedure could not occur without a rate proceeding and

³ Escheat refers to the transfer of property to the state when a person dies intestate without a person capable of taking their property as heir.

⁴ For example, a company might share cost savings 50/50 between its customers and shareholders.

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ruling to allow the utilities to recover the increased costs. Since the revenues vary as usage varies, the amount of funds available would likewise vary as a result of changes in weather, and/or the changes in the price of gas. Such a program would not begin until rate proceedings were concluded.

Purchased Gas Adjustment (“PGA”)

The PGA is a mechanism by which natural gas utilities can recover increases in the cost of natural gas without filing for rate relief.

Pros: Does not require individual rate cases to be filed.

Cons: This option would require a modification to the PGA rule, which parties may oppose.

Stockholders

Stockholders voluntarily fund or share in the funding of efficiency and conservation programs.

Pros: This option could buy the stockholders and the utilities goodwill with the community, because rate payers do not bear the full burden of funding.

Cons: Stockholders will resist this option without receiving a decoupling mechanism and/or higher return (to help them recover revenues lost due to conservation).

Customers and the CAPD may oppose a sharing program.

The Authority cannot direct the utilities to fund or partially fund such programs without providing the companies the opportunity to recover the costs in rates. If the Authority were to direct the utilities to provide such funding it would be a cost of doing business that would be includable in the cost of service for ratemaking purposes. Failure to provide the utilities the opportunity to recover such cost would hinder the utilities’ ability to earn a just and reasonable return on investments.

While, the utilities may agree to some stockholder funding on a short term basis, Stockholders will likely resist this option on a long term basis. In addition to the actual cash out lay that could financially harm the stockholder, an effective conservation program would result in reduced usage, reduced revenues, and reduced net income available to the stockholder to compensate them for the use of their investment devoted to public use. A decoupling mechanism, however, could mitigate the impact of the reduced revenues that result from the reduced sales volumes. The CAPD is opposed to a decoupling mechanism.

If the stockholders only provided a share of the funding, it would still be necessary to raise rates or otherwise obtain funds for the remainder of the program costs.

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Surcharge

A surcharge is a fee that can be added to customers' energy bills to fund energy efficiency programs or a public benefits fund. Such surcharges may be collected as a flat fee per customer, a flat fee per unit (ccf or therm), or a percentage of usage.

Pros: Funds would be easy to collect and administer. Surcharge mechanisms have been utilized in many other states to recover costs such as energy efficiency.

Position of the utilities and the Gas Technology Institute ("GTI"): It may be possible for the TRA to adopt such a procedure without additional legislative authority.

The collection of the funds would be easy to administer. The amount that each customer is contributing to the program could be easily identified. With a surcharge there would be no need for the utilities to apply for a rate case to recover the program cost, since the utility would be recovering the program cost through the surcharge. A relatively small per customer surcharge could produce a fund that could provide material benefit. For example a surcharge of \$0.20 per month per customer would produce a fund of \$120,000 annually for a utility with 50,000 customers. Since the number of customers served by the utilities remains relatively constant, the level of funding could be predicted with relative certainty.

Cons: Low-income consumers in poorly-insulated houses could suffer if their energy usage were higher than the better-insulated homes of more affluent customers (unless the surcharge was collected as a flat fee), and a volumetric surcharge would fluctuate with weather and might be difficult to track. A rate proceeding would be required, although not a base rate proceeding.

Parties disagree on whether the TRA requires additional legislative authority to implement a surcharge.

Position of the CAPD

The Consumer Advocate opposes this mechanism and prefers voluntary contributions rather than mandatory charges placed on the bills of consumers. The Consumer Advocate has further expressed doubt as to whether a surcharge could be implemented to raise funds for energy efficiency programs or a public benefits fund without additional legislative authority to implement this funding mechanism. These same concerns are also applicable to many of the other funding mechanisms identified in this report. A surcharge designed to raise public funds for public use would result in a program similar to the Universal Service Fund, a program authorized by Congress and the General Assembly. In effect, a surcharge is a tax on consumers.

Position of AGL Resources, Inc.

Other members of the taskforce do not agree with the Consumer Advocate and Protection Division concerning the need for additional statutory authority. If a

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volumetric surcharge were to be implemented, low-income consumers in poorly-insulated houses who are unable or otherwise do not receive benefit of such a program could suffer if their energy usage is higher than the better-insulated homes of more affluent customers. Such harm would be mitigated if a per customer surcharge were implemented since the impact per customer would be fixed and would not increase as usage increases. Also, a volumetric surcharge would fluctuate with weather and might be difficult to track.

Other funding mechanisms

Residential Energy Assistance Challenge Option (“REACH”)⁵

REACH is a one-year grant program administered by the U.S. Department of Health & Human Services. It funds demonstration projects designed to focus on the health and safety of vulnerable households.

Pros: A federal grant will not require utility or ratepayer funding.

Cons: The state must submit a grant proposal; grants are awarded on a competitive basis to LIHEAP grantees that submit qualifying plans for HHS approval. It is likely that funding could not be restricted to customers of investor-owned natural gas utilities. Only projects that focus on innovative health and safety practices will be considered. Annual funding was recently reduced from \$5 Million to \$1.5 Million, and the number of states has been cut from six to two.

State Energy Tax

Vermont has implemented a gross receipts tax of 0.5% on all energy sold in the state including electricity, natural gas, bulk fuels (propane, oil, etc.) with the exception of transportation fuels and wood. This tax does not appear as a separate line item on customers’ bills as do the surcharges for public benefits funds.

Pros: Because this option is a state program, it will apply to municipalities and electric utilities as well as public utilities regulated by the TRA.

Cons: This option will require legislation, and there is no assurance that the needed support for such legislation can be obtained. In addition, the resulting funds could be difficult to administer, and all of the money might not be allocated for conservation and efficiency programs.

Voluntary Contributions

This option allows customers to voluntarily pay additional amounts each month to help needy families.

Pros: The program is voluntary, and does not require the Authority to take any ratemaking action.

Cons: Experience with voluntary contribution programs has shown that relatively few customers participate in such programs (about 1%). As a result, the amount that could be raised would likely be relatively small and would likely be a diversion of the

⁵ Cindy Datig listed REACH as a potential funding source (see transcript, p. 16), but the group did not discuss it further. It is presented as a potential funding option because Tennessee does not currently participate. More information can be found at <http://www.acf.hhs.gov/programs/liheap/funding/reach/reachdes.html>.

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funds that are currently voluntarily contributed to provide assistance to those customers who have difficulty paying their bills. In addition, voluntary contributions tend to fluctuate and would likely not be a reliable source that would allow for longer term planning and administration.

Other topics relevant to conservation

What Other States are Funding

Arnie Reed presented a summary of low-income support programs funded in other states. Some programs are administered by state government, some by the utilities and some by public-private partnerships. Funding sources include federal and state governments, utility rate surcharges and utility restructuring. Mr. Reed focused on programs that support diagnostics, remediation, education and research & development; bill-paying support was not included in the analysis. Twenty-nine public benefit funds operate in 24 states, ten of which are administered by state public service commissions. Twenty-three states report 50 utility-administered programs, and eight public-private partnerships are active in seven states.

Decoupling

This option decouples energy utilities' revenues from earnings. Under standard ratemaking, utilities' stockholders shoulder financial harm when customers conserve energy in response to rising natural gas prices between rate cases.⁶

Position of AGL Resources, Inc.

Presently each of the three major regulated gas utilities in Tennessee recovers a material portion of the fixed operating cost through volumetric rates. The more natural gas consumers use, the greater the revenue and the greater the assurance that the utility will recover its cost and earn a just and reasonable return on its investments. The less gas consumed, the lower the revenue and the greater the risk that the utility will not recover its cost. As a result of the dependence on the volumetric rates, there is a natural incentive for utilities to promote increased usage and a disincentive to promote conservation. A mechanism that decouples or breaks the tie between the amount of gas used by the customers and a utility's earnings, mitigates the financial harm to the stockholders that results from conservation from a formal energy conservation programs or from rising natural gas prices. Decoupling would not only increase the viability of a conservation program for low income customers, but would facilitate the development by the utilities of a broader based conservation program that in the long run would reduce demand and provide downward pressure on natural gas prices.

Decoupling could be accomplished through the adoption of a straight fixed variable rate design that provides for cost that does not vary with usage to be recovered through a fixed rate and cost that vary with usage be recovered through the volumetric rate or through an adjustment mechanism that adjust revenues to reflect the volumes of gas used to set rates.

⁶ NRRI Briefing Paper – *Revenue Decoupling for Natural Gas Utilities*, p. 2 (April 2006).

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Decoupling is not a funding mechanism, but the willingness of the stockholders of the utilities to support conservation programs on a long term basis may depend on the elimination or reduction of the financial harm that occurs as the result of conservation when fixed cost recovery is tied to volume of gas used by the customers.

Pros: This option removes the disincentive for utilities to encourage conservation. Also, decreased demand would help lower the price of gas in the long run.

Position of Atmos

The largest portion of a customer's bill is the Purchased Gas Adjustment, which accounts for approximately 80% of a typical bill. As customers conserve, they benefit by an overall reduction in their bill even with a surcharge mechanism or decoupling mechanism.

Position of AGL Resources, Inc.

Decoupling the recovery of fixed costs from usage rates removes the disincentive for utilities to encourage conservation, which in turn should lower demand and, in the long term, result in the lower price of gas. An adjustment mechanism that adjust rates as a result of the actual usage varying from the levels used in a rate proceeding to establish rates would reduce rates when actual usage levels exceeds the level on which rates are based. It would also increase the rate when the actual usage is below the level used to set rates and would reduce the need for rate proceedings that are the result of declining usage.

Cons: Rates would increase in the short run, which would harm the low-income customers the Task Force is trying to help.

Position of Atmos

Rate design changes might be implemented to assist customers with high usage (oftentimes being the low income customers) through higher fixed customer charges. Exemptions from monthly customer charges could apply to qualifying low-income consumers.

Position of the CAPD

Decoupling is not a funding mechanism for conservation or specifically for a low-income program. Decoupling is an industry proposal intended to adjust/increase rates to account for any decline in the usage of natural gas by consumers which is packaged to regulators and the public as a necessary means to provide an incentive for the natural gas industry to assist in conservation efforts. In various forms, decoupling proposals are intended to result in annual trackers whereby any downward trend in usage of natural gas by consumers would be compensated for with an upward adjustment of rates. The problem inherent in such trackers lies in the inability to measure the exact portion in the decline in usage that can be attributed to "conservation" when other factors such as weather, changing economic conditions and the usage and additional revenues of new customers can drastically muddy the waters of a tracker. Currently, rate design in Tennessee allows the industry to

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reasonably recover the annual 1.5 to 2% decline in gas usage despite the additional revenues that stream in from new customers that arguably offset any decline in usage a company may experience.

While the utilities may assert that decoupling is an incentive to encourage conservation, Tennessee consumers are already conserving natural gas without the input or encouragement of the industry as evidenced by the decline in usage per customer. While the Task Force seeks to create a program to assist low-income consumers in conserving energy, the impact of such a low-income program will not have a measurable effect on the overall trend as it stands today. Thus, if there is no measurable impact on the usage per customer trend, then there is no disincentive for the industry to support a low-income program.

The Consumer Advocate would further note that under a decoupling mechanism, the financial reward for consumers by conserving natural gas would be eroded while the company would receive guaranteed revenue adjusted annually. If consumers fail to realize the savings they have created by their own efforts at efficiency, heating with natural gas may become less of an attractive option for energy consumption. Consequently, those households that can afford it may switch to alternate means. Low income consumers likely could not afford switching to alternate means. A shrinking customer base in the future is not in the interest of the natural gas utilities. As a long term policy in light of the volatility of the price of natural gas, the industry must concede that a decoupling mechanism is not in the interest of both the public and the long term financial health of the gas companies. Conservation in of itself is a benefit to the industry in that low and reasonably stable gas prices attract new customers and new sources of revenue. This logic, coupled with a utility's obligation of prudence in doing business as a regulated monopoly, should be enough of an incentive for the industry to encourage conservation.

Position of AGL Resources, Inc.

Non gas rates could increase in the short run if the actual volume of usage is less than the level used to establish rates. Such an increase could harm the low-income customers the Task Force is trying to help if the customers had not reduced their usage proportionally. However, considering that the commodity cost (gas cost) per ccf or therm is generally several times larger than the base or non-gas rate, a relatively small decline in usage would offset or eliminate the increase in the total gas bill as a result of a decoupling adjustment.

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Discussion of R&D Options for Low-Income Customers

There are advanced technologies that could be made available that would benefit Tennessee's low-income customers by offering lower-cost, high-efficiency appliance and heating options. Examples include the tankless water heater, combination water/space heating system, and advanced appliance controls.

Pros: R&D can be funded via a surcharge collection mechanism that, via a rulemaking, could be funded by all the regulated utilities. Benefits of such programs, according to GTI, can be as high as 8:1.

Cons: The immediate costs of such programs would fall to the ratepayers. It may take a number of years for benefits to begin flowing. At this time, a specific R&D program has not been developed for Tennessee ratepayers, although GTI has suggested some R&D topics.

Dollar Energy Fund

Cindy Datig described the Pennsylvania Dollar Energy Fund and presented the benefits of utilizing a non-profit agency to raise and distribute funds for an energy conservation program. The Dollar Energy Fund serves as a central repository for funding sources as well as a single point of contact for recipients including low-income outreach and grant assistance programs. Ms. Datig's agency works with non-profit agencies to supplement funding from federal sources such as LIHEAP and the Weatherization Assistance Program.⁷ The Dollar Energy Fund also receives block grants from state and municipal sources as well as economic development funds.⁸ Additional sources of funding include ratepayer funded programs, private contributions and contributions from the banking community.

Agencies such as the Dollar Energy Fund have experienced personnel who specialize in fund-raising. Their internet management tools streamline the tracking and dispersing of funds. These programs help utilities keep customers on the system and thereby avoid the costs associated with collections and terminating customers who cannot pay their bills. They can be a holistic network for low-income families and serve as a link between community-based organizations. The tax-reductions that result from using a non-profit organization are a benefit as well.

Pros and Cons

The Dollar Energy Fund administers funds for a cost of ten percent. If Tennessee decided to use such a mechanism, it would most likely have to put out a bid for contracts. Instability and fluctuation of funds and contributors can introduce volatility. Such a program would carry the administrative burden of applying and re-applying for grant money that might only serve as seed money for a pilot program. In contrast to what the Task Force is commissioned to do, the Dollar Energy Fund and similar programs focus mainly on assisting consumers with paying bills rather than conservation, and we have no measures of their effectiveness.

⁷ The Weatherization Assistance Program is funded by the U.S. Department of Energy.

⁸ The Dollar Energy Fund receives \$350,000 annually from block grants and economic development funds.