
FUNDING FUEL ASSISTANCE:

**State and Local Strategies to Help Pay
Low-Income Home Energy Bills**

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On The Brink of Disaster: A State-by-State Analysis of Low-Income Natural Gas Winter Heating Bills. This report presents an examination of actual winter natural gas energy bills for nearly 200 natural gas utilities around the country. The report presents state-by-state data on bills as a percentage of income and of the number of low-income households in various public benefit programs by state. The report further presents utility-by-utility data, using actual winter bills from each utility, of winter home energy burdens for populations such as public assistance recipients and households with incomes less than \$15,000.

The Other Part of the Year: Low-Income Households and Their Need for Cooling: A State-by-State Analysis of Low-Income Summer Electric Bills. This report presents an examination of actual summer electric bills for nearly 200 electric utilities from around the country. Relying upon the most recent literature, the report discusses the adverse health effects of hot weather and presents city-by-city data on the "threshold temperatures" over which hot weather becomes deadly. The report presents state-by-state, and utility-by-utility, data on summer electric bills as a percentage of income for various low-income populations. In addition, on a utility-by-utility basis, the report presents data on the increase in electric bills from 1987 to 1992 (as compared to the increases in public assistance levels), and on the difference between summer and winter electric costs.

Energy Efficiency and the Low-Income Consumer: Planning, Designing and Financing. This report presents a comprehensive low-income energy efficiency program proposal for natural gas and electric utilities. It also discusses the strategic alliances that utilities can develop with non-traditional partners such as housing developers, banks involved with developing Community Reinvestment Act (CRA) plans, and the like. The report contains a discussion of the most recent evaluations by utilities of the impacts which the low-income energy efficiency programs of those companies generated on arrearage reduction, credit and collection savings, and related expenses.

Funding Fuel Assistance: State and Local Strategies to Help Pay Low-Income Home Energy Bills. This report presents a comprehensive program for developing state and local sources of revenue to be distributed as fuel assistance by local service providers. The report recognizes the hardships created by reductions in federal funding for fuel assistance. It contains more than two dozen proposals for developing substantial, repeatable, sources of dollars. Funding proposals cover a range of institutions and seek to spread the responsibility for providing dollars throughout a broad base of the community, including individuals, non-profits, businesses, educational institutions, churches and energy service providers.

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15. Understanding "Redlining" in a Competitive Electric Utility Industry

Table of Contents

TABLE OF CONTENTS	1
TABLE OF CONTENTS: APPENDICES	9
TABLE OF TABLES	11
TABLE OF PROGRAM SUGGESTIONS	15

INTRODUCTION1

 The Existing LIHEAP Structure 1

 Low-Income Heating Needs without LIHEAP Funding..... 3

 Low-Income Non-Heating Electric Needs without LIHEAP 4

 The Structure of this Report 6

 Summary and Conclusions 7

UTILITY BILL CHECKOFFS8

 Funding Social Services Through a Voluntary Check-Off 9

 Types of Check-offs Currently Existing..... 9

 Different Types of Check-offs 10

 History of Check-off Programs 11

 Current Levels of Participation 12

 The Administration of Check-offs and the Cost of Administration 15

The Basis for Utility Participation in a Fuel Fund Check-off	18
The Community Perspective.....	18
The Company Perspective	19
Summary	21
Anticipated Revenues from a Utility Fuel Fund Check-off.....	21
Revenue Produced by Existing Check-offs.....	21
Projections for Revenue Generation.....	25
Lessons to be Learned for Prospective Energy Assistance Check-offs.....	26
CONTRIBUTIONS OF EXPENSE SAVING BEHAVIOR	28
Electronic Funds Transfer Billing Arrangements.....	29
Early Payment Agreements	33
Summary	35

CAPTURING MISCELLANEOUS UTILITY FUNDS.....36

 Contributions of Utility Refunds 36

 The Colorado Program.....37

 Rate Refunds In the Various States 39

 Unclaimed Deposits 39

 Unclaimed Rate Refunds 41

 The Arizona Ratepayer Assistance Trust Fund 42

 Summary 43

UTILITY FRANCHISE FEES44

 The Powers of a Municipality to Exact Compensation 46

 Municipal Charges for the Use of City Land 46

 Collection of the Rental Fee 47

 Summary 50

UTILITY RATE DISCOUNTS.....	52
The Straight Rate Discount.....	53
The Income-Based Straight Rate Discount.....	54
The Marginal Cost Based Rate.....	56
The Available Resource Model.....	59
The Percentage of Income Payment Plan.....	61
The Fixed Credit Approach.....	62
The Percentage of Bill Approach.....	63
Waived Customer Charge.....	64
Inverted Block Rates.....	67
The Direct Vendor Payment Program.....	68
Usage Based Discounts.....	70
Summary and Recommendations.....	71

NON-UTILITY COMMUNITY CONTRIBUTIONS.....73

 One Church--One Family73

 Contributions in Lieu of Taxes74

UNIVERSAL SERVICE FUND77

 Methodology.....79

 Financing the USF through a Charge on all Retail Consumption80

 Financing the USF through a Charge on Residential Consumption.....84

 Suggestions on the Structure of a Universal Service Fund.....88

 Goals of a Universal Service Fund (USF).....89

 Governing Principals of a Universal Service Fund.....89

 Summary and Conclusions95

PUBLIC BENEFITS AS "ENERGY ASSISTANCE"97

 The Earned Income Tax Credit.....97

 Congressional Action.....98

Utility Promotion of EITC	99
EITC as "Fuel Assistance"	100
State and Local Tax Relief	100
State Earned Income Tax Credits	100
Circuit Breaker Property Tax Relief	102
State Tax Credits	107
Sales Tax Relief	111
Leveraging Federal Funds	119
Emergency Assistance and Special Needs	119
Title IV-A Funds for Emergencies and Special Needs	120
Summary and Conclusions	123
ENERGY ASSISTANCE IN PUBLICLY ASSISTED HOUSING	125
Section 8 and Utility Allowances	126
Annual Utility Allowances	128
Inadequacy of Annual Section 8 Utility Allowances	128

Reasons for the Inadequacy of Annual Utility Allowances	129
A Proposed Response.....	131
Utility-Developed Data.....	133
Monthly Utility Allowances	135
A Proposed Response.....	136
Summary and Conclusions	138
INVOLVING BULK FUEL DEALERS	139
Cash Rather than Credit Prices	142
Across-the-Board Percentage Discounts.....	143
Margin Over Rack (MOR) Programs	145
"Summer Fill" Program.....	146
Winter Protections for Bulk Fuel Customers	147
APPENDICES	150

Table of Contents: Appendices

Appendix A: Criteria to Guide Funding Decisions.....	150
Appendix B: Identifying Savings from Low-Income Programs.....	154
Appendix C: Reducing Working Capital By Reducing Arrears.....	174
Appendix D: Universal Service Fund Tables.....	183
Appendix E: Economic Development Impacts of EITC Promotion.....	210
Appendix F: Calculating Energy Needs of the Poor.....	224

Table of Tables

Table 1:	Participation Rates for State Income Tax Check-Off Programs	13
Table 2:	Participation Rates For Iowa Tax Check-offs in 1990.....	23
Table 3:	Participation Rates for Virginia Check-offs in 1989	24
Table 4:	Different Levels of Fuel Fund Contributions	25
Table 5:	Assumed Typical Utility Collectability Schedule	31
Table 6:	Assumptions in Estimated Savings From Early Pay Program.....	34
Table 7:	Pilot Rate Discounts: Public Service Company of Colorado	55
Table 8:	Potential Electric Inverted Block Rate.....	67
Table 9:	Tucson Electric Power Residential Lifeline Discount Program	70

Table 10:	Five States with Greatest Percentage Price Increase: State-Specific USF Charge	83
Table 11:	Residential Price Increase from State Specific USF Charge	86
Table 12:	Residential Monthly Bill Increase from State Specific USF Charge	87
Table 13:	Residential Price Increase from Uniform National USF Charge (\$0.003/kWh).....	88
Table 14:	State Earned Income Tax Credits in 1994	102
Table 15:	State Property Tax Relief: Circuit Breaker Programs (Generally, Laws in Effect for 1994).....	104
Table 16:	Sales Tax Rates and Exemptions for Residential Electricity, Natural Gas and "Other" Home Energy Uses	113
Table 17:	Average Per Household and Aggregate Savings if Low-Income Households Exempt from State Sales Tax.....	117
Table 18:	Percent of Households Using Major Types of Heating Fuels by All, Low Income and LIHEAP Recipient Households, By Census Region and Main Heating Fuel Type (Nov. 1993)	140
Table B-1:	Costs of Credit and Collection Activity	157
Table B-2:	FERC Uniform System of Accounts: Customer Service Expenses	158
Table B-3:	Cost of Negotiating Deferred Payment Arrangement for Arrears	161

Table B-4:	Success Rate: Deferred Payment Arrangements: Pennsylvania Utilities	163
Table B-5:	Numbers of Accounts and Dollars of Arrears per Account Referred to Collection Agencies.....	164
Table B-6:	The Impact of Disconnect/Reconnect Fees for Low-Income Payments	170
Table C-1:	Illustrative Annual Working Capital on Residential Arrears	176
Table C-2:	Illustrative Annual Working Capital on \$100/30-Day Residential Arrears	177
Table C-3:	Distribution of Arrears by Age of Arrears	180
Table C-4:	Calculating One Month Working Capital	181
Table D-1:	State-by-State Total Retail Price Impacts of State-Specific Universal Service Fund (USF) Charges (Using 1993 Utility Data).....	185
Table D-2:	State-by-State Total Retail Price Impacts of Uniform National Universal Service Fund (USF) Charge (Using 1993 Utility Data)	188
Table D-3:	Excess/(Shortfall) Between 1986 LIHEAP Appropriation (1995\$) and State-Specific Revenue Generated by Uniform National Charge (\$0.0011/kWh) on Total Retail Sales (Using 1993 Utility Data)	192
Table D-4:	Per kWh Charge Needed on Residential Sales to Generate 1995 Present Value of 1986 LIHEAP Allotments (By State) (Using 1993 Utility Data)	195
Table D-5:	Universal Service Fund (USF) Revenues Generated by \$0.003/kWh Residential Charge By State (Using 1993 Utility Data)	198

Table D-6:	State-by-State Residential Bill and Price Impacts of Uniform National Universal Service Fund Charge (Using 1993 Utility Data)	201
Table D-7:	Excess/(Shortfall) Between 1986 LIHEAP Appropriation (1995\$) and State-Specific Revenue Generated by Uniform National Charge (\$0.003/kWh) on Residential Sales (Using 1993 Utility Data).....	205
Table E-1:	Additional Economic Activity from 5% Increase in EITC Participation: Top Ten States	214
Table E-2:	Top Ten States in Job Creation Potential Per Million Dollars of Additional EITC Benefits	215
Table E-3:	Supplier Location: Businesses Serving Low-Income and Middle-Income Neighborhoods	218
Table E-4:	State-by-State Economic Activity and Jobs Impacts of Increasing EITC Participation by Five Percent	220

Table of Program Suggestions

1.	Utility bill checkoffs for fuel funds	8
2.	Electronic funds transfer (EFT) billing.....	29
3.	Early payment agreements	33
4.	Contributions of utility refunds	36
5.	Recapture of unclaimed deposits	39
6.	Recapture of unclaimed utility refunds	41
7.	Ratepayer assistance trust fund.....	42
8.	Franchise fees--rental payments	44
9.	Rate discounts	52
10.	"One Church--One Family"	73

11.	Contributions in lieu of taxes	74
12.	Universal Service Fund.....	77
13.	Earned Income Tax Credit promotion	97
14.	State Earned Income Tax Credit	100
15.	Promotion of circuit breaker property tax relief.....	102
16.	State tax credits.....	107
17.	Sales tax relief on home energy	111
18.	Title IV-A: Emergency Assistance/Special Needs.....	119
19.	Utility allowances in assisted housing: annual	128
20.	Utility allowances in assisted housing: monthly	135
21.	Bulk fuels: cash prices	142
22.	Bulk fuels: across-the-board discount.....	143
23.	Bulk fuels: margin over rack program.....	145
24.	Bulk fuels: summer fill program	146
25.	Bulk fuels: winter shutoff protections.....	147

INTRODUCTION

This report considers alternatives to a continuing reliance on federal funding of low-income fuel assistance. The report will not dwell on the "need" for additional low-income fuel assistance. While not endorsing such a policy, the analysis assumes, solely for the sake of analysis, the elimination (or virtual elimination) of federal dollars devoted to fuel assistance provided through the Low Income Home Energy Assistance Program (LIHEAP).¹¹

THE EXISTING LIHEAP STRUCTURE

The American Gas Association describes LIHEAP as follows:

The Low Income Home Energy Assistance Program (LIHEAP) was created under the Omnibus Budget Reconciliation Act of 1981 (OBRA) to help low-income households pay their fuel and utility bills. LIHEAP funding is allocated by the Department of Health and Human Services (HHS) and administered by the states, with the states having maximum flexibility in directing program funds.

LIHEAP is one of the original seven block grants authorized by OBRA. LIHEAP is widely regarded as a model block grant program.

¹¹ Indeed, it is beneficial to consider the comments of the American Gas Association (AGA) in its July 1995 publication *Impacts of Eliminating Funding for the Low Income Home Energy Assistance Program (LIHEAP) on the Natural Gas Industry and Its Customers*.

The program has been very cost effective and efficient for several reasons. First, states are given the flexibility to direct program funds as needed, allowing individual states to tailor programs according to the needs of its low-income residents. In addition, states are required to maintain administrative expenses at or below 10 percent, ensuring that most of the monies go directly to needy households.

LIHEAP has established two standards upon which states determine household eligibility. Categorical eligibility refers to those households with one or more individuals who receive assistance through other programs, including Aid to Families with Dependent Children (AFDC), Supplemental Security Income (SSI) disbursements, food stamps and certain veterans' and survivors' needs-tested benefits. Income eligibility is determined based on the greater amount of 150 percent of the federal poverty level for their state or 60 percent of the state median income.¹²¹ LIHEAP recipients include many "working poor" households.

Appropriated funding for LIHEAP has been declining over the past decade, and recent recommendations to zero it out could mean that the end of the program as it exists today is in sight. LIHEAP funding in fiscal year 1993 was 32 percent lower than in 1983. The program has been forced to trim down and to provide only those services that are absolutely necessary. LIHEAP will not be able to provide the wide range of services it has in the past if funding is significantly cut again.

¹²¹ U.S. Department of Health and Human Services, *Low Income Home Energy Assistance Program: Report to Congress for Fiscal Year 1993*, (Washington, DC: October, 1994), p. x.

By statute, states are allowed to use LIHEAP funding for the following purposes: heating assistance; cooling assistance; energy crisis intervention or crisis assistance; low-cost residential weatherization and other energy-related home repair; administration of program; transfers to other HHS block grants; carryover from one fiscal year to the next; identification, development and demonstration of leveraging programs; and obligation of leveraging incentive funds.¹³¹ Each state allocates funds as need dictates. On a national basis, the bulk of LIHEAP funds are used to provide heating assistance. That may not be the case, however, in every state.

The impacts of a policy choice to eliminate LIHEAP are stunning.

LOW-INCOME HEATING NEEDS WITHOUT LIHEAP FUNDING

The elimination of LIHEAP at the federal level would yield significant harms to low-income households. More than 1.0 million households in 47 states and the District of Columbia with incomes less than \$6,000 would have winter home heating burdens exceeding 30 percent of their income in the absence of federal fuel assistance.¹⁴¹ Roughly 1.9 million households would have winter home heating burdens of more than 20 percent of income. More than 2.7 million households would have winter home heating burdens exceeding 10 percent of income, the ceiling of "affordability." Low-income customers taking gas from 164 of the 199 utilities studied would pay "too much"¹⁵¹ for their winter home heating bills.¹⁶¹

¹³¹ *Id.*, at 9-11.

¹⁴¹ M.Sheehan and R.Colton (1994). *On the Brink of Disaster: A State-by-State Analysis of Low-Income Natural Gas Winter Heating Bills*, Fisher, Sheehan & Colton, Public Finance and General Economics: Scappoose, OR.

This study examined actual natural gas winter heating bills for 199 utilities in 47 states and Washington D.C. It looked at households now receiving federal fuel assistance to determine the impact if that program were significantly reduced or eliminated. Data for utilities in New Mexico, Tennessee and Nebraska was not available.

¹⁵¹ Bills exceeding 10 percent of income are considered excessive.

¹⁶¹ The winter heating crisis facing low-income households is not a regional problem. Winter heating burdens are a function of energy bills and income. Geographic regions where winter bills are lower are also often characterized by lower incomes as well. Winter heating burdens as a percent of income thus remain relatively constant. Unreasonable burdens are evident in virtually every state, and in every region and Census division in the country.

The winter heating crisis facing low-income households in the absence of LIHEAP would not involve a problem simply of budget management. Winter heating burdens reaching 15%, 20%, 25% of income and more reveal an absolute mismatch between income and resources that cannot be redressed through budget counselling, budget management, or case management. Moreover, the moderation of natural gas prices in recent years has not mitigated the energy crisis facing low-income households. Without LIHEAP, low-income households would be called upon to devote unreasonable portions of their income to pay winter heating bills¹⁷⁾ in spite of price moderation for heating fuels in recent years.

LOW-INCOME NON-HEATING ELECTRIC NEEDS WITHOUT LIHEAP

Looking at the impacts of the loss of federal fuel assistance on low-income home *heating* bills tells but one part of the story of low-income energy needs. According to one study, the burdens imposed by electric usage (and summer cooling) are almost universally unaffordable to poor households as well,¹⁸⁾ often with fatal consequences.¹⁹⁾

As with winter heating bills, a study of 185 utilities across the country found that summer electric bills impose a tremendous and unaffordable burden on low-income households. For example, households receiving public assistance benefits universally cannot afford to pay summer cooling bills. At 1000 kWh of consumption, only five electric utilities have public assistance recipients with summer cooling burdens of less than 15 percent of income. None have burdens of less than 10 percent. At the other end of the spectrum, more than one-in-three utilities (69 of 185) have summer burdens of more than 30 percent and nearly two-of-three (114 of 185) have burdens of more than 25 percent.

Assuming 500 kWh of consumption rather than 1000 kWh does not bring bills down to an affordable level. Even at this lower usage, more

¹⁷⁾ To assume such bills are "paid" may be mistaken. Simply because bills are sent does not mean that they are paid.

¹⁸⁾ R.Colton and M.Sheehan (1995). *The Other Part of the Year: Low-Income Households and their Need for Cooling: A State-by-State Analysis of Low-Income Summer Electric Bills*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA.

¹⁹⁾ Heat-related deaths tend to be undercounted, and are certainly under-considered in the formulation of public policy. Heat is a substantial contributor to death tolls in even average summers. In the 15 cities for which data was reported, nearly 1,200 persons die in an average summer (June, July, August) due to heat-related causes. *The Other Part of the Year*, at 26 - 28. *The Other Part of the Year* presents city-by-city data for 48 cities of the threshold temperatures over which heat becomes deadly.

than 20 electric companies have burdens of more than 20 percent, and 90 companies have burdens exceeding 15 percent of income. Even at 500 kWh of cooling consumption, still no companies have burdens at an affordable five percent level.

THE STRUCTURE OF THIS REPORT

To help in filling the need for providing low-income fuel assistance, this report examines state and local strategies that can generate dollars for such an initiative. Recommended criteria to apply in deciding amongst these potential funding sources are set forth in Appendix A. The report is presented in ten chapters as follows:

- o *Chapter 1* examines utility bill checkoffs as a means of generating dollars. Checkoffs are a common mechanism for generating funds for "fuel funds" around the country, as well as for generating funds for other programs ranging from non-game wildlife protection to providing support for Olympic athletes. This Chapter provides a recommended checkoff structure and a method for estimating the revenue generated by such a mechanism.
- o *Chapter 2* posits that low-income fuel assistance programs would be too narrow in their focus if they sought only contributions of cash from utility customers. In addition, utilities might solicit contributions of expense saving behavior, with the utility passing along all or some substantial portion of the expense savings as the customer contribution to fuel assistance.
- o *Chapter 3* examines the efforts of some states to capture dollars that were originally generated in the utility context but which no longer belong to the utility company. Soliciting customers to donate rate refunds back to a fuel fund, as well as capturing unrefunded deposits, are examples of such "miscellaneous" utility funds.
- o *Chapter 4* examines how municipal governments might generate dollars for low-income fuel assistance. Imposing a rental charge to compensate the city for a utility's use of its streets and other public ways is one means through which local governments can generate dollars for such an undertaking.
- o *Chapter 5* catalogs the types of utility rate discounts that exist around the country. The Chapter identifies eleven different "models" of providing low-income fuel assistance through rate discounts.
- o *Chapter 6* discusses how communities can contribute to low-income fuel assistance through non-utility mechanisms. Ranging from programs involving non-profit contributions in lieu of taxes to churches developing "one-church:one-family" programs, these initiatives need not involve financial support from the local utility company.

- o *Chapter 7* considers the costs of establishing a Universal Service Fund. Using data from nearly 1,500 electric companies around the country, this Chapter quantifies the low-income fuel assistance that could be generated through different levels of a Universal Service Fund charge.
- o *Chapter 8* posits that not all "energy assistance" needs to come from energy assistance programs. Persons interested in generating "fuel assistance" would be well-served to promote participation in public benefit programs such as the federal Earned Income Tax Credit (and its state counterparts), in property tax circuit breaker programs, and the like. The Chapter cites research which shows that many, if not most, households receiving such benefits use those dollars to help pay household bills (including utility bills).
- o *Chapter 9* examines fuel assistance provided through "utility allowances" in publicly-assisted housing programs. The Chapter notes that while fewer households are served through utility allowances than through LIHEAP, more dollars are involved. It discusses ways to ensure that the levels of utility allowances are appropriate and that the allowances are distributed in a rational fashion.
- o *Chapter 10* looks at mechanisms through which to generate additional fuel assistance dollars through bulk fuel dealers. Bulk fuel discounts, as well as initiatives such as summer fill-up programs are discussed.

SUMMARY AND CONCLUSIONS

Federal fuel assistance has provided a critical lifeline to low-income households for years. The most immediate need which people consider when thinking of fuel assistance involves helping households pay their winter heating bills. Helping to pay *cooling* bills, however, is also an important --indeed, even life-saving-- need to be met by fuel assistance. The elimination of energy assistance funding at the federal level creates a gap in the safety net that cannot go unfilled. State and local efforts to generate funding to help pay low-income home energy bills is critical.

UTILITY BILL CHECK-OFFS

The use of utility companies as a mechanism to help create and finance fuel funds to assist in the provision of home energy services is common today. Through such funds, utilities allow their customers to make contributions to low-income assistance programs through a voluntary check-off on their monthly energy bill. Utility customers may choose whether, when and how much to contribute each month.

Utility check-off programs support a myriad of institutional and financial arrangements. Some utilities operate their own fuel fund and direct those funds toward only their own customers. Some companies contribute to an independent non-profit agency which serves low-income customers irrespective of the fuel type or vendor. Some utilities match customer contributions made through a check-off with shareholder contributions on a one-for-one basis, while others match on a lesser scale or not at all.

This Chapter does not address these institutional issues. Instead, the Chapter deals solely with the fundraising aspects of a utility bill check-off by setting forth the basics of a utility check-off proposal. The analysis first reviews the precedent for funding social service programs through voluntary check-offs, and examines what lessons can be learned from those prior efforts. It next examines why utilities should be interested in participating in such a funding mechanism. The Chapter then projects the revenue that can reasonably be expected to arise from a utility program. It concludes by setting forth recommendations for the actual structure of a voluntary check-off as a means to support fuel funds.

FUNDING SOCIAL SERVICES THROUGH A VOLUNTARY CHECK-OFF

In determining the feasibility of a check-off as a funding mechanism for energy assistance, it is instructive first to examine existing check-offs to see what lessons these check-offs offer in predicting the success of such an endeavor. The questions which will be used to explore existing programs are as follows.

- o What types of check-offs currently exist?
- o How much revenue do these check-offs produce?
- o What type of participation rates do they enjoy?
- o How are these check-offs administered and what is the cost of administration?

Types of Check-offs Currently Existing

Check-offs have been part of the tax collection process since 1967 when the federal government first allowed taxpayers to designate \$1 of their tax liability for a special campaign fund.¹⁰⁾ Since that time, state and local governments have utilized the tax check-off to allow taxpayers to designate part of their tax liability for one of the two major political parties or to make voluntary contributions to designated funds listed on the state's tax form. Many states have several check-offs, ranging from political campaign funds, to nongame wildlife funds, to funds for abused children, to funds for AIDS research, bringing the total of all state check-offs to 144 nationwide.¹¹⁾ Several municipalities have also launched check-offs for college scholarship funds either by placing a check-off box on municipal tax bills or by enclosing an insert with tax bills requesting donations.¹²⁾

¹⁰⁾ "State Tax Check-off Programs Continue Growth," 55 *Tax Administrators News* 3:25 (March 1991).

¹¹⁾ "State Income Check-off Programs Remain Popular," 57 *Tax Administrators News* 3:30 (March 1993).

¹²⁾ John Bilafer, "Arlington, Massachusetts' Tax Checkoff Scholarship Program", 5 *Government Finance Review* 3:38 (June 1989).

Tax bills and electric or gas bills are not the only vehicles for check-offs soliciting contributions. Recently, Working Assets, a "socially responsible" privately-owned corporation offering credit card services and money funds, invested several million dollars to become a long distance telephone company so that the company could generate donations through a check-off on telephone bills.

This proliferation of check-offs suggests that check-offs are a highly successful method of fundraising in a time when other fundraising methods seem to have run dry.

Different Types of Check-offs

All states with a broad-based income tax currently have at least one check-off program. Political campaign check-offs differ from the charitable check-offs, such as the nongame wildlife or abused children fund check-offs. Political campaign check-offs generally allow the taxpayer to designate a portion of his or her tax to a political party, whereas one must decrease their refund or increase their tax payment in order to donate to one of the charitable check-offs. Because these check-offs appear on state income tax forms, solicitations for the various funds happen only once a year.

The check-offs on municipal tax bills also involve voluntary contributions. The frequency with which funds are solicited depends on the billing cycle of the municipality. Of the two municipal tax check-offs profiled here, one bills taxpayers yearly while the other bills quarterly.

Unlike the tax check-offs, Working Assets Long Distance bills its customers monthly. Check-off donations are encouraged by asking customers to round up their payment. All revenue received above the amount of the bill is then donated to charity.

History of Check-off Programs

Check-offs first appeared on tax forms almost thirty years ago with the institution of the presidential campaign check-off. Colorado became the first state to put a check-off on a state tax form in 1977, introducing a nongame wildlife check-off. Other states quickly followed suit, adding numerous check-offs to their forms.¹³¹

On the municipal level, Arlington (Massachusetts) was the first known municipality to devise a tax check-off for municipal tax bills, placing a check-off box on property tax bills, excise tax bills, business tax bills and water bills. In 1983, special legislation was passed in Massachusetts allowing Arlington to deviate from the Massachusetts Department of Revenue's required tax bill format enabling the town to place a check-off for a college scholarship fund on tax bills. Since that time, at least ten other Massachusetts municipalities have followed suit, creating similar scholarship programs. However, the subsequent programs differ from the Arlington program in that the state will now only allow municipalities to place an insert in the tax bill rather than amending the tax bill.

Burlington, Massachusetts is one such municipality that has followed the Arlington example. Given that Massachusetts municipalities are no longer allowed to amend the tax bills, the Town of Burlington has added a separate page to the tax bills for the check-off separated only by a perforated line. In that way, the check-off form is not overlooked and thrown out as with the many inserts which now commonly appear with any number of bills consumers receive. Burlington also requests that people write out separate checks for the tax bill and the scholarship fund.

Working Assets, a private corporation which offers investment services for "socially responsible investments," launched Working Assets Long Distance in 1988 in partnership with Sprint Corporation. Profits made by Working Assets for bringing customers onto Sprint long distance service were donated to charity. In 1991 Working Assets decided to become a long distance telephone carrier, itself, by buying long distance service at wholesale rates as a bulk customer and then billing customers directly. According to Working Assets, the switch was made precisely so that Working Assets could utilize billing features such as round-up donations. As a result, Working Assets invested more than two million dollars in order to enable the company to become a phone company.

¹³¹ Jeffrey Katz, "Tax Checkoffs: Novel No Longer", *Governing* 33 (July 1991).

Current Levels of Participation

The fact that the political check-offs do not affect one's tax refund or tax payment are likely the reason that participation rates for political campaign check-offs are higher than any other check-offs. The nationwide average for state political campaign check-offs is 5.5 percent as compared with approximately a two percent participation rate for nongame wildlife check-offs. The federal political campaign check-off currently has a 19.9 percent participation rate. Table 1 below shows the range of participation rates for three select categories of check-offs by state.

It is apparent that participation rates vary widely between states, though with only a few exceptions, political check-offs experience the highest participation.

The Town of Arlington, at this point in time, is not able to calculate a participation rate, but is only able to provide exact numbers on total dollars given to the fund for any given year. However, the yearly amount of small donations nearly doubled from \$12,000 to \$21,000 in the first four years of the program.^{\14\} Funding increased by the following percentages during this early history of the program: 6.7% between 1984 and 1985; 6.3% between 1985 and 1986; 12.7% between 1986 and 1987; and 20.5% between 1987 and 1988.^{\15\} Town Treasurer John Bilafer believes that these increases are attributable to increased participation rather than to increased donation size.

^{\14\} John Bilafer, "Arlington, Massachusetts' Tax Checkoff Scholarship Program", *Government Finance Review*, Vol. 5, No.3, June 1989, 41.

^{\15\} *Id.*

Table 1
Participation Rates for State Income Tax Check-Off Programs/a/

State	Nongame Wildlife	Political Contribution	Child Abuse
Alabama	0.5%	0.6%	0.9%
Arizona	2.5%	0.4%	2.7%
Arkansas	0.1%	n/a	n/a
California	n/a	0.3%	n/a
Colorado	4.0%	n/a	2.7%
Delaware	1.5%	n/a	1.1%
Georgia	2.5%	n/a	n/a
Idaho	2.2%	11.0%	1.7%
Illinois	0.8%	n/a	1.1%
Indiana	2.4%	n/a	n/a
Iowa	2.6%	10.6%	n/a
Kansas	1.3%	n/a	n/a
Kentucky	1.1%	7.5%	1.3%
Louisiana	0.7%	n/a	n/a
Maine	3.2%	1.0%	2.8%
Massachusetts	2.6%	1.9%	n/a
Michigan	1.9%	n/a	2.7%
Minnesota	6.6%	n/a	n/a
Mississippi	0.6%	n/a	n/a
Montana	0.6%	0.4%	0.6%
Nebraska	2.7%	n/a	n/a

Table 1
Participation Rates for State Income Tax Check-Off Programs/a/

State	Nongame Wildlife	Political Contribution	Child Abuse
New Jersey	2.5%	n/a	2.4%
New Mexico	1.8%	n/a	n/a
New York	2.8%	n/a	n/a
North Carolina		0.2%	n/a
North Dakota	2.1%	n/a	n/a
Ohio	2.2%	15.5%	n/a
Oklahoma	1.1%	n/a	n/a
Oregon	2.5%	n/a	n/a
Pennsylvania	1.4%	n/a	n/a
Rhode Island	2.2%	11.8%	n/a
South Carolina	2.2%	n/a	2.0%
Utah	5.0%	12.7%	n/a
Vermont	4.2%	n/a	n/a
Virginia	1.5%	0.7%	n/a
West Virginia	0.4%	n/a	0.4%
Wisconsin	n/a	10.5%	n/a
U.S. average (1989)	1.9%	2.9%	1.7%
NOTES:			
/a/ State Income Check-Off Programs Remain Popular, <i>Tax Administrators News</i> , March 1993, Vol. 57, No. 3, p.33.			

Although Burlington, Massachusetts does not keep precise statistics as to the participation rate for its scholarship program either, the Town Treasurer estimates that the participation rate for Burlington's scholarship check-off is approximately two percent.

Working Assets estimates that their roundup program enjoys a five to ten participation rate. However, Working Assets customers are not representative of the population at large. Most of these customers have decided to place their business with Working Assets *because* of the company's ideology and the services provided, such as the roundup program and political newsletters and messages with the bills.

Participation rates for public utility "fuel funds" vary widely. A 1993 survey by Fisher, Sheehan & Colton, Public Finance and General Economics (FSC) of 24 of the nation's largest fuel funds (hereafter *FSC Survey*) found participation rates ranging from roughly one to four percent. Moreover, these participation rates were obtained with relatively modest investments in outreach. Many companies do not separately track outreach expenses.¹⁶⁾ Those that do report expenses ranging from \$10,000 up to \$25,000 per year. Of the eleven utilities reporting outreach expenses, nine fell in the \$10,000 - \$25,000 per year range.

The Administration of Check-offs and the Cost of Administration

For each of the state income tax check-offs, the respective state department of revenue completely administers the program. The cost of the check-off administration is usually borne by the department of revenue though, in some states, administrative costs are borne by the recipient of the check-off funds. The administrative costs for each of the municipal tax check-offs are absorbed by the town treasurer's offices.

According to the Federation of Tax Administrators, most state revenue departments absorb the cost of check-off administration in their general appropriation, though check-offs in fourteen states are supported at least in part by check-off revenues:

¹⁶⁾ One might conclude from this fact alone that such expenses thus represent a relatively minor expense.

- o Seven states directly bill the check-off funds for the estimated cost of check-off administration.
- o One state withholds ten percent of the proceeds during the year and returns any excess after determining the actual cost.
- o Two states have statutory limits for how much of the check-off funds can be withheld for administrative costs.
- o Some states withhold a flat percentage ranging from three to ten percent.

The estimates on the cost of administration range from a low of \$1000 in North Dakota to a high of \$210,000 in New York. There appears to be a direct correlation between the number of participants and the cost of administration.

Tax administrators reported few problems resulting from check-offs appearing on the tax form. The greatest problem reported was the large number of tax check-offs in some states which led to crowding on the tax forms and in some cases an additional form just for check-offs. Tax administrators also expressed a need for some mechanism to remove check-offs that produced little or no revenue. Some states now require a "sunset provision," under which the state legislature must periodically examine the usefulness of the check-offs. In this way, non-performing check-offs can be removed from the tax forms.

The Town of Arlington's Treasurer's Office bears all costs of program administration by law. According to the Treasurer, the rationale for the town picking up administrative costs is that "if taxpayers are willing to contribute money for scholarships, then the municipality should be willing to underwrite the expenses associated with the program." Though Mr. Bilafer did not have exact figures on the cost of program administration, he stated that adding a check-off box to the bill did not cost the town anything, and, that the major cost is the insert provided in the bill describing the program and the achievements of the scholarship recipients. The labor costs for administering the program are also minimal. The labor entails having the billing clerk write the amount of the donations on a separate ledger, depositing the scholarship money in a special account and having the treasurer run periodic reports on the scholarship program for town leaders. Bilafer also added that administering the scholarship check-off from his office provided excellent public relations by changing citizens' perceptions of the tax collector.

The Burlington Town Treasurer also felt that the labor involved in administering that town's check-off program was minimal. With Burlington's program, since most people send in separate checks, the administration and accounting proved to be quite simple. The only cost involved in setting up the program was the added perforated section of the bill containing the check-off box and scholarship description.

Both town treasurers said that all advertising, outside of bill inserts, was provided free of charge. Most frequently, advertising entailed newspaper articles and cable TV spots describing the program or scholarship recipients and raising community awareness.

Since Working Assets Long Distance was founded specifically to make use of the check-off system, the costs for the roundup are not separated out from general billing costs. The procedure utilized by Working Assets is to apply any amount the customer pays which exceeds the bill amount to the donation program. At the end of each day, a computer report is run to determine the difference between bill payments and what was actually received. This total is then deposited in a segregated bank account controlled by a non-profit organization, where the donations maintain their tax deductible status. Occasionally, there is the problem of a customer inadvertently overpaying his or her bill with the overpayment considered to be a donation. When this occurs, both the customer account and the donation account must be reconciled. According to Working Assets, this is not a frequent problem. The costs involved for this reconciliation were not available.

The advertising techniques employed by Working Assets to gain more customers are direct mail and telemarketing. The only distinct advertising used to increase roundup donations are inserts in the bills describing what the donation money is being used for and why donations are important. In addition, Working Assets customers vote each year on what organizations will receive donation dollars. This effort makes customers part of the process, and raises their awareness of the roundup program.

Though few cost estimates are available on the administration of check-offs, the general consensus seems to be that the administrative process is reasonably simple and not labor intensive. This would account for the willingness of many tax offices to administer check-off programs. Moreover, a 1993 report by the Colorado Energy Assistance Foundation (CEAF) found that the administrative costs of each of the fundraising efforts by local fuel funds were paid by the participating local utilities.¹⁷⁾ The Colorado study received responses from 41 fuel funds around the nation on this question. The *FSC Survey* confirmed this result amongst 24 of the nation's largest fuel funds.

¹⁷⁾ Karen Brown (1993). *Colorado Fuel Fund Survey*, at 7, Colorado Energy Assistance Foundation: Denver.

THE BASIS FOR UTILITY PARTICIPATION IN A FUEL FUND CHECK-OFF

A wide range of reasons exists for a utility to participate in the creation and administration of a proposed local fuel fund program to generate funding through a bill check-off system. These reasons can be viewed first from the perspective of the community and next from the perspective of the company. The community-based reasons can be categorized into substantive and procedural. The company-based reasons can be categorized into community relations and financial.

The Community Perspective

The involvement of a local utility in the establishment and administration of a proposed funding mechanism for a local fuel fund makes eminent sense from the perspective of the community. A reasonable relationship exists between the assistance which utility participation would provide to the fuel fund and the offer of energy service provided by the local utility. Because of this relationship, consumers look to the industry associated with the service to provide leadership in helping to develop funding for low-income energy assistance. It should come as no surprise that energy utilities are actively involved with raising revenue for "fuel funds" to help the poor nationwide. Additional utility involvement in raising revenue for fuel funds should be encouraged.

In essence, utility involvement with assisting the creation and administration of a fuel fund check-off represents a type of "privatization" effort by the industry. In the absence of a community-based effort to finance low-income assistance through mechanisms such as fuel funds, the most reasonable alternative would be to seek public funds to ensure the continuing financial viability of agencies involved with helping low-income households pay utility bills. With government dollars, however, comes government restrictions, government accountability, and government administration. In lieu of that result, private utility involvement in the fuel fund effort will help remove the push for ever bigger government to help finance the provision of this type of social service.

Moving the financing of local fuel funds from government funding to a utility-based check-off has other inherent community advantages to it as well. The creation of a check-off advances the notion of volunteerism in financing community-based solutions to community-based problems. As this level of voluntary commitment becomes more established, the community sense of "ownership" in low-income fuel assistance services should increase as well.

There is a need for private funding to flow to non-profit service providers such as local fuel funds. The advantages of direct giving give rise to a different type of relationship between the fuel fund and the community. With direct giving, there is no "filter" that stands between the service

being funded and the community being asked to provide financial assistance. Under a check-off system, the community is being asked to take a direct ownership in low-income fuel assistance services.

The community "ownership" of the fuel fund will be accompanied by a renewed sense of community accountability. The accountability will flow two ways. On the one hand, there is little greater means of accountability than through the purse strings. If the community ultimately finds the fuel fund to be unproductive, wasteful or unnecessary, community members can directly "vote down" continuing services by withholding their check-off contributions. On the other hand, in its quest for community support, the fuel fund will be forced to inform, educate and maintain constant contact with the community. Its reliance on the public's direct financial support will require the fuel fund to avoid becoming detached or separated from the community. Indeed, this reliance will create the situation where the fuel fund will need to tell the community what it does, why it does it, and whether it has a sufficiently meritorious impact to justify continuing public participation via the check-off mechanism.

Leadership by the local utility company is particularly appropriate to facilitate this type of public participation in financing the fuel fund. Local utility participation in the fuel fund check-off will help "give back" some of the advantages that the community, through state and local government, has provided to the utility company with which to begin. For example, the public, through its government, has conferred upon public utilities the right to exercise the power of eminent domain. This right involves an awesome power: the power to take a private person's property for the utility company's own purposes, irrespective of the "agreement" by that person to sell. This power to condemn property is considered a governmental, or quasi-governmental, power. As part of the "bargain," therefore, in exchange for this coercive governmental power, the local utility company should be operated so as to maximize the benefits the company confers upon the community. In pursuit of that goal, local utilities should agree to help create and administer local low-income energy assistance funds, which provide a vehicle for the community to make voluntary contributions to the important endeavor of preserving access to vital energy services.

The Company Perspective

A local utility's involvement in the establishment and administration of a bill check-off to help support a low-income fuel fund providing energy assistance makes eminent sense from the perspective of the company as a company. Some reasons can be viewed as related to community relations. Other reasons are financial.

Community relations are important to the utility industry. Indeed, local utilities companies are generally quite good at communicating the efforts they undertake to help improve their respective communities. Participation in the creation and administration of the proposed funding

mechanism would further those benefits. Not only would a local utility benefit from being associated with a well-respected social service provider, the utility would be able to trumpet its involvement on a monthly basis. . .each time a voluntary contribution is solicited.

Not all benefits to a local utility are simply in the nature of "community relations," however. A local utility's involvement in the creation and administration of fuel fund check-off should provide tangible financial benefits to the company as well. These direct financial benefits will arise in a variety of contexts. Indeed, attached as Appendix B is a discussion of the savings to the utility company of addressing low-income inability to pay problems generally. Appendix C addresses the savings arising from reducing the working capital required as a result of carrying low-income arrears.

In addition, an improved corporate image in the community is well-known to return a direct financial value to the company in several ways. It helps promote the sale of the company's goods and services. It helps minimize the need for collections. It increases visibility and supports the efficacy of advertising campaigns. It helps attract and keep quality employees. While this discussion certainly does not undertake to put a dollar value on these benefits, it is conventionally accepted that such benefits are, indeed, associated with an improved corporate image.¹⁸⁾

Finally, improved employee morale also has a tangible dollar value to the company. Improved employee morale results from the fact that employees are directly and effectively addressing low-income problems. No longer are company personnel simply in the business of credit and collection. Instead, they are using the resources of the company to make unique contributions to consumer well-being. As a result of improved employee morale, the company will experience a tangible economic benefit in terms of increased productivity, increased employee retention, decreased need for training, and the like.¹⁹⁾

¹⁸⁾ See e.g., Gatewood and Gowman, "Corporate Image, Recruitment Image, and Initial Job Choice Decisions," *Academy of Management Journal* Vol. 36, No. 2, 414 (April 1993); "Pretty Effective," *Singapore Business*, Vol. 17, No. 1 (Jan. 1993); Yahn, "FRON Talk: Dow Jones' Bernard Flanagan Fosters Cause of Corporate Image Advertising," *Business Marketing*, Vol. 77, No. 11, 4 (Nov. 1992); Bredbenner, "Enhancing Your Corporate Image: Advice About Corporate-Wide Imaging," *Inform*, Vol. 5, No. 8, 31 (Sept. 1991); Townsend, "Cashing in on Corporate Identity," *American Demographics*, Vol. 12, No. 7, 42 (Jul. 1990); Dowling, "Developing Your Company Image into a Corporate Asset," *Long Range Planning*, Vol. 26, No. 2, 101 (April 1993).

¹⁹⁾ Kruse, "Getting Top Value for Your Payroll Dollar," *Law Practice Management*, Vol. 19, No. 3, 52 (Apr. 1993); "Tips on Controlling Turnover and Absenteeism," *Wire Rope News and Sling Technology*, Vol. 14, No. 1, 20 (Oct. 1992); Weidenfeller, "Celebrating Diversity," *Public Utilities Fortnightly*, Vol. 129, No. 12, 20 (June 15, 1992).

Summary

Local utilities should participate in the creation and administration of a local fuel fund check-off program. This participation is reasonably related to the provision of utility service. Moreover, from the perspective of the community, there are substantive reasons for utility participation. Finally, the company, itself, will gain benefits from participation in the check-off program. Not only will the utility benefit from improved community and regulatory relations, but it will benefit in a direct financial way as well.

ANTICIPATED REVENUES FROM A UTILITY FUEL FUND CHECK-OFF

Projecting revenue generation from a utility check-off is a risky business at best. Among the factors that go into the success of a check-off program include the visibility of the program to be supported, the intuitive appeal of the services provided, the perception of direct local benefits, and the perception of need. Despite its "soft" nature, however, it is possible to review other check-off programs to determine the types of revenue returns that have been experienced in other contexts. Based on this review, best estimates will be made of the revenue that a local fuel fund could reasonably expect from a utility check-off system.

Revenue Produced by Existing Check-offs

In 1992 state tax check-offs generated \$27.8 million nationwide. The amount of revenue received from the various state check-offs varied widely according to the type of check-off and was largely based on whether the check-off allowed the taxpayer to determine the amount of the donation or whether the donation amount was fixed.

According to the Federation of Tax Administrators, nongame wildlife check-offs yielded the largest per contribution average (\$7.18) and had the largest yield of all tax check-offs (totalling \$9.7 million nationwide).²⁰¹ Six states reported receiving more than \$9.00 per contribution for their nongame wildlife check-offs in 1992. Perhaps, this is attributable to the fact that nongame wildlife check-offs are the oldest of all state income tax check-offs, including the state political campaign check-offs and by far the most common check-off. Thirty-six states now have nongame wildlife check-offs. By contrast, only 21 states have political campaign check-offs.

²⁰¹ "State Income Check-off Programs Remain Popular," 57 *Tax Administrators News* 3:31 (March 1993).

Following nongame wildlife funds, child abuse funds and political campaign check-offs have the second and third highest average donations nationwide. Child abuse fund check-offs, with an average contribution of \$6.57, had the second highest average contribution nationwide. Political campaign check-offs, though having the highest participation rate, have the lowest average contribution of the most common state tax check-offs (\$2.38).

The municipal check-offs' average contributions were similar to those of the state tax check-offs. An unscientific sampling of bills by the Arlington Treasurer's Office revealed that the average donation was approximately \$5.64.¹²¹ The town also solicits large donations to create specially named scholarship funds. The city has received one time donations as large as \$12,000. The total value of the scholarship fund in 1993, ten years after the program's inception is approximately \$450,000.

Burlington (Massachusetts) also does not have the computer capability to determine average donation amounts or total participants. However, the town treasurer believes that average donations are just under \$10. For the last ten months the treasurer's office has received a total of \$10,294 which is double what they received in past years. Town Treasurer Brian Curtain attributes this to the fact that the town has shifted to a quarterly billing cycle from an annual billing cycle.

Working Assets Annual Report to Members stated that the long distance check-off encouraging customers to roundup their bill raised approximately \$165,000 in donations in 1992.¹²² Although Working Assets did not disclose the number of customers who roundup their bills, to put this figure in perspective it should be noted that Working Assets Long Distance has approximately 175,000 customers. If the estimate that five to ten percent of Working Assets Long Distance customers roundup their bills is correct, average donations would fall between \$9 and \$19 yearly.

Designated Check-off Amount v. Open-ended Amount

When reviewing the revenue produced by various check-offs, one must bear in mind that the political campaign check-offs do not require taxpayer donations. Rather, the political check-off gives the taxpayer the opportunity to allow a set amount of his or her tax dollars to be directed to a special campaign fund. This fact underscores the remarkable performance of some check-offs requiring donations that raise more

¹²¹ John Bilafer, "Arlington, Massachusetts' Tax Checkoff Scholarship Program", 5 *Government Finance Review*, 3:41 (June 1989).

¹²² Working Assets, *Working Assets Annual Report to Members*, 1992, 2.

revenue than the amount of money redirected by campaign funds. For those check-offs requiring a donation, check-offs not designating a donation amount earned more than those which prescribed a check-off amount. A study of all of the tax check-offs in six states found that:

in the sample in which states were using tax forms that allowed only a few specific amounts of contribution, thus imposing an upper limit on the amount* * *the average contributions were significantly reduced as compared to the tax forms with open-ended contributions.¹²³⁾

Table 2's comparison between open ended and limited check-offs within the states of Virginia and Iowa confirms this finding. Iowa had three check-offs on its 1991 tax forms, two of which were limited (election campaign fund and Olympic fund) and one (fish/wildlife fund) which was open ended.¹²⁴⁾ The election campaign fund was a flat \$1.50 check-off and the Olympic fund was a flat \$2.00 check-off. The only stipulation on the fish/wildlife fund check-off was that the donation be over \$1.00. As a result, the average contribution to the fish/wildlife fund was nearly four times as high as the average contributions for the other two check-offs.

Table 2 Participation Rates For Iowa Tax Check-offs in 1990			
Check-off	Participants	Total Contributions	Average Contribution
Election	132,150	\$198,200	\$1.50
Fish and Wildlife	30,000	\$179,000	\$5.97
Olympic	14,900	\$29,000	\$1.95

Both the Fish and Wildlife Check-off and the Olympic fund required donations, whereas the Election Check-off allowed the taxpayer to designate \$1.50 of her state tax dollars to a political party. As with all of the political check-offs which do not cost the taxpayer any money,

¹²³⁾ Charles F. Review & David Harpman, "The Voluntary Nongame Check-off as a Revenue Source", 20 *Public Finance Quarterly* 239 (April 1992).

¹²⁴⁾ Iowa Department of Revenue and Finance, *Iowa Individual Income Tax Annual Statistical Report 1991*, 7.

the participation rate is much higher for the political check-off than for the donation check-offs. However, the amount of money raised by the political check-off is only 10% higher than that raised by the Fish and Wildlife check-off.

A comparison of Iowa's two donation check-offs reveals that the open-ended Fish and Wildlife check-off raised six times as much money as the limited Olympic Fund check-off. The average contribution for the Fish and Wildlife Fund was three times greater than that of the Olympic Fund: \$5.97 compared to \$1.95. Certainly, other factors contribute to people's giving patterns, such as perceived importance of the particular fund, though studies have found that if a person donates to one check-off they generally donate to other check-offs as well. This suggests that had the Iowa Olympic Fund not been limited, average donations and, thus, total revenue would have been significantly higher.

Similarly, for tax returns filed in Virginia in 1990, the check-off for either the Democratic or Republican Party was listed as a \$2.00 contribution, while four other check-offs were open-ended.¹²⁵¹ The total revenue collected for the political check-off was half the revenue of the next *lowest* revenue producing fund, despite the fact that the participation rate for the political was the second highest. The average contribution for the Virginia Housing Program was almost four times as high as the political party donations even though both check-offs had almost the same participation rate.

Table 3 Participation Rates for Virginia Check-offs in 1989			
Check-off Fund	Participants	Total Revenue	Average Contribution
Political Parties	21,957	\$43,914	\$2.00
Nongame Wildlife	43,306	\$399,657	\$9.23
Housing Program	21,045	\$160,714	\$7.64
Open Space	16,297	\$95,658	\$5.87
Olympic Committee	14,959	\$80,802	\$5.40

¹²⁵¹ Commonwealth of Virginia, *Virginia Department of Taxation Annual Report*, 1990, 23.

The results of both the Iowa and Virginia check-offs appear to show that when check-offs are left open-ended, average contributions are significantly higher than those of limited check-offs. Secondly, leaving a check-off open-ended does not adversely affect participation rates. The net result, therefore, is that open-ended check-offs raise more revenue than limited check-offs.

Both the Arlington and Burlington municipal tax check-offs are open-ended. Arlington's estimate of a \$5.64 average contribution is very much in line with average contributions for open-ended state tax check-offs. In Massachusetts in 1990, the average taxpayer contribution to the state's nongame wildlife check-off was \$5.39. If the Burlington Treasurer's estimates are correct, an average donation of just under \$10 is higher than most tax check-offs. Nevertheless, \$5 or \$10 contributions add up more quickly than a fixed \$1 or \$2 donation.

Working Asset's roundup check-off is almost a hybrid of the open-ended and limited check-offs. The company suggests a donation depending on the size of the bill. For example, if a customer's bill is \$10 or under, the company suggests that a dollar be added. If the bill were \$53, the suggested roundup would be \$55. And if the bill were \$106, the suggested roundup would be \$110.

Most utility fuel fund solicitations combine a closed-ended solicitation with an open-ended opportunity to contribute. A July 1993 FSC survey of the largest fuel funds in the nation found that all but four have "suggested" contributions, with an opportunity to mark "other" and make a larger contribution. Few companies allow only open-ended contributions. Most company solicitations provide three or four suggested contribution options ranging from \$2 to \$10.

Projections for Revenue Generation

Given the discussion above, the assumption made here is that a local utility check-off for a low-income energy assistance fuel fund will attract contributions from two percent of a utility's customer base. The average revenue per customer is assumed to be \$10 per year. Given these two assumptions, a utility fuel fund could be expected to raise \$20,000 per year for every 100,000 customers on the utility system.

Table 4 Different Levels of Fuel Fund Contributions		
Numbers of Customers for Utility	Dollars Per 100,000 Customers	Total Expected Contributions

50,000	\$20,000	\$10,000
100,000	\$20,000	\$20,000
500,000	\$20,000	\$100,000
1,000,000	\$20,000	\$200,000

Lessons to be Learned for Prospective Energy Assistance Check-offs

The above described check-offs offer many lessons for establishing a check-off to help fund low-income energy assistance around the country. The following points, which are not in order of importance, should be considered when creating an energy assistance check-off.

1. Fuel assistance programs should solicit funds from utility ratepayers through a "check-off" system. These programs should seek to place a check-off box right on the local utility bill. A bill check-off is one of the most effective means of fundraising because it seeks the contribution when people are actually writing out the check, while looking at the bill.
2. Fuel assistance programs should ask utilities to enclose periodic inserts in the bill highlighting work that has been done, profiles of people who have been served, or specific ways in which the check-off money has been spent. Bill inserts should generally be included roughly three times a year. The more that such inserts can highlight specific *local* activities, showing direct real impacts in the local community (as opposed to generalized "do good" publicity), the greater the effectiveness of the inserts.
3. Besides acting as a tool to garner contributions, these inserts can also function as a public service. Each insert may contain one piece of information that a user of the fuel fund might receive. This information should indicate both "what" services are available and "how" such services can be accessed.
4. The check-off should not limit the amount of the donation. Open-ended donations will yield higher revenues. Instead of allowing a check-off for \$2, in other words, the customer should be provided the option of designating the size of the contribution.
5. If a fuel assistance program seeks to establish the check-off legislatively, a sunset clause should be added. This clause would provide that the check-off would end at the conclusion of a predetermined year unless specifically extended. Sunset clauses allow a periodic

review of the continuing need for, and effectiveness of, the check-off.

6. The expected rate of participation is likely to fall between one and two percent. Though these figures may initially seem low, one must consider that two percent of the customer base of large utilities will be in the tens of thousands of accounts.
7. The utility should seek donations from all customers, business and residential. No limits should be established on the types of service from which contributions are sought.

CONTRIBUTIONS OF EXPENSE SAVING BEHAVIOR

Utility fuel funds today seek to generate dollars from their customers through the solicitation of voluntary contributions of money. As the previous Chapter has indicated, it is possible to develop a fundraising mechanism capable of raising tens of thousands of dollars through a bill check-off mechanism. Through such a check-off, customers will provide cash contributions to be distributed in the form of income supplements or crisis grants.

One additional proposal that merits consideration, however, presents an alternative to seeking cash contributions. Through this proposal, utilities ask their customers not to donate their *money*, but rather to donate "desired behavior" which might generate both convenience for the customers and cost-savings for the utility. The value of these cost savings could then be passed along as the customer donation to low-income fuel assistance.

The discussion above shows that when asking *for money*, utility companies can be expected to generate contributions averaging \$5 to \$10 from roughly two percent of its residential customer base. The thesis of this Chapter, however, is that an insistence on asking for donations of money may be too narrow. If, instead, a utility would solicit not money but desired behavior which is *worth* money, the utility may not only increase the rate of participation from its customers, but may increase the dollar value of that participation as well. Rather than getting two percent of its customers to give an average of \$10 in cash, in other words, a utility may get six percent of its customers to "donate" behavior

worth \$15. In addition, if a utility enrolls a customer in a program involving desired behavior, there would be no need to engage in a continuing solicitation to obtain "repeat contributions." Additional solicitations would involve expanding total participation rather than simply obtaining repeat contributions.

Two illustrations of how this concept of seeking "desired behavior" might work are discussed in more detail below. The first involves enrolling customers in electronic funds transfer payment programs. The second involves enrolling customers in an "early payment program."

ELECTRONIC FUNDS TRANSFER BILLING ARRANGEMENTS

One type of "desired behavior" that would generate expense savings that could be passed on in the form of customer contributions to low-income fuel assistance involves the enrollment of customers in an electronic funds transfer payment arrangement. Such a payment scheme would be modelled on insurance and related industries who directly draw payment of bills from a customer's checking account at the time the bill is rendered.

Broadly speaking, a payment option using this approach involves a system in which customer funds are electronically transferred between a depositor's bank account and payees in a pre-authorized debt and credit system.^{126\} The system is frequently available to make mortgage and insurance payments. Credit cards are sometimes included as well.^{127\} Many companies are recognizing the large market for such services.^{128\}

Participation in an electronic funds transfer payment arrangement should generate financial savings to the utility company sponsoring such a program.^{129\} Processing cash and checks is very labor intensive and thereby costly.^{130\} Moreover, companies offering an EFT payment option

^{126\} See generally, D.Baker and R.Brandel, *The Law of Electronic Fund Transfer Systems*, at 101 (2d ed. 1988).

^{127\} Mark Budnitz, "Electronic Money in the 1990s: A Net Benefit or Merely a Trade-off," 9 *Georgia State Univ. L.Rev.* 747, 748, n.5 (1993).

^{128\} Karen Gullo, "Am Ex, AT&T and Prodigy Eye Bill-Payment Market," *American Banker*, July 8, 1991, at 1.

^{129\} See generally, Barbara Maesfield, "Why Electronic Funds Transfer Means Better Profitability for Insurance Companies," *Interpreter*, at 7 (April 1987) (describes how insurance companies use EFT as a payment mechanism. This has allowed companies to increase investment income and reduce expenses).

^{130\} One estimate posits that, nationally, industry spends from \$12 to \$15 billion yearly to process 38 billion checks, while electronic technology

will be paid faster and with more certainty than when customers pay by check or credit card. Theft and counting errors made by cashiers and others will be reduced as well. In short, EFT systems reduce the paper flow for a utility with all of the attendant benefits.

In addition, EFT arrangements should generate savings by:

- o Increasing the collectability of accounts receivable, as customers are moved into a more automatic system of bill payment;
- o Decreasing credit and collection costs, as customers who may pay late or not at all (for reasons other than inability-to-pay) are moved into a more automatic system of bill payment; and
- o Decreasing customer service expenses related to billing, payment processing, and perhaps even meter reading.

In short, an EFT payment option would offer speed, safety and cost savings to the utility offering such an option. Again, however, the purpose of this discussion is to provide a basis for offering customers the option of paying by electronic funds transfer as a means of generating savings that can be passed along to fuel assistance agencies as the customer's "contribution." Since these cost savings are central to the use of an EFT payment option as a means of generating "contributions" to low-income fuel assistance, they will be explored in greater detail below.

Increased Collectability

Moving customers onto a electronic funds transfer payment plan can reasonably be expected to increase the collectability of a utility's accounts receivable. One Pennsylvania gas utility, for example, estimates that it gains five percent in collectability for every 30-day improvement in the age of its accounts receivable. According to this utility, in other words, if its 60 - 90 day receivables are 85 percent collectable, its 30 - 60 day receivables are 90 percent collectable, and its 0 - 30 day receivables are 95 percent collectable.

Given this improvement in collectability, it makes sense for a utility to aggressively seek to reduce each level of aged receivables by at least 30 days. Generating this improvement in collectability would result in financial benefits to a utility implementing an electronic funds transfer payment option. The benefits can be quantified by examination of a hypothetical utility. Assume that a typical utility has the following
(..continued)

exists to perform the same task for \$6 billion. "The \$6 to \$9 billion cost spread, of course, appears to be a strong inducement for private sector entry." D.Baker and R. Brandel, *Electronic Funds Transfers and Payments: The Public Policy Issues* (E.Solomon, ed. 1987).

collectability schedule:

Table 5 Assumed Typical Utility Collectability Schedule			
Age of Receivables	Average Receivables	Collectability	Dollars Collected
0 - 30 days	\$1000	95%	\$950
31 - 60 days	\$1000	90%	\$900
61 - 90 days	\$1000	85%	\$850

Taking this collectability table, one can project what the financial impacts of reducing each level of aged receivables by 30 days would be. This discussion presents an illustrative analysis assuming a simplified utility system consisting of 200 customers. In this hypothetical case, the customers are arrayed with receivables as follows: (a) 70% of the customers have receivables of 0 - 30 days; (b) 20 percent of the customers have receivables of 31 - 60 days; and 10 percent of the customers have receivables of 61 - 90 days. Given these assumptions, and an electronic funds transfer payment participation rate of only three percent (3%) of the total customers, if, indeed, the electronic funds transfer program decreases the participants' arrears by 30 days, the hypothetical system posited here would save \$90 in collectability alone.

While this may seem an insignificant decrease in uncollectibles ($\$90 / (200 \times \$1000) = 0.04\%$), it represents an annual savings of \$16 per electronic funds transfer payment participant.³¹⁾

In this scenario, asking the utility to donate the collectability savings would generate significant funds for fuel assistance in a state. For example, in a state with a combined gas and electric residential population of 1.5 million customers, a three percent participation rate would generate additional fuel assistance of roughly \$675,000 per year. Doubling that participation rate to six percent would generate almost \$1.4 million.

³¹⁾ Moreover, it represents a \$16 savings simply from increased collectability. No other credit and collection savings are included at this point of the analysis.

It should be noted, also, that increased collectability is not the only savings which an electronic funds transfer payment arrangement might generate for a utility. Savings should arise, as well, in customer accounting, billing, payment processing, and the like. These costs generally appear in the customer charge of a utility bill. If one conservatively estimates a \$2 per month per participant savings generated by participation in the electronic funds transfer payment arrangement, the hypothesized three percent participation rate on a 1.5 million customer gas and electric system would generate \$1.1 million a year in contributions to fuel assistance. Doubling that participation rate to six percent would double the fuel assistance contribution to \$2.2 million each year. The *combined* effect of improved collectability along with decreased customer service expenses should generate from \$1.8 (\$0.675 million + \$1.1 million = \$1.775 million) to more than \$3.5 million (\$1.350 million + \$2.2 million = \$3.55 million) per year from a residential customer base of 1.5 million customers.

The point of this discussion should not be to concentrate on the precise nature and quantification of the numbers. To focus on whether it is "reasonable" to expect a six percent participation rate rather than a two percent participation rate --or on whether the customer services savings is two dollars or one dollar-- would be to miss the thrust of the recommendation. The recommendation in this section is based on the simple principle that certain customer behavior has a financial value to the local utility. Given that value, rather than limiting fuel assistance solicitations to requests for *cash* donations, solicitations can instead ask customers to change their behavior, with the savings generated by that changed behavior being the donation to low-income programs. Through such an approach, both the participation in customer contributions and the value of customer contributions may be increased.

EARLY PAYMENT AGREEMENTS

A second type of expense saving behavior that could be promoted by utilities as a way to generate additional funds for fuel assistance is the entry into an "early payment agreement." Through such an initiative, customers would agree to pay their monthly utility bills ten (10) days after receipt of a bill rather than the normal 20 days. In so doing, customers would reduce the working capital needs of a utility and generate a *corpus* of dollars that the company could earmark for additional low-income fuel assistance.

Working capital is associated with what utility analysts call "revenue lag days." A revenue lag day measures the period that elapses between the time a utility pays its expenses and the time it actually collects the revenue from its customers to cover those payments. During that lag, the company must generally borrow funds to cover its short-term revenue needs and pay interest on that borrowing.¹³²¹

An "early payment program" would accelerate the receipt of money, thus decreasing revenue lag days and saving on expenses. Those savings could be passed on as a customer contribution to fuel assistance. As is discussed in greater detail in Appendix C, one important aspect of decreasing working capital needs involves the income tax savings that arise on the equity return component of the overall working capital rate of return. The equity return, of course, is the "profit" to company investors. In order to generate a dollar of profit, in other words, a utility must collect rates sufficient to pay income taxes and still leave a dollar remaining to pay as a dividend to shareholders. For this reason, a utility facing a combined federal/state income tax rate of 42 percent must collect \$1.72 in rates in order to generate one dollar (\$1.00) in profit ($\$1.72 - (42\% \times \$1.72) = \1.00).

Given this introduction, each day of accelerated payment by a utility customer will generate some tiny portion of working capital savings to a utility. If the number of customers accelerating their payments is sufficiently large, with a corresponding large number of dollars affected, the number of revenue lag days eliminated through an early payment program could collectively generate substantial savings to be passed through to the fuel assistance program.

To assess the potential of an early payment program to generate dollars for low-income fuel assistance, let us again consider a state with 1.5 million electric and gas customers with an average annual bill of \$1,400. The early pay program sets the bill due date at ten days after the bill is

¹³²¹ Even if the utility does not borrow money, it would need to use internal funds on which it would otherwise have earned a rate of return. Either way, there is a working capital expense.

rendered rather than the typical 20 days. There is thus an assumed lag day reduction of ten days per month.¹³³⁾ Calculations using reasonable assumptions show that a six percent customer participation from a 1.5 million customer residential base would generate roughly \$560,000 a year in additional fuel assistance benefits. A participation rate of nine percent would generate \$840,000 in additional benefits. Table 6 sets out the assumptions.

Table 6 Assumptions in Estimated Savings From Early Pay Program	
Annual energy bill	\$1,400
Utility weighted cost of capital	10%
Combined federal/state tax rate	42%
Debt/equity ratio	40%/60%
Monthly savings in lag days	10 days

As with the electronic funds transfer payment option, the purpose of this discussion is not to definitively quantify the potential revenue from an "early payment program" by a local utility. The purpose is instead simply to introduce the notions: (a) that early payment agreements have a value to a utility, (b) that the value of such agreements can be marketed as a customer contribution to low-income energy assistance, and (c) that the value of such contributions can represent a significant source of revenue for low-income fuel assistance initiatives.

¹³³⁾ While it is not likely that everyone waited until day 20 to pay under the existing due date system, it is also not likely that everyone would wait until day 10 to pay under the early pay system.

SUMMARY

In sum, low-income energy assistance programs that seek to raise funds only by asking for financial contributions from utility customers may be unnecessarily restricting their fundraising activities. Rather than simply asking for donations of money, low-income assistance programs could solicit donations of desired behavior as well. Two examples of such behavior are used as illustrations above: (1) electronic funds bill payments; and (2) early payment agreements.

Other examples of how desired behavior might serve as the foundation of revenue generation are limited only by the ability of a utility and/or low-income fuel assistance providers to identify expense savings behavior and to translate that behavior into a marketable "product" through which a donation can be made. Having new applicants for service who are tenants remain in the same house for 12 or more months; having residential customers provide proof of purchase of new appliances of certain energy ratings; having residential customers agree to self-read meters; and the like, are all examples of potential expense savings behavior.

In designing such a program, however, it is important to remember that it is not the *utility* who is making the contribution. Rather, it is the customer who is being solicited for a contribution of "behavior" that has some designated value and the dollar value of that behavior is the customer's contribution. The utility, in other words, has no "right" to the expense savings and should not assert a right to capture any or all of the savings generated.

CAPTURING MISCELLANEOUS UTILITY FUNDS

A third source of fuel assistance funding that involves participation by local utility companies (natural gas or electricity) revolves around the capture of miscellaneous utility funds that might otherwise go for non-utility purposes. The capture of these funds do not represent a donation by the companies. Even in the absence of the programs recommended below, the revenues would not flow into company coffers. Instead, the recommendations below are based upon identifying sources of dollars that *originate* within the regulated utility arena but are in the process of being transferred to another person or entity. Through the suggestions below, at that point of transfer, some portion of the funds are captured for use in support of low-income energy assistance programs.

CONTRIBUTIONS OF UTILITY REFUNDS

One voluntary contribution initiative that is related to, but distinct from, a utility check-off program is an effort to capture utility rate refunds as contributions for low-income fuel assistance. Rather than regular periodic solicitations, this initiative simply asks customers to give back all or part of refund money to which they would otherwise be entitled.

The Colorado Program

Colorado pioneered this initiative as one means of providing an opportunity for the general public to contribute to low-income conservation and weatherization assistance.³⁴⁾ Public Service Company of Colorado sought such donations from its customers and generated more than \$1.7 million in donations to the Colorado Energy Assistance Foundation.³⁵⁾

Importantly, these funds are over and beyond any funds generated through customer contributions made in response to bill-stuffers or through additions to monthly bills. Rather than replacing regular contributions made as a part of a program whereby customers add to their bills, the Colorado program seeks to take advantage of the special situation that occasionally arises with regard to rate refunds to customers.

In January 1992, Public Service of Colorado (PSCo) began to notify its customers of a refund to which they were entitled as a result of an overcharge from one of its natural gas suppliers. The refund was owed to natural gas consumers in certain parts of the state who were consumers from January 1, 1985 through December 31, 1988. Refund amounts varied depending on the length of time the consumer received gas during those four years and the amount of gas they used.

One of PSCo's natural gas suppliers was found to have been improperly pricing gas to include a gas search charge which resulted in a \$67.75 million overcharge. A portion of that money was returned through the purchased gas adjustment clause on the company's bills, but an additional \$45 million was to be refunded as a credit on each customer's March, 1992 bill. The potential refund amounts averaged about \$35 per household and \$261 per business.

In the notification letter that Public Service of Colorado sent with regard to the refund, the company asked its consumers to donate their refund amounts to CEAF. The notification letter from the utility stated in relevant part:

³⁴⁾ The fund could be used, in the alternative, to provide winter emergency or "crisis" assistance to income-eligible households.

³⁵⁾ CEAF is a public/private fuel fund. In October 1988, Colorado Governor Romer took the initiative through executive order of establishing the Commission on Low-Income Energy Assistance, appointing 11 volunteer commissioners to "use all avenues available to and seek new ways to raise funds for LEAP." The Commission in turn established the non-profit Colorado Energy Assistance Foundation as a fund-raising entity.

We are very pleased to be returning this money (which includes taxes and interest) and would like to introduce you to an agency which would appreciate a donation of all or a portion of this refund to be used for a very worthy purpose.

The Colorado Energy Assistance Foundation (CEAF) is a non-profit agency helping the Low-Income Energy Assistance Program (LEAP) provide funds to people who need help paying their energy bills. CEAF's operation costs are paid entirely through corporate donations, so all private donations go directly to the people who need help.

This is a great way to give! Just check the box on the tear-off form below, mail it in the enclosed return envelope so that it reaches us by February 26, 1992, and your tax deductible donation will be sent to CEAF. You have the option of donating all or a part of your refund amount.¹³⁶⁾

The refund program was promoted primarily through the local print¹³⁷⁾ and broadcast media.¹³⁸⁾ Moreover, more than 200 local churches were asked to solicit the donation of all or part of the PSCo refund through their congregation's newsletters or bulletins.

In *toto*, CEAF spent roughly \$39,000 for 114 30-second television spots on local news shows, and roughly \$9,200 for eight (8) insertions into local newspapers. Total expenditures for the media/public relations campaign reached \$58,951, according to CEAF.

The refund donation program recovered \$1,126,638 of the \$29,657,910 refunds owed to "active" PSCo customers, or about 3.8 percent of the total refund. The two month campaign, directed toward 466,678 total customers, resulted in 43,711 donations, averaging \$25.77 per donation. Nearly one-in-ten (9.4%) of the total number of customers eligible to receive refunds donated *something* through the program.

According to CEAF, the refunds were considered to be "found money" by ratepayers, thus making it easier for them to make the requested donation. In contrast, the *highest* percentage of bill insert response CEAF had received during the preceding 2.5 years was 9/10ths of 1

¹³⁶⁾ The company then agreed to match all contributions generated through the refund donation program dollar-for-dollar up to a maximum of \$2.5 million.

¹³⁷⁾ Advertisements were placed in the *Denver Post* and the *Rocky Mountain News*.

¹³⁸⁾ Ads were placed on four local television stations.

percent. PSCo placed inserts into the November and February bills during 1990 and 1991. In 1991, 6,987 donations were obtained from a total of 1,127,298 customers receiving the inserts. The bill inserts generated \$285,087 in 1991. The rate refund solicitation thus generated 10 times the response that the annual winter bill insert solicitation generates. CEAF found that it obtained a return of 16:1 on its administrative investment.

Rate Refunds In the Various States.

Given the extent to which states provide their utility regulators with authority to grant "interim" rate relief, it is reasonable for persons interested in generating additional fuel assistance dollars to work with their state utilities to institutionalize a program similar to the Colorado initiative to be associated with future refunds of interim rate increases which are ultimately denied or reduced by state regulators. As with CEAF, such refund donations could be directed to state or local fuel funds for use in winter emergency or crisis situations.

In many states, rate increases sought by public utilities may be collected under bond subject to refund. Under such regulatory schemes, interim rate increases are primarily permissible if state regulators find that such an interim rate increase is necessary to prevent substantial and material deterioration of the financial condition of the public utility or to prevent substantial deterioration of the adequacy and reliability of service to its customers. Interim rate increases are permissible, however, only if the utility files an "assurance" with regulators of the company's ability and willingness to refund to its customers with interest such amounts as the company may collect from such interim rates in excess of the rates ultimately approved by the utility commission. Most state statutes provide that regulators shall order a refund in an amount equal to the excess, if any, of the amount collected pursuant to the interim rates over the amount which would have been collected pursuant to the rates finally approved by regulators.

In sum, low-income fuel assistance programs should work with their states' public utilities to establish a mechanism through which ratepayers may contribute some or all of any rate refund which they are entitled to receive back to low-income fuel assistance. Public Service Company of Colorado, in conjunction with the Colorado Energy Assistance Foundation, has found that ratepayers are generous in their assistance, particularly when their contribution involves not-out-of-pocket money such as refund checks.

UNCLAIMED DEPOSITS

Unclaimed utility deposits are a source for funds potentially available for low-income fuel assistance. Through such an effort, rather than letting this ratepayer supplied money escheat to the state's general fund, by using it to provide fuel assistance, those funds will be returned to

benefit the class likely to have paid them in the first place.

In Arizona, which now requires unclaimed deposits to be used as a supplemental source of LIHEAP benefits, state officials estimate that from \$400,000 to \$600,000 *per year* will be generated. In Colorado, which enacted a similar provision in 1990, estimates are that unclaimed residential and commercial deposits will add \$300,000 to LIHEAP coffers.³⁹⁾ Other states would generate similar amounts. A study in North Carolina found that the four largest utilities in that state would have provided \$120,000 in additional fuel assistance funds each year.⁴⁰⁾ This would have provided assistance to nearly 1200 additional low-income households. A study in Connecticut found that the utilities in that state would provide from \$200,000 to \$300,000 each year, with a total of nearly \$700,000 available over a three year period (1989 - 1991).⁴¹⁾

It is reasonable to devote unclaimed deposits to low-income programs. Deposit refunds most often go unclaimed when households move and leave no forwarding address; it then becomes impossible for the utility to find these households. Those mobile households will tend to be poor. One report considered the mobility of low-income households.⁴²⁾ According to that report, compared to the roughly twelve percent of the total population that changed residences each year, nearly one-quarter (23 percent) of the low-income population moved. Disproportionately represented in the "mover" households are recipients of public assistance, minorities, and female-headed households.

The forced mobility of low-income households is in no sense a theoretical problem. A 1983 Wisconsin study, for example, found that among its poorest payment-troubled customers, the combination of home payments and utility bills often makes housing unaffordable.⁴³⁾ As a result, 24 percent of these households had moved within the past year and an additional 26 percent planned to move in the next year. Wisconsin Public Service reported that "the main reason they are moving is because they can't afford to live where they do." In a second group of low-

³⁹⁾ An additional amount, hard to estimate according to Colorado officials, will be acquired from unrefunded interim rate increases.

⁴⁰⁾ R. Colton (1991). *Poverty and Energy in North Carolina: Combining Public and Private Resources To Solve a Public and Private Problem*, at 192.

⁴¹⁾ R.Colton (1992). *Fillings the Gaps: Financing Low-Income Energy Assistance in Connecticut*, at 143.

⁴²⁾ R.Colton (1991). *The Forced Mobility of Low-Income Households: The Indirect Impacts of Shutoffs on Utilities and Their Customers*.

⁴³⁾ Bergo and Matousek, *Wisconsin Pubic Service Corporation Lifestyle Study* (July 1983). More than eight of ten of these households had incomes of less than \$10,000 per year.

income payment-troubled customers, Wisconsin Public Service found that more than one-third (36%) had lived in their current home for less than six months. In addition, more than four of ten (42%) planned to move in the next year, citing the unaffordability of their current housing as the reason for the move.

Moreover, a more recent study of Head Start families in Missouri found that these low-income households were forced into a pattern of "frequent mobility" by unaffordable home energy bills.⁴⁴⁾ The mobility engaged in by the 800+ households studied was not only "frequent," but was consistent over time. Of the 813 households, 259 had moved more than three times within the last five years. Moreover, while 100 of the 259 households reported that they had not moved at all within the past 12 months, only 50 had reported that they had not moved at all within the past 24 months; 30 percent of the frequent mover households reported that they intended to move *again* within the *next* 12 months. The study found that these households do not experience relatively long periods of stability marked by episodes of frequent mobility. Their mobility is, instead, an ongoing fact-of-life.

The unaffordable home energy bills faced by these Head Start households represent a substantial cause of the frequent mobility amongst Missouri's low-income school age children. More than two-in-five of the frequent mover households identified by this study listed unaffordable heating bills as a "very important" factor contributing to their most recent move; another 25 (10.8 percent) listed these bills as "somewhat important." "As can be seen. . .of the frequent mover population, unaffordable energy bills played a role in the move in more than half of the cases."

In sum, to capture funds abandoned by frequently mobile households for use as low-income home energy assistance has a certain empirical appeal to it. To capture such funds for these uses is likely to result merely in returning the dollars to the class of households who paid them in the first instance.

UNCLAIMED RATE REFUNDS

A program similar to the capture of unclaimed deposits would capture unclaimed utility rate refunds that otherwise would escheat to the state. These unclaimed rate refunds would be devoted to low-income energy assistance. As with unclaimed deposits, it would be "fair" to capture these monies for low-income benefits, since it is likely that low-income households paid the funds in the first instance. In pursuing such a

⁴⁴⁾ R.Colton (1995). *A Road Oft Taken: Unaffordable Home Energy Bills, Forced Mobility, and Childhood Education in Missouri*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA.

program, it is important to remember that to do so would cost the utilities nothing: without such a use, these unclaimed funds would simply escheat to the state.

While the capture of escheated fund for low-income weatherization would not generate "millions" of dollars per year for low-income fuel assistance programs in any particular state, this effort alone would, in fact, increase existing fuel assistance funds in many states by ten to twenty percent.

THE ARIZONA RATEPAYER ASSISTANCE TRUST FUND

Fuel assistance initiatives in other states do not necessarily have to succeed in order to provide important lessons, and ideas, for use by others. Arizona's effort to capitalize a low-income energy assistance fund is one such program. In 1992, the Arizona legislature enacted a ratepayer assistance trust fund that would have raised from \$44 to \$55 million to supplement the state's LIHEAP program. Utilities, who actively supported the legislation, were asked to agree to place into the fund a voluntary .006 percent annual assessment for five years, after which each year's interest from the fund would have gone in perpetuity to supplement the state LIHEAP program.

The legislation required that utilities announce their intent to participate in the voluntary program by April 30, 1993, and nearly all of the state's utilities, including smaller unregulated ones, *intended* to do so. The companies saw the assessment as a reasonable way to address a serious problem while assuming they could simply recover the cost of the assessment through a corresponding rate increase that would not need regulatory approval.

The deal fell apart when the Arizona Corporation Commission announced that utilities would have to seek such an increase through rate hearings, just like utilities must seek for any other request for an increase in customer rates. Utilities were thus faced with having to announce their participation in the fund before knowing whether, or to what extent, regulators would pass along the increased costs through increased rates. As a result, utilities chose *not* to participate.

According to Arizona officials, the trust fund concept still appears to have been a reasonable mechanism to generate additional dollars for fuel assistance. The trust fund concept may have worked, it is believed, if there had not been a strict deadline as to utility company participation and if questions as to who should pay for the assessment --utility customers or shareholders-- were resolved either through legislation or through some expedited single-issue regulatory procedure.

SUMMARY

In many instances, the capture of "utility" funds does not involve an expense to the utility at all. Instead, funds may have been generated within the utility context which no longer belong to the utility company. In these instances, during the transfer of these funds to other purposes, persons interested in financing fuel assistance programs may endeavor to capture some or all of them for the benefit of low-income households. Many times, devoting these funds to low-income purposes would, in effect, simply use the dollars to benefit the class of customers who paid the funds in the first instance.

Moreover, while the Arizona Ratepayer Assistance Trust Fund discussed above does not fall within this specific area, the Trust Fund does represent a fundraising tactic which, after it is fully capitalized over a reasonably short time horizon, would not represent an ongoing expense to the utilities or to their non-participating ratepayers.

UTILITY FRANCHISE FEES: RENTAL PAYMENTS^{\45\}

While municipal governments in the United States have not historically been called upon to appropriate moneys for basic cash fuel assistance,^{\46\} they are a reasonable place to look to as federal funding dries up. One of the principles behind federal budget cutbacks is that some problems are better handled at the local level. Without developing *new* sources of revenue, however, municipal governments may actively resist any effort to place responsibility on them to help address low-income energy problems.

Municipal governments in the United States have in recent years been placed under a variety of increasing fiscal pressures. On the one hand, revenues have steadily dried up. Changes in the economic base of many municipalities have adversely affected the ability of local governments to raise revenue from the three generally recognized broad-based taxes: property tax, general sales tax, and earnings tax. In addition, federal

^{\45\} This article is updated and adapted from an article first published as "Raising Local Government Revenues Through Utility Franchise Charges: If the Fee Fits Foot It," 21 *Urban Lawyer* 55 (Winter 1989) (*reprinted*, Freilich and Bushek (1995). *Exactions, Impact Fees and Dedications: Shaping Land Use Development and Funding Infrastructure in the Dolan Era*, American Bar Association: Chicago. Adapted and reprinted by permission of the authors.

^{\46\} Local governments have played a role, through General Assistance, in providing emergency cash assistance.

funds to local governments have been virtually eliminated. Even while revenues are less, however, the financial demands on local governments are greater. City officials overwhelmingly see problems such as public transportation, unemployment, water and sewer treatment, social services, low-income housing, and the condition of streets, roads and sidewalks needing to be met with decreasing revenue bases. In addition, cities are being called upon more and more to shoulder new burdens such as financing incentives for local economic development. Finally, expenditures simply to maintain and replace basic infrastructures are expected to significantly increase in the coming years.

As a result, municipalities are seeking new means to deal with their financial obligations. Reducing expenses is always one mechanism available. Approaching the problem from a revenue perspective is another. The key with revenue measures, however, is to raise revenues without raising taxes. One mechanism available for cities to accomplish that task is to exact charges for the use of municipal property by public utilities.

Under most state laws, cities may grant a franchise to a public utility for the right to erect, maintain and operate its system. With that grant, the utility may acquire the right to use and occupy the streets and public grounds of the city. Under this franchise system, the state may regulate the rates and services of a public utility; it is the *cities*, however, that grant the basic right to operate within municipal boundaries and it is the cities that establish the conditions which govern that operation.^{47\}

In seeking to raise revenue in association with the grant of public utility franchises, it is important to distinguish between when financial exactions are "franchise fees" and when they are not. The thesis of this discussion is that a municipal government has the right to expect, and to exact, a "rental payment" for the use of municipal property just like a private property owner would be allowed to exact a rent. As a rent, the financial exaction is not a municipal "franchise fee" and is thus not subject to the legal constraints otherwise placed upon franchise fees. The question of how to design and collect such a rent must then be addressed by local officials.

This Chapter urges cities to require a utility to pay rent for the use of municipal lands in the construction of its transmission and distribution system. It will conclude that a city has broad powers to exact rental charges. In addition, the discussion will examine how the local government should set the level of the fee. It will posit that one rational means of collecting such fees is through an imposition on gross receipts.

^{47\} The rules of law governing franchises to use the streets do not depend, except to a very limited extent, on whether the grantee of the franchise is a gas, water company, electric, or telephone company.

THE POWERS OF A MUNICIPALITY TO EXACT COMPENSATION.

Franchise agreements can be used to benefit the city and its low-income residents. Through a franchise the city may exact revenues. These monies can be used to develop specific energy-related programs for local low-income residents. Such programs might include, for example, a fuel fund to assist low-income persons in paying energy bills; a fund from which to finance emergency appliance or building repairs or other crisis assistance; or a fund from which to finance conservation and weatherization improvements for citizens of the community. Before structuring a charge to impose on utilities, however, it is important to understand what a city may *not* do.

Local governments must be careful in how they structure franchise fees and in articulating the role which these fees play. If included as part of a "licensing" program designed to exert some local regulatory authority over the utility, for example, the fees generally must be scaled to meet only the local costs of regulating the utility. Similarly, if designed as an "inspection fee," the charge must compensate the city for the costs of inspection and no more.

These limits need not necessarily be faced, however. A franchise is a valuable right provided by the city and cities unquestionably have the authority to levy franchise fees today to be compensated for the grant of that right. In addition, a municipal corporation, having the entire control of its streets and the power to impose conditions on granting a franchise to use the streets, may require compensation for their use by public service companies as a condition of the grant of the right to use them. This latter payment is a rental charge.

MUNICIPAL CHARGES FOR THE USE OF CITY LAND

One of the conditions that municipal governments should include in their utility franchises is the payment of rental fees for the use of municipal properties. Conceptually, the exaction of a rental charge for the use of municipal property by utilities holds no problems. As the U.S. Supreme Court noted as early as 1893, the use of public property easements "effectually and permanently dispossesses the general public" of property being used so that cities, as trustees of the city property, have a right to compensation for that dispossession. In 1884, the City of St. Louis enacted an ordinance requiring each telegraph and telephone company to pay a fee of five dollars per pole for each pole "erected or used" by the company in the "streets, alleys and public places" of the city. In sustaining the right of the city to impose that fee against a challenge by Western Union Telegraph Company, the U.S. Supreme Court distinguished the charge from a "tax." According to the Supreme Court, the St. Louis fee "is more in the nature of a charge for the use of property belonging to the city --that which may be called rental." The Supreme Court expressly held that "the revenues of a municipality may come from rentals as legitimately and as properly as from taxes."

The Court rhetorically posited: "Supposing the city of St. Louis should find its city hall too small for its purposes, or too far removed from the center of business, and should purchase or build another more satisfactory in this respect; it would not thereafter be forced to let the old remain vacant or to immediately sell it, but might derive revenue by renting its various rooms."

The fact that cities already impose a franchise fee is not a barrier to collecting rents, as well, and earmarking those rents to specific purposes. Cities have the power to impose *both* a franchise fee *and* a rental charge if they so choose. The U.S. Supreme Court first addressed this issue in *Western Union*. In that early case, the Supreme Court found that the existence of a franchise creating a right to use the streets did not deprive the city of the power to thereafter collect an additional rental fee for the subsequent exercise of that right. A franchise from the federal government to construct interstate roads, the Court said, for example, would not authorize the corporation receiving such a franchise "to enter upon the private property of an individual and appropriate it without compensation." The principle is the same, the Court continued, when a corporation "assumes to enter upon property of a public nature. . ." Under a franchise, the occupation of the streets by a utility cannot be denied; "all that [the city] can insist upon is, in this respect, reasonable compensation for the space in the streets thus exclusively appropriated."

In sum, should cities seek to include revenue raising measures in new franchise contracts for public utilities, they should structure such provisions as a rental fee for the use of municipal property. Charging for the use of city property would be construed as a rental since the right to use the property and the actual acquisition of particular property interests in particular parcels of land are separate acts. Accordingly, limitations on the city's taxing power are avoided as are limitations on the right of a city to charge fees in excess of actual costs.

Given this discussion of municipal powers, it is important, next, to examine how the exaction of a rental fee for the use of city property should be collected.

COLLECTION OF THE RENTAL FEE

Even once a city is found to have the power to collect a rent through the grant of a municipal franchise, it must develop a method to determine the level of rent to be charged. One of the best mechanisms available to the city is to impose a rent based upon a percentage of the gross revenues of the utility. Basing a rental charge upon a percentage of gross revenues is a rational and reasonable course of action for several reasons.

Tying rental fees to a percentage of gross revenues is one means to take into account the current market value of property. In the market place, rents are based not merely upon the amount of area occupied, but upon the fair market value of the property, as well, as determined by

the income derived from that property. As a result, a smaller parcel may be more highly valued than a larger parcel where the smaller parcel is capable of producing a higher return.

Rents calculated as a basis of gross receipts have been commonly made a part of local utility franchise contracts and accepted as valid. In *City of San Diego v. Southern California Telephone Corporation*,⁴⁸¹ the California state supreme court considered how to determine the amount of "rent" due under a charge on the utility's gross receipts. No question existed but that the gross receipts exaction was for the use of city property. As the court expressly stated: "the payment required is not a tax upon the property of the corporation, nor a license charge for the privilege of operating its business. It is a compensation for the use of portions of the highway covered by the franchise easement. . ."

The Tennessee state supreme court, too, has upheld a rent imposed upon a public utility based on gross receipts. In *Nashville Gas and Heating Company v. City of Nashville*,⁴⁹¹ the city had imposed a five percent gross receipts charge above and beyond its basic franchise charge. The gross receipts fee was considered "compensation required by the city to be paid for the use of its streets, etc., a rental payment or payment in the nature of rental." The Tennessee court upheld the charge against the challenge that it was, in fact, a tax.

The Texas supreme court made the same distinction from taxes. In *Fleming v. Houston Light and Power Company*,⁵⁰¹ the Texas court faced a challenge to a gross receipts charge imposed upon the Houston utility. That charge was argued to violate the state's statutory proscription against a city imposing "by virtue of its taxing power, police power or otherwise" any "occupation tax or charge of any sort for the privilege of doing business. . ." The Texas court categorically rejected that challenge, stating the ordinance did not impose a charge for the privilege of doing business. According to the court, the ordinance "imposed a charge in the nature of a rental. . .The authorities recognize a distinction between a rental charge and a tax or charge for the privilege of doing business."

Basing a rental charge on gross receipts is quite reasonable. In fact, income is often used to value property. If, for example, the property used by a utility was *owned* by the company, there is little question but that one reasonable method of valuing that property would be through the use of the capitalization of income methodology. The use of an income-based valuation method for calculating rents is consistent with the use

⁴⁸¹ 266 P.2d 14 (Cal. 1954).

⁴⁹¹ 152 S.W.2d 229 (Tenn. 1941).

⁵⁰¹ 143 S.W.2d 923 (Tex. 1940).

of a capitalized income approach to valuing property for property tax appraisal purposes. In addition, the "net income approach" to valuing property is concerned with the present worth of future benefits of a property. The income over a property's remaining useful life is estimated and then capitalized to an estimate of value.

Similarly, the value of the property for purposes of setting a fair market *rent* to a utility can reasonably be calculated by assessing how much income it produces.⁵¹¹ If a property used by a utility produces for it only a small income, the value of that rented property is much less than if it served a larger consumption base and was thus capable of participating in the production of greater revenue for the utility. Basing rental fees on gross receipts thus is one rational means to tie the level of the rent to the "value" of the property to the utility.

Developing rental fees as a percentage of gross receipts has the advantage, also, of being responsive to current market movement. Since, for example, utility rates may move upward to reflect the rate of inflation, if the city is to avoid a deterioration in the constant dollar value of the rental fee, the fee also must be upwardly mobile with the rate of inflation. A rental fee based on gross receipts would follow property values, too, up or down.

⁵¹¹ For example, the California Department of Transportation annually earns about six million dollars, in addition to saving landscaping and maintenance costs, by leasing the airspace beneath and adjacent to its freeways. Ranging from parking and storage space to a Hilton Hotel, the Department enters into leases based on a percentage of sales with a guaranteed minimum. "Airspace Leasing," *Government Finance Review*, at 4 (August 1986).

SUMMARY

As low-income fuel assistance programs seek out new sources of income, they should consider asking municipal governments to contribute to fuel assistance efforts. If municipal governments are cash constrained, they may generate additional local revenues by imposing rental charges on public utilities for the use of city streets pursuant to a franchise agreement. These rental charges are to be distinguished from the traditional "franchise fees." Unlike franchise fees, the rental charges instead represent compensation for the actual physical occupation of the streets, for the property interest in the streets obtained by the utility. These rental charges do not constitute franchise fees any more than they constitute taxes or license fees.

The most rational mechanism for calculating the value of a rental charge for use of the city streets is through a percentage imposition on the gross receipts of the utility. This imposition has multiple advantages. It accurately sets a rental charge based upon the value of the property. In addition, it protects the city against a loss in real dollar terms attributable to inflation.

UTILITY RATE DISCOUNTS

One mechanism to generate fuel assistance for low-income households is through the promulgation of an affordable utility rate. This Chapter describes the various types of low-income rates that are available to public utility regulators.⁵²¹ The discussion below seeks to lay out the options available and the various strengths and weaknesses of such options. Eleven basic types of low-income rates have been identified. The discussion below will briefly explain each type and identify their pros and cons. The low-income rate forms discussed below include:

1. The straight rate discount;
2. The income-based rate discount;
3. The marginal cost based rate;
4. The available resource approach.
5. The percentage of income payment plan;
6. The fixed credit approach;
7. The percentage of bill approach;
8. Waiving the fixed monthly customer charge;
9. The inverted block rate approach;
10. The direct vendor payment approach; and

⁵²¹ This Chapter was originally prepared as R.Colton (1995). *Models of Low-Income Utility Rates*, for the Residential Essential Services (RES) Task Force of Washington Gas Light Company, Washington D.C.

11. Usage-based discounts.

A brief explanation of each will be presented below.

THE STRAIGHT RATE DISCOUNT

The straight rate discount is the model adopted by utilities in California , Massachusetts, Montana and West Virginia. Massachusetts utilities offer across-the-board discounts ranging from 30 to 40 percent to income-eligible households. Mass Electric Company, for example, at its own request in 1991, expanded its 35 percent discount to all LIHEAP-eligible households.⁵³⁾ In contrast, California utilities, as well as the Montana Power Company, offer an across-the-board 15 percent discount to LIHEAP households.

The basic advantage of an across-the-board discount is its ease in administration. All the utility needs to know is that the household is income eligible. The utility does not need to know the *precise* income level or Poverty status, since the discount remains the same regardless of what the household income is.

There are legitimate reasons *not* to endorse a straight rate discount in lieu of other alternatives. The purpose of a low-income rate should not simply be to provide rate relief to all low-income customers. Rather, the purpose of such a rate should be to recognize in advance those households who will likely find it impossible to pay their utility bills on a regular, timely basis and to collect the maximum amount of revenue from those households in the most cost-efficient and cost-effective way possible. Under a low-income rate, a utility should collect the *entire* bill from households who are likely to be able to pay their entire bill. The rate relief should be offered only to those for whom it can reasonably be determined will not pay their entire bill.

If low-income rates are viewed as a means of collection that will maximize the receipt of revenue from customers who cannot afford to pay their bills while at the same time minimizing all of the expenses associated with collection and nonpayment, across-the-board discounts have a less direct connection to collection savings and, therefore, may be more difficult to justify on a benefit-cost basis.⁵⁴⁾

⁵³⁾ The discount had previously applied to AFDC, SSI and similar recipients.

⁵⁴⁾ Across-the-board discounts may, however, as discussed in subsequent sections, be cost-based on marginal-cost grounds.

When viewed from this perspective, it is possible to determine the advantage of the income-based programs. Providing a 30 percent discount to a household with a monthly bill of \$50, in other words, is probably unnecessary to obtain payments while providing a 30 percent discount to a household with a \$150 bill is probably insufficient to obtain payments. In both of these cases, the discount is provided with no reasonable expectation that there will be any offsetting savings in expenses and with no reasonable expectation that there will be any enhancement of the revenue stream that is generated as a result.

While an across-the-board discount is easy to administer, it is not necessarily effective at redressing inability-to-pay problems nor efficient in doing so in any type of cost-justified manner. It will likely provide benefits to some customers who don't need it, while providing insufficient benefits to those households most in need.

THE INCOME-BASED STRAIGHT RATE DISCOUNT

A variation of the straight rate discount is a targeted discount based on Poverty Level. Public Service of Colorado is testing this approach in a two year pilot program starting in the fall of 1993. In the PSCO program, PSCO will offer a discounted rate to selected income-eligible households. The rate will vary depending upon the participant's federal Poverty Level. A customer living at 25 percent of the federal Poverty Level, in other words, will pay a smaller percentage of a monthly bill than a customer living at 75 percent of the Poverty Level. The proposed percentage of bill to be paid by each Poverty Level range for PSCO is set forth below.

PSCO offered its rate to households whose incomes are at or below 100 percent of the federal Poverty Level. The rate will involve four tiers, with each tier having a different payment requirement. Under this approach, lesser payments are required from households living at lower federal Poverty Levels.

The PSCO rate will involve credits applied to the customer's heating bill. At present, the company provides the Colorado State LIHEAP program with estimates of a customer's six month heating consumption. These estimates will serve as the basis for the rate. Hence, if the heating bill provided to the LIHEAP agency is \$500, and the PSCO discount credit is 40 percent, the household will receive a \$200 credit being subtracted from the \$500 bill.

The intent of the pilot is to tie the discounted rate into the existing LIHEAP structure to the maximum extent possible. The credit will be provided as a monthly fixed credit during the twelve month program year as defined by LIHEAP. At present, PSCO provides an estimated heating bill to the state LIHEAP agency to serve as a basis for the LIHEAP grant. Under the pilot rate, that estimated heating bill will be

multiplied by a predetermined percentage. The resulting lump sum will be divided by twelve to obtain a fixed monthly credit. The fixed credit will be provided to the pilot participants for each month in which a payment is made.

Households participating in the rate will be required to enter into 12-month Budget Billing plans with the company. Each bill will thus set forth: (1) the total fully embedded bill; (2) the PSCO credit reducing that bill in accord with the income-based discount matrix; and (3) the LIHEAP benefit *pro rated* for the particular month. The LIHEAP benefit will be provided *after* application of the PSCO credit and will not reduce the bill to less than \$0.

The PSCO rate discount matrix is set forth in Table 7 below:

Table 7	
Pilot Rate Discounts: Public Service Company of Colorado	
LEVEL OF POVERTY	Percentage of Bill Rate
0 - 25%	40% off
26 - 50%	20% off
51 - 75%	15% off
76 - 100%	10% off

To illustrate the operation of the rate, a hypothetical example is set forth below. PSCO provides an estimated heating bill of \$500, with the PSCO credit being 40 percent. The \$200 credit ($500 \times .40 = 200$) is divided by the 12 months of the program year. For each month in which this participant makes a full bill payment, therefore, PSCO will provide a fixed credit of \$16.67 ($200 / 12 = 16.67$).

The fixed credit is independent of the actual energy bill. If a household increases energy consumption, that household bears full responsibility for the increased bill. If a household conserves energy, the household pockets the savings. The change in consumption, however, will presumably be reflected in the following year's estimated heating bill.⁵⁵⁾

⁵⁵⁾ The heating bill provided to LIHEAP each year will *not* reflect the fixed credit associated with the Percentage of Bill Rate. That heating bill,

As can be seen, the PSCO rate discount combines elements of the straight rate discount discussed above, and the income-based percentage of bill and fixed credit approaches discussed below.

THE MARGINAL COST BASED RATE

An alternative rate model is a marginal-cost-based rate. Under such a program, the utility structures the customer's payment obligations explicitly to recover the variable costs of serving the customer plus obtain some contribution toward the fixed costs of the system.¹⁵⁶⁾

In essence, this proposal is no different from the "incremental rates" that many states offer their large natural gas and telecommunications customers who have the ability and inclination to engage in bypass. If the program is structured so that it will recover the variable costs of delivering natural gas to program participants, the reasoning goes, all other ratepayers on the system are no worse off because of the program. To the extent that the program can be structured to make some contributions toward fixed costs, other ratepayers benefit from keeping those customers on the system.

This justification for low-income rates has been adopted in Pennsylvania and New York proceedings. The Pennsylvania Public Utilities Commission, in its November 1990 *Equitable Gas* decision, appropriately held:

Even assuming hypothetically that EAP participants would be benefitted at the expense of other ratepayers, that "subsidy" would be warranted by the Commission's previous endorsement of the principle of maximizing margin or contribution. Under this principle, sales to EAP customers are justified as long as the rates recovered the incremental cost of serving the customer plus some contribution toward fixed costs. According to Equitable's uncontested evidence, EAP is projected to recover the average commodity cost of gas when both the participants' direct payments (at the minimum 8% of household income) and assistance funding (for which they are required to apply under the Company's proposal) are considered.¹⁵⁷⁾

(..continued)

in other words, will reflect the bill prior to application of the Percentage of Bill Rate.

¹⁵⁶⁾ Indeed, such rates are akin to the interruptible, economic development, business retention and similar rates adopted for manufacturing plants.

¹⁵⁷⁾ *Pennsylvania Gas Commission vs. Equitable Gas Company*, 73 Pa.PUC 301 (1990).

Moreover, the *Equitable* decision correctly noted:

Flexible pricing reflects an identical policy objective of maximizing a utility's revenues. The Commission's approval of Equitable's Gas Rate 5 in 1982 is a case in point. That rate enabled Equitable to sell gas to industrial and other large users at a rate less than the otherwise applicable retail tariff upon proof that the customer had an available alternate fuel supply source that was cheaper than the regular retail tariff. (citations omitted). In the *UGI* case, the commodity cost of gas was specifically established as the floor rate.^{58\}

"For these reasons," the Pennsylvania commission concluded, "the creation of EAP does not constitute unreasonable rate discrimination, and instead, is in the public interest."^{59\}

In 1991, another Pennsylvania utility, National Fuel Gas Distribution Corporation, proposed an explicit marginal-cost-based rate for its payment-troubled customers. In support of this rate, the Pennsylvania utility explained to the Commission:

National Fuel has a number of programs designed to aid low-income consumers. Uncollectible balances remain, nevertheless, a significant concern. National Fuel's proposed discount rate is an additional attempt to address the growing problem of uncollectibles among its low-income residential customers.* * *A premise that repeatedly surfaces in discussions on this matter is that payment-troubled low-income customers are discouraged from making payments for their use of National Fuel's services by the apparent unaffordability of such services. The hypothesis therein is that if National Fuel's services were made more affordable for these customers, they would make a greater effort to pay for all or part of the services which they consume. The result, therefore, would be a greater dollar contribution by these customers to the cost of their service and thereby a reduction in the rate of growth of uncollectible balances. The net consequence of which would be a reduction in the subsidy exacted from remaining customers. The proposed Low-Income Residential Assistance Rate is an experiment which is designed to test that hypothesis.^{60\}

^{58\} *Id.*

^{59\} *Id.*

^{60\} Direct Testimony and Exhibits of Vincent Esposito, at 3 - 4, *Pennsylvania Public Utility Commission v. National Fuel Gas Distribution*

Effective October 1, 1994, Brooklyn Union Gas offered a Reduced Residential Rate to low-income customers which consists of a minimum block charged based on the marginal cost.⁶¹⁾ The New York State Public Service Commission approved a settlement agreement containing the rate.⁶²⁾ The marginal cost was estimated using a decremental or avoided cost study.

A low-income rate that explicitly sets per kWh (or per therm) charges equal to the variable cost of service plus a pre-determined fixed cost contribution might involve a fixed cost contribution of 4.5 cents per kWh (or 12-15 cents per therm).

Note again --this is crucial-- that under a marginal cost based rate, the price paid by the household is *not* simply the fixed cost contribution, but rather is the variable cost *plus* the fixed cost contribution. Thus, on the electric side, a 4.5 cent fixed cost contribution would be added to a variable cost which is likely going to be roughly 2.0 to 2.5 cents. On the natural gas side, the fixed cost contribution will be added to a variable cost that is likely going to be from 25 to 40 cents.

The marginal cost based rate has much to commend it. It explicitly meets the tests necessary to protect the low-income rate against claims of discriminatory ratemaking. It looks, smells and feels like its industrial counterparts: the economic development rate. It is well within mainstream regulatory thinking.

A marginal cost based rate does not explicitly consider affordability. The rate can and should be structured so as to provide rate discounts in the range of 35 - 40 percent. Still, there will be some very low-income households, who are very high users, whose energy bills will not be brought down to an affordable level by the rate. Based on either an available resource test, or a percentage of income test, these households will still be "in need."⁶³⁾

(..continued)

Corp., Docket No. R-9111912 (1991).

⁶¹⁾ See generally, *State of New York Public Service Commission v. Brooklyn Union Gas*, Case 93-G-0941 (1994).

⁶²⁾ Case 93-G-941, *Proceeding on Motion of the Commission as to Rates, Charges, Rules and Regulations of the Brooklyn Union Gas Company for Gas Service*, Opinion 94-22 (issued October 18, 1994).

⁶³⁾ The response to such an argument is that these low-income, high use, households should be targeted for conservation measures. The existence of a few such households should not scuttle the entire rate for all low-income households.

The marginal cost-based model is the best of the approaches that do not expressly consider affordability as one design criterion. The marginal-cost-based rate explicitly covers the variable cost of providing service. It falls within well-recognized and generally-accepted standards of regulatory control. It looks, smells and feels like industrial discount rates that are frequently approved in each of the electric, natural gas and telecommunications industries. While it perhaps is the most conceptually "pure" model, there may still be some low-income households who receive unaffordable bills under such an approach. Nonetheless, it is a model which is far superior to the straight across-the-board discount as defined and discussed above.

THE AVAILABLE RESOURCE MODEL

At the other end of the spectrum from the non-income-based straight rate discount and marginal cost based rate is the "available resource" model of low-income rates. At least two jurisdictions consider ability-to-pay in their low-income rates, but look *not* at energy bills as a percentage of income as their definition of need. Instead, these jurisdictions base their energy bills on a calculation of disposable income left after paying "necessary" household expenses. This is the principle underlying the Customer Assistance Program (CAP) adopted by Philadelphia Electric Company⁶⁴⁾ as well as behind the entirely different WRBCC⁶⁵⁾ payment plan approach offered by the Philadelphia Water Revenue Bureau. The Iowa Affordable Heating Payment Plan, also, is based on this available resource test.

The "available resource" definition of need states that it matters not so much what portion of a household's income is devoted to home energy bills. Instead, the utility asks simply whether there is enough household income to pay those bills at all, irrespective of whether household income is above or below a designated percentage of Poverty Level.

To base a utility bill upon this determination of available resources requires the construction of a household budget. Using income and expense statements provided by the customer to the utility, a determination is made of the extent to which low-income households have little or no income left after paying other essential household expenses. This model posits that the income available to pay heating costs includes only the amount remaining after gross income has been reduced by monthly out of pocket expenses for housing (rent, or mortgage, insurance, and

⁶⁴⁾ This should not be confused with the Energy Assurance Program adopted by the Philadelphia Gas Works or the Customer Assistance Program adopted in Pennsylvania by Columbia Gas Company, both of which are percentage-of-income-based.

⁶⁵⁾ Water Revenue Bureau Conference Committee (WRBCC).

taxes), recurring medical costs, child support or alimony payments, nonheating electricity usage, and the like.

Jurisdictions range in what portion of the "available resources" must be devoted to payment of the home energy bills. Iowa's Affordable Heating Payment Program (AHPP), for example, requires that 25 percent of the available income be paid toward home energy. PECO's program requires that 50 percent be paid.

Arguments against using this mechanism include criticism of the "Big Brotherism" inherent in evaluating what are "essential" household expenses, the administrative costs of making individualized determinations, and the inherent possibility of having different utility customer service representatives apply different standards to similarly situated households.

Clearly, the most effective way to match a low-income rate to an inability-to-pay is to engage in the individual income and expense statement process underlying the available resource programs. However, "effectiveness" is not the only criterion by which to gauge such a program.

One primary criticism of the available resource approach is its *inefficiency*. Given the realities of being poor in America, it serves no function to require households to prove their inability to pay, a foregone conclusion for households at or below 150 percent of poverty. One recent Washington State study found, for example, that "the net resources test is not a good means of establishing low-income "energy needs." It tends to prove too much. All one person households in all counties with incomes of less than \$8,000, for example, were found to have an "energy need" as measured by this test."⁶⁶ That study concluded:

Several conclusions can be drawn from this net available resource data. First, a net available resource test does *not*, in fact, identify those households who, because of extraordinary or higher than normal [household] expenses, cannot afford to pay their home energy bills even though those [energy] bills are less than a designated percentage of income. When the test identifies nearly 100 percent of the population as being "in need," it becomes clear that the test simply confirms that low-income households have an absolute mismatch between income and expenses rather than confirming any relationship between extraordinary expenses and unaffordable energy bills. The net available resource measure of energy needs, in other words, is not effective at targeting assistance to those households who might otherwise be denied assistance because their energy burden

⁶⁶ M. Sheehan and R. Colton (1994). *An Assessment of Low-Income Energy Needs in Washington State*, at 82 - 83, Fisher, Sheehan & Colton, Public Finance and General Economics: Scappoose, OR.

(as a percentage of income) does not exceed a designated amount.⁶⁷⁾

THE PERCENTAGE OF INCOME PAYMENT PLAN

The straight percentage of income payment plan (PIPP) is the low-income model that the Philadelphia Gas Works (PGW) adopted in 1989. After testing the program on 5,000 households, the Philadelphia Gas Commission directed that the program be expanded to 15,000 participants in 1991. A February 1993 evaluation of the program recommended that it be expanded to the entire LIHEAP population and be made permanent.⁶⁸⁾

The PGW program is the "basic" PIPP approach. Energy bills are set equal to a percentage of the household's income. A "tiered" approach is most commonly used. This tiered approach differentiates required percentage of income payment amounts depending upon the federal Poverty Level at which the household lives. Thus, for example, a customer living at 0 - 50 percent of Poverty might pay five percent (5%) toward her home energy bills; a customer at 51 - 100 percent of Poverty would pay six percent (6%); and a household at 101 - 150 percent of Poverty would pay seven percent (7%).

Distinctions are also made between heating and non-heating customers. A heating customer might be asked to pay seven percent (7%) of the household's income toward her home heating bill, while a non-heating customer would be asked to pay three percent (3%) toward her domestic utility bill.

In order to be eligible for a straight percentage of income payment plan model, customers would be required to meet *both* of two requirements: (1) they must have annual income of at or below the eligibility guidelines (most often set at 150% of Poverty); *and* (2) they must have an annual bill that is at or *above* the required income percent. Bills that are at or below the required income percent are assumed to be affordable, even if a household is otherwise income eligible for the PIPP.⁶⁹⁾

⁶⁷⁾ *Id.*

⁶⁸⁾ The evaluation recommended several program improvements, however.

⁶⁹⁾ Under an income-based approach, if, because of relatively higher income or relatively lower home energy bills, the pre-determined percent of a household's income (plus LIHEAP) will exceed their annual gas bill, the household will receive no benefit. In those instances, the home heating bill is deemed "affordable" and the utility will collect the entire fully-embedded rate. Only in those instances where the

The household is thus billed each month at the PIPP amount, irrespective of consumption. If a household has an annual income of \$6,000 and a PIPP percent of six percent, therefore, the *annual* household payment due is \$360 ($\$6000 \times .06 = \360). The household thus owes \$30 per month ($\$360 / 12 = \30) as their PIPP payment.

Arguments against use of this approach to developing low-income rates include the definition's failure to account for household-specific expenses (such as high medical expenses), a failure to *justify* what percentage is to be deemed "affordable," and a failure to account for the large number of low-income households who pay their bills notwithstanding the fact that the bills exceed the affordable percentage.

THE FIXED CREDIT APPROACH

The fixed credit approach is the first of two modifications of the straight PIPP model. This fixed credit approach has been adopted by Central Maine Power Company (CMP).

The fixed credit approach begins as an income-based approach, much like the straight PIPP model. In order to be eligible for the rate, a household must meet *both* eligibility criteria: (1) that the household income is at or below 150 percent of Poverty; and (2) that the household bill is at or above the required income percent. Similarly, akin to a straight percentage of income model, the required percentage of income payment will likely be tiered, varying in proportion to the Poverty Level at which the household lives.

(..continued)

household, due to low-incomes or high bills, faces an energy bill that exceeds a designated percentage of its income (if a heating customer), and a lower percentage of its income (if a non-heating customer), do we conclude that it is reasonable to expect payment problems in the near and long-term and offer the low-income rate as an alternative collection process for those bills.

To illustrate, assume a household has an annual income of \$15,000, an annual energy bill of \$700, and is asked to pay eight percent of her income toward her energy bill in an income-based program. Her income-based energy bill payment would be \$1200 ($\$15,000 \times .08 = \$1,200$). Hence, she would decide to *not* participate in the income-based rate, since her fully-embedded bill is \$500 *less* than the bill rendered under the low-income "discount."

One can thus easily determine that households who are likely to be able to pay their energy bills in a full and timely fashion are *not* the households who are likely to choose to participate in an income-based low-income rate. Instead, only those households who have a mismatch between income and utility bills will choose to participate.

The difference in the fixed credit approach comes in the calculation of the bill to the household. The fixed credit calculates what bill credit would need to be provided to the household in order to bring the household's energy bill down to a designated percent of income. To calculate the fixed credit involves three steps: (1) calculating a PIPP payment; (2) calculating an annual bill; and (3) calculating the extent of the fixed credit necessary to bring the annual bill down to the PIPP payment. Each step is explained below.

1. The first step in the fixed credit model is to calculate a PIPP payment. Again assume that the household has an annual income of \$6,000 and is required to pay six percent (6%) for its home energy bill. The required household payment is thus \$360. This is simply $\$6,000 \times 6\% = \360 .
2. The next step is to calculate a projected annual household energy bill. This calculation is to be made using whatever method the utility *currently* uses to project annual bills for other purposes. A utility, in other words, will probably have an established procedure for projecting an annual bill for purposes of placing residential customers (low-income or not) on an Equal Budget Billing Plan (where bills are paid in equal installments over 12 months). Let's assume for purposes of illustration that this existing process results in an estimated annual bill of \$960.
3. The final step is to calculate the necessary fixed credit to bring the annual bill down to the PIPP payment. Given an annual bill projection of \$960 and a PIPP payment of \$360, the annual fixed credit would need to be \$600 ($\$960 - \$360 = \600). The household's *monthly* fixed credit would be \$50 ($\$600 / 12 = \50).

Under the fixed credit model, therefore, the utility provides a \$50 fixed credit to the low-income household irrespective of the household's actual bill. If the household increases its consumption, and thus has a higher bill, the household pays the amount of the increase. If, in contrast, the household conserves energy and thus lowers its bill, the household pockets the savings.

The increase or decrease in the size of the bill need not be a result of the household's actions. If there is an extremely cold winter, and the heating bill increases, the household pays the increase. If there is a moderate winter, and the heating bill goes down, the household pockets the savings. The fixed credit provisions, in other words, effectively places the risk of changes in consumption on the household.

THE PERCENTAGE OF BILL APPROACH

The percentage of bill approach is more like the fixed credit model than it is to any other existing model. The percentage of bill approach is the approach adopted by Columbia Gas Company of Pennsylvania, and endorsed by the Pennsylvania Public Utility Commission as a result of that Commission's 18+ month study of how to control uncollectible accounts in Pennsylvania.

Again, the model begins by calculating a PIPP payment. As before, with an annual income of \$6000 and a six percent (6%) PIPP payment, the PIPP payment is \$360 per year.

As with the fixed credit model, the utility calculates an estimated annual bill. This estimate is developed using whatever methodology presently exists for doing so. This methodology is likely to be the method used for estimating annual bills for purposes of 12 month Levelized Budget Billing Plans. Let's assume for the purposes of analysis that the estimated annual bill is \$1000.

It is the next step at which the percentage of bill approach differs from the fixed credit model. Under the percentage of bill model, the PIPP payment is simply converted into a percentage of the annual bill. Under the assumptions above, with a PIPP payment of \$360 and an annual bill of \$1000, the proportion of the bill owed by the participating household is 36 percent. The utility would, therefore, bill the participant 36 percent of whatever the full bill would otherwise be. If the annual bill is \$1000, the percentage of bill model would bill the customer \$360. If, in contrast, the annual bill is \$1200, the percentage of bill model would bill the customer \$432 ($\$1200 \times .36 = \432). If the annual bill fell to \$800, the percentage of bill model bill would fall to \$288 ($\$800 \times .36 = \288).

Under the percentage of the bill approach, in other words, if the household increases its consumption, and thus its bill, the household payment goes up in direct proportion to the increase. Conversely, if the household conserves energy, and the consumption (thus the bill) goes down, the household payment goes down as well. As can be seen, unlike the fixed credit provision, where the household bears the entire risk of changes in the bill, under the percentage of the bill approach, the risk of increases in consumption is shared between the company and the customer in proportion to the percentage of bill percent.

WAIVED CUSTOMER CHARGE

Waiving a company fixed monthly customer charge is the form of low-income rate discount that has been adopted by a number of southern utilities.⁷⁰⁾ Utilities in Georgia and Alabama have pioneered the waived monthly customer charge. Pursuing such a discount will likely deliver

⁷⁰⁾ Customer charges can be discounted or frozen at existing levels, as well, without being completely waived. In many states, customer charges

benefits in the range of \$8 to \$12 a month (*i.e.*, \$100 - \$140 per year).

There are advantages to the waived customer charge approach to providing low-income discounts. The first involves its administrative simplicity. While a household would be required to demonstrate income-eligibility, such a demonstration is a "yes/no" proposition. Utilities need not determine the *precise* level of income^{71\} so long as they are assured that the household is below the eligibility cap.^{72\} Indeed, utilities adopting a customer charge waive tend to create categorical eligibility. For example, households who can show they receive public benefits such as Supplemental Security Income (SSI), Aid to Families with Dependent Children (AFDC), or LIHEAP will be provided with the customer charge waiver.

As above, establishing categorical eligibility for a customer charge waiver will reduce administrative burdens and increase participation. Moreover, since the customer charge is not a usage-based charge,^{73\} it can be waived with no fear that households will lose any "price signal" provided by rates and thus indiscriminately increase consumption.^{74\}

Additional advantages of the customer charge waiver include its modest cost. Universally, the benefits of a waived customer charge will be lower than those benefits provided pursuant to either an income-based or a consumption-based discount. One study of Connecticut utilities found that "the waiver of the fixed monthly customer charge would represent an effective discount of from 8.3 percent to 12.2 percent of the annual bill, depending upon the company."^{74\}

(..continued)

have been rapidly increasing.

^{71\} Demonstrating a precise level of income is necessary in an income-based approach to permit the calculation of a percentage of income burden.

^{72\} For example, one need only demonstrate that they receive AFDC or SSI, rather than demonstrating what their level of income is.

^{73\} For a discussion of why rates do not provide price signals to low-income households, *see generally*, Colton, (1990). "Customer Consumption Patterns within an Income-Based Energy Assistance Program." 24 *Journal of Economic Issues* 1079.

^{74\} R. Colton (1992). *Filling the Gaps: Financing Low-Income Energy Assistance in Connecticut*, at 69 - 70, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA.

The disadvantages of a waived monthly customer charge are similar to the disadvantages of a straight rate discount. The waiver of the customer charge is not related to the energy burden of the low-income household. A household who has an energy burden of 30 percent receives precisely the same dollar discount as does a household with an energy burden of three percent. Indeed, unlike a straight rate discount, where the percentage discount remains the same but the dollar discount goes up as consumption does, the waived customer charge takes one more step away from targeting based on need. Accordingly, it is less likely than even the straight rate discount to generate off-setting savings in credit and collection expenses, working capital, and the like.

INVERTED BLOCK RATES

The inverted block rate is a commonly used rate design. Under an inverted rate, the price of energy increases as consumption goes up. Hence, an electric company might have three blocks of consumption priced as follows:¹⁷⁵⁾

Consumption Range	Rate/kWh
0 - 400 kWh	\$0.06/kWh
401 - 750 kWh	\$0.075/kWh
751+ kWh	\$0.10/kWh

From a low-income perspective, the theory is that low-income households systematically tend to have lower consumption. Accordingly, these households will benefit from the lower prices for the lower consumption blocks.¹⁷⁶⁾

There are substantive advantages to using an inverted block rate structure as a substitute for a "low-income" rate. Perhaps the biggest substantive advantage is the fact that block rates deliver benefits to low-income households outside of any low-income administrative structure. This results in two advantages. First, the delivery of the benefit is universal. No low-income household is denied the rate because she is either unable or unwilling to make that application.¹⁷⁷⁾ "Coverage" of low-income households, in other words, is 100 percent. In contrast, programs depending on a connection with LIHEAP often tend to be limited to 35 to 40 percent of the total low-income population.

¹⁷⁵⁾ Clearly, this approach can be used by a gas company as well.

¹⁷⁶⁾ The notion that low-income households systematically have lesser consumption is based in fact. *See generally*, U.S. Department of Health and Human Services, *Low-Income Home Energy Assistance Program Annual Report to Congress, Fiscal Year 1992* (Feb. 1994).

¹⁷⁷⁾ A November 1994 FSC study of Washington Gas Light in Washington D.C. found a relationship between the lack of telephones in a low-income house and the lack of participation in LIHEAP.

A second advantage of the universal coverage aspect is the lack of *any* administrative cost. Since an inverted block rate applies to *all* households, low-income or otherwise, there is no need for a utility (or anyone else such as a LIHEAP agency) to engage in outreach, to have intake and income verification, or otherwise to engage in such administrative tasks. The customer will receive the lower price on the lower blocks merely by being an electric or gas customer.

A third advantage of the inverted block rate is the cost-justification that can be mustered in its favor. Irrespective of any impacts on low-income households, the general rule is that the cost of energy production increases as consumption goes up. Accordingly, pricing the initial block lower and the tail block higher most likely follows the system economics of a utility, even setting low-income interests aside.

In contrast to the substantive advantages of an inverted block rate, there are substantive *disadvantages* as well that likely make such an approach an unacceptable means of delivering benefits to low-income households. The first disadvantage is that inverted block rates may hurt those households who need help the most. Inverted block rates do not make judgments or distinctions about consumption. Whatever the cause of higher usage, the higher prices will apply. Accordingly, while as a class, low-income households tend to consume less than the residential population as a whole, there are low-income households with high consumption who will be hurt by inverted block rates. Low-income households with larger families and higher consumption, low-income households who live in energy inefficient dwelling units, and low-income households who have been forced to "double-up" families due to unaffordable shelter costs, will all be hurt by inverted block rates.

Indeed, households who *now* have high percentage of income energy burdens because of low incomes and high energy bills will likely see their bills go *up*, not down, as a result of inverted block rates.

Irrespective of the harmful impacts on specific households, inverted block rates carry the same disadvantage that straight rate discounts carry. While on the one hand, the universal nature of inverted blocks can be viewed as an advantage, on the other hand, the uniformity of this universal coverage can instead be viewed as a disadvantageous lack of targeting. A low-income household facing an affordable three percent energy burden, in other words, receives precisely the same rate break as the low-income household facing an unaffordable 30 percent energy burden. In the first case, the rate break is unnecessary to make bills affordable while in the second, it is insufficient.

THE DIRECT VENDOR PAYMENT PROGRAM

The direct vendor payment program is a low-income discount tied to receiving directly vendored payments from certain public assistance

programs. The program, pioneered in Michigan, can, for example, allow households to directly vendor payments of portions of their AFDC benefits to the utility in exchange for a rate break --this might include, for example, arrearage forgiveness-- offered by the company. Moreover, at least one utility, Consolidated Edison, does not charge local sales tax on Home Relief accounts for which direct-vendored utility payments are received.

Direct vendor payment programs can be tied to any public benefit where the agency has the ability to make direct wire transfers of dollars to the utility. Such direct vendor payments are not uncommon. Indeed, in virtually every state in the nation, LIHEAP benefits are made in the form of direct vendor payments.

One situation where direct vendor payments are perhaps valuable is in dealing with tenants living in publicly assisted housing. Utility allowances provided to such tenants would be paid directly to the utility by the local Public Housing Authority (PHA). As a result of such payment, the utility will capture the full annual utility allowance to be credited against the annual utility bill.¹⁷⁸¹

Several advantages arise from the direct vendor payment program.

1. The direct vendoring of payments will eliminate most credit and collection expenses for the affected households during the course of the year as well. The "affordable" portion of the bill --i.e., that portion covered by the direct vendor payment, will *automatically* be paid each month to the utility.
2. The direct vendoring of payments will eliminate the greatest portion of revenue lag days for these customers. The transfer of payments from the public agency to the utility would be subject to negotiation. It should not be expected that the company would negotiate a payment timing involving substantial lag days.
3. A reduced rate for directly vendored accounts is a cost-based rate. The cost of serving these customers is clearly lower than the cost of serving other residential customers because the payment is guaranteed without the need to send individual bills and incur collections expenses.

¹⁷⁸¹ Houston Lighting and Power Company agreed in a rate case stipulation to operate a multi-year pilot program examining the direct vendor payment of utility allowances. The pilot program will involve the creation of a shadow billing computer program which will track what revenues and expenses would have been incurred had direct vendor payments been received and compare those results to what is actually happening in the absence of direct vendor payments. See, *Complaint of Kenneth D. Williams Against Houston Lighting and Power Co.*, Docket No. 12065, Stipulation and Agreement, at 30 (Feb. 22, 1995).

While utility allowances for assisted housing seems clearly possible, as the Michigan utilities have shown, other public benefit programs, as well, can involve such direct vendor payments.

USAGE BASED DISCOUNTS

A final model available to provide low-income rate discounts involves a "usage-based" model. Central Power and Light Company (CP&L), in Corpus Christi, Texas, for example, has adopted its Economy Residential Service (ERS) rate for individually metered primary residential dwellings. This rate is available to customers if during the past twelve months, their monthly usage for each month has been 500 kWh or less. The customer will be allowed to remain on the ERS rate so long as their monthly usage is less than 5000 kWh (or 16.67 kWh per day). So long as the customer maintains consumption within the limits of the availability criteria for the rate, a discounted rate is applied to the entire consumption of that customer. When, however, the customer exceeds the allowable consumption cap, the discount is lost for the *entire* amount.

One of the primary purposes of CP&L's ERS rate was to deliver rate benefits to low-income, low-use customers. The use of the 500 kWh cut-off was intended to be a surrogate for low-income households.

A model with similar groundings has been adopted by Tucson Electric Power Company. TEP's "Residential Lifeline Discount Rate Program" offers differing levels of discounts based on a customer's monthly energy usage. To be eligible for the Tucson discount rate, a customer is required to be on the basic residential rate and to have income at or below 150 percent of the federal Poverty Level. Customer meeting these eligibility criteria are then eligible for rate discounts ranging from 15 to 25 percent. In addition, if a customer is age 65 years or older, he or she is eligible for an *additional* 10 percent off.

Table 9 Tucson Electric Power Residential Lifeline Discount Program		
Monthly Energy Use	Discount	Senior Discount
0 - 300 kWh	25%	35%
301 - 600 kWh	20%	30%

601 - 1000 kWh	15%	25%
1000 - 1500 kWh	0%	15%
Over 1500 kWh	0%	0%

In 1994, more than 12,600 residential accounts, and nearly 5,000 senior accounts received the lifeline discount through the Tucson Electric lifeline rate.

SUMMARY AND RECOMMENDATIONS

In sum, there are numerous different low-income models that might be available to regulators. Ranking them depends on one's assumptions about the relative merits of targeting vs. universality of coverage. It is a policy decision, of course, whether it is "better" to increase the targeting toward need or to increase the universality of coverage. They are not mutually inconsistent and some utilities have combined a universal rate discount with an individually tailored rate for customers with substantial arrears.

Generally, the income-based programs are favored by those for whom targeting toward need is a priority. The preferred income-based approach is the model promulgated by the Pennsylvania Public Utility Commission: the income-based percentage of bill model. This model takes affordability into consideration, allows a customer to increase consumption given that rates are finally affordable, but does not permit a customer to indiscriminately waste energy without having to bear some portion of the responsibility. Since increases in bills might be attributable to other than customer behavior (*e.g.*, cold weather), the sharing mechanism inherent in the Pennsylvania model is a more fair approach than the Central Maine Power model which places the entire risk of increased consumption upon the customer.

The straight rate discount is favored by those from whom universality of coverage is most important. The across-the-board discount can be more broadly available with a minimum of administration expense. The marginal cost-based discount can be most easily justified as "cost-based." Where possible, discounts should be pursued for both customer and usage charges. As the Public Service Company of Colorado has shown, the advantages of a straight rate discount can be tied into an income-based model.

NON-UTILITY COMMUNITY CONTRIBUTIONS

This Chapter sets forth suggestions on how to develop sources of state and local low-income energy assistance while seeking to minimize the connection between the fundraising and the utility that would ultimately receive the dollars on the household's behalf. The connection is not entirely capable of being severed, though the two programs proposed below certainly do not depend upon it. The first program is directed toward church congregations at the state and local level. The second proposal is directed toward non-profit institutions (ranging from the YWCA to private local schools and hospitals).

ONE CHURCH--ONE FAMILY

One approach to developing local solutions to energy crises facing low-income households is the "one church--one family" initiative proposed by the National Urban and Rural Ministry Project of World Vision. According to that organization, "because this approach puts so many volunteers from the congregation in a direct relationship with the adopted family, it provides a welcome opportunity for service to the poor. At the same time, it is more than relief work; it is community development, because its goal is the self-sufficiency of the adopted family."^{79\}

^{79\} World Vision (1992). *Rebuilding Our Communities: How Churches Can Provide Support, and Finance Quality Housing for Low-Income Families*, at 13 - 14, Monrovia, California.

According to World Vision, the "one church--one family" process works as follows:

The church commits to a long-term relationship, usually of one year, with a recently displaced family. The church pays three months' rent to resettle the family into housing: the first, the last and one middle month. Church volunteers break into task forces to work with and assist the family in a specific area of the family's life. The volunteers, trained to avoid dependency relationships with the family, encourage progression to self-sufficiency.¹⁸⁰¹

One task force, the organization recommends, might work to find housing; another work to create a budget and help meet financial needs, and another to help find the funds needed to meet that budget. An employment task force might help locate employment for family members.

Pursuit of a "one church--one family" program could generate significant impacts for the low-income population. While data is not available on the number of religious congregations that exist in the United States, information can be estimated. In Colorado, for example, data from the Colorado Department of Local Affairs, Division of Property Taxation, indicates that in 1994, there were 4,997 parcels of land exempt from property taxation as owned for purposes of religious worship. In 1993, there were 5,884 such parcels. Assuming a rough correlation between the number of congregations and the number of church parcels in Colorado, if a "one church--one family" program could reach from 4,000 to 5,000 low-income households each year in that state alone, the program would make a tremendous difference. In Fiscal Year 1995, LIHEAP served roughly 60,000 households in Colorado. The "one church--one family" program, therefore, would thus increase the reach of LIHEAP from five to ten percent.

The issue, of course, is how to develop and administer such a program. The leveraging effort to which local fuel assistance advocates should commit is to fund a fulltime staffperson (or two) to administer such an undertaking. This should not be public funding. And, while the initial inclination might be to "ask the utilities" to fund such a position, that inclination should be resisted as well. It would not be unreasonable for a corporation (or a consortium of such entities) to commit to funding this position over a multi-year period. The position could be located at a local fuel fund, the state ecumenical council, a statewide religious organization (such as Catholic Charities), or some similar non-profit community service organization so long as that organization was able to provide statewide services.

CONTRIBUTIONS IN LIEU OF TAXES

¹⁸⁰¹ *Id.*

As funding becomes tighter for important social programs such as fuel assistance, it is necessary to take a closer look at the wide range of educational and charitable institutions that are exempt from local property taxation. Statewide in Colorado, for example, in 1994, private schools owned 606 parcels of land which, along with real property improvements, were worth in excess of \$118 million yet exempt from local taxation. In addition, in 1994, charitable institutions owned 2,629 parcels of land which, along with real property improvements, were worth roughly \$319.8 million, yet were exempt from local property taxation.

Substantial debate swirls today over the advisability of removing, or at least curtailing, the tax exemptions for historically tax-exempt institutions. In many local jurisdictions, the taxing authority seeks to avoid this debate by imposing "service fees" on services that have previously been provided without charge. There is no need for efforts to develop new sources of funding for fuel assistance to insert themselves into this debate.

What states *should* do, however, is to seek a commitment on the part of tax exempt institutions to make voluntary contributions toward the energy assistance program. The contributions can be collected through the existing utility billing process and turned over to the fuel assistance distribution network. Contributions could go to support a statewide effort or be limited to distribution to local households identified by the local fuel assistance agency.

Contributions to support fuel assistance bear no relationship to the value of tax exempt property owned by these institutions. What states might consider, therefore, is a campaign where tax exempt institutions would pay the equivalent of what they *would have paid* in sales tax on their utility bills in the event that the institution did not have a tax exempt status.

According to the American Law Institute/American Bar Association (ALI/ABA),^{81\} the cities of Boston, Miami, New Haven (Connecticut) and Newport (Rhode Island) are implementing voluntary user fee programs for not-for-profit organizations in lieu of property tax payments. In addition, Lehigh and Allegheny Counties (Pennsylvania), as well as Pittsburgh, have voluntary user fees in lieu of property tax payments.

Such a contribution in lieu of taxes could be structured similar to the new Illinois Telephone Assistance Program, which was created by state

^{81\} Boyd Black (1992). "Searching for the Revenue: Eroding State and Local Tax Exemptions," in *Not-for-Profit Organizations: The Challenge of Governance in an Era of Retrenchment*, C726 ALI-ABA 227, 238, American Law Institute-American Bar Association: Chicago.

law and is based on voluntary contributions to fund assistance to low-income families who need basic local *telephone* service. UTAC¹⁸²¹ is the non-profit organization comprised of phone company, consumer, and low-income representatives and created under direction of the Illinois State Commerce Commission to administer the new telephone assistance program.

Funding for UTAP comes strictly from voluntary donations. Beginning February 1, 1993, inserts were included in phone bills soliciting contributions. Every six months, UTAC files a petition with the Illinois Commerce Commission asking the Commission to determine the type and amount of assistance, if any, that can be provided to eligible consumers. Depending on the amount of the fund, the Commission, after hearings, will order that the fund be used to provide additional assistance on installation, assistance on the customer's monthly bill, or both.

Rather than creating simply another fuel fund "check-off," however, the proposal here is to target an effort modelled after UTAC toward tax exempt institutions. Moreover, rather than asking such institutions to commit to specific denominations of contributions, the proposal is based specifically on a "contribution in lieu of taxes" model: the foregone sales tax.

A "contributions in lieu of taxes" program for not-for-profit tax exempt institutions, under which such institutions contribute to an energy fund an amount equal to what they would have paid in sales taxes on their utility bills deserves consideration.

¹⁸²¹ The Universal Telephone Assistance Corporation (UTAC).

UNIVERSAL SERVICE FUND

In light of the harms which arise in the absence of federal fuel assistance, this Chapter examines the costs of a Universal Service Fund designed to replace the existing LIHEAP program. The discussion considers the costs of a USF from two perspectives. The first section below assumes that the Universal Service Fund is financed through a per kWh charge on all retail electric consumption, irrespective of customer class. The second perspective assumes that the USF is financed through a per kWh charge imposed solely on the *residential* customer class. In turn, each analysis first assumes that individual states will generate revenue only for use within their state. In this scenario, each state must determine what USF charge would be necessary to replace lost LIHEAP funds for that state. Each analysis then alternatively assumes that a USF is created and financed by a per kWh charge independent of the strictures of past LIHEAP allotments.^{83\} In each instance, the USF is funded by a charge on electricity consumption.^{84\}

^{83\} As discussed in more detail below, for example, a state may wish to generate funding for more than merely home *heating* assistance.

^{84\} The charge is placed on electricity consumption because the penetration of electricity is nearly 100 percent amongst United States households.

Readers should be careful to note the limits of this Chapter and observe what the Chapter does *not* purport to undertake.

- o This Chapter does not undertake to quantify the extent of low-income energy "needs" in the United States.^{185\} Instead, it merely seeks to determine the costs of generating sufficient funds to replace the funds lost through an elimination of LIHEAP.
- o This Chapter does not purport to create a comprehensive systems benefit charge for a restructured electric industry. Instead, the Chapter looks only at what the cost would be to transfer financial responsibility for a Universal Service Fund from the existing LIHEAP structure to a consumption-based utility charge.
- o With the limited exceptions in the discussion below relating to the interrelationship between fuel assistance and energy efficiency, this Chapter does not purport to address the issue of how energy efficiency might be used to address the energy unaffordability problems of low-income households.^{186\}

^{185\} For a discussion of the various methods of calculating "need," *see generally*, the discussion in Appendix F below.

^{186\} For comprehensive discussions of energy efficiency strategies, *see e.g.*, R.Colton (1995). *Energy Efficiency as a Credit Enhancement: Public Utilities and the Affordability of First-Time Homeownership*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA; R.Colton (1995). *Reviewing Utility Funded Low-Income Energy Efficiency Programs: A Suggested Framework for Analysis*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA; R.Colton (1994). R.Colton (1994). *Weatherization Assistance Program Evaluations: Assessing the Impact on Low-Income Ability-to-Pay*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA.

For discussions of innovative financing of low-income energy efficiency, which do not rely exclusively upon government and utility funds, *see e.g.*, R.Colton (1995). *Funding Minority and Low-Income Energy Efficiency in a Competitive Electric Industry*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA; R.Colton (1994). *Energy Efficiency for the Low-Income Consumer: Planning, Designing and Financing*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA; R.Colton and M.Sheehan (1994). *"Linked Deposits" as a Utility "Investment" in Low-Income DSM*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA; R.Colton (1994). *Loan Guarantees as a Utility "Investment" in Low-Income DSM*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA; R.Colton (1993). *Promoting the Affordability of Assisted Housing through Energy Efficiency*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA.

- o This Chapter does not address the allocation of USF dollars as between heating, cooling, and electric appliance usage.¹⁸⁷⁾ We do note, however, that heating comprises only a portion --a substantial portion, but perhaps not as substantial as most people might believe-- of a low-income household's energy bill. Nationwide in 1993, while low-income households used 90.9 million Btu's for total energy consumption, they used only 50.6 million Btu's (56%) for home heating.¹⁸⁸⁾ Hence, as currently structured, LIHEAP is addressed to only a portion of low-income energy needs, even if fully funded.
- o This Chapter does not address the inter-fuel competitive impacts of using the electric industry to collect USF dollars. As to competition *within* the electric industry, the impact is assumed to be neutral. At least one analysis has recommended that to minimize competitive impacts, a "systems benefit charge" should be imposed on all customers and be "non-bypassable."¹⁸⁹⁾

METHODOLOGY

¹⁸⁷⁾ It should be noted, however, that LIHEAP is generally designed to address only a small portion of the home energy needs of the poor in the first instance. While there is a cooling component to the federal fuel assistance effort, the substantial majority of LIHEAP dollars is devoted simply to home heating assistance. In Fiscal Year 1993, for example, out of a \$1.525 billion dollar funding availability, \$0.948 billion (62.2%) was used for heating assistance while only \$0.022 billion (1.5%) was used for cooling assistance. Other portions of the appropriation were used for administration, crisis intervention, weatherization, transfers to HHS block grants, and carryover. *LIHEAP Annual Report to Congress: FY 1993*, at 11 (October 1994). Indeed, more money was transferred to other HHS block grant programs than was used for "cooling assistance." No dollars are available for energy uses not involving space heating or cooling (*e.g.*, hot water).

This pattern of LIHEAP expenditures represents no change from previous years in which more money was available. For example, in Fiscal Year 1986, out of a \$2.136 billion dollar funding availability, \$1.352 billion was used for heating assistance while only \$0.036 billion was used for cooling assistance. Other portions of the appropriation were used for administration, crisis intervention, weatherization, transfers to HHS block grants, and carryover. *LIHEAP Annual Report to Congress: FY 1986*, at 11 (July 1987). In this year, also, more money was transferred to other HHS block grant programs than was used for "cooling assistance."

¹⁸⁸⁾ U.S. Department of Health and Human Services, Administration for Children and Families, *LIHEAP Annual Report to Congress: FY 1993*, at Tables 7 and 9, pp. 17 and 20 (October 1994).

¹⁸⁹⁾ "The charge is competitively neutral because all sellers are treated equally. With the same charge levied on customers no matter who supplies the power (or on suppliers regardless of who they sell to), users cannot bypass their share simply by choosing another provider." *Systems Benefits Charge*, at 3, Regulatory Assistance Project: Gardiner, ME (Sept. 1995).

The cost data developed below is based upon 1993 data for 1,437 electric utilities throughout the nation.^{190\} Data on residential and total retail sales reported for each utility in each state was summed and used as state-wide data. Total residential sales/revenue, as well as total sales/revenue to ultimate customers, was reported for investor-owned and publicly-owned utilities. For Rural Electric Cooperatives, data for residential customers (farm and non-farm) was directly available. Total sales to ultimate customers was calculated by subtracting "sales/revenue for resale" from "total sales/revenue." Other specific calculations are evident in the Tables included in Appendix D below.

FINANCING THE USF THROUGH A CHARGE ON ALL RETAIL CONSUMPTION

A review of the costs of a Universal Service Fund financed through a charge on all retail electric consumption should look at two different scenarios. The first scenario (Table D-1) assumes that each state is individually seeking to impose a charge merely to replace the lost LIHEAP revenue *for that state*. The second scenario (Tables D-2 and D-3) alternatively assumes the creation of a USF which is funded at a level not constrained by past LIHEAP allotments. More specifically, the analysis assuming that the Universal Service Fund is financed through a per kWh charge on all retail consumption, irrespective of customer class, is set forth in three Tables^{191\} as follows:

- o **Table D-1** sets forth the impact on a state-by-state basis of imposing a charge sufficient to generate revenues equal to the present value of the 1986 appropriation for the Low-Income Home Energy Assistance Program (LIHEAP).^{192\} This Table assumes that each state generates revenue equal to the present value of its own 1986 LIHEAP allotment.
- o **Table D-2** sets forth, on a state-by-state basis, the dollars generated by imposing a uniform national charge of eleven one-hundredths of one cent per kilowatt hour (\$0.0011/kWh) on all retail energy consumption irrespective of customer class^{193\}

^{190\} As of the writing of this report, 1993 data is the last year for which complete data is available. The source for data on major investor-owned utilities was *Financial Statistics for Major Investor-Owned Utilities: 1993* (January 1995); the source for data on major publicly-owned utilities was *Financial Statistics for Major Publicly-Owned Utilities: 1993* (February 1995); the source for data on borrowers from the Rural Electrification Administration (now Rural Utilities Service) was *1993 Statistical Report: Rural Electric Borrowers* (August 1994).

^{191\} The Tables based on all retail consumption, irrespective of customer class, are set forth in Appendix D.

^{192\} The 1986 LIHEAP appropriation was chosen because it represents the highest appropriation level for LIHEAP before that program began to suffer from federal budget constraints in the late 1980s.

^{193\} This excludes, in other words, sales for resale reported by electric utilities.

delivered by major investor-owned^{194\} and publicly-owned electric utilities,^{195\} as well as rural electric cooperatives (RECs).^{196\}

- o **Table D-3** sets forth on a state-by-state basis a summary of the price impacts arising from a uniform charge of eleven one-hundredths of one cent per kilowatt hour (\$0.0011/kWh).

The data presented in these Tables teaches us several lessons. First, as Table D-1 reveals, having each state undertake to replace its own LIHEAP allotment would result in widely disparate rate impacts amongst the several states. Not surprisingly, due to their smaller LIHEAP allotments with which to begin, there is a tier of Southern states for whom a per kWh charge of a few hundredths of one cent (\$0.0005 or less) would generate their LIHEAP allotment.^{197\}

In contrast, the New England states would see a need for a state-specific USF charge five times or more as great to generate a LIHEAP equivalent. Connecticut and Massachusetts would need a charge of roughly two tenths of one cent, while states such as Rhode Island, Maine, Vermont and New Hampshire would see USF charges even higher than that.

Similarly, the states in the Plains and Upper Midwest would require higher charges to generate a LIHEAP equivalent solely from within their borders. Michigan, Minnesota, Montana and the two Dakotas would see higher than typical charges. Farm Belt states such as Wisconsin, Iowa, Illinois and Ohio would see reasonably moderate USF charges, as would the heavily populated Mid-Atlantic region (Pennsylvania, New Jersey, Maryland).

^{194\} A "major" investor-owned utility was defined to include an electric utility that, in the pst three consecutive calendar years, had sales or transmission services that exceeded one or more of the following: (1) 1 million mWh of total annual sales; (2) 100 mWh of annual sales for resale; (3) 500 mWh of annual power exchanges delivered; or (4) 500 mWh of annual wheeling for others (deliveries plus losses).

^{195\} A "major" publicly-owned utility was defined to include an electric utility that had 120,000 megawatthours of sales to ultimate consumers or 120,000 megawatthours of sales for resale.

^{196\} The RECs included in this analysis are those which are borrowers from the Rural Electrification Administration (now called the Rural Utility Service).

^{197\} In so doing, of course, these Southern states would perpetuate their lack of available fuel assistance.

The two large states have opposing results, with New York requiring a higher charge (\$0.0025/kWh) and California a much lower charge (\$0.0006/kWh).

In *each* case, however, a USF charge is reasonably insignificant. Even in those states with the highest per kWh charge necessary to generate their equivalent LIHEAP allotment, there would be a per kWh price increase of only three to six percent.

<p style="text-align: center;">Table 10 Five States with Greatest Percentage Price Increase State-Specific USF Charge</p>			
State	USF Charge	Avg Per kWh Price w/o USF	Percent Increase
AK	\$0.0036	\$0.0763	4.7%
ME	\$0.0027	\$0.0910	3.0%
ND	\$0.0038	\$0.0626	6.1%
SD	\$0.0031	\$0.0647	4.8%
VT	\$0.0032	\$0.0913	3.5%

Table D-1 is significant if each state undertakes, either in response to federal budget reductions or as part of an electric industry restructuring decision, to individually replace the low-income fuel assistance funds that would have flowed into that state through LIHEAP.

In contrast, Table D-2 shows the charge that would be necessary to generate the national equivalent of LIHEAP funding through a uniform Universal Service Fund charge. The uniform charge of eleven hundredths of one cent per kWh would be higher than a state-specific charge in 22 states, lower than a state-specific charge in 20 states, and roughly the same (*i.e.*, within \$0.0002/kWh) in nine states. Moreover, Table D-2 shows that, nationally, LIHEAP could be replaced at its 1986 level (in 1995 dollars) plus roughly 20 percent (\$2.9 billion vs. \$2.4 billion) with a per kWh price increase of, on average, between one and two percent. The biggest percentage price increase would occur in Idaho (2.8%) and Washington State (2.7%).

Table D-3 quantifies the significant redistribution of revenues amongst the states that a uniform Universal Service Fund charge would generate. It is, of course, not the purpose of a uniform national charge to return to the states exactly what they contribute. However, given the significant excesses that states such as Alabama, Arizona, California, Florida, Georgia, Louisiana, North Carolina, Texas and Virginia would contribute to a national fund, versus what they have historically received through LIHEAP, it seems reasonable to conclude that a Universal Service Fund financed through a uniform national charge should address, at the least, home cooling needs as well as home heating needs. A

focus of fuel assistance on low-income cooling needs is well-justified, if not long overdue, in any event.¹⁹⁸¹

In sum, a uniform charge used to finance a Universal Service Fund appears to be a reasonable and affordable mechanism to use to replace federal LIHEAP funds. A charge of \$0.0011 per kWh would fund fuel assistance at the 1986 level (1995 dollars) plus roughly 20 percent. Such a charge would represent a price increase of from one to two percent, depending on the state.

Financing the USF through a Charge on Residential Consumption

In contrast to the discussion above, this section examines a Universal Service Fund financed by a per kWh charge on residential consumption only. As in the discussion above, this review of the costs of a Universal Service Fund looks at two different scenarios. The first scenario (Table D-4) assumes that each state is individually seeking to impose a charge merely to replace the lost LIHEAP revenue for that state. The second scenario (Tables D-5 through D-7) alternatively assumes the creation of a national USF which is funded by a uniform per kWh charge. More specifically, the residential analysis is set forth in five Tables¹⁹⁹¹ as follows:

- o **Table D-4** sets forth the impact on a state-by-state basis of imposing a charge sufficient to generate revenues equal to the present value of the 1986 appropriation for the Low-Income Home Energy Assistance Program (LIHEAP). This Table assumes that each state generates revenue equal to the present value of its own 1986 LIHEAP allotment.

¹⁹⁸¹ See generally, R.Colton and M.Sheehan, *The Other Part of the Year: Low-Income Households and Their Need for Cooling: A State-by-State Look at Low-Income Summer Electric Bills*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA.

¹⁹⁹¹ The Tables based on residential consumption only are set forth in Appendix D.

- o **Table D-5** sets forth the impact on a state-by-state basis of imposing a uniform charge of three-tenths of one cent per kilowatt hour (\$0.003/kWh) on all retail residential electric consumption^{\100\} delivered by major investor-owned and publicly-owned electric utilities, as well as rural electric cooperatives (RECs).
- o **Table D-6** sets forth on a state-by-state basis a summary of the price and bill impacts arising from a uniform charge of \$0.003/kWh. Price and bill impacts should be relatively close; they may differ somewhat, however, because of the impacts of customer charges.^{\101\}
- o **Table D-7** sets forth on a state-by-state basis a summary of the difference between the revenues generated by a uniform charge of \$0.003/kWh and the present value of each state's 1986 LIHEAP allotment.

Table D-4 shows the range of charges that would be needed if each state were to individually undertake to replace its own LIHEAP allotment through a state-specific USF charge. The residential price increases resulting from these state-specific charges would generally range from one to six percent.

^{\100\} Again, this excludes sales for resale reported by electric utilities.

^{\101\} Even if per kWh charges were to increase five percent (5%), in other words, total bills would increase somewhat less since per kWh charges represent only a portion of the total bill.

Table 11
Residential Price Increase from State Specific USF Charge

Range of Price Increases	No. of States
Less than 1%	4
1.0% - 1.9%	11
2.0% - 2.9%	5
3.0 - 3.9%	5
4.0 - 4.9%	4
5.0 - 5.9%	8
6.0% - 6.9%	3
7.0% - 9.9%	5
10.0%+	6

The states with high percentage increases tend to be rural Northern states that have relatively few residential customers but who tend to receive relatively larger amounts of LIHEAP assistance. These states also tend to have relatively lower residential rates with which to begin, ranging in the mid- six cent range (four of the six states have rates of 6.2 - 6.4 cents per kWh).

Residential bill impacts may be as important as the price impacts. Bills are a function of more than simply price. They are instead a function of price and usage. As shown in Table 12 below, most states would see bill impacts of less than a few dollars per month. Indeed, in one-third of the states (16), the bill impacts would average only one dollar. In 38 of the states, monthly bill impacts would be \$3 or less. In only six states would monthly bills impacts be more than \$5 for residential customers.

Table 12 Residential Monthly Bill Increase from State Specific USF Charge	
Average Monthly Bill Increases	No. of States
\$1	16
\$2	9
\$3	13
\$4	4
\$5	3
More than \$5	6

Tables D-5 and D-6 show the impact of imposing a uniform Universal Service Charge rather than having each state seek to generate its own LIHEAP allotment by a state-specific per kWh charge. A uniform charge of \$0.003/kWh would be necessary to generate funds to replace the 1986 LIHEAP appropriation (1995\$) through a Universal Service Fund. Such a charge would generate the 1986 LIHEAP appropriation (1995\$) plus roughly 20 percent (\$2.9 billion vs. \$2.4 billion).

Not surprisingly, a uniform charge evens out the impacts on both a per customer and a per kWh basis. Using a uniform charge, 28 states would see price increases of from two to four percent, and 43 states would see price increases of from two to five percent. In contrast, no state has a price increase of more than 7.2 percent and no state has a price increase of less than 2.0 percent. A full thirty states would fall within a narrow band of price increases ranging from 3.5 to 5.0 percent.

Table 13 Residential Price Increase from Uniform National USF Charge (\$0.003/kWh)	
Range of Price Increases	No. of States
Less than 1%	0
1.0% - 1.9%	0
2.0% - 2.9%	10
3.0 - 3.9%	18
4.0 - 4.9%	15
5.0 - 5.9%	6
6.0% - 7.2%	2
7.2%+	0

The billing impacts of a uniform national charge are even more tightly bunched. A uniform national USF charge would yield a bill increase of \$2 per month in 24 states and of \$3 per month in an additional 24 states. The maximum *annual* increase amongst any of the states is \$44.31 (monthly impact of \$3.69).

Table D-7 again quantifies the significant redistribution of revenues amongst the states from a uniform Universal Service Fund should the distribution of USF dollars be based on the LIHEAP formula. As before, given the substantial disparity between the revenues that many Southern states would contribute through a USF charge and the benefits that those states would receive through the LIHEAP formula, and considering the substantive need to provide low-income cooling assistance in any event, it seems reasonable to consider a distribution of USF funds that would include a greater focus on low-income cooling and other non-heating home energy needs.

SUGGESTIONS ON THE STRUCTURE OF A UNIVERSAL SERVICE FUND

While the focus of this Chapter is to examine the costs of creating a Universal Service Fund as a successor to the existing federal LIHEAP

efforts, suggestions are advanced below regarding how to structure such a fund to maximize its effectiveness.

Goals of a Universal Service Fund (USF)

The goals of a Universal Service Fund for low-income energy usage should be five-fold:

1. **Expand financial resources:** The one thing that is *not* likely to occur in any reasonably projected future scenario is a substantial expansion of federal funding. Hence, a Universal Service Fund should seek additional non-federal resources to be brought to bear on low-income energy problems.
2. **Public/Private Partnerships:** Given (a) the need for greater resources; (b) the perception of existing fuel assistance being "welfare for utilities"; and (c) the substantial benefits that flow to the energy industry as a result of fuel assistance, an expanded public/private partnership is an essential component of a Universal Service Fund.
3. **Increased Targeting:** Given scarce resources relative to need, a Universal Service Fund should more adequately target benefits to those households most in need.
4. **Increased Weatherization Integration:** Given (a) the one-time nature of fuel assistance benefits; and (b) scarce resources relative to need, a Universal Service Fund should more fully integrate weatherization and fuel assistance to promote the self-liquidation of the need for fuel assistance as an income supplement program.
5. **Increased Personal Responsibility:** Consistent with other current welfare reform proposals, a Universal Service Fund should promote individual household responsibility and self-sufficiency.

Governing Principles of a Universal Service Fund

In general, a USF program should stand on two basic principles. *Principle I* is that each party to the bargain --this includes the low-income household, the community, and the energy vendor-- should contribute in some fashion to resolving the inability-to-pay problem. *Principle II* is that the community and industry components should be structured such that the cash supplement responsibilities are finite and potentially liquidating through the implementation of energy efficiency measures. Each of these principles is discussed in greater detail below.

Principle I: Equal Contributions

The community, industry and the low-income household, itself, all have a role to play in helping to address inability-to-pay problems. Accordingly, the structure of a USF program should involve three steps:

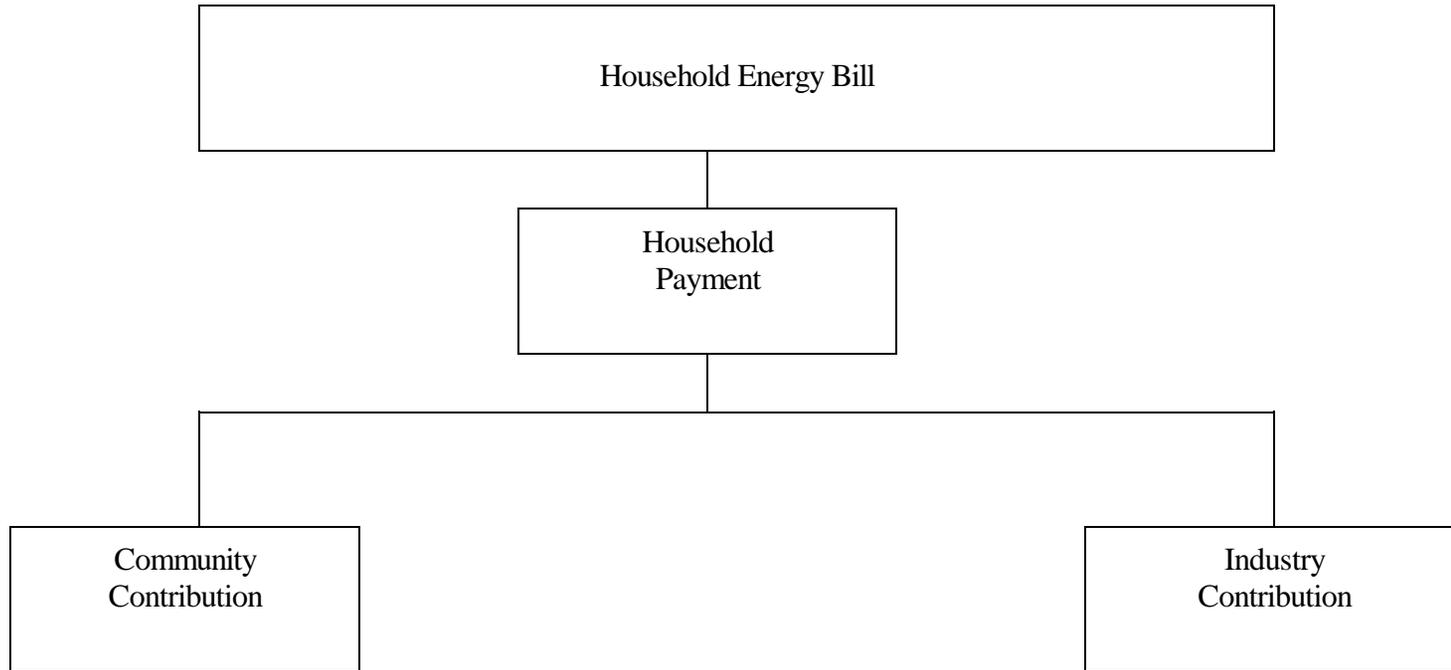
Step 1: The first step is to *define* the extent of low-income energy needs. "Need" is defined to be the excess energy bill over a predetermined affordable percentage of income burden.^{102\} The burden deemed to be affordable will be left to state discretion to be established within federal guidelines. A combined heating/non-heating bill of 15 percent of income, however, would seem to be the absolute uppermost limit on a permissible burden.

Step 2: The second step is to *quantify* low-income energy needs. Low-income "needs" in this regard should be calculated based on actual energy bills and actual household income. Assume that the percentage of income burden deemed to be affordable in a particular state is twelve percent (12%). An actual home energy bill of \$480 would represent a twelve percent (12%) energy burden to a household with an actual income of \$4,000. A household with such a bill (\$480) would be deemed to be "not in need" under these circumstances. However, for a household with an income of \$4,000, any energy bill in excess of \$480 would represent an "energy need" of that particular household subject to payment through the Universal Service Fund program.

Step 3: The final step then is to apportion the responsibility of the energy bill amongst the relevant players. The household would have the first responsibility to pay. The household would be required to pay the designated affordable percentage of income toward its home energy bill each month. The excess of that bill over the affordable burden, (*i.e.*, the "need") would then be apportioned to the community and utility programs. Look again at Step 2. If this household has an actual energy bill of \$700, the household will have an energy need of \$220 ($\$700 - \$480 = \220). The responsibility of this excess burden of \$220 would be apportioned to the household's energy vendors and the community.

^{102\} For the rationale behind this definition of "need," *see generally*, R.Colton. (1993). *Methods of Measuring Energy Needs of the Poor*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA. That analysis is attached to this report as Appendix F.

The Universal Service Fund would thus see a combined effort involving households, industry, and the community to address inability-to-pay problems as follows:



The industry contribution would come in the form of a rate discount or similar reduction in the amount billed to the customer. The community contribution would come in the form of a per kWh surcharge on electric rates used to finance the USF. Hence, in our example above, assuming a 50/50 split of the community/industry portion of the responsibility, the household would pay \$480 of the \$700 total bill, while the community and industry would each pay \$110.

The advantages of having this Universal Service Fund are several-fold, including:

- o First, the program takes into account the proposition that households must make a responsible contribution toward their own

home energy bills. Like Percentage of Income Payment Plans (PIPPs) extant around the country today,^{103\} households are required to pay that portion of their energy bill which represents an affordable burden.

- o Second, the program takes into account the notion that while inability-to-pay represents a social problem, it is not *strictly* a social problem. Thus, while the community has a role to play in addressing the problem, private industry has a role to play as well.
- o Third, the program eliminates the political objection that existing LIHEAP assistance is simply a welfare program for utilities. While utilities are benefiting from the USF program, they are at the same time being required to pay "their fair share" as well.
- o Fourth, benefits are targeted based on actual use and actual consumption. No household should receive "more" or "less" than they "should" receive.
- o Finally, as detailed below, the program allows both the community and the industry to control its exposure to liability in a cost-effective manner. If either party is able to meet its obligation to provide annual benefits to the household most cost-effectively through the delivery of energy efficiency improvements rather than through cash payments, it is permitted to do so.

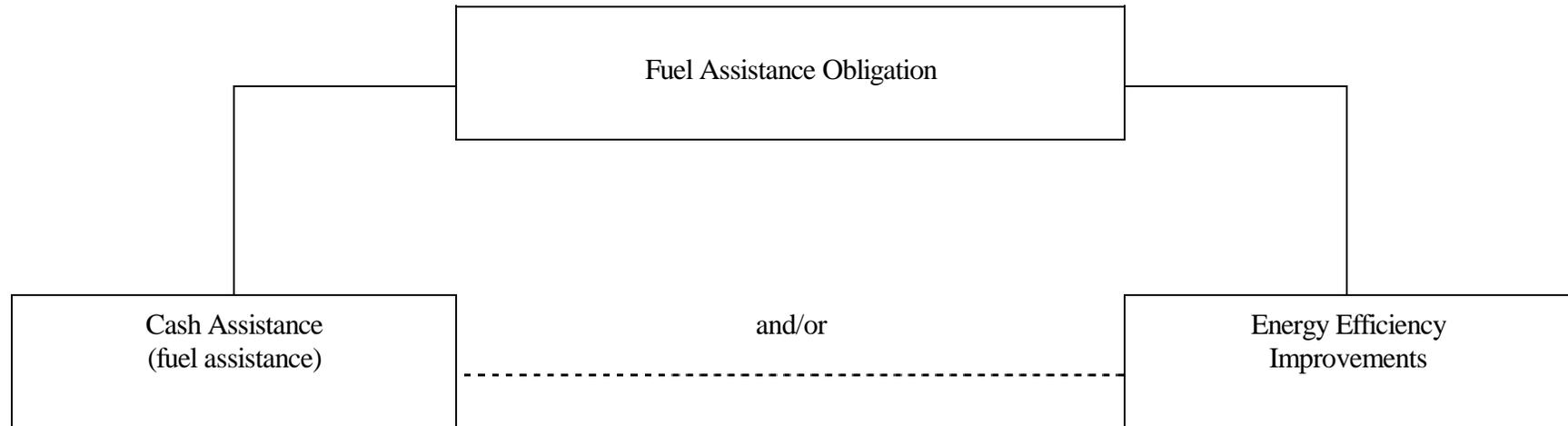
Principle II: Liquidating Liability

Not all benefits to a household should be required to be cash benefits under a Universal Service Fund. Rather than requiring the delivery of cash benefits (either in the form of fuel assistance by the USF or in the form of discounts by the industry), the responsible party should be allowed to deliver bill reductions in the form of energy efficiency improvements which delivers the equivalent amount of annual dollar benefits in energy savings.

Consider this principle in light of the Illustration above. In that Illustration, the USF is responsible for delivering \$110 in fuel assistance benefits to the low-income household. If by weatherizing that household's dwelling unit, however, the USF can reduce the annual energy bill from \$700 to \$590, the USF will have met its obligation to provide assistance.

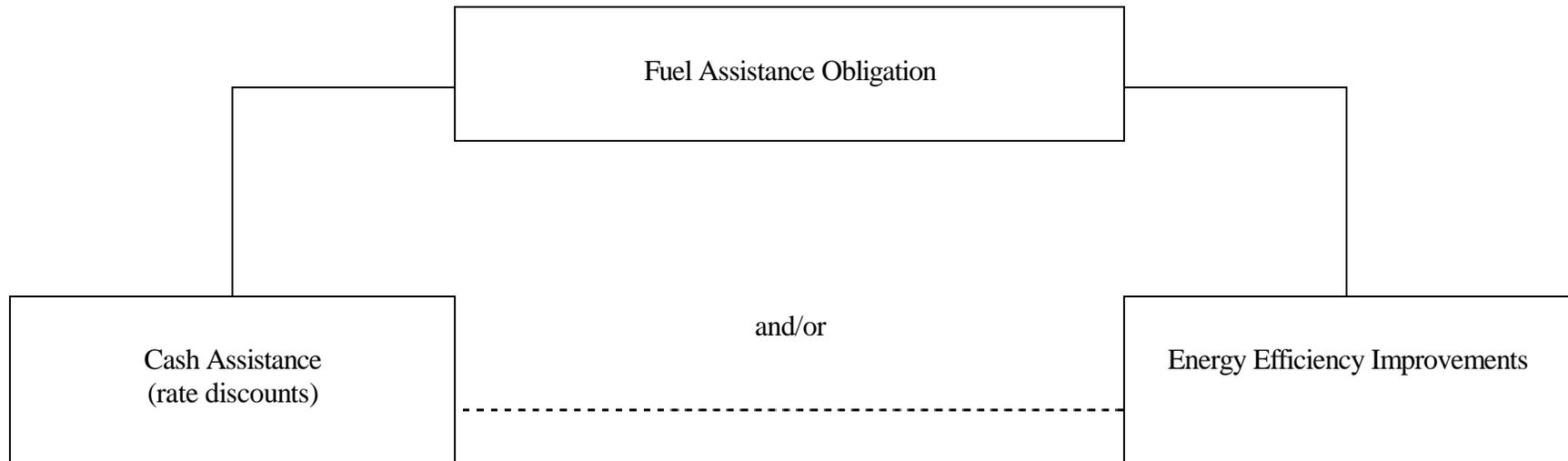
^{103\} A discussion of Percentage of Income Payment Plans (PIPPs) can be found in the Chapter discussing models of low-income rates.

Universal Service Fund (USF) Contribution



The same would be true for the utility industry. If, instead of providing a rate discount, the utility would provide energy efficiency improvements that reduced the annual bill to \$590, the utility would have met its obligations.

Utility Contribution



In sum, the obligation to provide their respective contributions can thus be met by either the USF or the utility industry in two alternative ways as follows: either through a cash supplement/rate discount, or through energy efficiency improvements, or some combination of the two. Hence, the delivery of benefits from the USF can take the form of either cash fuel assistance payments or energy efficiency improvements. The delivery of benefits from the utility industry can take the form of either discount rates or energy efficiency improvements. The delivery of benefits from either can involve a combination of the two alternatives as well (e.g., a \$200 responsibility met by a \$100 cash payment *and* a \$100 bill reduction through energy efficiency improvements).

The ability to liquidate the liability for providing benefits represents a significant advance in the means of delivering low-income fuel assistance. It has four benefits. First, the proposed program provides a market incentive for both the USF and the utility industry to deliver all potential cost-effective energy efficiency improvements to low-income households. If through the expenditure of \$100 on energy efficiency improvements, in other words, a utility (or the USF) may eliminate its obligation to provide \$110 in cash benefits, it has an incentive to do so.

Second, the ability to liquidate the liability for providing benefits also provides a market incentive for both the USF and the utility to efficiently *target* their delivery of energy efficiency measures. Assume two households are on a system: Household A and Household B. Because of high consumption (and thus high bills), Household A poses a fuel assistance obligation of \$500 to the utility (or to the USF); because of low consumption, Household B poses a smaller fuel assistance obligation of only \$100 to the utility (or to the USF). The utility and the USF thus would now have a financial incentive to target that high consumption household (Household A) for energy efficiency improvements. Indeed, it might be possible that there would be competitive pressures for parties to reach those high consumption households "first" (so as to "count" the bill reductions against that particular party's obligation to provide assistance).

Third, the ability to liquidate the liability for providing benefits provides a market incentive for both the USF and the utility to expeditiously target its delivery of energy efficiency measures. Each year of delay in reaching the high consumption households would mean another year of delivering one-time cash payments that provide no on-going benefits.

Finally, the ability to liquidate the liability for providing benefits provides a market incentive for both the USF and the utility to cooperate in identifying and avoiding lost opportunities. Lost opportunities arise when the accomplishment of some given task precludes the future accomplishment of additional work at that same dwelling.^{\104\} Each lost opportunity represents a foregone chance for the USF and the utility to liquidate some portion of the long-term low-income energy need. It represents, instead, a commitment to continue to provide one-time cash assistance grants to the low-income households affected by that lost opportunity.

SUMMARY AND CONCLUSIONS

One state level mechanism to address the disappearance of LIHEAP is to create a Universal Service Fund. Two basic approaches exist to finance a Universal Service Fund (USF). On the one hand, each state could create a USF charge that would seek to replace the LIHEAP funds lost within that state alone. On the other hand, a USF could be financed through a charge imposed on a per kWh basis irrespective of the historic levels of LIHEAP received by the state. In either case, price increases needed to support a Universal Service Fund would almost

^{\104\} Low-income housing developments are the classic example of a "lost opportunity." Decisions made by low-income housing developers represent decisions that will hold for the useful life of the measures. Accordingly, if a developer installs a relatively inefficient furnace or hot water heater, or fails to install the most cost-effective level of insulation, it is not likely that a utility will soon revisit that home to install more energy efficient measures. The opportunity to install high efficiency measures is lost at the time of the developer's initial decision.

universally be moderate.

The structure of a Universal Service Fund to replace the existing LIHEAP program should be based on two principles. The first principle posits that the community, industry and the low-income household, itself, all have a role to play in helping to address inability-to-pay problems. The industry contribution would come in the form of a rate discount or similar reduction in the amount billed to the customer. The community contribution would come in the form of a per kWh surcharge on electric rates used to finance the USF.

The second principle posits that not all benefits to a household should be required to be cash benefits under a Universal Service Fund. Rather than requiring the delivery of cash benefits (either in the form of fuel assistance by the USF or in the form of discounts by the industry), the responsible party should be allowed to deliver bill reductions in the form of energy efficiency improvements which delivers the equivalent amount of annual dollar benefits in energy savings. The obligation to provide their respective contributions can thus be met by either the USF or the utility industry in two alternative ways as follows: either through a cash supplement/rate discount, or through energy efficiency improvements, or some combination of the two.

PUBLIC BENEFITS AS "ENERGY ASSISTANCE"

"Fuel assistance" programs need not involve simply the delivery of cash benefits that are labelled as providing assistance to help pay home energy bills. Other types of public assistance programs exist that can also help provide relief from unaffordable home energy payments. If these funds are available for use in paying home energy bills, advocates interested in expanding affordability should pursue them. Several illustrations of such benefits are examined below.

THE EARNED INCOME TAX CREDIT

One program that is not explicitly an "energy assistance" program but which delivers extensive benefits to low-income households to use for paying home energy bills is the federal Earned Income Tax Credit (EITC). Many utilities engage in efforts to promote the EITC.

The Earned Income Tax Credit is a refundable federal tax credit for low-income people who work. For tax year 1995,^{105\} working families

^{105\} Tax returns filed in 1996.

with one child that had income less than \$24,396 could be eligible for a credit of up to \$2,094. Families with more than one child that had income less than \$26,673 could be eligible for a credit of up to \$3,110. Low-income workers without children, too, can be eligible for a credit up to \$314, if they have income less than \$9,000.

Low-income households do not even have to owe taxes in order to receive the EITC. Even workers who earn too little to owe federal income tax can be eligible for the EITC, but they *must* file a federal tax return. The average refund received by low-income families in 1995 (for the 1994 tax year) was over \$1,000 per family.

Congressional Action

Efforts by Republicans in Congress to substantially scale back the EITC have been well publicized this year. According to the Washington D.C.-based Center on Budget and Policy Priorities, however, as of December 1995:

Congress passed a budget-cutting bill that President Clinton vetoed. This bill contained cuts in the [EITC]. Some people mistakenly may believe either that the [EITC] has already been cut or that cuts will affect the credit for tax year 1995 for which families will begin to file soon. Such misconceptions may deter eligible workers from applying for the credit or may make some groups apprehensive about promoting the credit because they mistakenly believe it isn't worth the effort. In fact, [as of December 1995], budget talks are still going on and *no cuts have been enacted*. (emphasis in original). If cuts are eventually passed, changes in the credit would not take effect until families file tax returns for tax year 1996, more than a year from now.^{106\}

^{106\} The Center then observes that "protection of the [EITC] has emerged as one of the President's top priorities in the budget negotiations now underway. In the end, there will probably be some [EITC] reductions, but they are expected to be much smaller than the [EITC] cuts which Congress has passed."

Utility Promotion of EITC

Some utilities have become aggressive in promoting the enrollment by low-income households in the EITC. One utility, Public Service Electric and Gas Company (PSE&G) in New Jersey, found that the additional resources represented by the EITC would help alleviate many bill payment (and inability-to-pay) problems by low-income customers. According to PSE&G research, more than nine of ten (9 of 10) households receiving EITC refunds use those refunds to pay household bills.

Given PSE&G's promotion of the EITC in New Jersey, New Jersey's number of EITC recipients has increased by 4.9 percent. According to PSE&G, in 1994 alone, New Jersey's low-income residents had received \$60,000,000 more in EITC benefits than they had received in 1993. This was 35 percent higher than the national average for the same period.

PSE&G spearheaded the efforts in that state to encourage income-eligible households to apply for the EITC. PSE&G created and funded a "1-800" hotline to promote the EITC. Outreach activities used to publicize New Jersey's hotline were both creative and effective. Some of that utility's activities included:

- o Over 100,000 flyers were produced by PSE&G and distributed by community volunteers.
- o 750 municipal buses carried posters "advertising" the PSE&G EITC number.
- o An EITC commercial sponsored by PSE&G was played just before New Jersey lottery drawings. It started with: "If you found a lottery ticket worth \$2,000, would you throw it away?"
- o PSE&G helped sponsor public service announcements by Governor Christie Whitman and Senator Bill Bradley to spread the message.
- o Collaborating with the New Jersey Division of Motor Vehicles, PSE&G produced inserts advertising the EITC through 350,000 vehicle registration renewal form mailings. It was headlined "Drive Yourself to a Treasure."

In addition, PSE&G reported that with the Company's assistance:

- o Over 3.5 million envelope stuffers, flyers, and posters were distributed to reach potential EITC recipients.
- o An additional 1.1 million flyers describing EITC were delivered to parents of the state's public school children.

EITC as "Fuel Assistance"

The effort to promote the EITC is an indirect, but substantial, source of "fuel assistance" for low-income households. According to one article published by an Edison Electric Institute (EEI) staffperson, 25 percent of the low-income households receiving EITC credits used their credits to pay current utility bills while an additional 30 percent used their credits to pay past-due utility bills.

Expanding the use of the EITC program has the added advantage of promoting significant economic development throughout the states in which such expansion occurs. One study, reproduced in Appendix E, found that a five percent increase in EITC participation nationwide would generate \$1.6 *billion* in economic activity and roughly 36,000 jobs each year.

STATE AND LOCAL TAX RELIEF

Persons interested in promoting tax relief, however, should not focus simply on federal programs. State and local tax relief is often available to elderly and low-income households. No reason exists to believe that cash provided to low-income households will be spent in a fashion that substantially differs from EITC benefits. If this is true, then promotion of efforts to bring added cash into low-income households (whether through property tax rebates or state tax credits) can be an effective mechanism for expanding low-income "fuel assistance."

State Earned Income Tax Credits

Seven states have state equivalents to the federal Earned Income Tax Credit (EITC). These states include Vermont, Wisconsin, Rhode Island, Maryland, Iowa, Minnesota and New York. Under these programs, the state credit is in addition to the federal credit. As a result, the *total* amounts available in earned income credits (state plus federal) in these states will be greater than the federal-only amounts reported above.

These state programs are universally tied to the federal program. In Wisconsin, for example, the state Earned Income Tax Credit is a percentage of the federal credit. Households with one child receive four percent of the credit; households with two children receive 16 percent of the federal credit; and households with three or more children receive 50 percent of the federal credit. In tax returns filed in 1995 (for the

1994 tax year), roughly 164,000 households received an average state earned income tax credit of \$278. In contrast, Minnesota provides a "working family" credit equal to 15 percent of the federal credit. According to the Minnesota revenue agency, no special forms are necessary. Households who qualify for the federal credit receive the state credit.

States are evenly split between whether the state EITC is "refundable" or not. Under a refundable credit, if the credit reduces a qualifying household's tax liability to \$0, they are entitled to a refund of the remainder of the credit; if the credit is not refundable, once the tax liability is reduced to \$0, the credit provides no additional benefit. New York provides 10 percent of the federal credit for Tax Year 1995. In Tax Year 1996, the New York credit increases to 15 percent and by Tax Year 1997, it increases to 20 percent. New York's credit is "refundable" for state residents;^{\107\}

^{\107\} For non-residents, the credit is non-refundable.

Table 14
State Earned Income Tax Credits in 1994

State	Refundable?	Percent of Federal EITC
Iowa	No	6.5%
Maryland	No	50.0%
Minnesota	Yes	15.05%
New York	Yes	10.0% /a/
Rhode Island	No	27.5%
Vermont	Yes	25.0%
Wisconsin	Yes	/b/

NOTES:

/a/ In 1996, this increases to 15% and in 1997, it increases to 20%.

/b/ Households with one child receive four percent of the credit; households with two children receive 16 percent of the federal credit; and households with three or more children receive 50 percent of the federal credit.

Public efforts to develop these programs as a source of fuel assistance can engage in promotion and outreach of the same form and substance discussed above. The beneficial impacts for utilities would presumably be the same. Whether the source of dollars is the federal or state government, in other words, would not affect whether low-income households devote these benefits to payment of household bills, including the payment of current and past-due utility bills.

Circuit Breaker Property Tax Relief

Perhaps the biggest source of state and local tax relief comes through property tax "circuit breaker" programs for the poor and aged. Through such initiatives, property taxes are either capped (or eliminated altogether) for households meeting designated eligibility standards. According to the Advisory Commission on Intergovernmental Relations (ACIR), "circuit breaker property tax relief programs for homeowners and renters are generally defined as state-funded programs that target property tax relief to selected income groups or senior citizens and take the

form of a state income tax credit, a direct payment to qualified individuals, or a state payment to the local government that lost tax revenue."^{108\} According to ACIR, 35 states (and the District of Columbia) had circuit breaker programs of one type or another in 1994. Table 15 below presents relevant information about each state program.

Like programs such as the EITC discussed above, these circuit breaker programs provide substantial benefits to low-income households. Average benefits range generally from \$100 to \$350 per year. Eight states provide average benefits of more than \$400 to households, while 15 additional states provide average benefits of between \$200 and \$400. Only three of the states offering circuit breakers involved average benefits of less than \$100. As can be seen, like EITC, the circuit breaker programs can provide a substantial source of cash to low-income households.

In addition, some states have property tax relief programs that are not considered "circuit breakers." In North Carolina, for example, the only property tax relief is a \$12,000 exemption from taxation on the assessed value of property for low-income elderly.

^{108\} ACIR, *Significant Features of Fiscal Federalism: Budget Processes and Tax Systems*, Volume 1, at Table 35 (September 1995).

Table 15
State Property Tax Relief: Circuit Breaker Programs
(Generally, Laws in Effect for 1994)

State	Number of Beneficiaries	Form of Relief	Average Benefit	Aggregate Benefit/a/
Arizona	24,566	state income tax credit or rebate	\$274.08	\$6,733,000
Arkansas	30,747	state rebate	\$118.34	\$3,639,000
California	HO: 24,625 Renters: 134,616	state rebate	HO: \$585.32 Renters: \$90.79	HO: \$2,101,000 Renters: 12,222,000
Colorado	39,262	state rebate	\$344	\$13,506,000
Connecticut	HO: 36,236 Renters: 26,772	reduction in tax or state rebate	HO: \$449.52 Renters: \$385	HO: \$16,289,000 Renters: 10,307,000
D.C.	Nonelderly: 15,043 Elderly, blind or disabled: 11,859	income tax credit	Nonelderly: \$292 Elderly: \$377	Nonelderly: \$4,393,000 Elderly: \$4,471,000
Hawaii	All renters: 18,123	income tax credit	\$93.56	\$6,156,000
Idaho	22,324	reduction of tax bill	\$336.04	\$7,502,000
Illinois	384,000	state rebate	\$272	\$104,448,000
Indiana	n/a	income tax credit	n/a	n/a
Iowa	42,896	credit against local tax (renters receive cash reimbursement)	HO: \$245.31 Renters: \$330.28	HO: \$6,016,000 Renters: 6,069,000
Kansas	50,397	state rebate	\$196	\$9,878,000
Maine	37,229	state rebate	Elderly: \$321 General: \$281	Elderly: \$5,666,000 General: \$5,501,000
Maryland	HO: 78,147 Renters: 16,003	HO: credit against prop tx bill Renters: direct pyt	HO: \$662.02 Renters: \$297.03	HO: \$51,735,000 Renters: \$4,753,000
Michigan	1,665,200	state income tax credit or rebate	\$535.29	\$891,365,000
Minnesota	463,000	state refund	\$290	\$134,270,000

Table 15
State Property Tax Relief: Circuit Breaker Programs
(Generally, Laws in Effect for 1994)

State	Number of Beneficiaries	Form of Relief	Average Benefit	Aggregate Benefit/a/
Missouri	68,600	state income tax credit or rebate	\$263.69	\$18,089,000
Montana	19,70	income tax credit	\$265.62	\$5,065,000
Nevada	12,550	state rebate	\$210	\$2,636,000
New Jersey	1,447,191	state rebate of local prop tax pd	\$214	\$309,699,000
New Mexico	25,663	state income tax rebate	\$157.05	\$4,030,000
New York	449,718	state income tax rebate or credit	\$96	\$43,173,000
North Dakota	HO: 6,576 Renters: 1,561	HO: reduction of tax bill; Renters: state rebate	HO: \$332.23 Renters: \$106.68	HO: \$2,184,000 Renters: \$166,000
Ohio	263,973	Reduction of tax bill	\$201.74	\$53,254,000
Oklahoma	3,387	state income tax credit or rebate	\$117.45	\$398,000
Oregon	9,216	state rebate	\$540.00	\$4,977,000
Pennsylvania	417,115	state rebate	\$262.88	\$109,651,000
Rhode Island	3,836	state income tax credit or direct rebate	\$170.28	\$653,000
South Dakota	7,580	state rebate	\$175.69	\$1,332,000
Tennessee	78,342	state rebate	\$89.68	\$7,026,000
Utah	n/a	state rebate	n/a	n/a
Vermont	47,046	state rebate (or income tax credit for elderly)	\$514.95	\$24,226,000
Washington	See note /b/			
West Virginia	n/a	state rebate	n/a	n/a

Table 15
State Property Tax Relief: Circuit Breaker Programs
(Generally, Laws in Effect for 1994)

State	Number of Beneficiaries	Form of Relief	Average Benefit	Aggregate Benefit/a/
Wisconsin	238,848	state income tax credit or rebate	\$458	\$109,392,000
Wyoming	9,181	state refund	\$521	\$4,783,000

NOTES:

/a/ Aggregate benefits assume that 100 percent of eligible households participate (except for Hawaii).

/b/ Washington uses a cross between a circuit breaker and a homestead exemption, which allows senior citizens and disabled homeowners with incomes less than \$15,000 to receive a valuation exemption of \$34,000 or 50%, whichever is more. Taxpayers with incomes between \$15,000 and \$18,000 receive an exemption of \$30,000 or 30% of total value of residence up to a maximum of \$50,000 exempted. All special excess property tax levies are exempted for households with less than \$28,000 income.

n/a Means "not available."

HO Means "homeowner."

State Tax Credits

In contrast to the Earned Income Tax Credit offered by the federal government (and some states), some states provide a range of tax credits directed toward low-income households (or particular expenses incurred by these households). It is impossible to generalize about these tax credits. However, in 1995, some form of low-income credit was used in 16 states. According to the Center for Budget and Policy Priorities, in some cases, these credits are based on a percentage of income. In other states, low-income credits take the form of a fixed dollar amount based on income.^{\109\} Some credits involve cash payments as discussed below. Others involve changes in the definition of taxable income.^{\110\}

One illustration of a tax credit involving cash payments is discussed below. For purposes here, it should be considered illustrative only. The Colorado program has an income element to its eligibility criteria. It is further limited by other factors such as age and disability status.

The Colorado Property Tax Credit (PTC) Program

One of Colorado's major public benefit programs that has a "heating" component to it is the program providing a property tax/rent/heat rebate on Colorado income taxes. In tax year 1994, this program, commonly referred to as the "PTC" program,^{\111\} was available to any Colorado resident who was:

- o at least 65 years old, or^{\112\}

^{\109\} Carol Cohen and Richard May, *State Income Tax Burdens on Low-Income Families and Opportunities for Relief*, Center on Budget and Policy Priorities (June 1995).

^{\110\} In the 1994 legislative session, for example, Michigan increased the exclusion for pension income from \$7,500 to \$30,000 for single filers (\$60,000 for joint filings) and created a new \$1,000 exclusion (\$2,000) for interest and dividend income. According to the National Conference of State Legislatures, 1994 saw Georgia, Minnesota and Virginia also increasing the amount of income that older taxpayers could earn tax-free.

^{\111\} The "PTC" refers to Property Tax Credit program.

^{\112\} For married couples, only one partner need be age 65 or older to qualify.

- o a surviving spouse at least 58 years old, or
- o a person who was disabled for the entire tax year, regardless of age.^{\113\}

In addition to these eligibility criteria,^{\114\} Colorado residents must meet income criteria to qualify for the PTC. A single person must have income less than \$7,500 for the year while a married couple must have income of less than \$11,200.^{\115\} In addition, no person may claim the credit if they were claimed as a dependent on the state or federal tax returns of another person.^{\116\}

Through the PTC program, a person may receive a credit on their property tax or rent up to a maximum of \$500. In addition, a person may receive a credit for their heating bills "actually paid" up to a maximum of \$160.^{\117\} The actual benefit is based on a formula. The full maximum credit is received by a single person with an income of up to \$5,000 or by a married couple with a joint income of up to \$8,700. If households have an income over these amounts, the rental/property tax credit is reduced by 20 percent of each dollar of income over the limit; the heating credit is reduced by 6.4 percent (6.4%) for each dollar over the limit.

A household must apply for the PTC credit. Households have two years to apply for the credit available in any given tax year. Thus, for example, the 1994 rebate may be claimed up to or on December 31, 1996. The 1993 rebate may still be claimed up to or on December 31, 1995.

Expanding the Local Tax Relief Program

^{\113\} A person is "disabled" if they are "unable to engage in any substantial gainful activity for medical reasons." In addition, the person must have received disability benefits from a bona fide public or private plan based solely on such disability.

^{\114\} Thus, for example, an AFDC recipient does not qualify for the rebate unless he or she also meets the age or disability requirements.

^{\115\} The income eligibility guidelines were established by statute when the law was first enacted in 1987. *See*, C.R.S.A., §§ 39-31-101(3)(b) and 39-31-104(3)(b) (1995).

^{\116\} For example, a disabled child who is claimed as a dependent does not qualify for the credit.

^{\117\} If heating is paid as a part of rent, it is assumed that 10 percent of the rent is for heat.

One way to expand the dollars available for low-income energy assistance in Colorado is simply to preserve the purchasing power, and income eligibility limits, for the PTC program --or similar programs in other states-- at their original constant dollar level. The purpose behind such an effort is to maintain the benefits at the same effective level as when the program was adopted. Moreover, the purpose is to maintain the eligible population at the same effective level as well.

PTC Benefit Levels: The PTC was created in 1987, and provided for a \$160 energy credit in 1987 dollars. In 1987, that \$160 tax credit would have purchased substantially more energy than the same \$160 would have purchased by 1994. Indeed, by 1994, the purchasing power of the tax credit would have fallen to only \$123. Due to this decreased purchasing power, and increased prices in energy, the PTC home heating credit had lost much of its effectiveness in the roughly ten years since its enactment. If the PTC credit for home heating costs were indexed to the increase in the cost of living in Colorado, by 1995, the \$160 heating credit would have been \$208.

It is possible to calculate the incremental cost of increasing only this portion of the PTC credit (while leaving the property tax and rental credits constant). In the most recent year for which data is available, recipients of the PTC credit received \$352 of the potential maximum \$660 credit (53.3 percent).^{\118\} Applying this same ratio to a new maximum benefit of \$708 (\$500 property tax credit plus \$208 heating credit) and then multiplying times the most recent participation figure (31,864 households) yields a total credit that would have been granted of \$12,031,846. This compares to the total granted of \$11,257,773 in 1994. As can be seen, therefore, indexing the PTC heating credit to inflation over the eight years since its inception (1987 through 1994) would have increased the heating benefits by roughly \$800,000 per year by 1994.

Eligibility Criteria: It is more difficult to create an index for the income side of the PTC equation. Increases in the cost of living need bear no particular relationship to increases in income for Colorado's low-income population. Nonetheless, it is clear that the eligibility income of \$5000 for an individual and \$8700 for a married household is worth much less in 1995 than it was in 1987. In 1987, a single person household with an income of \$5000 would have been living at 91 percent of the federal Poverty Level. A two person household with income of \$8,700 would have been living at 120 percent of Poverty.^{\119\} By 1994, however, those households would have been at 68 percent and 88 percent of Poverty respectively.

^{\118\} Note that not all persons qualify for the maximum credit. As income increases over the level at which the maximum credit is provided, the amount of the credit decreases.

^{\119\} The latter income guideline, however, is, in fact, for households with two *or more* persons.

In an effort to maintain a constant eligibility ceiling for the PTC program, rather than indexing the eligibility levels to the cost of living, it would be more reasonable to index these ceilings to increases in the federal Poverty Level. The federal Poverty Level is adjusted on an annual basis. Moreover, it at least purports to create some objective measure of what income means a household is "poor" in the United States. If Colorado had indexed its PTC eligibility ceiling income levels to the federal Poverty Level in 1987, the eligibility ceilings would have been \$6,750 for a single individual and \$11,750 for married households by 1994.

It is necessary to emphasize that to undertake both tasks --(1) to increase the eligibility level, and (2) to increase the benefit level-- is *not* to double count the need. Rather, on the one hand, to increase the eligibility without increasing benefits would mean that inadequate benefits are being provided to roughly the 1987 equivalent population. On the other hand, to increase the benefit levels without increasing the eligibility would mean that roughly equivalent benefits are being provided to a decreasing population base. Both actions are necessary simply to keep the PTC delivering the same level of benefits it was intended to deliver to the same population it was intended to serve at the time it was originally adopted.

SALES TAX RELIEF

One mechanism for lowering the burden which energy bills impose on low-income households is to remove state sales tax exactions for income-eligible households. In truth, imposition of a sales tax on low-income purchases of electricity, natural gas, and "other" fuels (including, for example, fuel oil, propane, LPG, and the like) serves only to exacerbate the payment troubles of a state's lowest income households. On a \$1000 annual home energy burden, a six percent (6%) sales tax effectively places the state government in the position of charging a 13th month in utility bills. A six percent sales tax on an annual \$1000 bill would add \$60 to the low-income annual energy burden, (compared to an average monthly bill of only \$80 in the first place). Viewed from a different perspective, a six percent sales tax on an annual \$1000 home energy bill would effectively divert roughly 30 percent of an average \$200 LIHEAP benefit to the state general fund rather than leaving it with the household who it is intended to benefit.

Exemptions can partially relieve the sales tax burden for the poor. According to a 1994 study by the Federation of Tax Administrators (FTA), using 1992 survey results, all states but Alaska, Delaware, Montana, New Hampshire and Oregon impose sales taxes.^{\120\} As might be expected, trying to simply explain the myriad of sales taxes, and the accompanying exemptions, is confused and confusing. Residential home energy is subject to sales taxation in many states. Residential electricity is subject to a sales tax in 23 states, residential natural gas subject to a sales tax in 23 states, and other home heating fuels subject to a sales tax in 24 states. It is necessary to beware the similarities in numbers, however. It is a *different* 23 states who tax residential electric usage than who tax residential natural gas usage.^{\121\} And simply because a state may impose a sales tax on *all* home energy does not mean that the sales tax rate is the same for all fuels.^{\122\}

^{\120\} Even this is somewhat misleading, however. While Alaska does not have a state sales tax, local sales taxes are common. New Hampshire does not have a "sales tax," but has a separate utilities tax. Oregon imposes a gross earnings tax on revenue from distribution and transmission lines. Montana imposes a separate utility tax. Delaware does not have a sales tax, but imposes a statewide gross receipts tax.

^{\121\} According to the Federation of Tax Administrators, for example, Hawaii imposes a sales tax on electricity, but not natural gas. North Dakota taxes natural gas, but not electricity.

^{\122\} For example, North Carolina imposes a sales tax of three percent on electricity and natural gas, but four percent on all other home energy sources. West Virginia imposes a sales tax of four percent on electricity, 4.29 percent on natural gas, and five percent on all other home energy sources. Illinois imposes a sales tax of 6.25 percent on "other" (non-electric/non-natural gas) home energy; however, while it exempts natural gas and electricity from its sales tax, the state imposes a gross receipts (or usage based) charge on a per kWh or per therm basis.

A summary of the applicable "sales" taxes imposed by the various states on residential electricity, natural gas^{\123\} or "other" home energy source is presented in Table 16 below.^{\124\}

Some states which do which do not categorically exempt utility bills from sales taxes nonetheless provide some fuel assistance by exempting households from the payment of sales tax on *portions* of their home energy purchases. Arkansas, for example, explicitly exempts the first 500 kWh of usage for households with incomes of at or below \$12,000. Maine exempts the first 750 kWh of consumption for all residential customers. Wisconsin and Minnesota exempt natural gas and electricity consumption from sales taxes during the winter months of November through April.

Table 17 below sets forth the states which impose a sales tax on home energy bills (excepting Arkansas which already has enacted a low-income exemption). The Table sets forth the savings if LIHEAP recipients were exempted from the sales tax on home energy.^{\125\} As can be seen, the additional funds made available to these households would range from \$320,000 in Wyoming to more than \$15 million in Illinois and more than \$17 million in Michigan.

^{\123\} Natural gas means piped natural gas provided by a public utility.

^{\124\} For a detailed description of the sales tax imposed on various services, including residential energy (electricity, natural gas, and "other" fuels), readers are encouraged to refer to Federation of Tax Administrators, *Sales Taxation of Services: An Update*, FTA Research Report 143 (April 1994). For the most part, "sales tax" has been defined to include taxes such as gross receipts taxes and the like. A clearer definition of precisely the type of tax imposed is set forth at this reference.

^{\125\} Because the sales tax data was from 1992, the number of LIHEAP recipients is reported for the 1992 - 1993 program year.

Table 16
Sales Tax Rates and Exemptions for Residential Electricity, Natural Gas and "Other" Home Energy Uses

State	Basic Sales Tax Rate (%)	Electricity	Natural Gas	Other Home Energy
Alabama	4%	4%	4%	4%
Alaska	0%	0%	0%	0%
Arizona	5%	5%	5%	5%
Arkansas	4.5%	4.5%	4.5%	4.5%
California	6%	E	E	6%
Colorado	3%	E	E	E
Connecticut	6%	E	E	E
Delaware	0.4%	E	E	0.4%
District of Columbia	6%	T	T	6%
Florida	6%	E	E	E
Georgia	4%	4%	4%	4%
Hawaii	4%	4%	E	4%
Idaho	5%	E	E	E
Illinois	6.25%	5%	5%	6.25%
Indiana	5%	E	E	E
Iowa	5%	5%	5%	5%
Kansas	4.9%	4.9%	4.9%	4.9%

Table 16
Sales Tax Rates and Exemptions for Residential Electricity, Natural Gas and "Other" Home Energy Uses

State	Basic Sales Tax Rate (%)	Electricity	Natural Gas	Other Home Energy
Louisiana	4%	3%	3%	4%
Maine	6%	6%	6%	6%
Maryland	5%	5%	5%	5%
Massachusetts	5%	5%	5%	5%
Michigan	4%	4%	4%	4%
Minnesota	6.5%	6.5%	6.5%	6.5%
Mississippi	7%	1.5%	1.5%	1.5%
Missouri	4.225%	4.225%	4.225%	4.225%
Montana	0%	.28%	.28%	E
Nebraska	5%	5%	5%	5%
Nevada	6.5%	E	E	E
New Hampshire	0%	0%	1%	0%
New Jersey	6%	E	E	E
New Mexico	5%	5%	5%	5%
New York	4%	E	E	E
North Carolina	4%	3%	3%	4%
North Dakota	5%	E	5%	E
Ohio	5%	E	E	5%

Table 16
Sales Tax Rates and Exemptions for Residential Electricity, Natural Gas and "Other" Home Energy Uses

State	Basic Sales Tax Rate (%)	Electricity	Natural Gas	Other Home Energy
Oklahoma	4.5%	E	E	E
Oregon	0%	E	E	E
Pennsylvania	6%	E	E	E
Rhode Island	7%	E	E	E
South Carolina	5%	E	E	E
South Dakota	4%	4%	4%	4%
Tennessee	6%	E	E	E
Texas	6.25%	E	E	6.25%
Utah	5%	2%	2%	2%
Vermont	5%	E	E	E
Virginia	4.5%	E	E	E
Washington	6.5%	3.873%	3.852%	6.5%
West Virginia	6%	4%	4.29%	5%
Wisconsin	5%	5%	5%	E
Wyoming	3%	3%	3%	3%
NOTES:				
Alabama:	Exempt from sales tax. Separate utility tax applies.			
Arkansas:	First 500 kWh of customers with income less than \$12,000 exempt.			
Delaware:	No sales tax. Gross receipts tax. "Other" fuels used for cooking/heating exempt.			

Table 16
Sales Tax Rates and Exemptions for Residential Electricity, Natural Gas and "Other" Home Energy Uses

State	Basic Sales Tax Rate (%)	Electricity	Natural Gas	Other Home Energy
Arizona:	Three counties also impose local tax of 10 percent of state sales tax.			
D.C.	Residential customers: no sales tax but gross receipt tax of 9.7%. Heating oil subject to sales tax.			
Illinois:	Electricity and natural gas exempt from sales tax. Gross receipts or usage charge imposed.			
Kansas:	Electricity, natural gas, "other" fuels exempt from state taxes. Local sales taxes apply.			
Louisiana:	"Other" fuels exempt, but defined to include only butane, propane, and LPG.			
Maine:	First 750 kWh residential usage exempt.			
Minnesota:	Natural gas or electricity used for primary heating exempt for billing months November through April. Fuel oil, coal, propane, LPG used for heating exempt.			
New Hampshire:	No sales tax on natural gas but a separate utilities tax: one percent of gross in-state receipts.			
New York:	Natural gas, electricity and "other" fuels subject to some local taxes.			
North Carolina:	Electricity and natural gas not subject to local taxes.			
Oklahoma:	Natural gas, electricity, and "other" fuels exempt from state. Local taxes still apply.			
Oregon:	Electricity subject to gross earnings tax of four percent on gross revenue from use of distribution and transmission lines minus cost of power.			
South Carolina:	Electricity used for residential heating exempt.			
Texas:	Local governments may impose tax.			
Vermont:	"Domestic use" exempt for electricity, natural gas, and "other" fuels.			
Washington:	Electricity and natural gas exempt from sales tax. Separate utilities tax applies.			
West Virginia:	Electricity and natural gas subject to separate business and occupation tax.			
Wisconsin:	Electricity and natural gas residential usage exempt from November through April.			

Table 17
Average Per Household and Aggregate Savings if Low-Income Households Exempt from State Sales Tax

State	Per Household Savings			Aggregate Statewide Savings	
	Sales Tax	Average Annual Bill	Savings	Number of LIHEAP Recipients (FY 1993)	Potential Aggregate Savings
Alabama	4%	\$968	\$39	37,349	\$1,456,611
Arizona	5%	\$1165	\$58	26,520	\$1,538,160
D.C.	9.7%	\$794	\$77	15,098	\$1,162,546
Georgia	4%	\$1143	\$46	60,191	\$2,768,786
Illinois	5%	\$1279	\$64	238,573	\$15,268,672
Iowa	5%	\$1068	\$53	72,248	\$3,829,144
Kansas	4.9%	\$968	\$47	30,350	\$1,426,450
Kentucky	6%	\$834	\$50	126,820	\$6,341,000
Louisiana	3%	\$1008	\$30	41,531	\$1,245,930
Maine /a/	6%	\$1236	\$74	55,516	\$4,108,184
Maryland	5%	\$1133	\$57	89,462	\$5,099,334
Massachusetts	5%	\$1248	\$62	143,636	\$8,905,432
Michigan	4%	\$1149	\$46	377,893	\$17,383,078
Minnesota /b/	6.5%	\$949	\$62	09,412	\$583,544
Mississippi	1.5%	\$924	\$14	28,688	\$401,632
Missouri	4.225%	\$1023	\$43	128,550	\$5,527,650
Nebraska	5%	\$930	\$47	31,322	\$1,472,134
New Mexico	5%	\$874	\$44	62,667	\$2,757,348

Table 17
Average Per Household and Aggregate Savings if Low-Income Households Exempt from State Sales Tax

State	Per Household Savings			Aggregate Statewide Savings	
	Sales Tax	Average Annual Bill	Savings	Number of LIHEAP Recipients (FY 1993)	Potential Aggregate Savings
North Carolina	3%	\$1190	\$36	193,469	\$6,964,884
South Dakota	4%	\$998	\$40	19,016	\$760,640
Utah	2%	\$956	\$19	36,868	\$700,492
Washington	3.86%	\$649	\$25	64,186	\$1,604,650
West Virginia	4.29%	\$953	\$41	53,611	\$2,198,051
Wisconsin /c/	5%	\$1094	\$55	126,892	\$6,979,060
Wyoming	3%	\$922	\$28	11,435	\$320,180

NOTES:

/a/ The savings is somewhat overstated for Maine since Maine exempts the first 750 kWh of residential use from taxation.

/b/ The savings is somewhat overstated for Minnesota since Minnesota exempts natural gas and electricity used for home heating from taxation from November through April. In addition, Minnesota exempts fuel oil, coal, propane, LPG used for heating from taxation.

/c/ The savings is somewhat overstated for Wisconsin since Wisconsin exempts natural gas and electricity used for home heating from taxation from November through April.

One alternative to a sales tax exemption is a tax credit. According to the National Conference of State Legislatures (NCSL), seven states -- Hawaii, Idaho, Kansas, New Mexico, South Dakota, Vermont and Wyoming-- currently use tax credits rather than exemptions to provide relief for low-income households from the payment of sales tax on items such as food and other household necessities.¹²⁶⁾ As NCSL notes, however:

. . .it is true that tax credits may be less effective in providing relief to the target groups than exemptions since there is a lag between payment of the sales tax and receipt of the credit. An exemption provides relief at the time of purchase. In addition, tax credits tend to be more difficult for taxpayers to understand, and the need to file some form of tax return or claim may reduce participation in the program.¹²⁷⁾

LEVERAGING FEDERAL FUNDS

As federal funding for the LIHEAP program decreases, advocates for low-income fuel assistance should avail themselves of other *federal* money potentially available for energy assistance. One possible funding source is the federal share of costs for the Aid to Families with Dependent Children (AFDC) program.

Emergency Assistance and Special Needs

Under Title IV-A of the Social Security Act, federal funds are made available to the states for needy families with dependent children. Assistance payments cover Basic Needs and, in some states, specifically defined Special Needs, which may include energy needs. In addition to these regular AFDC payments, states may elect to provide Emergency Assistance payments, which may cover energy crises. The Emergency Assistance Program (EA)¹²⁸⁾ is a major source of supplemental funds available to assist families facing an energy crisis. State use of the Emergency Assistance program for energy crises has the distinct advantage of leveraging state funds, and is particularly attractive in light of the possibility of bringing in private money to use as the state match.

¹²⁶⁾ Ronald Snell (ed.), *Financing State Government in the 1990s*, at 75 (December 1993).

¹²⁷⁾ *Id.*, citing Steven Gold, "Simplifying the Sales Tax: Credits or Exemptions?" in William F. Fox (ed.), *Sales Taxation: Critical Issues in Policy and Administration*, at 157 - 168.

¹²⁸⁾ 42 *U.S.C.* §§ 601, 603(a)(5), 606(e) (1983 and 1990 Supp.)

EA is an optional program within the Aid to Families with Dependent Children (AFDC) program under which the federal government provides the states with matching funds for short term help to AFDC and other needy families with children unable to meet emergency expenses. The EA program allows expenditures of funds for needy families with children (whether or not eligible for AFDC) if the assistance is necessary to avoid the destitution of the child or to provide living arrangements in a home for the child. The statute authorizes 50 percent federal matching for emergency assistance furnished for a period not to exceed 30 days in any 12-month period.. The regulations state that federal matching is available for emergency assistance authorized by the state during one period of 30 consecutive days in any 12 consecutive months. The types of emergencies covered by EA are matters of local discretion. Utility emergencies, however, are prominently mentioned in the statute's legislative history.^{129\}

In addition, some states currently define the need for energy assistance as a Special Need. AFDC regulations allow states to include in their state standards of need provision for meeting "special needs" of AFDC applicants. The state plan must specify the circumstances under which payments will be made for special needs.

Title IV-A Funds for Emergencies and Special Needs

The discussion below highlights how some states have creatively used these provisions to generate additional energy assistance for their low-income population, or to stretch the energy assistance available through LIHEAP. Particular innovations have occurred in Pennsylvania and Wisconsin. Michigan's Positive Billing program also is an initiative funded through Title IV-A.

Pennsylvania: Pennsylvania has for several years used Title IV-A funds to provide special needs allowances for households receiving benefits under the Aid to Families with Dependent Children (AFDC) program. This separate AFDC-funded energy program is operated concurrently with the LIHEAP program, and frees LIHEAP program funds that would have ordinarily been granted to these Title IV-A eligible households for use by other households eligible for LIHEAP benefits. According to Pennsylvania LIHEAP officials, the Title IV-A program provides \$55 in Federal funds to match approximately \$45 in State funds for the special needs allowance.

In addition, through FY 1994, Pennsylvania provided state funds to match Title IV-A energy emergency grants. Under this program, AFDC-

^{129\} See e.g., S.Rep. No. 744, 90th Cong., 1st Sess. (1967), as reprinted in the 1967 *U.S. Code and Congressional and Administrative News*, at 3002, and H.Rep. No. 544, 90th Cong., 1st Sess. (1967), at 109.

eligible households (with children) received an emergency crisis grant in lieu of the LIHEAP crisis grant, thus again freeing up LIHEAP funds to serve additional households. In FY 1995, however, the use of these energy emergency grants was discontinued because of the lower federal match. In addition, according to Pennsylvania LIHEAP officials, it ensures that those persons who need a subsequent Emergency Assistance grant for shelter will not be denied due to the federal Title IV-A regulations which mandate that Emergency Assistance payments may be authorized only during one 30-day period in any 12 consecutive months.

The amounts leveraged through Title IV-A in Pennsylvania were substantial. A computer-generated report for the state LIHEAP office showed \$10,084,125 provided in cash grants through Title IV-A for FY 1995. In FY 1995, the LIHEAP agency said, roughly 13 percent of the LIHEAP population was Title IV-A. The final figures for FY 1994 showed \$10,150,067 in Title IV-A funds provided for cash grants. In addition, \$1,670,752 was provided in crisis grants through the program subsequently discontinued. Oil overcharge funds are used for the state match in Pennsylvania. It is not clear what, if anything, will be done by the state when those matching funds are exhausted.

While Pennsylvania's use of LIHEAP and Title IV-A funds was "invisible" to the household, the source of funds for the household is not entirely without significance. Under the AFDC program, a household has the choice of whether to receive the benefit as a direct cash grant or whether to send it to the vendor. According to state LIHEAP officials, only two percent choose to keep the grant for themselves.

Wisconsin: The Wisconsin approach to Title IV-A begins to address the issue of what to do when oil overcharge funds are not available. Wisconsin continues to develop a proposal under which utilities in Wisconsin --or at least the large investor-owned "class A" utilities-- will provide a grant to the Wisconsin Department of Health and Social Services for an expanded emergency furnace assistance program and crisis assistance program. These funds will be used for households where children are at risk because of an inoperable or unsafe furnace or because children are threatened with loss of heat due to the actual or pending disconnection of a utility service because of unpaid arrearages owed on a utility bill. The state will use the funds provided by utilities to:

- o expand emergency repair and replacement of furnaces; and
- o avoid disconnection of utility service because of non-payment of arrearages by establishing affordable payment plans and paying for arrearages for households which effectively participate in a payment plan.

The state's distribution of funds will be part of the AFDC Emergency Assistance Plan.

Under the proposed Wisconsin program, utilities will contribute funds to the state General Fund for use in the LIHEAP program. The funds provided by the utilities will be unrestricted and available to the state to determine their use. The state has made a decision to utilize these funds in the AFDC Crisis Assistance Program to better meet the needs of AFDC families as defined under the state's existing AFDC emergency assistance program. According to Wisconsin LIHEAP officials, in Wisconsin, AFDC Emergency funds have been used in conjunction with LIHEAP crisis funds for home heating emergencies under the AFDC plan for many years.

The Wisconsin program was developed after the Wisconsin Department of Economic Support approached the Wisconsin Utilities Association with a proposal for a public/private partnership to meet the crisis energy needs of families under Wisconsin's AFDC Emergency Assistance Plan. After prolonged discussions, the state reached an agreement under which the utilities will provide start-up funds for the project and continue to make funds available on a quarterly basis to reduce customer arrears. The state agreed to match utility funding dollar for dollar up to \$500 per household per year with AFDC - Emergency Fund money.

The provision of a utility grant to the state was to meet the concerns of the federal Administration for Children and Families (ACF) that federal Title IV-A matching funds be provided by the state. ACF had expressed concerns with an earlier proposal where the funds were provided directly by the utilities rather than the utility funds being contributed to the state and the state paying benefits and then reporting the payments for federal match.

It is anticipated that the Wisconsin program will see its first year of operation during the 1995 - 1996 Fiscal Year.

Michigan: The direct vendor payment of certain AFDC payments is one means by which states may expand total fuel assistance dollars. Michigan's Positive Billing Program is one such program tied into AFDC benefits. Since the program was implemented in Michigan, however, it has undergone major changes over the years. According to state LIHEAP officials, utilities have become stricter in their requirements for Positive Billing participants.

Under Positive Billing, the state AFDC office agrees to provide a direct vendor payment to utilities out of a household's AFDC benefit. The size of the payment can fall within a certain range: from five to seven percent for electric; from 11 to 15 percent for heating. The precise part of the AFDC check which is vendored depends upon the annual usage of the client. If the household has higher usage, the vendor payment is placed at the higher end of the range. If the household has lower usage, the payment is placed at the lower end. Even though AFDC is a flat grant in Michigan, the direct vendor portion is based on the amount of the flat AFDC grant which is *assumed* to be provided for energy services.

After a client is enrolled in the program, the utility then directly bills the Department for the client's energy usage. The Department pays those bills out of two fund sources. The first source is the withheld portion of the AFDC payment. If that payment is insufficient to cover the bill, the Department then pays an amount up to the maximum crisis assistance payment. In exchange for the direct vendor payment, the participating client is provided protection against termination of service for nonpayment of bills, even if the payment received from the state is insufficient to cover the entire utility bill. Utilities, however, have the right to refuse a household's participation in Positive Billing if the household consumption is too high.

The Positive Billing Program also involves an arrearage vendoring from the AFDC payment. A payment of 2.5 percent of the client's AFDC payment standard may be required for electric non-heating customers; while a payment of five percent of the client's payment standard may be required for all electric customers. Service to a client may not be terminated so long as the client remains active in the program.

SUMMARY AND CONCLUSIONS

Creative uses of public assistance can serve to increase the "energy assistance" available to low-income households as much as generating new LIHEAP dollars. One aspect of such an initiative involves simply ensuring that households are receiving the benefits to which they are entitled. Involving utilities in promoting the federal Earned Income Tax Credit (EITC) is one such effort. Some *states*, too, have state counterparts to the federal EITC; those that do not may wish to consider a state EITC, since it reaches a population that is particularly vulnerable to being ineligible for public assistance even though being unable to meet basic household expenses. Along the same lines as promoting EITC participation, energy advocates may seek to ensure that eligible households --these involve another particularly vulnerable class: the elderly--enroll in the programs providing the property tax relief to which they are entitled. These property tax credit programs, often referred to as "circuit breaker" programs, can provide hundreds of dollars of cash assistance each year.

Other state tax credit programs are available as well, such as the Colorado "PTC" program. Low-income energy advocates should not only encourage households to apply for these credits, but should encourage state policymakers to ensure that the eligibility guidelines and benefit levels remain appropriate in terms of constant dollars. A program of state tax relief that is not common, but is not unheard of, is the provision of sales tax relief. One state provides sales tax relief to low-income customers, while two other states provide sales tax relief on home heating fuels during the winter heating months.

Finally, creative programs developing private matching dollars to leverage federal aid for families with children have been developed in a variety of states and deserve emulation.

ENERGY ASSISTANCE IN PUBLICLY ASSISTED HOUSING

Individuals and institutions interested in the affordability of low-income home energy bills should become more involved with the establishment of utility allowances in assisted housing as one means to generate funds to help pay low-income utility bills. Under federal law, a low-income household who lives in Section 8 housing, and who purchases her own utility service, is entitled to a "utility allowance" that reduces the household's total shelter costs to no more than 30 percent of income.^{\130\} The U.S. Department of Housing and Urban Development (HUD) has defined shelter costs to include both contract rental payments^{\131\} and charges for home utilities, including heating, electricity and water/sewer service.^{\132\}

Section 8 tenants can represent a significant portion of a utility's low-income population. According to a 1991 GAO study, there were 1.3

^{\130\} 24 *C.F.R.* §813.107 (1992).

^{\131\} "Contract rent" is defined to include "the total amount of rent specified in the Housing Assistance Payments (HAP) contract as payable to the owner by the Family, and by HUD or the PHA on the Family's behalf." 24 *C.F.R.* §813.102 (1992).

^{\132\} 24 *C.F.R.* §813.102 (1992) ("utility allowance" includes the "cost of utilities (other than telephone).")

million Section 8 tenants in the United States in Fiscal Year 1991 (FY 91), 80 percent (1.04 million households) of whom paid their own utility bills.^{\133\} In FY 91, the federal government provided \$800 million in utility allowances nationwide.^{\134\} As can be seen, therefore, while the number of households receiving such assistance is smaller than the number of households receiving LIHEAP, the amount of money is roughly equal.

SECTION 8 AND UTILITY ALLOWANCES

The purpose of providing affordable housing is served through the provision of rental subsidies and a "utility allowance." Under Section 8, a property owner is permitted to set a rent not to exceed a HUD-determined "fair market rent."^{\135\} A Section 8 utility allowance is provided that varies depending on fuel source, type of housing and the like. The utility allowance, when summed with the rental subsidy, is intended to reduce the shelter costs of program participants to 30 percent of income.

The operation of this 30 percent limit can be shown by example. If a Section 8 household has an annual income of \$4,000, the household will be required to pay no more than 30 percent of that income (\$1200 a year or \$100 a month) toward her shelter costs. The 30 percent limit is "enforced" in two ways. First, limits are set on the contract rent^{\136\} that a landlord may charge for a Section 8 dwelling. The contract rent plus

^{\133\} U.S. General Accounting Office, *Assisted Housing: Utility Allowances Often Fall Short of Actual Utility Expenses (Vol. I)* (March 1991); *Assisted Housing: Utility Allowances Often Fall Short of Actual Utility Expenses (Vol. II)* (March 1991).

^{\134\} Average monthly utility allowances for the 1.04 million households receiving such allowances were \$64, according to GAO. Total utility allowances are thus 1,040,000 households x 12 months x \$64/month = \$798,720,000.

^{\135\} "Section 8 of the United States Housing Act of 1937 (42 U.S.C. 1437f) authorizes a housing assistance program to aid lower income families in renting decent, safe, and sanitary housing. Assistance payments are limited by fair market rents (FMRs) (or payment standards based on FMRs in the Housing Voucher Program) established by HUD for different areas. In general, the FMR for an area is the amount that would be needed to rent privately owned, decent, safe, and sanitary rental housing of a modest (non-luxury) nature with suitable amenities." Section 8(c) of the Act requires the Secretary of HUD to publish FMRs "periodically, but not less frequently than annually, to be effective on October 1 of each year." 56 *Federal Register* 49024-01 (Sept. 26, 1991).

^{\136\} "Contract rent" is a defined term. See, note **Error! Bookmark not defined.**, *supra*.

the utility allowance may not exceed the Fair Market Rent for the region^{\137\} in question. If the shelter costs *do* exceed the Fair Market Rent, the property is not eligible to be certified by HUD as a Section 8 unit. If, in other words, given a Fair Market Rent of \$500, and an \$85 utility bill, if the landlord seeks a rent of \$430 (thus making total shelter costs \$515), the landlord may not participate in Section 8.^{\138\}

Second, the household is, at least presumably, held harmless against all utility bills (except telephones). Each local Public Housing Authority (PHA) is directed to develop a utility allowance such that the sum of the Section 8 tenant's uncovered utility bill and contract rent will be no more than the 30 percent limit. In fact, however, under Section 8, the rental subsidy *plus* the utility allowance are paid entirely to the landlord. According to the General Accounting Office:

Utilities are individually metered when utility consumption is measured for each housing unit and the assisted household pays its bill directly to the utility company. Here, a utility allowance is provided as a reduction in the amount that the household would pay to equal 30 percent of adjusted income. For example, if 30 percent of a household's income is \$250 per month and the allowance for reasonable utility costs is \$100 per month, then the household pays the PHA or the Section 8 landlord \$150 per month for shelter cost and retains the \$100 to pay utility costs.^{\139\}

As can thus be seen, notwithstanding the utility allowance, the tenant is then merely *assumed* to devote her \$100 payment in this case to her utility payment. Moreover, the actual utility bills are merely assumed to be no more than the \$100 utility allowance.

^{\137\} A region may be an urban area or a non-urban county.

^{\138\} HUD regulations regarding its "existing housing" program define "fair market rent" as: "The rent, including utilities (except telephone), ranges and refrigerators, and all maintenance, management, and other services, which would be required to be paid in order to obtain privately owned, exiting, decent, safe, and sanitary rental housing of modest (non-luxury) nature with suitable amenities." 24 *C.F.R.* §882.102 (1992). HUD regulations for "new construction" provide, pursuant to a definition of fair market rent, that "the contract rent plus any utility allowance for the unit must not exceed the Fair Market Rent in effect at the time of processing." 24 *C.F.R.* §880.204 (1992).

^{\139\} *GAO*, *supra* note **Error! Bookmark not defined.**, at 12.

ANNUAL UTILITY ALLOWANCES

Persons interested in improving the affordability of low-income home energy bills should consider the impacts they might have by addressing the problems associated with *annual* Section 8 utility allowances. These allowances often fall short of where they should be set, both substantively and legally.

Inadequacy of Annual Section 8 Utility Allowances

The utility allowances provided to Section 8 households fall seriously short of covering actual Section 8 utility bills, according to a recent study by the U.S. General Accounting Office (GAO). The households hardest hit, GAO found, involve those "households with the lowest incomes and the largest disparity between the allowance and their utility expenses* * *."^{140\} The GAO has documented the prevalent nature of the mismatch between utility allowances and actual utility costs. According to GAO:

For Section 8 households, rent burdens averaged about 36 percent of adjusted monthly income--notably different than the statutory amount. * * *[A]bout 70 percent of the Section 8 households paid more than 30 percent of their adjusted income for rent and utilities. Even more striking, 32 percent of the Section 8 households had rent burdens exceeding 40 percent of adjusted income.

On average, those Section 8 households that exceeded 30 percent of adjusted income paid about \$43 more in utility expenses than they received in allowances. The total monthly income of the Section 8 households in our review averaged \$544 (plus/minus \$24). After paying \$165 per month (36 percent of adjusted income for rent and utility expenses--the average result we obtained), Section 8 households in our review, on average, had about \$379 in disposable income remaining each month to cover other living expenses. Thus, \$43 each month for additional utility expenses represents a sizable portion of the households' disposable income.^{141\}

GAO noted that "invariably, households with very low incomes and high utility allowances risk incurring greater rent burdens than households

^{140\} *Id.*, at 22 - 23.

^{141\} *Id.*, at 24 - 25.

with high incomes and low allowances when expenses exceed allowances. Therefore, a household's allowance takes on a greater or lesser importance in achieving the 30-percent rent burden amount depending on its income and utility expenses."^{142\} As GAO explained:

For example, a hypothetical household has an adjusted monthly income of \$250, a \$10 utility allowance, and a resulting monthly rent (including the utility allowance) of \$75 ($\$250 \times 0.3 = \75). If the household's utility expenses were 50 percent more than the allowance, the rent burden would be 32 percent. However, if this same household received a \$75 allowance and again consumed 50 percent more than the allowance, the rent burden would rise to 45 percent. On the other hand, if the hypothetical household's adjusted monthly income were \$750, with the same allowance and consumption factors as cited above, the rent burden would be 31 percent with a \$10 allowance and 35 percent with a \$75 allowance.^{143\}

Section 8 households tend to be amongst the lowest income households on a utility's system. These households, nationwide, had an average annual income in 1991 of less than \$5,400. For a household size of three, this income placed them at roughly 50 percent of the Federal Poverty Level.^{144\}

Reasons for the Inadequacy of Annual Utility Allowances

Under the Section 8 structure, "utility allowances" are set by the local Public Housing Authority (PHA). A variety of reasons exist regarding why Section 8 utility allowances so often do not cover actual utility costs. First, establishing utility allowances is a difficult and expensive task. While federal regulations "require" the PHA to redetermine utility allowances on an annual basis,^{145\} few PHAs devote either the time or the

^{142\} *Id.*, at 27.

^{143\} *Id.*, at 27 - 28.

^{144\} 100 percent of Poverty for a family of three in 1991 was \$11,140.

^{145\} 24 *C.F.R.* §965.478(a) (1992) ("The PHA shall review at least annually the basis on which Utility Allowances have been established and, if reasonably required in order to continue adherence to the standards stated in §965.476, shall establish revised Allowances. The review shall include all changes in circumstances* * *indicating probability of a significant change in reasonable consumption requirements and changes in utility rates.")

money to doing so.^{\146\}

Second, setting public utility allowances is an inherently imprecise task. The legal standard is to set an allowance, differentiated by "each dwelling unit category and unit size" which amount "*shall* (emphasis added)* * * approximate a reasonable consumption of utilities by an energy conservative household of modest circumstances consistent with the requirements of a safe, sanitary and healthful living environment."^{\147\} Moreover, the federal regulations state, to the extent that a tenant's actual utility consumption exceeds her utility allowance, the amount of excess consumption should be "reasonably within the control of a tenant household."^{\148\} Unfortunately, this legal standard is inherently imprecise. It is difficult to measure what constitutes "reasonable consumption." Nor is it easy to articulate what consumption is "reasonably within the control of a tenant household."

Third, utility allowances compete with "Fair Market Rents" in Section 8 housing. Each year, HUD publishes a determination of "Fair Market Rents" in each urban area and non-urban county. The combination of contract rent plus utility allowances (not actual utility costs) may not exceed this Fair Market Rent. To the extent that utility allowances are kept artificially low, therefore, the portion of the "Fair Market Rent" that can be committed to area landlords is increased.

Of course, to the extent that *actual* utility costs exceed utility allowances, this process of keeping utility allowances low so as to keep contract rents high transfers the risk of utility bills to the low-income tenant who is charged with paying them, adequate allowance or not. Ultimately, therefore, the risk is transferred to the utility who must carry the resulting arrears, write-off the resulting bad debt, and pay the resulting expenses associated with credit and collection activities.

^{\146\} HUD regulations state further: "The PHA may revise its Allowances for Tenant-Purchased Utilities between annual reviews if there is a rate change (including fuel adjustments) and *shall be required to do so* if such change, by itself or together with prior rate changes not adjusted for, results in a *change of 10 percent of more* from the rates on which such Allowances were based. Adjustments to Tenant Rent as a result of such changes shall be retroactive to the first day of the month following the month in which the last rate change taken into account in such revision became effective." 24 *C.F.R.* §965.478(b) (1992). (emphasis added).

^{\147\} 24 *C.F.R.* §965.476(a) (1992).

^{\148\} 24 *C.F.R.* §965.476(a) (1992).

A Proposed Response

One might legitimately ask what low-income energy advocates might do to help rectify this situation. After all, the utility allowance is provided to the *tenant*, not to the utility. The utility may well have no legal "standing" to challenge even the most grossly inadequate Section 8 utility allowance.^{\149\} There are, however, avenues of redress.

Many --perhaps even most-- PHAs lack both the time and the expertise to establish reasonable utility allowances. Moreover, they do not gather the relevant information because no one is "making" them do so. However, while PHAs may arguably have the discretion to *not collect* the data necessary to establish adequate utility allowances, federal regulations do not allow PHAs to *ignore* relevant data that is *presented* to them in usable form. Accordingly, as much relevant data as possible should be presented to the PHA each year regarding actual usage and other relevant factors that go into adequately matching utility allowances to utility bills.

The regulation to consider provides a PHA with discretion only on the "methods" used to arrive at the local utility allowance:

(c) The complexity and elaborateness of the *methods chosen* by the PHA, in its discretion, to achieve the foregoing objective will be dependent upon the data available to the PHA and the extent of the administrative resources reasonably available to the PHA to be devoted to the collection of such data* * *.^{\150\} (emphasis added).

The regulations further state:

(d) In establishing allowances, the PHA *shall take into account* relevant factors affecting consumption requirement[s]* * *.^{\151\} (emphasis added).

^{\149\} For example, HUD regulations provide that a PHA "shall provide all *tenants* an opportunity to submit written comments" prior to the establishment or revision of a utility allowance. 24 *C.F.R.* §976.473(c) (1992). Moreover, the regulations provide that "the PHA shall give notice to all *tenants* of proposed allowances* * *and revisions thereof." *Id.* The absence of language to the effect of "interested parties" may indicate that utilities were not intended to have a right either to receive notice or to provide comment.

^{\150\} 24 *C.F.R.* §965.476(c) (1992).

^{\151\} 24 *C.F.R.* §965.476(d) (1992).

The "relevant factors" explicitly listed by the federal regulations include: the climatic location of the housing projects; the size of the dwelling units and the number of occupants per dwelling unit; the type of construction and design of the housing project; the energy efficiency of the PHA-supplied appliances and equipment; the utility consumption requirements of appliances and equipment "whose reasonable consumption is intended to be covered by the Total Tenant Payment"; the physical condition (including insulation and weatherization) of the housing project; the temperature levels intended to be maintained in the unit during the day and at night, and in cold and warm weather; and the temperature of domestic hot water.^{\152\}

A PHA, for example, would be hard-pressed to *not* use information provided by local utilities. The federal regulations recommend --they do not require-- that certain sources of data for determining "reasonable consumption levels" be used.^{\153\} Those sources include:

^{\152\} 24 *C.F.R.* §976.476(d)(1) - (d)(9) (1992).

^{\153\} 24 *C.F.R.* §965.476(c) (1992).

1. Consumption data on residential use of utilities obtained from utility suppliers or other sources;^{\154\}
2. Engineering calculations based on technical data concerning energy requirements of appliances and equipment and of project and units having particular characteristics;^{\155\}
3. Data concerning energy requirements available from governmental and other sources;^{\156\} and
4. Data obtained from energy audits.^{\157\}

If utilities took the initiative to develop and present data, whether or not the PHAs took the initiative to *solicit* such data, the PHA would be hard-pressed to ignore such presentations.^{\158\} While a utility might legitimately complain that the legal responsibility for establishing a rational utility allowance lies with the PHA, it is uncontrovertible that each dollar of underpayment in utility allowances to Section 8 tenants is likely to be a dollar of underpayment ultimately to the utility, compounded by the additional working capital and credit and collection expenses associated with carrying the resulting arrears of the Section 8 tenants.

Utility-Developed Data

Utilities seem uniquely well-suited to develop and present relevant and reliable information to local Public Housing Authorities, upon which to base Section 8 utility allowances. Such assistance can be helpful on several levels. First, a utility seems uniquely qualified to be able to develop

^{\154\} 24 *C.F.R.* § 965.476(c)(2) (1992).

^{\155\} 24 *C.F.R.* §965.476(c)(3) (1992).

^{\156\} 24 *C.F.R.* §965.476(c)(4) (1992).

^{\157\} 24 *C.F.R.* §965.476(c)(5) (1992).

^{\158\} Nonetheless, HUD regulations state: "Except where a different standard of review is applicable in review procedures governed by applicable State law, the PHA's determinations of Allowances* * *and revisions thereof shall be final and valid as to tenants unless found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 24 *C.F.R.* §965.473(e) (1992).

and document an objective standard by which to measure Section 8 utility allowances against the statutory test that allowances "* * * approximate a reasonable consumption of utilities by an energy conservative household of modest circumstances consistent with the requirements of a safe, sanitary and healthful living environment." A utility should further be able to develop and document an objective standard by which to measure that consumption which, given the range of factors affecting consumption by low-income households, is "reasonably within the control of a tenant household."

In addition, among the information that utilities would seem uniquely well-suited to develop and present to a PHA with regard to utility allowances are:

1. The type, quality and age of housing served by the PHA, along with the energy consumption inherent in this housing;
2. The weatherization and other energy efficiency characteristics of PHA and Section 8 housing, along with the energy consumption inherent with those characteristics;
3. The type, quality and age of appliances, along with the energy consumption inherent in those appliances;
4. The use of supplemental heat sources (such as portable electric heaters), along with the consumption inherent with such use;
5. Engineering estimates of energy usage based on the type and size of dwelling unit, the number of household members, and the like; and
6. Estimations of energy use based on local heating and cooling degree days.

Most importantly, the utilities would seem uniquely qualified to develop estimates regarding the costs and utility bills associated with the different Section 8 dwelling units in their service territory. Finally, utilities are uniquely well-suited to monitor cumulative rate changes that will affect bills charged to Section 8 households. In such a fashion, utilities can help enforce the mandatory obligation of PHAs to update utility allowances when cumulative rate increases have reached 10 percent or more.^{159\}

^{159\} See, note **Error! Bookmark not defined.**, *supra*.

MONTHLY UTILITY ALLOWANCES

The GAO report cited above also should give rise for concern to individuals who might serve Section 8 households because of the inadequacy of *monthly* and *seasonal* utility allowances provided. The GAO report examined how accurately public utility allowances reflected actual utility costs for Section 8 households. According to the GAO report, approximately 70 percent of Section 8 households "had utility expenses that were higher than their allowances* * *Because the deviations were so great for some households, paying utility bills can pose financial hardships* * *."^{160\}

GAO found that even when *annual* utility allowances adequately covered *annual* utility expenses, "because allowances are typically the same each month while utility expenses vary, *month-to-month* rent burden fluctuations can create cash flow problems for lower-income households despite an overall 30 percent rent burden."^{161\} GAO found that within the population of Section 8 households with annual rent burdens equal to 30 percent of income, *monthly* rent burdens varied from 18 percent to 48 percent because of the uneven nature of utility usage throughout the year.

Finally, GAO noted that "month-to-month fluctuations in utility bills can also create payment problems for assisted households, particularly when utilities are individually metered."^{162\} According to GAO:

The difficulty arises because allowances remain the same each month, while utility bills vary. As a result, households have to budget so that they will have sufficient funds to pay utility bills in high consumption months when utility expenses exceed allowance amounts. This budgeting may be difficult for lower-income households because, by definition, they have less income

^{160\} *Id.*, at 3.

^{161\} *Id.*, at 18. (emphasis added). Reaching a 30 percent rent burden is the measure of whether utility allowances accurately cover utility bills. Contract rents (paid to landlords) are, by law, set equal to 30 percent of household income. Hence, if a utility allowance is accurately set, and thus covers the entire utility bill, the utility bill should add no further burden to the household. However, if the household bears a "rent burden" of 35 percent, that means that the excess utility bill over the utility allowance equals five percent of the household's income.

^{162\} *Id.*, at 28.

to pay for living expenses than higher-income households.^{\163\}

GAO reported that notwithstanding the federal law which limits Section 8 shelter costs --including utility bills-- to 30 percent of household income, "approximately 60 percent of these [Section 8] households *never* met the 30-percent amount for any 1 month during our 12-month review period, and fully 93 percent of the households had 3 or fewer months in which the burden equaled 30 percent."^{\164\} Less than one percent of the Section 8 households had rent burdens of 30 percent for 10 or more months of the year.

A Proposed Response

A response to improve the effectiveness of monthly and seasonal utility allowances can involve two different approaches. Under the first approach, the utility makes affirmative efforts to match the utility bill to the level monthly utility allowance. Under the second approach, the utility seeks to convince the Housing Authority that utility allowances which more closely follow utility bills are a reasonable course of action.

Under the first approach, public utilities should extend significant efforts to identify the Section 8 households on their system. Once identified, a utility should encourage these Section 8 households to enter into 12-month levelized Budget Billing plans.^{\165\} In such a fashion, the actual monthly utility bills will more closely match the monthly utility allowances, thus more closely ensuring that the allowance will be used to pay the utility bill it was intended to pay. This single effort can make a tremendous contribution to helping utility bills for Section 8 households remain paid.

The second response would involve utilities providing local Public Housing Authorities with information upon which the PHA could base reasonable variations in monthly utility allowances. Indeed, the companies, themselves, are in a unique position to perform the load studies (or

^{\163\} *Id.*

^{\164\} *Id.*, at 30.

^{\165\} It appears that reform must occur in the behavior of the tenants, rather than in the distribution of the Section 8 utility allowance. Federal regulations provide: "Monthly Allowances *shall be established at a uniform monthly amount* (emphasis added) based on an average monthly utility requirement for a year." 24 *C.F.R.* §976.475(b) (1992). Allowances "may provide for seasonal variations" only in those instances where "the utility supplier does not offer tenants a uniform payment plan." *Id.*

other inquiries) which would support a decision to vary the allowance, and which would provide the empirical analysis to allow a quantification of the precise amounts of variation that should occur.

SUMMARY AND CONCLUSIONS

In sum, Section 8 utility allowances provide public assistance that is on the same level of magnitude nationwide as the LIHEAP program. The adequacy of the allowances provided, as well as the rationality of the distribution scheme, are subject to local control, through local Public Housing Authorities. Persons and agencies who are interested in developing sources of low-income energy assistance would best serve their own interests, as well as the interests of their low-income customers, by seeking to ensure local decisions are made to ensure that these allowances are (1) established at adequate levels, and (2) distributed in a rational fashion.

While a utility might rightfully complain that it should be neither its responsibility nor its obligation to be the driving force behind the development of reasonable and adequate Section 8 utility allowances for a Public Housing Authority, it may well be cost-effective for a company to devote resources to just such a task. Research has demonstrated that Section 8 utility allowances are not only "often times" inadequate to cover actual utility bills, but that they are *most often* inadequate. As a result, low-income households for whom the allowances are designed to reduce utility bills to reasonable levels of affordability are denied that benefit. Ultimately, the costs of such failures are passed on to utilities and their customers in the form of uncollected revenue, credit and collection expenses, working capital expenses associated with carrying arrears, and the like.

While a Public Housing Authority has no obligation to seek out or develop information from utilities to use in establishing adequate Section 8 utility allowances, it does indeed have an obligation to consider and use information that is provided to it by others. Public utilities should devote resources to establishing and documenting what level of utility allowance is necessary to cover actual utility bills. Whether or not it "should" be the responsibility of the utility, such an effort will have an immediate, and potentially substantial, financial payback.

Moreover, it makes sense for a utility to convert as many Section 8 households as possible to levelized Budget Billing plans. Recent GAO research finds that more than 93 percent of all Section 8 households have annual utility allowances that *inadequately* account for *monthly* differences in utility bills in nine or more months a year. By simply seeking to identify these households, and converting as many as possible to levelized monthly billing plans, the efficacy of the program will be expanded to the benefit of both the customer and the company.

In addition, utilities are in a unique position to seek to influence the structure of monthly utility bills. They should become involved with Public Housing Authorities seeking to have those PHAs scrap levelized monthly utility allowances where appropriate and to establish, instead, monthly utility allowances which closely follow monthly bills.

INVOLVING BULK FUEL DEALERS

While most low-income households in the United States use electricity or natural gas for home heating, a substantial minority do not. According to the U.S. Department of Health and Human Services (HHS), the agency that administers LIHEAP, more than one-in-four households (27.3 percent) use a primary heating fuel other than gas or electricity.^{\166\} Nationally, fuel oil is the most frequently used fuel other than electricity or natural gas, followed by LPG and "other."

Significant regional differences occur in primary fuel use as well. While only 11 percent of low-income households use fuel oil as their primary heating fuel nationwide, nearly 40 percent do so in the Northeast. While only eight percent of low-income households use LPG nationwide, nearly 11 percent do so in the Midwest and South.^{\167\} A regional breakdown is presented in Table 18. Because of these observations, a reasonable review of innovations in fuel assistance must thus examine bulk fuel programs.

^{\166\} U.S. Department of Health and Human Services, Administration for Children and Families, *Low Income Home Energy Assistance Program: Report to Congress for Fiscal Year 1993*, at 18 (Oct. 1994).

^{\167\} *Id.*, at Table B-2, page 57.

Table 18
Percent of Households Using Major Types of Heating Fuels by All, Low Income and LIHEAP Recipient Households,
By Census Region and Main Heating Fuel Type (Nov. 1993)

Census Region	Main Heating Fuel/a/					
	Natural Gas	Electricity	Fuel Oil	Kerosene	LPG	Other/b/
United States						
All households	55.0%	22.9%	11.1%	1.2%	4.7%	5.2%
Low-income households/c/	52.7	20.0	11.2	1.8	7.6	6.7
LIHEAP recipients/d/	50.0	14.4	12.0	2.5/e/	10.5	10.2
Northeast						
All households	45.5	10.4	38.5	1.6	0.9	3.1
Low-income households	47.5	8.7	38.0	2.8	1.0/e/	2.0/e/
LIHEAP recipients	52.0	1.2/e/	33.7	9.1/e/	3.9/e/	0.0/e/
Midwest						
All households	71.5	11.4	5.2	0.4/e/	6.9	4.6
Low-income households	67.1	7.9	6.1	0.3/e/	10.8	7.8
LIHEAP recipients	62.9	3.2/e/	5.6	0.0/e/	13.0/e/	15.4/e/
South						
All households	43.7	38.1	4.7	2.0	6.8	4.7
Low-income households	44.2	29.2	6.6	3.2	10.6	6.1

Table 18
 Percent of Households Using Major Types of Heating Fuels by All, Low Income and LIHEAP Recipient Households,
 By Census Region and Main Heating Fuel Type (Nov. 1993)

Census Region	Main Heating Fuel/a/					
	Natural Gas	Electricity	Fuel Oil	Kerosene	LPG	Other/b/
LIHEAP recipients	35.8	19.6	10.2/e/	3.3/e/	21.6	9.4/e/
West						
All households	63.9	23.7	1.5	0.2/e/	2.2	8.6
Low-income households	56.7	27.3	0.7	0.0/e/	4.6	10.6
LIHEAP recipients	49.7	33.2	1.5/e/	0.0/e/	1.1/e/	14.5/e/

NOTES:

/a/ The sum of percentages may not equal 100% due to rounding.

/b/ This category includes households using wood, coal, and other minor fuels as well as households reporting no main fuel.

/c/ Households with incomes under the maximum in section 2605(b)(2)(B) of Public Law 97-35.

/d/ Includes only households whose annual incomes were within LIHEAP statutory guidelines and who received LIHEAP as reported in 1990 RECS.

/e/ This figure should be viewed with caution because of the small number of cases.

While most programs that deal with delivering financial assistance to bulk fuel customers have arisen in states concerned with fuel oil energy burdens, the lessons learned from such programs can provide important insights to a focus instead on users of propane, kerosene, fuel oil or similar bulk fuels. The attention being devoted to bulk fuels is large around the nation and getting larger. According to the National Center for Appropriate Technology (NCAT), during FY 1991, in the first year of the LIHEAP "leveraging incentive" program, seven states leveraged nearly \$2 million dollars in bulk fuel discounts, credits or donations. By the end of FY 1993, however, three years into the leveraging incentive program, the amount leveraged had increased to \$6.8 million in at least 15 states.^{\168\}

Five basic types of programs exist that might apply to low-income users of bulk fuels. Each of these will be examined in turn. These include:

- o A negotiated agreement to provide fuel at the cash price rather than the credit price for LIHEAP recipients;
- o A negotiated across-the-board percentage discount on bulk fuel purchases by LIHEAP recipients;
- o A fixed "margin over rack" program;
- o A "summer fill" program; and
- o Winter protections for bulk fuel vendors, without additional financial assistance.

CASH RATHER THAN CREDIT PRICES

One primary method of providing "discounts" to users of bulk fuels is to negotiate an agreement for vendors to provide the "cash" price of the fuel rather than the credit price. In most instances, if cash is not received at the time of delivery, a surcharge is added to the price of the fuel on a per gallon basis.

Maine and New Hampshire both have an agreement by fuel oil dealers to provide the cash price rather than the credit price to LIHEAP recipients. According to Maine LIHEAP officials, this agreement results in a savings of from eight to twelve cents per gallon. Indeed, in 1992,

^{\168\} These figures are somewhat misleading since \$4.0 million of that \$6.8 million came from three states: Massachusetts, Connecticut and Maine.

Maine claimed \$2 million in savings from this provision while in 1993 the total was \$1.3 million. New Hampshire's experience is similar. According to the state LIHEAP office, the statewide discount based on cash prices generates an average savings of roughly 10 cents per gallon. New Hampshire claimed \$308,989 in leveraged funds through this mechanism in 1992 and \$345,000 in 1993.

The Maine cash price program arose out of a controversy surrounding efforts by the state LIHEAP agency to recapture interest from oil vendors on advance LIHEAP payments in FY 1987. Maine's 1987 LIHEAP State Plan incorporated a provision calling for the payment by fuel oil vendors of interest on the unused portion of LIHEAP payments.^{169\} The Maine State Plan provided for two alternative interest payment mechanisms. The payment was either: (1) to be credited to the household account on a monthly basis; or (2) to be made to the local LIHEAP provider at the end of the program year. The Maine Oil Dealers Association (MODA), however, strenuously objected to the interest recapture provision. When the 1986 state elections brought a change of governors, the interest provision was rescinded.

South Dakota's LIHEAP program, also, has negotiated for fuel oil vendors to provide the cash price to LIHEAP recipients.

ACROSS-THE-BOARD PERCENTAGE DISCOUNTS

Maryland is one of the leading states in providing percentage discounts for LIHEAP recipients who are users of bulk fuels. In Maryland, the LIHEAP program has contracted to provide a three percent (3%) discount off of the best residential price to non-LIHEAP customers. According to Maryland LIHEAP officials, the percentage discount results in more savings for low-income households when prices go up, but does not adversely affect the dealer when prices go down.

The percentage discount generates several hundreds of thousands of dollars of additional resources each year. The state claimed \$227,000 in leveraged resources from the discount in 1991, \$237,544 in 1992 and \$189,000 in 1993.

The Maryland discount was obtained in exchange for quicker payment of LIHEAP benefits by the state. According to one Maryland LIHEAP official, the state attorney general's office had ruled in the late 1980s that state law governing procurements prohibited state funds from being

^{169\} In FY 1986, nearly three of every ten LIHEAP fuel oil households still had a credit balance on June 1, 1986. Of those customers, roughly eight of ten had balances greater than \$100; almost five of ten had balances greater than \$125, and more than one in five had balances of more than \$150. A full one in ten of the fuel oil accounts having credit balances had balances of greater than \$200 at the end of the heating season.

paid to fuel oil vendors in advance of the actual delivery of the goods or services being purchased. In response to this ruling, legislation was successfully enacted allowing LIHEAP to pay for bulk fuels in advance of delivery. In exchange for this legislation, however, fuel oil vendors agreed to provide a three cent per gallon discount to LIHEAP recipients. Due to the difficulty in administering this program in the first year, however, in the second year, the three cent per gallon discount was changed to three percent. The three percent discount has an ease of administration. When a fuel oil vendor delivers \$100 worth of fuel, for example, that vendor receives a \$97 payment from LIHEAP.

Care must be taken in defining the "best price" available within the context of this program. Many vendors, according to LIHEAP officials, vary their prices not only by the date of delivery (responding to changes in wholesale prices), but according to the amount of the fill-up as well. Hence, for example, a person receiving 50 gallons of fuel may be charged one price while a customer who receives 200 gallons of fuel may be charged a substantially lower price. The difference can be as much as 15 to 20 percent, according to the LIHEAP office.

Having said that, however, it is not clear that it is always in the best interests of a low-income customer to receive sufficient LIHEAP funds at one time to pay for a complete fill-up of a bulk fuel tank, despite the lower prices. If a LIHEAP customer receives a \$200 payment toward his or her fuel bill, LIHEAP officials said, that customer often makes no household contribution toward that particular delivery. When the fuel subsequently runs out, the customer is left with another \$200 bill with an inability to pay. In contrast, if a household is provided with a \$100 payment toward his or her fuel bill, the customer often can match that payment with \$100 in household funds. When the fuel runs out, a second \$100 LIHEAP payment can again be matched with household funds. The LIHEAP benefit, in this case, serves not only to provide a cash supplement to the recipient, but serves a bill-levelling function as well.

The Maryland bulk fuel discount is applicable to propane as well as to fuel oil, coal and wood vendors.

MARGIN OVER RACK (MOR) PROGRAMS

One established mechanism for delivering additional fuel assistance benefits to low-income households is to establish a "margin over rack" (MOR) program. Two states, Massachusetts and Connecticut, have statewide MOR programs for fuel oil. The question is whether this fuel oil experience can be transferrable to other bulk fuels such as propane as well.

Since 1991, Massachusetts has had a statewide Margin over Rack program. The program pays oil dealers the lesser of either a set margin of \$0.25 per gallon or their regular retail price on the date of delivery, whichever is lower. The Massachusetts MOR program allows all oil vendors to participate. The MOR program saved LIHEAP recipients almost 9.5 cents per gallon during the 1993 winter months.

The MOR concept is predicated on the fact that oil vendors base their per gallon retail price on a margin added to their terminal or "rack" price. Each vendor's margin is different due to variances in operating costs associated with delivery of the product. According to national LIHEAP officials, in negotiating for its discount programs, Massachusetts officials pointed out that the average vendor's business from LIHEAP clients is small; approximately three percent of the state's residential oil consumption is by LIHEAP clients. Countering oil industry arguments, the state maintained that while the volume was significant enough to warrant some form of discount for LIHEAP recipients, the discount would not result in significant across-the-board price increases for the entire customer base.

Like Massachusetts, Connecticut's statewide fixed margin program pays a predetermined amount (25 cents) over the wholesale price of fuel oil for resale to LIHEAP recipients. The program pays participating vendors the margin price or their retail price, whichever is lower. During FY 1993, the first year of operations, the Connecticut LIHEAP agency found it generated nearly \$1.0 million in savings through its MOR program. The average statewide retail price was \$0.915, while the average fixed margin price was \$0.838, an average savings of \$0.077 per gallon. Like Massachusetts, Connecticut estimates that each vendor's LIHEAP customer base is a small part of the vendor's total business, between one and four percent, or about 2.7 percent of the state's total residential fuel oil sales.

A fixed margin over rack program has not been extended to propane fuel in these two New England states. This may well be, however, simply because propane does not represent a significant heating fuel in the states. Some states, on the other hand, rely extensively upon propane for low-income heating.

The primary issue is the availability of a "rack" price for propane. The term "rack" refers to the loading station where rail cars or other carriers are filled with the product. It is a general petroleum industry term and is used to refer to propane as well as to fuel oil. Rack prices are FOB

refinery; the term is refinery-specific, though due to the impact of competition, the rack prices quoted by refineries in the same area will usually be close --though perhaps not identical-- on a daily basis.

A study of the feasibility of a propane MOR program in Colorado, for example, found that there are at least three major propane "producers" in the Denver area: Diamond Shamrock, Phillips, and Associated (Greeley). All "post" rack prices. Posting is the term used in the industry for publishing or making known rack prices. While industry officials say it is unlikely that refineries would release rack prices to a non-buyer, such prices *are* released routinely to buyers and publications. For example, the *Butane/Propane Newsletter*, a weekly publication located in Arcadia, California posts propane prices for various areas around the country including Denver. In addition, while the *OPIS: Oil Price Information Service*, a weekly publication located in Rockville, Maryland, does not *post* propane prices in its publication, the same company's on-line service *PetroScan* will provide propane "rack" prices upon request (for the nominal fee of \$25 per request).

In sum, rack prices for the several propane producers in a particular area are available and will generally be close to one another. As in Colorado, therefore, it should be a simple matter to take an average of posted prices on a week-by-week basis as the foundation for a LIHEAP margin over rack program for propane customers. Given these observations, a propane-based margin over rack program deserves consideration in addition to the New England fuel oil programs.

"SUMMER FILL" PROGRAM

One mechanism that some states have used in an effort to stretch their bulk fuel dollars somewhat further is to implement a "summer fill" program. South Dakota has implemented such a program. Under this program, the state processed applications for summer fills for the elderly, and negotiated with suppliers to charge the summer price. Nonetheless, the vendors agreed to bill after October 1st so as to apply LIHEAP payments against the fuel charge. According to South Dakota LIHEAP officials, the summer fill program averaged a statewide savings of 15.6 percent for fuel oil LIHEAP recipients and a 9.33 percent savings for households heating with propane.

The South Dakota program is similar to the model proposed for the Connecticut LIHEAP program in 1992.^{\170\} The thesis of the Connecticut proposal was that that state's LIHEAP program should be able to take advantage, to some limited degree,^{\171\} of the seasonal differential in fuel

^{\170\} Due to a reorganization of Connecticut state government after a gubernatorial election, including a reorganization of fuel assistance and social services, no suggestions for LIHEAP leveraging were implemented in Connecticut.

^{\171\} With the "limit" being one fuel oil fill-up.

oil prices. Indeed, the purchase of some significant portion of Connecticut's LIHEAP fuel oil needs during the summer months rather than during the winter months would permit the state to, in effect, deliver more benefits to households for the same amount of money.

The Connecticut proposal was for the state to make one initial *summer* purchase and delivery of \$200 of fuel oil to each household having received fuel oil benefits in the immediately preceding LIHEAP heating season. This assumed the average tank fill-up was roughly 200 gallons. While the purchase and delivery would be during the month of August, the intent was to have this delivery be a "prepayment" for November, the first oil delivery of the heating season. Since oil is generally a heating fuel, not used also for cooking, hot water and the like, an August fill-up would still provide the heating season benefits for which LIHEAP is intended.

According to the Connecticut proposal:

There should be little opposition to such a program from fuel oil dealers. The lower price per gallon of fuel does not in any way affect the profit that these dealers would receive from LIHEAP fuel oil purchases. In seven of the eight years between the 1984-1985 program year and the 1991-1992 program year, the highest margins were generated by fuel oil dealers in either the months of February or March, months not likely to be affected by the summer pre-purchase program. Indeed, the month of November --the month where LIHEAP deliveries would be displaced-- is generally a month during which some of the lowest margins over wholesale are realized.

Calculations in Connecticut, using historical data, found that providing an August fill of 200 gallons would have saved the state LIHEAP program nearly 11 percent over fall and winter fuel oil prices.¹⁷²⁾

WINTER PROTECTIONS FOR BULK FUEL CUSTOMERS

"Fuel assistance" for low-income users of bulk fuels need not necessarily take the form of financial assistance. At least two states have adopted proposals that certain winter practices by vendors who sell bulk fuels to residential customers be prohibited pursuant to state consumer protection statutes. Administrative regulations adopted in New York and Maine prohibit the denial of service during cold weather months, during which months such denial may pose a threat to the health, safety and life of the customer.

¹⁷²⁾ Unlike South Dakota, no analysis was performed for propane in Connecticut since propane was not a significant heating fuel in that state.

In 1993, the New York State Energy Office promulgated regulations governing procedures heating fuel dealers must follow before cutting off service to a household. The regulations cover heating oil, bottled propane gas, kerosene, coal and wood, whichever is the home's primary heating fuel. They are in effect from November 1 to April 15 of each year.

For customers who receive fuel on an automatic delivery basis, dealers must attempt to notify the customer both in writing and by telephone at least three days before a cutoff. In contrast, customers who call the dealer when a delivery is needed must be notified of a cut-off when a request for fuel is made.

In both cases, the dealer must ask if the customer is out of fuel, is in need of alternative shelter, and whether the customer wishes to have a previously-identified third party notified of the cut-off. Heating fuel dealers are required to notify the state Department of Social Services whenever:

- o the health or safety of the customer is endangered by the cut-off and the customer cannot obtain fuel from another source or cannot find alternative shelter;
- o the dealer is unable to notify the customer by telephone of the fuel cut-off; or
- o the cut-off involves a multi-family dwelling of three or more units.

In a similar fashion, the Maine Unfair Trade Practices Act Regulations on "Sale of Residential Heating Oil" apply to heating sales from October 15 through April 30 of each year. Under these regulations, dealers must sell fuel within their service areas to anyone who pays cash, even if the customer has not paid for a previous delivery, or is not an established customer. Likewise, fuel must be delivered if a government agency (or a fuel assistance sub-grantee) guarantees payment.

Finally, the Vermont attorney general has adopted regulations pursuant to the state's Unfair and Deceptive Acts and Practices (UDAP) statute specifically governing the sale of propane for heating purposes. These Vermont regulations govern the notice prior to disconnection, repayment agreements, minimum deliveries and similar issues.

APPENDIX A: CRITERIA TO GUIDE FUNDING DECISIONS

No question exists but that there is a need for additional funding for low-income energy assistance. The budget to provide federal LIHEAP assistance has been significantly reduced. Indeed, the very existence of LIHEAP remains in jeopardy. In response to this reduction in federal assistance, there is a need for state and local governments to take up the slack. Obviously, no single source of funds can be relied upon to meet all or any substantial part of that need. Choices will have to be made. In making choices from amongst the potential funding sources, there are 16 criteria that should be considered. These criteria are not necessarily consistent one with another. Instead, they may often need to be weighed against each other. They are certainly presented in no order of priority below.

1. **Repeatable**: A funding source should be repeatable each year. One time foundation grants, for example, as well as influxes of monies such as "oil overcharge" funds, should be not relied upon as a source of funding upon which to base a permanent fuel assistance structure.
2. **Stable (not a legislative appropriation)**: In a similar vein, a funding source should generate a stable source of revenue. Legislative appropriations have historically not been such a stable source of funding. Year-in and year-out with LIHEAP, for example, Congressional appropriations have been uncertain, making both the design and administration of the federal fuel assistance effort difficult. Long-term problems should not depend upon short-term solutions to which there may or may not be a long-term commitment.
3. **Ubiquitous if not universal**: Fuel assistance should be wide spread. There is, indeed, a tension between this criteria and the

next criteria (involving targeting to need), but they are not mutually exclusive. To be "ubiquitous," fuel assistance should be as likely to reach a rural low-income household heating with propane as an urban low-income household heating with natural gas.

4. **Targeted to need:** Fuel assistance should not simply be an alternative income transfer program. If fuel assistance is to serve its unique role, it should be targeted to households having an *energy* need. An "energy need" is defined for these purposes as having an energy bill that imposes a disproportionate burden as a percentage of income.
5. **Enough to matter:** If the state is to make a commitment to any particular source of fuel assistance dollars, that funding source should generate enough dollars to make a difference. The need is not to generate tens of thousands (or even hundreds of thousands) of dollars, but rather to generate millions of dollars. While some initiatives may (and will likely) have small individual components, the overall impact should "make a difference."
6. **Cheap enough to do:** The counterpart to the "enough to matter" criterion is that any fuel assistance program which is considered must be within the financial capability and political wherewithal of the state to accomplish. To decide that utilities should ante up \$100 million a year for fuel assistance, in other words, does not present a realistic political or financial proposition.
7. **Easy to access: initially and each year:** Fuel assistance that is not easily accessible to the low-income population does not serve any particularly useful function. Extensive and onerous application procedures, income verification, proof of "need," and the like interfere with solutions to the low-income energy problem.
8. **Multi-fuel capability (alone or in combination):** Not all components of the fuel assistance program must reach all primary heating fuels. But the portfolio of programs must have something for everyone. Given the extensive reliance upon propane as a primary heating source in many rural counties, to develop *only* a utility-based fuel assistance program would be inappropriate. At the same time, while the benefits of a fuel assistance program must flow both to utility ratepayers and users of bulk fuels, the burdens of supporting low-income energy assistance must be borne by all energy industries (including vendors of bulk fuels) as well.
9. **Promotes "good" behavior:** The concept of "the deserving poor" should be soundly rejected. Neither low-income children nor low-income adults should be placed in the "heating or eating" dilemma due to the political and social mores of the middle

class majority. Nonetheless, fuel assistance programs can be designed to promote desirable behavior: taking care of arrears, making regular monthly payments, engaging in sound budgeting. New fuel assistance programs should promote individual household responsibility and self-sufficiency.

10. **Administratively simple:** Administrative simplicity is an attribute that implicates both the success of the program and the expense of the program. It is often a temptation to seek to write program requirements that address every possible permutation of low-income behavior and to develop "appropriate" responses to each situation. Complexity, however, often devolves into unmanageability and to excessive expense.
11. **Independent of social welfare:** Another primary barrier to participation in existing fuel assistance programs is the historic tie that these programs have had to the existing public benefits system. While that tie is frequently necessary (and beneficial) -- research shows that participation in the public benefits network helps people to know about and participate in fuel assistance-- there must be *some* component which is independent of public assistance. Funding in the nature of workers compensation, unemployment, social security, or the like, will reach a discrete section of the population that does not want to take money from the government or to otherwise be associated with a public benefits program.
12. **Permanent:** A funding source for fuel assistance should be made a permanent structure of the landscape. Addressing energy assistance in some comprehensive way in 1996, in other words, should preclude the need to re-visit the issue in the near term. Another attribute of "permanent" is self-sustaining. A fuel assistance funding source that requires annual (or periodic) decisions for its continuity should be avoided.
13. **Home energy, not just home heating:** While images of persons freezing in winter temperatures are perhaps what come to mind when thinking about the need for fuel assistance, home heating should not be the exclusive focus of a fuel assistance program. Indeed, home heating represents just over half of the total home energy use of low-income customers and *less* than half of the home energy bill. Moreover, hot weather can be just as deadly as cold weather to low-income individuals. Finally, home heating systems often rely upon non-heating energy to operate, as electricity may, for example, be needed to run fans or pumps and the like. Fuel assistance funding should seek to address total home energy needs, not simply home heating needs.
14. **All parties, public and private, recognize their part:** Given (a) the need for greater resources; (b) the adverse impacts on the community from unaffordable home energy burdens; and (c) the substantial benefits that flow to the energy industry as a

result of fuel assistance, an expanded public/private partnership is an essential component of new Colorado fuel assistance programs. Each party to the bargain --this includes the low-income household, the government, the community-at-large, and the energy vendor-- should contribute in some fashion to resolving the inability-to-pay problem.

15. **Liquidating in the long-term:** While for all of the reasons outlined in the text above, this report does not address the funding and delivery of energy efficiency, the government and industry components of any fuel assistance program should be structured such that the cash supplement responsibilities are potentially liquidating to some degree through the implementation of energy efficiency measures.
16. **Supplement not supplant:** The design of a new fuel assistance program should be concerned with the opportunity costs of "new" investments in low-income fuel assistance. These opportunity costs represent circumstances where the investment supplants rather than supplements funds available for low-income energy needs. If the funding newly channeled to fuel assistance had not been spent on low-income energy needs, in other words, would it otherwise have been spent on low-income housing, or job creation, or education? To displace current program funds by funding currently devoted to other projects with beneficial impacts for low-income households may very well result in net losses to the constituent community.

APPENDIX B: IDENTIFYING SAVINGS FROM LOW-INCOME PROGRAMS^{\173\}

Certain improvements in the treatment of low-income households will result in cost savings to the utility engaging in such efforts.^{\174\} Different people view these savings differently. According to the *Public Utilities Fortnightly* article first positing such savings:

There is no question but that this inability to pay is a *social* problem. There is also no question, however, but that this inability to pay represents a *utility* problem. For these households, regardless of the number of disconnect notices that are sent, regardless of the number of times service is disconnected, regardless of the type of payment plan that is offered, there will be insufficient household funds to pay. A utility can recognize this conclusion, and seek to collect what it can while minimizing its collection expenses, or a utility can deny the conclusion and devote its time and energy and attention to what will prove to be fruitless, and expensive,

^{\173\} This Appendix was taken from R.Colton, *Identifying Savings Arising from Low-Income Programs*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA.

^{\174\} These might involve discount rate, targeted low-income DSM programs, direct vendoring programs (with forgiveness of excess bills over direct vendor payments), or arrearage forgiveness programs.

collection endeavors.^{175\}

Similarly, the Pennsylvania Public Utility Commission's Bureau of Consumer Services noted the costs of payment problems that are already "embedded in existing rates."^{176\} The Vermont Public Service Department noted that there are

two harsh realities for the utility industry. First, charging a rate and collecting a rate are two separate actions. Simply because a utility charges a particular rate does not mean that the utility will ever collect that money from a low-income household. Second, even when a utility does collect the total bill from a low-income household, the utility often spends considerable sums in the very act of collection.^{177\}

And the *Final Report of the Blue Ribbon Commission on Energy Policy for Maine's Low-Income Citizens* said:

Other Maine households and businesses also suffer from the effects of unmet energy needs of low-income citizens. Electric utilities carry large uncollectible expenses* * *which are paid for by all ratepayers as a cost of business.* * *Collection costs and working capital on unpaid bills impose costs on energy vendors, utilities, and all consumers.^{178\}

The purpose of the discussion below is not to assess whether the savings arising from certain low-income programs are sufficient to offset the costs of those programs. Nor is the purpose of this discussion to definitively articulate the magnitude of the savings involved. Instead, this discussion is simply to create a taxonomy of the types of savings that should be evaluated. This discussion will examine all savings other than

^{175\} R.Colton. "A Cost-Based Response to Low-Income Energy Problems." *Public Utilities Fortnightly* (March 1, 1991).

^{176\} Bureau of Consumer Services, Pennsylvania Public Utility Commission, *Final Report on the Investigation into the Control of Uncollectible Accounts* (Feb. 1992).

^{177\} Brief and Argument, Vermont Department of Public Service, *In Re. Investigation into Low-Income Programs*, Docket No. 5308 (Jan. 1991).

^{178\} S.Ward (1990). *Ready for Winter?: Final Report of the Blue Ribbon Commission on Energy Policy for Maine's Low-Income Citizens*, at 32, Augusta: State of Maine Executive Department.

working capital. Working capital is discussed in the document titled: *Low-Income Programs and Their Impact on Reducing Utility Working Capital Allowances*.

CREDIT AND COLLECTION EXPENSES

Credit and collection activity is defined to include the following five types of actions by a utility: (1) a shutoff notice; (2) personal contact (via telephone); (3) personal contact (via a premise visit); (4) the disconnection of service; and (5) the reconnection of service. Two observations should be made about this list. First, since virtually every utility reports that each service disconnection is quickly followed by a service reconnection (generally within hours, not even days), both the disconnection *and* the reconnection should be considered part of the credit and collection process. Second, since the negotiation of payment plans is treated separately, this activity is not included in the list of credit and collection activities.

The best way to determine the credit and collection expenses associated with non-payment is to calculate the cost of each step of the process, to determine the extent to which each step is experienced on the utility system, and then to calculate the total cost. Hence, in testimony before the Pennsylvania PUC regarding Columbia Gas Company, the following calculation was made. The total cost to Columbia to disconnect and reconnect households as a collection device was found to be \$65.71. The derivation of that cost is set forth below:

Table B-1 Costs of Credit and Collection Activity	
COLLECTION ACTIVITY	COST\ a\
SHUTOFF NOTICE	\$ 0.75
TELEPHONE CONTACT	\$ 1.28
PREMISE VISIT	\$ 18.09
DISCONNECTION	\$ 21.92
RECONNECTION	\$ 43.84
TOTAL:\ b\	\$ 65.71
NOTE:	
\ a\ Provided by the utility in response to discovery.	
\ b\ Does not include personal contact (either telephone or premise visit).	

A choice was made to not include personal contacts in the base calculation. While telephone contacts represent roughly 80 - 90 percent of the total personal contacts each month, the premise visits cost Columbia more in aggregate dollars. Thus, for example, while Columbia made 158 premise visits and 1,534 telephone contacts in December 1989, it spent \$2,858 on premise visits and only \$1,964 on telephone contacts. Suffice it to say that the Pennsylvania PUC requires utilities to make personal contact with households prior to the disconnection of service. In instances where premise visits are used by Columbia Gas in complying with that requirement, total cost of collection would be $\$65.71 + \$18.09 = \$83.80$. Where telephone contact is made, the total cost is $\$65.71 + \$1.28 = \$66.99$.

A total cost of Columbia Gas credit and collection activities was then calculated. The *total* 1989 expenditures by Columbia on the credit and collection activities outlined above were \$486,881 while the total 1988 expenditures were \$434,505. Columbia Gas reports to BCS its total number of shutoff notices, premise visits, telephone contacts, and the like. This total cost is thus the per unit cost (as set forth above) multiplied times the number of each action reported to BCS.

A "reality check," both on the analyst's calculation of credit and collection savings as well as on any utility's self-reporting of credit and collection savings, is to compare the results of the calculations made above to the utility's regulatory reporting of credit and collection expenses. These expenses, of course, are in the "900" accounts. Thus, for example, the following accounts have credit and collection expenses in them:

Table B-2 FERC Uniform System of Accounts: Customer Service Expenses	
ACCOUNT NUMBER	EXPENSES INCLUDED
901	Supervision (major only): including the cost of labor and expenses incurred in the general direction and supervision of customer accounting and collecting activities. Does <i>not</i> include the direct supervision of a specific activity found in a different account (<i>e.g.</i> , "collection expenses" are found in account 903).
903	Cost of labor and materials "incurred in work on customer applications, contracts, orders, credit investigations, billing and accounting, collections and complaints. Includes all work on service disconnections, as well as "receiving, refunding or applying customer deposits and maintaining customer deposit* * *records." Also includes collecting revenues, "extending unpaid balances," "preparing, mailing, or delivering delinquent notices," final meter readings, and "disconnecting and reconnecting services because of nonpayment of bills." ^{179\}
904	Uncollectible accounts. Includes "amounts sufficient to provide for losses from uncollectible utility revenues. Concurrent credits must be made to the accumulated provision for uncollectible accounts.

These expenses will be reported on an annual basis in an electric utility's FERC Form 1. Gas utilities file the same information in their FERC Form 2. There should not be a significant mismatch between the calculations described above and the expenses recorded in these 900 accounts. The 900 accounts, of course, will contain expenses for *all* customer classes. It should be possible, however, at least qualitatively, to gain a notion of the extent to which these expenses are residential by an examination of the extent of credit and collection activity directed

^{179\} Note that this account does *not* include expenses for disconnecting and reconnecting service for any reason other than "nonpayment of bills." Thus, this account does not include the expenses associated with disconnection of service for seasonal homes, for a change of homes by a residential customer, or similar purposes.

toward other customer classes (e.g., industrial, commercial).

BAD DEBT

Bad debt will not represent a substantial part of the savings attributable to low-income programs. Under the best of circumstances, utilities run bad debt ratios of 0.25 percent to 0.5 percent. Under the worst of circumstances, utilities run bad debt ratios of 3.0 to 4.0 percent.

Moreover, it is difficult to determine a solid number for the expenses to be avoided through bad debt. The New York Public Service Commission noted that one problem with the use of uncollectibles is that "the point at which an account is classified as uncollectible is somewhat arbitrary."¹⁸⁰ The ratio, in other words, is highly dependent upon management decisions rather than upon the energy needs of a company's low-income households. One company may write-off a debt as uncollectible when it is 120 days old, while a different utility may not write-off a debt as uncollectible for twelve months (365 days). Even if quantifiable and significant, it would be difficult, therefore, to isolate whether the existence of savings (or lack thereof) is attributable to the low-income rate or to some company policy.

DEPOSIT MAINTENANCE

Reducing the inability-to-pay of low-income households presumably should reduce the need to collect and maintain deposits from those households as well. The collection of a cash deposit is one means to gain protection against the potential loss of revenue through bad debt. The deposit serves the function of security to protect against the risk of default.

To require deposits from customers, however, is not without cost to remaining ratepayers. The costs are of two types: (1) out-of-pocket expenses; and (2) interest expense. The collection of deposits involves out-of-pocket expenses to a utility. When a utility collects a deposit, it must undertake to do several things. It must obtain credit information from some source. Frequently that source will be a "consumer reporting agency." In such instances, the utility must take particular actions to ensure compliance with the terms of the federal Fair Credit Reporting Act, a statute that imposes certain obligations on the users, as well as the distributors, of "consumer credit reports." Second, the utility must service its deposits. In particular, it must keep track of the deposits in such a manner that they can and will be refunded at the appropriate times.

¹⁸⁰ Sawyer D. and Teumim P., (1990), *Gas and Power Utility Uncollectibles and Collection Activity*, at 1, Albany: Consumer Services Division, New York State Public Service Commission.

A second *genre* of expense is the interest to paid on utility deposits. The common law, as well as state regulations, virtually universally hold that customers are entitled to interest on their deposits. While an argument might be made that even should a utility *pay* interest to the customer, it is at the same time avoiding the interest to be paid on capital not needed to be raised in the market (as customer contributed capital displaces investor-supplied capital). This argument is misplaced. A utility would only reduce its cost of capital through this displacement process in the event that its marginal cost of capital is greater than the interest it pays the customer. Since the marginal cost of capital is likely going to be short term borrowing --perhaps something as simple as commercial paper-- the odds are remote that the utility will benefit by a swap of customer deposits for short-term debt.

REGULATORY EXPENSES

Regulatory expense savings should occur in three different arenas. First, the extent to which rate cases are devoted to issues generated by inability-to-pay should be reduced. Whether that rate case litigation involves bad debt calculations, rate discount proposals, cost allocations or some other related issue, the time and effort devoted to such issues should be reduced.

Second, regulatory rulemaking attention to inability-to-pay problems should be reduced. Issues that may finally be set by the way side include the appropriate winter shutoff protections, the types of appropriate deferred payment arrangements, notice requirements, and the like.

Finally, regulatory attention to individual complaints should be reduced. Complaints might involve allegations that a particular followed inappropriate procedures in effecting the disconnection of service. They might involve allegations that a utility refused to enter into a "reasonable" payment plan. It should be noted, however, that complaints asserting that bills are "in error" because they are "too high" may simply be an indirect way of asserting an inability-to-pay.

PAYMENT PLAN NEGOTIATION

One major expense that should be avoided through the implementation of certain low-income programs is the negotiation of payment plans. Again, Columbia Gas provided data on the cost of each individual payment plan negotiation:

Table B-3 Cost of Negotiating Deferred Payment Arrangement for Arrears	
EXPENSE ITEM	COST
HOURLY RATE (customer service representative)	\$15.49
OVERHEAD (hourly rate x 39.589%)	\$ 6.13
HOURLY SUB-TOTAL:	\$21.62
TIME TO NEGOTIATE PLAN	.50 hours
SUB-TOTAL	\$10.81
CLERICAL TIME	\$ 3.83
TOTAL COST	\$14.64

The advantage of making low-income bills affordable is that they eliminate an entire series of payment plan negotiations for the utility. Rarely does a utility negotiate a single payment plan for a low-income customer. Indeed, the reasoning of the Pennsylvania Commission in September, 1990, was sound when it directed Columbia Gas of Pennsylvania to implement a pilot low-income rate, stating:

* * *for the poorest households with income considerably below the poverty line, existing initiatives do not enable these customers to pay their bills in full and to keep their service.* * *Consequently, to address realistically these customers' problem and to stop repeating a wasteful cycle of consecutive, unrealistic payment agreements that cannot be kept, despite the best of intentions, followed by service termination, then restoration, and then more unrealistic agreements, we believe that new approaches like* * *the OCA's proposed EAP program should be tried.^{\181\}

In general, this report for the Pennsylvania Office of Consumer Advocate, which examined the control of uncollectible accounts in that state, found that "Payment plans in Pennsylvania are simply not working."^{\182\} In the *Equitable Gas* decision approving that company's low-income program,^{\183\} the Pennsylvania Public Utility Commission found that "arrearages associated with the prospective EAP participants range between \$9 million and \$10 million. Those EAP-eligible customers who currently have payment arrangements either negotiated by BCS or the Company pay on average little more than 50 percent of the pre-subscribed amount." Moreover, other Pennsylvania utilities experienced similar failure rates as follows:^{\184\}

^{\181\} *Pennsylvania Public Utilities Commission vs. Columbia Gas Company of Pennsylvania*, Docket R-891468, Decision and Order (September 1990).

^{\182\} R. Colton (1989). *Controlling Uncollectible Accounts in Pennsylvania*, at 69.

^{\183\} *Pennsylvania Public Utility Commission v. Equitable Gas*, Docket No. R-901595, Decision and Order, at 71 (November 21, 1990).

^{\184\} *Controlling Uncollectible Accounts*, *supra*, at 71.

Table B-4			
Success Rate: Deferred Payment Arrangements: Pennsylvania Utilities			
COMPANY	SUCCESS RATE 1987	SUCCESS RATE 1988	SUCCESS RATE 1989
UGI	33.3%	32.9%	36.6%
PECO ^{185\}	11.4%	11.5%	28.3%
MET EDISON ^{186\}	31.5%	63.9%	61.3%
PENELEC	29.3%	26.3%	25.9%

More recently, Connecticut Light and Power Company reported that more than 70 percent of the payment plans it negotiates with its "hardship" customers fail. Philadelphia Water reports that its payment plan failure rate is more than 70 percent as well.

In sum, therefore, to address the inability-to-pay of a single low-income customer will generate multiple savings from the avoidance of payment plan negotiations. Most payment plans fail. However, most utilities also negotiate repeated payment plans with low-income consumers. While each avoided payment plan may save the utility \$15 or more, each low-income consumer whose payment problems are alleviated may avoid the need for several negotiated payment plans.

^{185\} PECO reported that it "does not identify the individual customers who successfully maintain payment arrangements. However, we do track the overall success rate of special payment arrangements." IRR-APP-B-G.3

^{186\} Metropolitan Edison does not separately track the success rate of Budget Plus customers from Current Plus customers. Moreover, its use of the Budget Plus process is quite limited, involving 615 accounts in 1987, 360 accounts in 1988, and 430 accounts in 1989.

CREDIT AGENCY FEES

One expense associated with low-income inability to pay problems involves the fees paid by the utility to collection agencies to chase unpaid bills. Columbia Gas, for example, was found to have paid an average commission fee of 33.5 percent to each collection agency it used during the years 1987 through 1989. While the use of these agencies was singularly ineffective (collecting less than 20 percent of the average referred bill for the three years in question), given the 33.5 percent commission, it is clear that Columbia Gas was *willing* to make a substantial investment in these agency collection efforts as indicated by the number and size of accounts referred to the agencies:

Table B-5			
Numbers of Accounts and Dollars of Arrears per Account Referred to Collection Agencies			
YEAR	1987	1988	1989
ACCOUNTS (###)	8,924	8,758	10,239
DOLLARS PER ACCOUNT	\$387	\$428	\$445

If households can be kept on the system by making their bills more affordable, the utility should be able to eliminate some portion of these accounts for which it uses a collection agency.

LOST TIME VALUE IN ARREARS

One "expense" associated with the low-income payment plans arises from the fact that a dollar collected today is worth more than a dollar collected tomorrow. As a result of payment plans, in other words, a utility loses the time value of the arrears subject to these plans. To recognize the dollars that might end up in arrears, and pass those dollars through in rates *immediately*, therefore, will save the company (and thus its ratepayers) that lost time value in funds.

The loss may manifest itself in one of two ways. In the event that the utility must borrow money to fill its short-term capital needs, the loss shows up as a working capital expense. In contrast, even when a company need *not* borrow money to provide the revenue (the payment of which is deferred through a payment plan), the loss shows up as an opportunity cost. If the money *had* been collected rather than deferred

through the deferred payment plan, the prudent utility manager would have invested that revenue and obtained a rate of return on it.

It is important to note that the lost time value discussed in this section is the lost time value that arises only from the date of the payment plan. It does not incorporate the lost time value from the time the bill was first rendered to the time the customer enters into the payment plan. That time period can be substantial. It is not unusual for low-income households to enter into payment plans in April, for example, to address arrears that have been building for four or five months.

The major task in determining the lost time value of funds subject to payment plans is to accurately set the discount rate. Through application of an appropriate discount rate, a public utility can determine what immediate payment will represent the functional equivalent of a stream of payments over the life of a deferred payment plan. A great deal of confusion exists over the choice of the appropriate discount rate to use in determining the "present value" of a stream of payments. A discount rate is required so as to allow the numerical computation to find out if the immediate payment equals at least the value of the stream of deferred payments. The basic question, therefore, is: of all the discount rates available, which one is the proper one?

The easiest answer is that the appropriate rate must reduce the future stream of deferred payments to the value of the discounted current rates. There is a cornucopia of possible discount rate approaches, however, and the argument over which rate is "best" can become quite involved. It is important to remember nevertheless that the workload of the discount rate is still limited simply to ensuring that the utility gets the functional equivalent to what it would have received through a stream of future payment plan payments.

Two major factors go into making a determination of what the value of a future stream of payments is. The first determination involves the loss of time value associated with receipt of future payments. The second determination involves how to assess the risk of the future stream of payments. The determination of an appropriate discount rate, therefore, can be divided into two parts: first, to determine whether the payment stream provides sufficient value over capital recoupment to offset the loss of the time value of money; and second, to determine if the stream of payments is sufficiently large to offset the risk to the repayment.^{187\}

The prime lending rate and one of the various treasury bill rates^{188\} comprise the most often discussed direct surrogates for a discount rate.

^{187\} It is for these reasons that the discount factor is divided into two components: a risk free component and a risk premium.

^{188\} Treasury securities are all graded by maturity. Interest on debt offered by the United States differs on the basis of the term of the debt. Interest rates for various maturities are available within the broad categories of "bonds" with maturities of more than ten years; "notes"

The prime rate is the lowest rate offered by commercial banks to their best corporate customers, and is widely considered to be reasonably fluid with respect to current economic forces. The treasury bill rates have much the same attributes as the prime rate. In Chapter 11 reorganization proceedings, courts adopting this standard have generally accepted either the weekly or quarterly auction rate of treasury bills as the appropriate surrogate. Treasury note, bill and bond rates taken as a group form a much more comprehensive standard than the prime rate.^{189\}

Both the prime rate and the treasury bill rates are objectionable for discounting a utility deferred payment plan, however, for several quite good reasons. First, both the prime rate and the treasury bill rates are rates for short term borrowing. In contrast, utility deferred payment plans can last for several years. Second, while the prime rate is purported to be the *lowest* rate at which banks lend to their best corporate customers, in fact it is not.^{190\} Moreover, neither the prime rate nor the treasury bill rates involve risks analogous to those associated with the typical utility deferred payment plan. The treasury standard's weakness, in particular, is that all the rates involved are for securities with essentially zero risk of default, which is a clear bar to their use unless further adjusted.

Because of this, the choice of treasury securities as a standard still leaves the difficult problem of deriving a measure for judging the risk component of a plan. It is difficult to arrive at a firm analytical basis for quantifying this risk component. Problems of proof with establishing a risk premium are substantial. It is difficult, if not impossible, to obtain an objective measure of such subjective creditor characteristics as risk adversity and time preference.

(..continued)

with maturities of more than one but less than ten years; and "bills" with maturities of one year or less. Moreover, because they are not considered subject to default, United States government bonds or bills are a universally accepted standard of a riskless rate of interest. For a description of these securities, see generally, U.S. General Accounting Office, "U.S. Treasury Securities: The Market's Structure, Risks and Regulations," GAO/GGD-86-80BR (August 1986).

^{189\} These rates also have the substantial advantages of being subject to the broadest and most vigorous of market forces and of being published daily in every major newspaper in the country.

^{190\} A Greenwich Research Study showed that nearly 70 percent of large corporations are offered below-prime loans. The staff of the Committee on Banking, Finance and Urban Affairs of the House of Representatives released a report concluding that "the once clear barometer of interest rates has become a murky, ill-defined term that rarely reflects the lowest rates available to corporate customers." Cox, *Bankers Desk Reference*, at 16 (1982).

In sum, a major problem inherent in starting with the market determination of either the prime rate or Treasury rates, and then adding a premium to account for the risk of a default on a utility deferred payment plan, is the difficulty of determining what the premium should be, and then providing a reasoned justification for the particular value chosen.

The utility's weighted cost of capital represents a second type of standard to use in making a determination of discount rates for determining the present value of a stream of payment plan payments. Use of the utility's weighted cost of capital would be easily ascertainable, having been established in its most recent rate case. The theory behind use of this figure is that it bases the discount factor on the cost to the utility of obtaining substitute funds for those whose payment is deferred through a payment plan. The underlying logic of this approach is that the cost to the utility of not getting paid immediately is the cost of acquiring substitute funds over the interim. This cost can be represented by the utility's cost of borrowing.

This logic might be appealing except for the fact that it only deals with compensating the utility for the time value of money and ignores all other relevant factors. In fact, use of a utility's weighted cost of capital has several fatal flaws. First, the touchstone of providing the present value of a claim to be paid in the future is responsiveness to current market conditions. There is no reason to suppose *a priori* that the utility's weighted cost of capital will in any way approximate those conditions. Indeed, given the blending of long-term and short-term debt with equity capital, as well as the blending of new and old debt issuance, the weighted cost of capital would approximate current market conditions only by sheer happenstance.

In addition to this fundamental weakness, a series of other equally valid objections exist. First, the rate at which a utility can borrow is determined by the credit characteristics of the loan and the utility. There is, for example, no reason that the risk involved with the utility, itself, will be the same as the risk involved with the payment plan. Indeed, there is every reason to believe that the risk involved with the payment plan will be much higher. Not only is the payment plan entered into with a household having confirmed payment problems, the payment plan is unsecured. Moreover, there is no reason to suppose that the term of repayment under a deferred payment agreement will be the same as, or even close to, the term of any utility company debt.

Despite its surface appeal, use of the utility's weighted cost of capital would be an inappropriate discount rate. The cost of capital bears no relation to providing compensation for the loss of time value plus providing a risk premium.

The most appropriate standard to use involves an inquiry into the rates of local lenders making a loan of the same type, duration and risk. This standard would be based on a series of local or regional rates collected from a cross-section of lenders. The agreement by a local utility to

allow a customer to repay arrears through a deferred payment plan, in essence, is most akin to an unsecured consumer loan to a low-income household with acknowledged bill paying problems. Typical similar loans of this term and risk would perhaps be made by small loan finance companies. The appropriate discount factor to use is the interest rate imposed for consumer loans of similar size and duration. According to the standard reference book *The Cost of Personal Borrowing in the United States*, a small consumer loan of this nature would cost roughly 30 percent per year.

FORCED MOBILITY

One impact of an inability to pay utility bills is a "forced mobility" on the part of low-income households. Low-income households move for a variety of reasons. They may be running from an unpaid and unpayable bill. Perhaps more frequently, low-income households move in search of more affordable shelter. Each time one of the Company's low-income households moves, however, it imposes a cost on the Company. There is the cost of disconnecting of service at the old address (even when the disconnection is "voluntary"). There is also the cost of reconnection of service at the new address.

Low-income households, however, have finite and limited resources to devote to their household expenses. The "forced mobility" of low-income households thus redounds to the substantial detriment of the utility by diminishing the corpus of the low-income household's ability-to-pay. Rather than using household income to pay for necessary expenses such as current monthly utility bills (or Budget Plus payments), household income is instead diverted to paying moving expenses, rental deposits, telephone connection fees, bank fees on minimum balances and the other expenses associated with changing residences. To the extent that the residency of low-income households can be made more stable, the allocation of household income can be made more rational. Less will be wasted. Rather than diverting money from limited resources to the household's process of staying ahead of creditors, those limited resources can instead be made more available for paying month-to-month expenses.

There is ample basis to believe that this "forced mobility" happens in fact, and is not simply a theoretical problem. The forced mobility of households, for example, is a common theme of discussions with LIHEAP personnel and with Community Action Agency caseworkers who work with and counsel low-income households on their energy problems. Second, a 1984 study by the National Social Science and Law Center (NSSLC) considered the mobility of low-income households. NSSLC found that compared to the roughly twelve percent of the total population that changed residences each year, nearly one-quarter (23 percent) of the low-income population moved. Disproportionately represented in the "mover" households are recipients of public assistance, minorities, and female-headed households. The NSSLC study examined Pennsylvania-specific data. Third, it is known that households which have recently established service have poorer utility payment records than those who are more stable.

Other research confirm the existence of this phenomenon as well. A study for the Maine Public Utilities Commission looked at the households for whom a disconnection of service was sought during the winter of 1986 - 1987. This study found that nearly 60 percent of the households initiating service on and after August 1st failed to make a payment of any sort toward their utilities bill. Nearly 40 percent of the households who obtained service after August 1st had their service disconnected that winter. According to the study: "it can be concluded that the households initiating service on or after August 1, 1986 represent a more serious shutoff risk than those households having a record of service." Fourth, Pennsylvania utilities file reports with the Bureau of Consumer Services each fall pursuant to Rule 56-100, which reports look at the extent to which households that have been disconnected within the previous twelve months remain without heating service. The Columbia Gas reports examined for purposes of assessing a low-income rate for that company indicate that from January 1, 1989 through November 30, 1989, 1,807 "heat related properties" had their service terminated for nonpayment. As of December 13, 1989, 897 of those "heat-related residential properties" had not been reconnected. In turn, 380 of those 897 (42 percent) were vacant premises, indicating the household had moved subsequent to the shutoff. Similar results were experienced in 1988. From January through November, 1988, 1,902 households had service disconnected for nonpayment. As of December 13, 1988, 1,041 of those households were not reconnected. In turn, 439 of those 1,041 (42 percent) represented vacant premises.

In addition to the household expenses associated with forced mobility, there are other reasons why this forced mobility contributes to an inability to pay as well. First, low-income households which are forced into a pattern of mobility have less likelihood of entering into successful Level Billing Plans, under which bills are paid in 12 equal monthly installments. Here again, in Maine, research discovered how low-income mobility serves, itself, to perpetuate low-income energy problems. The Maine report quoted Central Maine Power Company (CMP) as saying:

We (CMP) support the intent to establish a predictable and manageable payment plan for customers. However, due to a number of factors, we find that the payment amounts that we determine with estimated figures for future use need adjustment several times during the term of the special payment arrangement.* * *After just a couple of months into summer payments, the levelized payment figure may be adjusted to accommodate actual as compared to estimated usage. *This is especially true when the Company has limited usage history on which to base the estimate.*

(emphasis added). The study agreed, noting that for the households with recently established service, "a utility may be hard-pressed to develop dwelling-specific, household-specific, estimates of future energy use* * *." As a result, the budgeting benefits, in particular, which should arise from such plans can not.

Second, one requirement for participation in many utility DSM programs is that households have twelve consecutive months of service at the same address. Accordingly, the forced mobility of low-income households tends to disqualify these households from receiving assistance to lower their energy bills through conservation.

DIVERSION OF REVENUE

Addressing inability-to-pay problems through certain low-income programs will slow down, if not eliminate, the diversion of revenue from these customers to payment of fees other than current bills.

Even where the cost of the disconnect/reconnect process is paid for through a fee imposed on the delinquent customer, a customer which is not permanently removed from the system, but which instead merely has her service disconnected and then subsequently reconnected, ends up necessarily owing *more* than the arrears underlying the disconnection in the first instance. At the time of reconnection, in other words, in addition to the arrears which led to the disconnection, the customer is responsible also for paying any disconnect and reconnect fee. Because of these additional payment obligations, when the customer is poor, a utility might recognize that everyone loses under such circumstances and decide to forego the disconnection in the first instance.

Table A sets out a hypothetical detailing the impacts of imposing a disconnect/reconnect fee on a low-income household. One distinguishing characteristic of a low-income household is the limited *corpus* available to pay month-to-month utility bills. In Table A, the low-income household has an arrears at the time of disconnection of \$75; the cost of disconnecting and reconnecting the account is \$60 and is fully recovered through a disconnect/reconnect fee. After the process of disconnecting and reconnecting the household in this Table, therefore, the total bill owed by the customer is \$135 (\$75 arrears plus \$60 disconnect/reconnect fee). The household is assumed to be capable of making only a partial payment. In the Table, the customer makes a payment of \$55, leaving a total arrears after the disconnection and reconnection of \$80.

Table B-6	
The Impact of Disconnect/Reconnect Fees for Low-Income Payments	
CUSTOMER ARREARS AT TIME OF DISCONNECT	\$ 75

COST OF DISCONNECT AND RECONNECT	\$ 60 ^{\191\}
CUSTOMER BILL IN TOTAL AFTER DISCONNECT	\$135
CUSTOMER PAYMENT	\$ 55
CUSTOMER ARREARS AFTER PAYMENT	\$ 80

As can be seen, even when the disconnect/reconnect fee is "cost-based," charging such a fee does not necessarily serve the best interests of all customers. In Table A, the customer is \$60 worse off. She started by owing \$75 and now owes \$80, despite having exhausted her ability to make a \$55 payment to the utility. The utility is \$60 worse off. It started with the customer \$75 in debt and willing and able to make a \$55 payment; that would have left a \$20 arrears. Instead it has a customer \$80 in arrears (with no further ability to make payments). The remaining ratepayers are worse off. Instead of devoting its limited resources to paying the bill for consumption, the low-income household has devoted its \$55 in resources to paying the disconnect/reconnect fee, leaving the initial arrears plus the uncompensated cost of disconnection and reconnection to be passed on through rates.

As can be seen, even when the disconnect/reconnect fee is "cost-based," charging such a fee does not necessarily serve the best interests of all customers. In Table A, the customer is \$5 worse off. She started by owing \$75 and now owes \$80, despite having exhausted her ability to make payments to the utility. The utility is \$60 worse off. It started with the customer \$75 in debt and willing and able to make a \$55 payment; that would have left a \$20 arrears. Instead it has a customer \$80 in arrears (with no further ability to make payments). The remaining ratepayers are worse off. Instead of devoting its limited resources to paying the bill for consumption, the low-income household has devoted its \$55 in resources to paying the disconnect/reconnect fee, leaving the initial arrears plus the uncompensated cost of disconnection and reconnection to be passed on through rates.

In sum, even in those instances where the customer makes full payment of the outstanding arrears after a service disconnection, the utility cannot be found *ipso facto* to have benefitted from the disconnect/reconnect process. So long as the late paying household has a limited *corpus*, if some part of the household's ability-to-pay is diverted to paying disconnect/reconnect fees, there is that much less left to pay current

^{\191\} Assume that entire cost of disconnection/reconnection is compensated through some type of fee.

bills.

A similar analysis would apply to late payment charges. Like reconnect fees, the imposition of late payment charges would only serve to push households further into debt, thus diverting scarce household resources away from current payments to these extrinsic payments. Accordingly, it would not redound to the benefit of all remaining households. One cannot simply add new charges on to a household that has an inability to pay current bills with the expectation that these new charges will be paid in full.

SUMMARY

The implementation of low-income programs should generate substantial expense savings and substantial enhanced revenues to the utility. These impacts are discussed above. A summary list is presented here:

1. **Credit and collection savings:** A utility should be able to avoid expenses associated with negotiating deferred payment plans; sending shutoff notices; making personal contact; disconnecting and reconnecting service; post-disconnection collection activity; and the like.
2. **Bad debt:** As low-income customers increase their ability to pay by having energy bills made more affordable, a utility should experience a decrease in bad debt.
3. **Time value:** As a utility recognizes and recovers the unaffordable portion of bills more quickly, it will no longer experience the loss in time value of arrears.
4. **Regulatory expenses:** As households have monthly energy bills become more affordable, the strain on the regulatory system will be lessened, with attendant cost savings.
5. **Diverted revenue (reconnect fees):** As a utility moves away from the disconnection/reconnection process as a collection technique, there will be less revenue diverted from paying current monthly bills to paying reconnect fees.
6. **Diverted revenue (forced mobility):** As households have monthly energy bills become more affordable, their residency will become more stabilized and less revenue will be diverted from paying current monthly bills to paying mobility costs.

7. **Repeated payment plans:** Low-income programs will avoid the constant frustration of collection purposes. It will break the disconnect/reconnect cycle; it will break the constant cycle of negotiating unaffordable payment plans, abandoning such plans upon nonpayment, and negotiating yet another unaffordable plan.

8. **Targeted conservation:** Low-income households tend to live in bad housing stock. This results in those households wasting energy, which not only makes it more likely that these households will be unable to pay their utility bills, but is contrary to public policy from the energy and natural resource perspective as well. Utilities have a difficult time identifying their low-income customers, however. Moreover, a majority of low-income residents are tenants, which makes it extremely unlikely that they can or will install conservation and/or weatherization measures on their own. There is thus an acute need to fashion programs that will facilitate the targeting of low-income conservation and weatherization assistance.

APPENDIX C: REDUCING WORKING CAPITAL BY REDUCING ARREARS^{\192\}

This memo explains the working capital savings that are generated by the implementation of a low-income discount rate.^{\193\} It has been argued that a discount rate directed toward low-income households who cannot afford to pay their bills will generate certain cost savings for the utility offering the rate. Whether or not these savings are sufficiently large to offset the costs of the discount is a question on which there is disagreement. Nonetheless, the existence of the savings cannot be disputed.

One of those savings is a reduction in the working capital allowance required by the utility offering the savings. The working capital allowance takes into consideration the fact that low-income households who do not pay their bills in a full and timely fashion force the utility to pay its own debts prior to the receipt of revenue from its customers.

DEFINING WORKING CAPITAL

^{\192\} This Appendix was originally published as R.Colton, *Low-Income Programs And Their Impact on Reducing Utility Working Capital Allowances*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA.

^{\193\} The same savings will arise from targeted low-income DSM, from direct vendoring programs (such as with Section 8 housing), and the like.

One utility financial text has explained "working capital" needs as follows:

A part of the rate base is not for investment in property but for investment in working capital. Working capital allowance in the rate base includes any investor-contributed capital needed for cash balances to meet expenses as they come due, prepayments such as insurance premiums, materials and supplies inventories, and minimum or compensating bank balances.^{\194\}

According to this text, "cash working capital is the amount of money necessary to meet bills as they come due between the rendition of service and the receipt of revenues therefrom."^{\195\}

It makes no difference for purposes of calculating the working capital impact of low-income arrears whether a utility uses its own dollars or borrows money to pay its bills. If the utility does not fund its working capital allowance out of cash-on-hand, the working capital is made part of the company's rate base. The return on the working capital is thus the utility's weighted rate of return (debt, equity, preferred equity). In contrast, if the company is so "cash rich" that it does not have a working capital allowance, the prepayment of bills and the like discussed above will impose an opportunity cost on the company, denying it the return on investment that it *would have received* had it not been required to use some portion of its cash to prepay bills for which it had not yet received revenue from its customers.

THE REVENUE REQUIREMENT IMPACT OF WORKING CAPITAL

The fact that working capital becomes part of a utility's rate base is significant in that its revenue requirement impact exceeds the actual dollars of working capital required. This increased revenue requirement results from the tax impact associated with the equity return received on the working capital. Let me explain through use of an illustration.

Assume that the company needs \$1000 in working capital. Accordingly, there is an addition to rate base of \$1000 on which the company will earn a return the same as any investment in property. Assume that the company has a 50/40/10 equity/debt/preferred equity split. This means that 60 percent (\$600) of the working capital will receive an equity return. Assume finally that the annual cost of equity for the company is 12

^{\194\} Eugene Rasmussen and Keith Howe (1983), *Public Utility Economics and Finance*, at 92-93, New York: Prentice-Hall.

^{\195\} *Id.*, at 93.

percent (simply to make the calculation easier). The equity return on the working capital will thus be \$72 ($\$600 \times .12 = \72). The debt return, given an assumed weighted interest rate of nine percent (9%), will be \$36 ($\$400 \times .09 = \36). As is thus apparent, the total return on investment associated with this \$1000 working capital is \$108 ($\$72 + \$36 = \108).^{196\}

The *revenue requirement* impact of this return, however, is quite different. The reason for this can be attributed to the tax effect on the equity return. A utility's equity return, of course, is its "profit" (or net income). As such, there will be both a federal and state income tax levied upon it. A generally accepted combined federal/state income tax rate today is 42 percent. What this means is that 42 percent of all net income generated by a utility will be paid to the state and federal governments in income taxes. In order for the utility to generate one dollar (\$1) to distribute to investors as dividends, therefore, the utility must collect something *more* than one dollar in rates. In fact, what that "something more" involves a dollar amount such that once the 42% tax is subtracted, what is left will be the one dollar. The easy way to determine what the dollar amount is involves simply dividing the desired return by (1 minus the tax rate). In the case of a \$1 return, and a 42% tax rate, the calculation would be $\$1 / (1 - .42) = \$1 / .58 = \$1.72$.^{197\} What this means is that $\$1.72 - (.42 \times \$1.72) = \$1$.

To go back to our working capital discussion, in order to generate sufficient *pre-tax* dollars to provide an after-tax profit of \$72, therefore, the company must charge \$124.14. This involves the \$72 profit *plus* a tax effect of \$52.14. Remember, the tax is *not* 42 percent of the profit; simply multiplying \$72 by .42 will give a tax of \$30.24, which understates the tax liability by more than \$20. Instead, the tax is 42 percent of the total billed revenue such that the profit is left after the 42 percent is subtracted.

In sum, the annual working capital requirement of \$1000 will yield a total rate impact of more than \$160 for the associated rate of return. This includes:

Table C-1

^{196\} The same result would have been obtained by calculating the weighted cost of capital. The three assumptions for this analysis include: (1) a capital structure of 60/40 (equity/debt); (2) an equity return (common plus preferred) of 12%; and (3) an interest rate of nine percent (9%). The weighted cost of capital would thus be: $(60\% \times .12) + (40\% \times .09) = .072 + .036 = .108$. The weighted return would thus be $\$1000 \times .108 = \108 .

^{197\} If the combined federal/state tax rate is only 35 percent, the calculation would be $\$1 / (1 - .35) = \$1 / .65 = \$1.54$. What this means is that $\$1.54 - (.35 \times \$1.54) = \$1$.

Illustrative Annual Working Capital on Residential Arrears	
Interest on debt	\$ 36.00
Return on equity	\$ 72.00
Tax on equity return	\$ 52.14
Total	\$160.14

THE SIGNIFICANCE OF WORKING CAPITAL RETURN

In order to calculate the impact of this working capital analysis on a discount rate, it is necessary to convert the annual cost of capital into a daily cost of capital. An annual weighted rate of return of 10.8 percent will translate into a daily weighted rate of return of .02959 percent ($10.8\% / 365 = .02959\%$).

This daily rate is then multiplied times the dollar lag days associated with low-income arrears. A 30-day arrears of \$100 thus translates into 3,000 dollar lag days ($30 \times 100 = 3,000$). When multiplied by the daily rate of return of .02959%, we find that the working capital associated with this arrears is \$0.89. The tax effect for the working capital associated with this arrears is \$0.43.^{198\} The total working capital revenue requirement impact of the \$100/30-day arrears is \$1.32. This total revenue requirement has three components as laid out in Table C-2 below:

Table C-2

^{198\} The tax effect must be calculated separately. This will involve multiplying the lag days times the percent funded by equity. This must be multiplied by the daily equity return ($12\%/365$) and divided by .58. This gives the entire revenue requirement associated with the equity return. To isolate the tax impact, one then subtracts out the equity return itself. Hence, for purposes here, the equation would be:

$$((3000 \times .60 \times (.12/365)) / .58) - (3000 \times .60 \times (.12/365)).$$

In this equation, the revenue lags days equal 3000. The .60 is the portion of the working capital funded by equity. The .12/365 is the daily rate of return. The .58 is the factor needed to generate the total revenue requirement that includes the tax effect.

Illustrative Annual Working Capital on \$100/30-Day Residential Arrears	
Interest on debt	\$0.30
Return on equity	\$0.59
Tax on equity return	\$0.43
Total	\$1.32

It is possible to project this analysis out to the entire company LIHEAP population.^{199\} While to do so now for illustration will require some specific assumptions, it should be possible to collect the actual empirical data to make quite specific determinations. The primary information that is unavailable now is the rate at which LIHEAP households pay over time. For the sake of illustration, therefore, I will take actual data from a Philadelphia utility and assume for our purposes now that this data will accurately reflect a range of actual conditions on other utility systems.

The calculation below considers the rate of payment for the residential class. It begins by tracking the age of arrears for each month.^{200\} An average lag day value is then assigned to each aging category. This average lag day is simply the mid-point of the range.^{201\} The lag days are multiplied times the average bill for the particular month to obtain a total number of revenue lag days associated with that age of arrears. A working capital requirement for bills rendered in each month is then obtained using the procedure discussed above. The residential rate of payment is set forth in Table C-3 below.^{202\}

^{199\} This is simply using the LIHEAP population as a surrogate for "low-income."

^{200\} In fact, it takes an 18-month average calculated for the Philadelphia utility and applies it to individual months. In an actual empirical study, it would be possible to determine the aging process for each month. The high bill heating months, in other words, could reasonably be expected to have slower payments. These slower payments are not reflected in this analysis.

^{201\} Thus, the average lag days assigned to arrears 61 - 90 days old is 75 days.

^{202\} This includes the *total* residential class. It would be reasonable to expect that the low-income population would be somewhat slower in paying.

Assume for the sake of analysis a total LIHEAP population of 19,000 households. Assume also a collection scheme for only one month. Again, clearly, to do this for an entire year will be relatively easy with actual data. The method of calculation for a single month is set forth in Table C-4 below.

As can be seen, the total revenue requirement associated with the working capital return for this one month, given the collection scheme for the Philadelphia utility, will be in excess of \$100,000. This is for billed revenues in that month of \$3.8 million. This does not include the working capital associated with arrears carried over from any other month, only that associated with the revenue billed in this particular month. Of course, this is only the return component of working capital. There will be depreciation on this component of rate base, as well.

SUMMARY

The elimination or reduction of arrears attributable to a low-income program will have a significant effect on a utility's working capital needs. For every dollar of arrears that a utility can eliminate, the utility will reduce its working capital needs by reducing its revenue lag days. In addition to the carrying cost savings that will be generated by this effort, there will be an expanded revenue requirement savings, as the combined federal/state income tax effect on the equity portion of the cost of capital for the working capital is eliminated or reduced as well.

This memo, however, has a limited purpose. It is not intended to quantify the extent of working capital savings for any particular utility. Instead, the actual numbers to run through this procedure, at this time, are not so important as recognizing and agreeing upon the appropriate procedure.

**Table C-3
Distribution of Arrears by Age of Arrears**

AGE OF ARREARS	PERCENT OF RESIDENTIAL ACCTS
0 - 30 days	47.10%
31 - 60 days	14.40%
61 - 90 days	4.45%
91 - 120 days	3.89%
121 - 240 days	8.79%
241 - 360 days	4.74%
361 - 480 days	1.71%
481 - 600 days	0.46%
601 - 720 days	0.06%
Remainder⁽²⁰³⁾	6.79%

⁽²⁰³⁾ Since uncollectibles are funded in advance by creation of a reserve, there is no working capital associated with uncollectibles.

**Table C-4
Calculating One Month Working Capital**

AGE OF ARREARS	PCT RES CUSTS	MEAN LAG DAYS	DAILY WKG CAP	AVG BILL	LIHEAP CUSTS	TOT DOLLAR LAG DAYS	TOT WKG CAP RETURN	WORKING CAPITAL COMPONENTS		TAX EFFECT	TOT. WKG. CAP. REV. REQRMT
								INTEREST RETURN	EQUITY RETURN		
0-30	47.10%	15	0.02959%	\$200	19,000	26,847,000	\$7,944	\$2,648	\$5,296	\$3,835	
31-60	14.40%	45	0.02959%	\$200	19,000	24,624,000	\$7,286	\$2,429	\$4,857	\$3,517	
61-90	4.45%	75	0.02959%	\$200	19,000	12,682,500	\$3,753	\$1,251	\$2,502	\$1,812	
91-120	3.89%	105	0.02959%	\$200	19,000	15,521,100	\$4,593	\$1,531	\$3,062	\$2,217	
121-240	8.79%	180	0.02959%	\$200	19,000	60,123,600	\$17,790	\$5,930	\$11,860	\$8,588	
241-360	4.74%	300	0.02959%	\$200	19,000	54,036,000	\$15,989	\$5,330	\$10,659	\$7,719	
361-480	1.71%	420	0.02959%	\$200	19,000	27,291,600	\$8,075	\$2,692	\$5,384	\$3,898	
481-600	0.46%	540	0.02959%	\$200	19,000	9,439,200	\$2,793	\$931	\$1,862	\$1,348	
601-720	0.06%	660	0.02959%	\$200	19,000	1,504,800	\$445	\$148	\$297	\$215	
TOTALS:							\$68,667	\$22,889	\$45,778	\$33,150	\$101,817

APPENDIX D: UNIVERSAL SERVICE FUND TABLES

- Table D-1:** State-by-State Total Retail Price Impacts of State-Specific Universal Service Fund (USF) Charges (Using 1993 Utility Data)
- Table D-2:** State-by-State Total Retail Price Impacts of Uniform National Universal Service Fund (USF) Charge (Using 1993 Utility Data)
- Table D-3:** Excess/(Shortfall) Between 1986 LIHEAP Appropriation (1995\$) and State-Specific Revenue Generated by Uniform National Charge (\$0.0011/kWh) on Total Retail Sales (Using 1993 Utility Data)
- Table D-4:** Per kWh Charge Needed on Residential Sales to Generate 1995 Present Value of 1986 LIHEAP Allotments (By State) (Using 1993 Utility Data)
- Table D-5:** Universal Service Fund (USF) Revenues Generated by \$0.003/kWh Residential Charge By State (Using 1993 Utility Data)
- Table D-6:** State-by-State Residential Bill and Price Impacts of Uniform National Universal Service Fund Charge (Using 1993 Utility Data)

Table D-7: Excess/(Shortfall) Between 1986 LIHEAP Appropriation (1995\$) and State-Specific Revenue Generated by Uniform National Charge (\$0.003/kWh) on Residential Sales (Using 1993 Utility Data)

Table D-1
 State-by-State Total Retail Price Impacts of State-Specific Universal Service Fund (USF) Charges
 (Using 1993 Utility Data)

State	1986 LIHEAP Allotment (1995\$)	Total Retail Sales	USF Charge	Price without USF Charge	Price with USF Charge
AK	\$23,315,927	6,445,409,000	\$0.0036	\$0.0763	\$0.0799
AL	\$12,573,689	60,442,691,000	\$0.0002	\$0.0584	\$0.0586
AR	\$17,791,155	23,061,568,000	\$0.0008	\$0.0713	\$0.0721
AZ	\$11,275,861	42,910,235,000	\$0.0003	\$0.0828	\$0.0831
CA	\$125,083,160	203,843,079,000	\$0.0006	\$0.0988	\$0.0994
CO	\$36,845,283	30,388,250,000	\$0.0012	\$0.0607	\$0.0619
CT	\$48,065,972	28,472,444,000	\$0.0017	\$0.1031	\$0.1048
DC	\$7,819,313	23,367,059,000	\$0.0003	\$0.0680	\$0.0683
DE	\$6,962,503	11,674,833,000	\$0.0006	\$0.0716	\$0.0722
FL	\$36,892,760	148,698,329,000	\$0.0002	\$0.0719	\$0.0721
GA	\$29,169,383	87,419,232,000	\$0.0003	\$0.0670	\$0.0673
HI	\$2,481,707	7,523,154,000	\$0.0003	\$0.1006	\$0.1009
IA	\$42,690,067	32,142,400,000	\$0.0013	\$0.0606	\$0.0619
ID	\$14,372,116	13,038,982,000	\$0.0011	\$0.0394	\$0.0405
IL	\$141,162,967	110,217,641,000	\$0.0013	\$0.0788	\$0.0801
IN	\$63,414,633	77,207,026,000	\$0.0008	\$0.0536	\$0.0544
KS	\$20,996,462	21,496,572,000	\$0.0010	\$0.0648	\$0.0658
KY	\$35,907,973	53,382,382,000	\$0.0007	\$0.0471	\$0.0478

Table D-1
 State-by-State Total Retail Price Impacts of State-Specific Universal Service Fund (USF) Charges
 (Using 1993 Utility Data)

State	1986 LIHEAP Allotment (1995\$)	Total Retail Sales	USF Charge	Price without USF Charge	Price with USF Charge
LA	\$23,836,957	60,709,375,000	\$0.0004	\$0.0600	\$0.0604
MA	\$96,147,863	51,653,356,000	\$0.0019	\$0.0955	\$0.0974
MD	\$43,563,151	41,804,258,000	\$0.0010	\$0.0681	\$0.0691
ME	\$31,139,088	11,742,417,000	\$0.0027	\$0.0910	\$0.0937
MI	\$133,696,171	80,233,535,000	\$0.0017	\$0.0730	\$0.0747
MN	\$90,997,924	41,911,969,000	\$0.0022	\$0.0531	\$0.0553
MO	\$58,231,025	64,763,951,000	\$0.0009	\$0.0632	\$0.0641
MS	\$19,989,786	30,625,141,000	\$0.0007	\$0.0652	\$0.0659
MT	\$16,857,578	8,856,524,000	\$0.0019	\$0.0497	\$0.0516
NC	\$51,411,099	119,955,152,000	\$0.0004	\$0.0643	\$0.0647
ND	\$18,312,431	4,849,503,000	\$0.0038	\$0.0626	\$0.0664
NE	\$21,111,877	15,461,088,000	\$0.0014	\$0.0560	\$0.0574
NH	\$18,198,829	6,885,101,000	\$0.0026	\$0.1120	\$0.1146
NJ	\$100,711,149	65,202,525,000	\$0.0015	\$0.0998	\$0.1013
NM	\$13,858,392	9,508,474,000	\$0.0015	\$0.0805	\$0.0820
NV	\$5,295,935	18,178,977,000	\$0.0003	\$0.0612	\$0.0615
NY	\$291,441,997	114,960,933,000	\$0.0025	\$0.1137	\$0.1162
OH	\$132,448,932	133,232,127,000	\$0.0010	\$0.0664	\$0.0674
OK	\$21,432,126	39,871,563,000	\$0.0005	\$0.0592	\$0.0597

Table D-1
 State-by-State Total Retail Price Impacts of State-Specific Universal Service Fund (USF) Charges
 (Using 1993 Utility Data)

State	1986 LIHEAP Allotment (1995\$)	Total Retail Sales	USF Charge	Price without USF Charge	Price with USF Charge
OR	\$28,556,652	69,783,314,000	\$0.0004	\$0.0460	\$0.0464
PA	\$156,547,335	118,042,393,000	\$0.0013	\$0.0792	\$0.0805
RI	\$15,826,487	6,508,158,000	\$0.0024	\$0.1038	\$0.1062
SC	\$18,517,598	34,379,071,000	\$0.0005	\$0.0567	\$0.0572
SD	\$14,872,901	4,862,883,000	\$0.0031	\$0.0647	\$0.0678
TN	\$37,585,559	70,947,639,000	\$0.0005	\$0.0550	\$0.0555
TX	\$61,377,242	257,024,042,000	\$0.0002	\$0.0641	\$0.0643
UT	\$17,122,090	2,817,526,000	\$0.0061	\$0.0566	\$0.0627
VA	\$48,474,189	92,632,932,000	\$0.0005	\$0.0611	\$0.0616
VT	\$13,640,670	4,213,311,000	\$0.0032	\$0.0913	\$0.0945
WA	\$46,971,759	69,904,572,000	\$0.0007	\$0.0407	\$0.0414
WI	\$81,911,197	53,762,543,000	\$0.0015	\$0.0545	\$0.0560
WV	\$21,783,849	11,051,879,000	\$0.0020	\$0.0514	\$0.0534
WY	\$6,855,309	2,855,199,000	\$0.0024	\$0.0562	\$0.0586

Table D-2
State-by-State Total Retail Price Impacts of Uniform National Universal Service Fund (USF) Charge
(Using 1993 Utility Data)

State	Total Retail		USF Charge	USF Revenue	Price per kWh		
	Sales (kwh)	Revenue			Without USF Charge	With USF Charge	Pct Increase
AK	6,445,409,000	\$491,749,194	\$0.0011	\$7,089,950	\$0.0763	\$0.0774	1.4%
AL	60,442,691,000	\$3,532,594,103	\$0.0011	\$66,486,960	\$0.0584	\$0.0595	1.9%
AR	23,061,568,000	\$1,643,934,372	\$0.0011	\$25,367,725	\$0.0713	\$0.0724	1.5%
AZ	42,910,235,000	\$3,551,039,849	\$0.0011	\$47,201,259	\$0.0828	\$0.0839	1.3%
CA	203,843,079,000	\$20,140,991,988	\$0.0011	\$224,227,387	\$0.0988	\$0.0999	1.1%
CO	30,388,250,000	\$1,843,602,883	\$0.0011	\$33,427,075	\$0.0607	\$0.0618	1.8%
CT	28,472,444,000	\$2,936,212,000	\$0.0011	\$31,319,688	\$0.1031	\$0.1042	1.1%
DC	23,367,059,000	\$1,588,273,000	\$0.0011	\$25,703,765	\$0.0680	\$0.0691	1.6%
DE	11,674,833,000	\$836,332,721	\$0.0011	\$12,842,316	\$0.0716	\$0.0727	1.5%
FL	148,698,329,000	\$10,687,782,654	\$0.0011	\$163,568,162	\$0.0719	\$0.0730	1.5%
GA	87,419,232,000	\$5,858,007,350	\$0.0011	\$96,161,155	\$0.0670	\$0.0681	1.6%
HI	7,523,154,000	\$757,047,000	\$0.0011	\$8,275,469	\$0.1006	\$0.1017	1.1%
IA	32,142,400,000	\$1,946,654,565	\$0.0011	\$35,356,640	\$0.0606	\$0.0617	1.8%
ID	13,038,982,000	\$513,091,627	\$0.0011	\$14,342,880	\$0.0394	\$0.0405	2.8%
IL	110,217,641,000	\$8,681,799,816	\$0.0011	\$121,239,405	\$0.0788	\$0.0799	1.4%
IN	77,207,026,000	\$4,140,791,985	\$0.0011	\$84,927,729	\$0.0536	\$0.0547	2.1%
KS	21,496,572,000	\$1,392,662,023	\$0.0011	\$23,646,229	\$0.0648	\$0.0659	1.7%

Table D-2
State-by-State Total Retail Price Impacts of Uniform National Universal Service Fund (USF) Charge
(Using 1993 Utility Data)

State	Total Retail		USF Charge	USF Revenue	Price per kWh		
	Sales (kwh)	Revenue			Without USF Charge	With USF Charge	Pct Increase
KY	53,382,382,000	\$2,513,275,680	\$0.0011	\$58,720,620	\$0.0471	\$0.0482	2.3%
LA	60,709,375,000	\$3,640,311,946	\$0.0011	\$66,780,313	\$0.0600	\$0.0611	1.8%
MA	51,653,356,000	\$4,931,549,030	\$0.0011	\$56,818,692	\$0.0955	\$0.0966	1.2%
MD	41,804,258,000	\$2,845,551,108	\$0.0011	\$45,984,684	\$0.0681	\$0.0692	1.6%
ME	11,742,417,000	\$1,068,055,073	\$0.0011	\$12,916,659	\$0.0910	\$0.0921	1.2%
MI	80,233,535,000	\$5,857,715,642	\$0.0011	\$88,256,889	\$0.0730	\$0.0741	1.5%
MN	41,911,969,000	\$2,227,300,000	\$0.0011	\$46,103,166	\$0.0531	\$0.0542	2.1%
MO	64,763,951,000	\$4,096,237,261	\$0.0011	\$71,240,346	\$0.0632	\$0.0643	1.7%
MS	30,625,141,000	\$1,996,921,155	\$0.0011	\$33,687,655	\$0.0652	\$0.0663	1.7%
MT	8,856,524,000	\$439,984,598	\$0.0011	\$9,742,176	\$0.0497	\$0.0508	2.2%
NC	119,955,152,000	\$7,711,958,700	\$0.0011	\$131,950,667	\$0.0643	\$0.0654	1.7%
ND	4,849,503,000	\$303,683,584	\$0.0011	\$5,334,453	\$0.0626	\$0.0637	1.8%
NE	15,461,088,000	\$865,816,618	\$0.0011	\$17,007,197	\$0.0560	\$0.0571	2.0%
NH	6,885,101,000	\$771,027,560	\$0.0011	\$7,573,611	\$0.1120	\$0.1131	1.0%
NJ	65,202,525,000	\$6,510,443,461	\$0.0011	\$71,722,778	\$0.0998	\$0.1009	1.1%
NM	9,508,474,000	\$764,997,752	\$0.0011	\$10,459,321	\$0.0805	\$0.0816	1.4%
NV	18,178,977,000	\$1,111,902,488	\$0.0011	\$19,996,875	\$0.0612	\$0.0623	1.8%

Table D-2
State-by-State Total Retail Price Impacts of Uniform National Universal Service Fund (USF) Charge
(Using 1993 Utility Data)

State	Total Retail		USF Charge	USF Revenue	Price per kWh		
	Sales (kwh)	Revenue			Without USF Charge	With USF Charge	Pct Increase
NY	114,960,933,000	\$13,068,260,728	\$0.0011	\$126,457,026	\$0.1137	\$0.1148	1.0%
OH	133,232,127,000	\$8,844,634,738	\$0.0011	\$146,555,340	\$0.0664	\$0.0675	1.7%
OK	39,871,563,000	\$2,359,527,903	\$0.0011	\$43,858,719	\$0.0592	\$0.0603	1.9%
OR	69,783,314,000	\$3,211,919,318	\$0.0011	\$76,761,645	\$0.0460	\$0.0471	2.4%
PA	118,042,393,000	\$9,352,442,881	\$0.0011	\$129,846,632	\$0.0792	\$0.0803	1.4%
RI	6,508,158,000	\$675,287,000	\$0.0011	\$7,158,974	\$0.1038	\$0.1049	1.1%
SC	34,379,071,000	\$1,948,987,558	\$0.0011	\$37,816,978	\$0.0567	\$0.0578	1.9%
SD	4,862,883,000	\$314,832,861	\$0.0011	\$5,349,171	\$0.0647	\$0.0658	1.7%
TN	70,947,639,000	\$3,901,747,199	\$0.0011	\$78,042,403	\$0.0550	\$0.0561	2.0%
TX	257,024,042,000	\$16,463,966,817	\$0.0011	\$282,726,446	\$0.0641	\$0.0652	1.7%
UT	2,817,526,000	\$159,557,408	\$0.0011	\$3,099,279	\$0.0566	\$0.0577	1.9%
VA	92,632,932,000	\$5,660,913,475	\$0.0011	\$101,896,225	\$0.0611	\$0.0622	1.8%
VT	4,213,311,000	\$384,787,370	\$0.0011	\$4,634,642	\$0.0913	\$0.0924	1.2%
WA	69,904,572,000	\$2,842,402,702	\$0.0011	\$76,895,029	\$0.0407	\$0.0418	2.7%
WI	53,762,543,000	\$2,928,107,873	\$0.0011	\$59,138,797	\$0.0545	\$0.0556	2.0%
WV	11,051,879,000	\$567,550,000	\$0.0011	\$12,157,067	\$0.0514	\$0.0525	2.1%
WY	2,855,199,000	\$160,504,516	\$0.0011	\$3,140,719	\$0.0562	\$0.0573	2.0%

Table D-2
 State-by-State Total Retail Price Impacts of Uniform National Universal Service Fund (USF) Charge
 (Using 1993 Utility Data)

State	Total Retail		USF Charge	USF Revenue	Price per kWh		
	Sales (kwh)	Revenue			Without USF Charge	With USF Charge	Pct Increase
U.S.				\$2,971,014,989			

Table D-3
 Excess/(Shortfall) Between 1986 LIHEAP Appropriation (1995\$)
 and State-Specific Revenue Generated by Uniform National Charge (\$0.0011/kWh) on Total Retail Sales
 (Using 1993 Utility Data)

States	1986 LIHEAP Allotment (1995\$)	Total Retail Sales	USF Charge	USF Revenue	Dollars Excess/(Shortfall)
AK	\$23,315,927	6,445,409,000	\$0.0011	\$7,089,950	(\$16,225,977)
AL	\$12,573,689	60,442,691,000	\$0.0011	\$66,486,960	\$53,913,271
AR	\$17,791,155	23,061,568,000	\$0.0011	\$25,367,725	\$7,576,570
AZ	\$11,275,861	42,910,235,000	\$0.0011	\$47,201,259	\$35,925,398
CA	\$125,083,160	203,843,079,000	\$0.0011	\$224,227,387	\$99,144,227
CO	\$36,845,283	30,388,250,000	\$0.0011	\$33,427,075	(\$3,418,208)
CT	\$48,065,972	28,472,444,000	\$0.0011	\$31,319,688	(\$16,746,284)
DC	\$7,819,313	23,367,059,000	\$0.0011	\$25,703,765	\$17,884,452
DE	\$6,962,503	11,674,833,000	\$0.0011	\$12,842,316	\$5,879,813
FL	\$36,892,760	148,698,329,000	\$0.0011	\$163,568,162	\$126,675,402
GA	\$29,169,383	87,419,232,000	\$0.0011	\$96,161,155	\$66,991,772
HI	\$2,481,707	7,523,154,000	\$0.0011	\$8,275,469	\$5,793,762
IA	\$42,690,067	32,142,400,000	\$0.0011	\$35,356,640	(\$7,333,427)
ID	\$14,372,116	13,038,982,000	\$0.0011	\$14,342,880	(\$29,236)
IL	\$141,162,967	110,217,641,000	\$0.0011	\$121,239,405	(\$19,923,562)
IN	\$63,414,633	77,207,026,000	\$0.0011	\$84,927,729	\$21,513,096
KS	\$20,996,462	21,496,572,000	\$0.0011	\$23,646,229	\$2,649,767
KY	\$35,907,973	53,382,382,000	\$0.0011	\$58,720,620	\$22,812,647

Table D-3
 Excess/(Shortfall) Between 1986 LIHEAP Appropriation (1995\$)
 and State-Specific Revenue Generated by Uniform National Charge (\$0.0011/kWh) on Total Retail Sales
 (Using 1993 Utility Data)

States	1986 LIHEAP Allotment (1995\$)	Total Retail Sales	USF Charge	USF Revenue	Dollars Excess/(Shortfall)
LA	\$23,836,957	60,709,375,000	\$0.0011	\$66,780,313	\$42,943,356
MA	\$96,147,863	51,653,356,000	\$0.0011	\$56,818,692	\$(-9,329,171)
MD	\$43,563,151	41,804,258,000	\$0.0011	\$45,984,684	\$2,421,533
ME	\$31,139,088	11,742,417,000	\$0.0011	\$12,916,659	(\$18,222,429)
MI	\$133,696,171	80,233,535,000	\$0.0011	\$88,256,889	(\$45,439,282)
MN	\$90,997,924	41,911,969,000	\$0.0011	\$46,103,166	(\$44,894,758)
MO	\$58,231,025	64,763,951,000	\$0.0011	\$71,240,346	\$13,009,321
MS	\$19,989,786	30,625,141,000	\$0.0011	\$33,687,655	\$13,697,869
MT	\$16,857,578	8,856,524,000	\$0.0011	\$9,742,176	(\$7,115,402)
NC	\$51,411,099	119,955,152,000	\$0.0011	\$131,950,667	\$80,539,568
ND	\$18,312,431	4,849,503,000	\$0.0011	\$5,334,453	(\$12,977,978)
NE	\$21,111,877	15,461,088,000	\$0.0011	\$17,007,197	(\$4,104,680)
NH	\$18,198,829	6,885,101,000	\$0.0011	\$7,573,611	(\$10,625,218)
NJ	\$100,711,149	65,202,525,000	\$0.0011	\$71,722,778	(\$28,988,371)
NM	\$13,858,392	9,508,474,000	\$0.0011	\$10,459,321	(\$3,399,071)
NV	\$5,295,935	18,178,977,000	\$0.0011	\$19,996,875	\$14,700,940
NY	\$291,441,997	114,960,933,000	\$0.0011	\$126,457,026	(\$164,984,971)
OH	\$132,448,932	133,232,127,000	\$0.0011	\$146,555,340	\$14,106,408

Table D-3
 Excess/(Shortfall) Between 1986 LIHEAP Appropriation (1995\$)
 and State-Specific Revenue Generated by Uniform National Charge (\$0.0011/kWh) on Total Retail Sales
 (Using 1993 Utility Data)

States	1986 LIHEAP Allotment (1995\$)	Total Retail Sales	USF Charge	USF Revenue	Dollars Excess/(Shortfall)
OK	\$21,432,126	39,871,563,000	\$0.0011	\$43,858,719	\$22,426,593
OR	\$28,556,652	69,783,314,000	\$0.0011	\$76,761,645	\$48,204,993
PA	\$156,547,335	118,042,393,000	\$0.0011	\$129,846,632	(\$26,700,703)
RI	\$15,826,487	6,508,158,000	\$0.0011	\$7,158,974	(\$8,667,513)
SC	\$18,517,598	34,379,071,000	\$0.0011	\$37,816,978	\$19,299,380
SD	\$14,872,901	4,862,883,000	\$0.0011	\$5,349,171	(\$9,523,730)
TN	\$37,585,559	70,947,639,000	\$0.0011	\$78,042,403	\$40,456,844
TX	\$61,377,242	257,024,042,000	\$0.0011	\$282,726,446	\$221,349,204
UT	\$17,122,090	2,817,526,000	\$0.0011	\$3,099,279	(\$14,022,811)
VA	\$48,474,189	92,632,932,000	\$0.0011	\$101,896,225	\$53,422,036
VT	\$13,640,670	4,213,311,000	\$0.0011	\$4,634,642	(\$9,006,028)
WA	\$46,971,759	69,904,572,000	\$0.0011	\$76,895,029	\$29,923,270
WI	\$81,911,197	53,762,543,000	\$0.0011	\$59,138,797	(\$22,772,400)
WV	\$21,783,849	11,051,879,000	\$0.0011	\$12,157,067	(\$9,626,782)
WY	\$6,855,309	2,855,199,000	\$0.0011	\$3,140,719	(\$3,714,590)
U.S.	\$2,435,546,081			\$2,971,014,989	

Table D-4
Per kWh Charge on Residential Sales Needed to Generate 1995 Present Value of 1986 LIHEAP Allotments (By State)
(Using 1993 Utility Data)

State	LIHEAP Allotments		Total State Residential Use (kWh)	Annual Avg Per Residential Customer		Universal Service Fund Charge		Residential Price/kWh		
	1986	1995 Constant Dollar		Bill (\$\$\$)	Sales (kWh)	Per kWh	Annual	W/O USF Charge	W/ USF Charge	Pct Increase
AK	\$20,055,090	\$23,315,927	2,151,550,000	\$847	9,502	\$0.0108	\$102.97	\$0.064	\$0.074	17.1%
AL	\$10,815,202	\$12,573,689	22,608,245,000	\$907	13,300	\$0.0006	\$7.40	\$0.071	\$0.072	0.8%
AR	\$15,302,982	\$17,791,155	9,325,658,000	\$993	11,374	\$0.0019	\$21.70	\$0.089	\$0.091	2.1%
AZ	\$9,698,881	\$11,275,861	16,227,573,000	\$1,054	10,902	\$0.0007	\$7.58	\$0.095	\$0.096	0.7%
CA	\$107,589,719	\$125,083,160	66,416,577,000	\$704	6,205	\$0.0019	\$11.69	\$0.121	\$0.123	1.6%
CO	\$31,692,305	\$36,845,283	9,911,959,000	\$531	7,336	\$0.0037	\$27.27	\$0.074	\$0.078	5.0%
CT	\$41,343,730	\$48,065,972	11,141,922,000	\$916	8,053	\$0.0043	\$34.74	\$0.081	\$0.085	5.3%
DC	\$6,725,747	\$7,819,313	6,739,987,000	\$853	11,361	\$0.0012	\$13.18	\$0.075	\$0.076	1.5%
DE	\$5,988,766	\$6,962,503	4,260,149,000	\$920	10,367	\$0.0016	\$16.94	\$0.082	\$0.084	2.0%
FL	\$31,733,142	\$36,892,760	74,935,423,000	\$992	12,414	\$0.0005	\$6.11	\$0.085	\$0.086	0.6%
GA	\$25,089,914	\$29,169,383	33,318,378,000	\$946	12,108	\$0.0009	\$10.60	\$0.084	\$0.085	1.0%
HI	\$2,134,629	\$2,481,707	2,029,649,000	\$873	7,491	\$0.0012	\$9.16	\$0.130	\$0.132	0.9%
IA	\$36,719,670	\$42,690,067	10,945,242,000	\$777	9,426	\$0.0039	\$36.77	\$0.091	\$0.095	4.3%
ID	\$12,362,111	\$14,372,116	4,618,394,000	\$718	14,485	\$0.0031	\$45.08	\$0.059	\$0.062	5.3%
IL	\$121,420,693	\$141,162,967	33,069,036,000	\$813	7,803	\$0.0043	\$33.31	\$0.129	\$0.134	3.3%
IN	\$54,545,812	\$63,414,633	24,983,186,000	\$727	10,957	\$0.0025	\$27.81	\$0.077	\$0.080	3.3%
KS	\$18,060,013	\$20,996,462	6,930,587,000	\$749	9,374	\$0.0030	\$28.40	\$0.077	\$0.080	4.0%
KY	\$30,886,082	\$35,907,973	19,024,739,000	\$713	12,502	\$0.0019	\$23.60	\$0.068	\$0.070	2.8%
LA	\$20,503,252	\$23,836,957	20,407,332,000	\$985	13,124	\$0.0012	\$15.33	\$0.089	\$0.090	1.3%

Table D-4
Per kWh Charge on Residential Sales Needed to Generate 1995 Present Value of 1986 LIHEAP Allotments (By State)
(Using 1993 Utility Data)

State	LIHEAP Allotments		Total State Residential Use (kWh)	Annual Avg Per Residential Customer		Universal Service Fund Charge		Residential Price/kWh		
	1986	1995 Constant Dollar		Bill (\$\$\$)	Sales (kWh)	Per kWh	Annual	W/O USF Charge	W/ USF Charge	Pct Increase
MA	\$82,701,153	\$96,147,863	20,876,372,000	\$754	7,496	\$0.0046	\$34.52	\$0.076	\$0.080	6.1%
MD	\$37,470,649	\$43,563,151	16,751,716,000	\$961	11,797	\$0.0026	\$30.68	\$0.077	\$0.080	3.4%
ME	\$26,784,147	\$31,139,088	3,790,750,000	\$751	6,543	\$0.0082	\$53.74	\$0.152	\$0.160	5.4%
MI	\$114,998,162	\$133,696,171	25,052,076,000	\$579	6,990	\$0.0053	\$37.30	\$0.064	\$0.069	8.3%
MN	\$78,271,456	\$90,997,924	10,198,181,000	\$522	7,559	\$0.0089	\$67.45	\$0.062	\$0.071	14.4%
MO	\$50,087,155	\$58,231,025	25,821,233,000	\$786	10,730	\$0.0023	\$24.20	\$0.076	\$0.079	3.0%
MS	\$17,194,125	\$19,989,786	12,906,840,000	\$934	12,957	\$0.0015	\$20.07	\$0.104	\$0.105	1.5%
MT	\$14,499,970	\$16,857,578	2,966,978,000	\$576	9,807	\$0.0057	\$55.72	\$0.059	\$0.065	9.6%
NC	\$44,221,026	\$51,411,099	42,287,088,000	\$1,037	12,885	\$0.0012	\$15.67	\$0.094	\$0.095	1.3%
ND	\$15,751,355	\$18,312,431	2,147,685,000	\$792	11,665	\$0.0085	\$99.46	\$0.064	\$0.073	13.2%
NE	\$18,159,286	\$21,111,877	5,868,640,000	\$684	10,836	\$0.0036	\$38.98	\$0.084	\$0.088	4.3%
NH	\$15,653,641	\$18,198,829	2,712,560,000	\$872	6,795	\$0.0067	\$45.59	\$0.128	\$0.134	5.3%
NJ	\$86,626,243	\$100,711,149	21,837,263,000	\$853	7,471	\$0.0046	\$34.46	\$0.111	\$0.116	4.2%
NM	\$11,920,234	\$13,858,392	2,605,928,000	\$589	6,008	\$0.0053	\$31.95	\$0.103	\$0.109	5.1%
NV	\$4,555,275	\$5,295,935	6,380,084,000	\$727	10,960	\$0.0008	\$9.10	\$0.069	\$0.070	1.2%
NY	\$250,682,526	\$291,441,997	39,086,299,000	\$826	6,176	\$0.0075	\$46.05	\$0.084	\$0.092	8.8%
OH	\$113,925,355	\$132,448,932	40,932,563,000	\$815	9,687	\$0.0032	\$31.35	\$0.059	\$0.063	5.4%
OK	\$18,434,747	\$21,432,126	15,467,740,000	\$823	11,586	\$0.0014	\$16.05	\$0.080	\$0.081	1.7%
OR	\$24,562,876	\$28,556,652	23,221,298,000	\$644	11,936	\$0.0012	\$14.68	\$0.078	\$0.080	1.6%
PA	\$134,653,488	\$156,547,335	40,486,882,000	\$837	8,732	\$0.0039	\$33.76	\$0.063	\$0.067	6.1%

Table D-4
Per kWh Charge on Residential Sales Needed to Generate 1995 Present Value of 1986 LIHEAP Allotments (By State)
(Using 1993 Utility Data)

State	LIHEAP Allotments		Total State Residential Use (kWh)	Annual Avg Per Residential Customer		Universal Service Fund Charge		Residential Price/kWh		
	1986	1995 Constant Dollar		Bill (\$\$\$)	Sales (kWh)	Per kWh	Annual	W/O USF Charge	W/ USF Charge	Pct Increase
RI	\$13,613,082	\$15,826,487	2,388,405,000	\$698	6,137	\$0.0066	\$40.66	\$0.120	\$0.127	5.5%
SC	\$15,927,829	\$18,517,598	13,770,822,000	\$1,002	13,799	\$0.0013	\$18.56	\$0.086	\$0.087	1.6%
SD	\$12,792,859	\$14,872,901	2,336,841,000	\$799	11,153	\$0.0064	\$70.98	\$0.068	\$0.074	9.4%
TN	\$32,329,050	\$37,585,559	31,579,705,000	\$855	14,770	\$0.0012	\$17.58	\$0.055	\$0.057	2.1%
TX	\$52,793,359	\$61,377,242	87,342,429,000	\$1,030	12,761	\$0.0007	\$8.97	\$0.071	\$0.072	1.0%
UT	\$14,727,489	\$17,122,090	778,221,000	\$520	8,698	\$0.0220	\$191.37	\$0.041	\$0.063	53.1%
VA	\$41,694,856	\$48,474,189	36,695,113,000	\$981	13,246	\$0.0013	\$17.50	\$0.060	\$0.061	2.2%
VT	\$11,732,961	\$13,640,670	1,672,360,000	\$743	7,499	\$0.0082	\$61.17	\$0.126	\$0.134	6.5%
WA	\$40,402,548	\$46,971,759	29,218,972,000	\$654	14,298	\$0.0016	\$22.99	\$0.049	\$0.051	3.3%
WI	\$70,455,549	\$81,911,197	16,855,554,000	\$591	8,332	\$0.0049	\$40.49	\$0.054	\$0.059	9.0%
WV	\$18,737,280	\$21,783,849	3,059,799,000	\$631	9,220	\$0.0071	\$65.64	\$0.066	\$0.073	10.8%
WY	\$5,896,563	\$6,855,309	719,872,000	\$742	11,639	\$0.0095	\$110.84	\$0.074	\$0.083	12.9%
U.S.	\$2,094,924,034	\$2,435,546,081	966,861,855,000							

NOTE
1995 Constant Dollar calculated by taking December 1985 CPI for "fuel and other utilities" and updating to Constant Dollars using December 1995 CPI for "fuel and other utilities."
1986 state allotments taken from 1986 LIHEAP annual report to Congress.

Table D-5
 Universal Service Fund (USF) Revenues Generated by \$0.003/kWh Residential Charge By State
 (Using 1993 Utility Data)

State	Total State			Average Per Residential Customer		Dollars/kWh USF Charge	Universal Service Fund Revenues		Residential Price/kWh		
	Use (kWh)	No. of Customers	Revenue	Revenue (\$\$\$)	Sales (kWh)		Total State	Per Customer	Without USF Charge	With USF Charge	Pct Price Increase
AK	2,151,550,000	226,428	\$191,682,867	\$847	9,502	\$0.003	\$6,454,650	\$28.51	\$0.064	\$0.067	4.7%
AL	22,608,245,000	1,699,928	\$1,542,242,154	\$907	13,300	\$0.003	\$67,824,735	\$39.90	\$0.071	\$0.074	4.2%
AR	9,325,658,000	819,927	\$814,228,011	\$993	11,374	\$0.003	\$27,976,974	\$34.12	\$0.089	\$0.092	3.4%
AZ	16,227,573,000	1,488,429	\$1,568,475,419	\$1,054	10,902	\$0.003	\$48,682,719	\$32.71	\$0.095	\$0.098	3.1%
CA	66,416,577,000	10,704,162	\$7,535,821,154	\$704	6,205	\$0.003	\$199,249,731	\$18.61	\$0.121	\$0.124	2.5%
CO	9,911,959,000	1,351,200	\$717,538,715	\$531	7,336	\$0.003	\$29,735,877	\$22.01	\$0.074	\$0.077	4.0%
CT	11,141,922,000	1,383,531	\$1,267,235,000	\$916	8,053	\$0.003	\$33,425,766	\$24.16	\$0.081	\$0.084	3.7%
DC	6,739,987,000	593,282	\$506,096,000	\$853	11,361	\$0.003	\$20,219,961	\$34.08	\$0.075	\$0.078	4.0%
DE	4,260,149,000	410,942	\$378,082,337	\$920	10,367	\$0.003	\$12,780,447	\$31.10	\$0.082	\$0.085	3.7%
FL	74,935,423,000	6,036,496	\$5,987,772,437	\$992	12,414	\$0.003	\$224,806,269	\$37.24	\$0.085	\$0.088	3.5%
GA	33,318,378,000	2,751,703	\$2,602,366,747	\$946	12,108	\$0.003	\$99,955,134	\$36.32	\$0.084	\$0.087	3.6%
HI	2,029,649,000	270,944	\$236,584,000	\$873	7,491	\$0.003	\$6,088,947	\$22.47	\$0.130	\$0.133	2.3%
IA	10,945,242,000	1,161,116	\$902,641,693	\$777	9,426	\$0.003	\$32,835,726	\$28.28	\$0.091	\$0.094	3.3%
ID	4,618,394,000	318,839	\$229,031,551	\$718	14,485	\$0.003	\$13,855,182	\$43.46	\$0.059	\$0.062	5.1%
IL	33,069,036,000	4,237,920	\$3,445,296,164	\$813	7,803	\$0.003	\$99,207,108	\$23.41	\$0.129	\$0.132	2.3%
IN	24,983,186,000	2,280,043	\$1,657,612,577	\$727	10,957	\$0.003	\$74,949,558	\$32.87	\$0.077	\$0.080	3.9%
KS	6,930,587,000	739,310	\$553,534,057	\$749	9,374	\$0.003	\$20,791,761	\$28.12	\$0.077	\$0.080	3.9%
KY	19,024,739,000	1,521,788	\$1,084,403,969	\$713	12,502	\$0.003	\$57,074,217	\$37.50	\$0.068	\$0.071	4.4%
LA	20,407,332,000	1,554,998	\$1,532,370,277	\$985	13,124	\$0.003	\$61,221,996	\$39.37	\$0.089	\$0.092	3.4%

Table D-5
 Universal Service Fund (USF) Revenues Generated by \$0.003/kWh Residential Charge By State
 (Using 1993 Utility Data)

State	Total State			Average Per Residential Customer		Dollars/kWh USF Charge	Universal Service Fund Revenues		Residential Price/kWh		
	Use (kWh)	No. of Customers	Revenue	Revenue (\$\$\$)	Sales (kWh)		Total State	Per Customer	Without USF Charge	With USF Charge	Pct Price Increase
MA	20,876,372,000	2,784,965	\$2,100,115,420	\$754	7,496	\$0.003	\$62,629,116	\$22.49	\$0.076	\$0.079	4.0%
MD	16,751,716,000	1,420,001	\$1,365,095,239	\$961	11,797	\$0.003	\$50,255,148	\$35.39	\$0.077	\$0.080	3.9%
ME	3,790,750,000	579,392	\$434,859,518	\$751	6,543	\$0.003	\$11,372,250	\$19.63	\$0.152	\$0.155	2.0%
MI	25,052,076,000	3,583,883	\$2,075,617,381	\$579	6,990	\$0.003	\$75,156,228	\$20.97	\$0.064	\$0.067	4.7%
MN	10,198,181,000	1,349,187	\$703,958,000	\$522	7,559	\$0.003	\$30,594,543	\$22.68	\$0.062	\$0.065	4.8%
MO	25,821,233,000	2,406,373	\$1,892,468,423	\$786	10,730	\$0.003	\$77,463,699	\$32.19	\$0.076	\$0.079	3.9%
MS	12,906,840,000	996,113	\$930,421,363	\$934	12,957	\$0.003	\$38,720,520	\$38.87	\$0.104	\$0.107	2.9%
MT	2,966,978,000	302,529	\$174,176,381	\$576	9,807	\$0.003	\$8,900,934	\$29.42	\$0.059	\$0.062	5.1%
NC	42,287,088,000	3,281,864	\$3,402,305,370	\$1,037	12,885	\$0.003	\$126,861,264	\$38.66	\$0.094	\$0.097	3.2%
ND	2,147,685,000	184,113	\$145,850,386	\$792	11,665	\$0.003	\$6,443,055	\$35.00	\$0.064	\$0.067	4.7%
NE	5,868,640,000	541,567	\$370,571,979	\$684	10,836	\$0.003	\$17,605,920	\$32.51	\$0.084	\$0.087	3.6%
NH	2,712,560,000	399,191	\$348,242,811	\$872	6,795	\$0.003	\$8,137,680	\$20.39	\$0.128	\$0.131	2.3%
NJ	21,837,263,000	2,922,916	\$2,492,659,602	\$853	7,471	\$0.003	\$65,511,789	\$22.41	\$0.111	\$0.114	2.7%
NM	2,605,928,000	433,755	\$255,448,956	\$589	6,008	\$0.003	\$7,817,784	\$18.02	\$0.103	\$0.106	2.9%
NV	6,380,084,000	582,125	\$423,255,450	\$727	10,960	\$0.003	\$19,140,252	\$32.88	\$0.069	\$0.072	4.4%
NY	39,086,299,000	6,328,835	\$5,226,322,079	\$826	6,176	\$0.003	\$117,258,897	\$18.53	\$0.084	\$0.087	3.6%
OH	40,932,563,000	4,225,519	\$3,442,587,789	\$815	9,687	\$0.003	\$122,797,689	\$29.06	\$0.059	\$0.062	5.0%
OK	15,467,740,000	1,335,091	\$1,098,577,303	\$823	11,586	\$0.003	\$46,403,220	\$34.76	\$0.080	\$0.083	3.8%
OR	23,221,298,000	1,945,520	\$1,252,112,222	\$644	11,936	\$0.003	\$69,663,894	\$35.81	\$0.078	\$0.081	3.8%
PA	40,486,882,000	4,636,748	\$3,883,188,205	\$837	8,732	\$0.003	\$121,460,646	\$26.20	\$0.063	\$0.066	4.7%

Table D-5
 Universal Service Fund (USF) Revenues Generated by \$0.003/kWh Residential Charge By State
 (Using 1993 Utility Data)

State	Total State			Average Per Residential Customer		Dollars/kWh USF Charge	Universal Service Fund Revenues		Residential Price/kWh		
	Use (kWh)	No. of Customers	Revenue	Revenue (\$\$\$)	Sales (kWh)		Total State	Per Customer	Without USF Charge	With USF Charge	Pct Price Increase
RI	2,388,405,000	389,212	\$271,553,000	\$698	6,137	\$0.003	\$7,165,215	\$18.41	\$0.120	\$0.123	2.5%
SC	13,770,822,000	997,983	\$999,672,337	\$1,002	13,799	\$0.003	\$41,312,466	\$41.40	\$0.086	\$0.089	3.5%
SD	2,336,841,000	209,524	\$167,455,005	\$799	11,153	\$0.003	\$7,010,523	\$33.46	\$0.068	\$0.071	4.4%
TN	31,579,705,000	2,138,064	\$1,828,197,090	\$855	14,770	\$0.003	\$94,739,115	\$44.31	\$0.055	\$0.058	5.4%
TX	87,342,429,000	6,844,576	\$7,046,851,924	\$1,030	12,761	\$0.003	\$262,027,287	\$38.28	\$0.071	\$0.074	4.2%
UT	778,221,000	89,469	\$46,559,756	\$520	8,698	\$0.003	\$2,334,663	\$26.09	\$0.041	\$0.044	7.2%
VA	36,695,113,000	2,770,277	\$2,718,160,241	\$981	13,246	\$0.003	\$110,085,339	\$39.74	\$0.060	\$0.063	5.0%
VT	1,672,360,000	222,998	\$165,750,602	\$743	7,499	\$0.003	\$5,017,080	\$22.50	\$0.126	\$0.129	2.4%
WA	29,218,972,000	2,043,505	\$1,336,053,153	\$654	14,298	\$0.003	\$87,656,916	\$42.90	\$0.049	\$0.052	6.1%
WI	16,855,554,000	2,023,063	\$1,196,161,844	\$591	8,332	\$0.003	\$50,566,662	\$25.00	\$0.054	\$0.057	5.6%
WV	3,059,799,000	331,866	\$209,469,000	\$631	9,220	\$0.003	\$9,179,397	\$27.66	\$0.066	\$0.069	4.6%
WY	719,872,000	61,851	\$45,923,510	\$742	11,639	\$0.003	\$2,159,616	\$34.92	\$0.074	\$0.077	4.1%
U.S.	966,861,855,000	97,913,061	\$80,802,656,468				\$2,900,585,565				

Table D-6
 State-by-State Residential Bill and Price Impacts of Uniform National Universal Service Fund Charge
 (Using 1993 Utility Data)

State	Residential Bills			Residential Price/kWh		
	Without USF Charge	USF Charge	With USF Charge	Without USF Charge	With USF Charge	Pct Price Increase
AK	\$847	\$28.51	\$876	\$0.064	\$0.067	4.7%
AL	\$907	\$39.90	\$947	\$0.071	\$0.074	4.2%
AR	\$993	\$34.12	\$1,027	\$0.089	\$0.092	3.4%
AZ	\$1,054	\$32.71	\$1,087	\$0.095	\$0.098	3.1%
CA	\$704	\$18.61	\$723	\$0.121	\$0.124	2.5%
CO	\$531	\$22.01	\$553	\$0.074	\$0.077	4.0%
CT	\$916	\$24.16	\$940	\$0.081	\$0.084	3.7%
DC	\$853	\$34.08	\$887	\$0.075	\$0.078	4.0%
DE	\$920	\$31.10	\$951	\$0.082	\$0.085	3.7%
FL	\$992	\$37.24	\$1,029	\$0.085	\$0.088	3.5%
GA	\$946	\$36.32	\$982	\$0.084	\$0.087	3.6%
HI	\$873	\$22.47	\$895	\$0.130	\$0.133	2.3%
IA	\$777	\$28.28	\$805	\$0.091	\$0.094	3.3%
ID	\$718	\$43.46	\$761	\$0.059	\$0.062	5.1%
IL	\$813	\$23.41	\$836	\$0.129	\$0.132	2.3%
IN	\$727	\$32.87	\$760	\$0.077	\$0.080	3.9%

Table D-6
State-by-State Residential Bill and Price Impacts of Uniform National Universal Service Fund Charge
(Using 1993 Utility Data)

State	Residential Bills			Residential Price/kWh		
	Without USF Charge	USF Charge	With USF Charge	Without USF Charge	With USF Charge	Pct Price Increase
KS	\$749	\$28.12	\$777	\$0.077	\$0.080	3.9%
KY	\$713	\$37.50	\$751	\$0.068	\$0.071	4.4%
LA	\$985	\$39.37	\$1,024	\$0.089	\$0.092	3.4%
MA	\$754	\$22.49	\$776	\$0.076	\$0.079	4.0%
MD	\$961	\$35.39	\$996	\$0.077	\$0.080	3.9%
ME	\$751	\$19.63	\$771	\$0.152	\$0.155	2.0%
MI	\$579	\$20.97	\$600	\$0.064	\$0.067	4.7%
MN	\$522	\$22.68	\$545	\$0.062	\$0.065	4.8%
MO	\$786	\$32.19	\$818	\$0.076	\$0.079	3.9%
MS	\$934	\$38.87	\$973	\$0.104	\$0.107	2.9%
MT	\$576	\$29.42	\$605	\$0.059	\$0.062	5.1%
NC	\$1,037	\$38.66	\$1,076	\$0.094	\$0.097	3.2%
ND	\$792	\$35.00	\$827	\$0.064	\$0.067	4.7%
NE	\$684	\$32.51	\$717	\$0.084	\$0.087	3.6%
NH	\$872	\$20.39	\$892	\$0.128	\$0.131	2.3%
NJ	\$853	\$22.41	\$875	\$0.111	\$0.114	2.7%
NM	\$589	\$18.02	\$607	\$0.103	\$0.106	2.9%

Table D-6
State-by-State Residential Bill and Price Impacts of Uniform National Universal Service Fund Charge
(Using 1993 Utility Data)

State	Residential Bills			Residential Price/kWh		
	Without USF Charge	USF Charge	With USF Charge	Without USF Charge	With USF Charge	Pct Price Increase
NV	\$727	\$32.88	\$760	\$0.069	\$0.072	4.4%
NY	\$826	\$18.53	\$845	\$0.084	\$0.087	3.6%
OH	\$815	\$29.06	\$844	\$0.059	\$0.062	5.0%
OK	\$823	\$34.76	\$858	\$0.080	\$0.083	3.8%
OR	\$644	\$35.81	\$680	\$0.078	\$0.081	3.8%
PA	\$837	\$26.20	\$863	\$0.063	\$0.066	4.7%
RI	\$698	\$18.41	\$716	\$0.120	\$0.123	2.5%
SC	\$1,002	\$41.40	\$1,043	\$0.086	\$0.089	3.5%
SD	\$799	\$33.46	\$832	\$0.068	\$0.071	4.4%
TN	\$855	\$44.31	\$899	\$0.055	\$0.058	5.4%
TX	\$1,030	\$38.28	\$1,068	\$0.071	\$0.074	4.2%
UT	\$520	\$26.09	\$546	\$0.041	\$0.044	7.2%
VA	\$981	\$39.74	\$1,021	\$0.060	\$0.063	5.0%
VT	\$743	\$22.50	\$766	\$0.126	\$0.129	2.4%
WA	\$654	\$42.90	\$697	\$0.049	\$0.052	6.1%
WI	\$591	\$25.00	\$616	\$0.054	\$0.057	5.6%
WV	\$631	\$27.66	\$659	\$0.066	\$0.069	4.6%

Table D-6
 State-by-State Residential Bill and Price Impacts of Uniform National Universal Service Fund Charge
 (Using 1993 Utility Data)

State	Residential Bills			Residential Price/kWh		
	Without USF Charge	USF Charge	With USF Charge	Without USF Charge	With USF Charge	Pct Price Increase
WY	\$742	\$34.92	\$777	\$0.074	\$0.077	4.1%

Table D-7
 Excess/(Shortfall) Between 1986 LIHEAP Appropriation (1995\$)
 and State-Specific Revenue Generated by Uniform National Charge (\$0.003/kWh) on Residential Sales
 (Using 1993 Utility Data)

State	1986 LIHEAP Allotment (1995\$)	Residential Usage	Per kWh Charge	Revenue Generated	Dollar Excess/(Shortfall)
AK	\$23,315,927	2,151,550,000	\$0.003	6,454,650	(\$16,861,277)
AL	\$12,573,689	22,608,245,000	\$0.003	67,824,735	\$55,251,046
AR	\$17,791,155	9,325,658,000	\$0.003	27,976,974	\$10,185,819
AZ	\$11,275,861	16,227,573,000	\$0.003	48,682,719	\$37,406,858
CA	\$125,083,160	66,416,577,000	\$0.003	199,249,731	\$74,166,571
CO	\$36,845,283	9,911,959,000	\$0.003	29,735,877	(\$7,109,406)
CT	\$48,065,972	11,141,922,000	\$0.003	33,425,766	(\$14,640,206)
DC	\$7,819,313	6,739,987,000	\$0.003	20,219,961	\$12,400,648
DE	\$6,962,503	4,260,149,000	\$0.003	12,780,447	\$5,817,944
FL	\$36,892,760	74,935,423,000	\$0.003	224,806,269	\$187,913,509
GA	\$29,169,383	33,318,378,000	\$0.003	99,955,134	\$70,785,751
HI	\$2,481,707	2,029,649,000	\$0.003	6,088,947	\$3,607,240
IA	\$42,690,067	10,945,242,000	\$0.003	32,835,726	(\$9,854,341)
ID	\$14,372,116	4,618,394,000	\$0.003	13,855,182	(\$516,934)
IL	\$141,162,967	33,069,036,000	\$0.003	99,207,108	(\$41,955,859)
IN	\$63,414,633	24,983,186,000	\$0.003	74,949,558	\$11,534,925
KS	\$20,996,462	6,930,587,000	\$0.003	20,791,761	(\$204,701)
KY	\$35,907,973	19,024,739,000	\$0.003	57,074,217	\$21,166,244

Table D-7
 Excess/(Shortfall) Between 1986 LIHEAP Appropriation (1995\$)
 and State-Specific Revenue Generated by Uniform National Charge (\$0.003/kWh) on Residential Sales
 (Using 1993 Utility Data)

State	1986 LIHEAP Allotment (1995\$)	Residential Usage	Per kWh Charge	Revenue Generated	Dollar Excess/(Shortfall)
LA	\$23,836,957	20,407,332,000	\$0.003	61,221,996	\$37,385,039
MA	\$96,147,863	20,876,372,000	\$0.003	62,629,116	(\$33,518,747)
MD	\$43,563,151	16,751,716,000	\$0.003	50,255,148	\$6,691,997
ME	\$31,139,088	3,790,750,000	\$0.003	11,372,250	(\$19,766,838)
MI	\$133,696,171	25,052,076,000	\$0.003	75,156,228	(\$58,539,943)
MN	\$90,997,924	10,198,181,000	\$0.003	30,594,543	(\$60,403,381)
MO	\$58,231,025	25,821,233,000	\$0.003	77,463,699	\$19,232,674
MS	\$19,989,786	12,906,840,000	\$0.003	38,720,520	\$18,730,734
MT	\$16,857,578	2,966,978,000	\$0.003	8,900,934	(\$7,956,644)
NC	\$51,411,099	42,287,088,000	\$0.003	126,861,264	\$75,450,165
ND	\$18,312,431	2,147,685,000	\$0.003	6,443,055	(\$11,869,376)
NE	\$21,111,877	5,868,640,000	\$0.003	17,605,920	(\$3,505,957)
NH	\$18,198,829	2,712,560,000	\$0.003	8,137,680	(\$10,061,149)
NJ	\$100,711,149	21,837,263,000	\$0.003	65,511,789	(\$35,199,360)
NM	\$13,858,392	2,605,928,000	\$0.003	7,817,784	(\$6,040,608)
NV	\$5,295,935	6,380,084,000	\$0.003	19,140,252	\$13,844,317
NY	\$291,441,997	39,086,299,000	\$0.003	117,258,897	(\$174,183,100)
OH	\$132,448,932	40,932,563,000	\$0.003	122,797,689	(\$9,651,243)

Table D-7
 Excess/(Shortfall) Between 1986 LIHEAP Appropriation (1995\$)
 and State-Specific Revenue Generated by Uniform National Charge (\$0.003/kWh) on Residential Sales
 (Using 1993 Utility Data)

State	1986 LIHEAP Allotment (1995\$)	Residential Usage	Per kWh Charge	Revenue Generated	Dollar Excess/(Shortfall)
OK	\$21,432,126	15,467,740,000	\$0.003	46,403,220	\$24,971,094
OR	\$28,556,652	23,221,298,000	\$0.003	69,663,894	\$41,107,242
PA	\$156,547,335	40,486,882,000	\$0.003	121,460,646	(\$35,086,689)
RI	\$15,826,487	2,388,405,000	\$0.003	7,165,215	(\$8,661,272)
SC	\$18,517,598	13,770,822,000	\$0.003	41,312,466	\$22,794,868
SD	\$14,872,901	2,336,841,000	\$0.003	7,010,523	(\$7,862,378)
TN	\$37,585,559	31,579,705,000	\$0.003	94,739,115	\$57,153,556
TX	\$61,377,242	87,342,429,000	\$0.003	262,027,287	\$200,650,045
UT	\$17,122,090	778,221,000	\$0.003	2,334,663	(\$14,787,427)
VA	\$48,474,189	36,695,113,000	\$0.003	110,085,339	\$61,611,150
VT	\$13,640,670	1,672,360,000	\$0.003	5,017,080	(\$8,623,590)
WA	\$46,971,759	29,218,972,000	\$0.003	87,656,916	\$40,685,157
WI	\$81,911,197	16,855,554,000	\$0.003	50,566,662	(\$31,344,535)
WV	\$21,783,849	3,059,799,000	\$0.003	9,179,397	(\$12,604,452)
WY	\$6,855,309	719,872,000	\$0.003	2,159,616	(\$4,695,693)
U.S.	\$2,435,546,081	966,861,855,000	0.003		\$2,900,585,565

NOTES:

1995 Constant Dollar calculated by taking December 1985 CPI for "fuel and other utilities" and updating to Constant Dollars using December 1995 CPI for "fuel and other utilities."

Table D-7
 Excess/(Shortfall) Between 1986 LIHEAP Appropriation (1995\$)
 and State-Specific Revenue Generated by Uniform National Charge (\$0.003/kWh) on Residential Sales
 (Using 1993 Utility Data)

State	1986 LIHEAP Allotment (1995\$)	Residential Usage	Per kWh Charge	Revenue Generated	Dollar Excess/(Shortfall)
1986 state allotments taken from 1986 LIHEAP annual report to Congress.					

APPENDIX E: ECONOMIC DEVELOPMENT IMPACTS OF EITC PROMOTION^{\204\}

Public utilities place significant effort today into "economic development" activities. In pursuit of this goal, these companies should place greater emphasis on the promotion of the Earned Income Tax Credit (EITC) for low-income households. The EITC is not only one of the most promising means of generating economic activity, and jobs, within a state, it is a means of generating economic activity and jobs that will likely stay in, and redound to the benefit of, distressed communities and the low-income households living in those communities.

As such, promotion of the EITC stands in sharp contrast to existing utility economic development efforts. The efforts of utilities today are generally directed toward providing rate breaks to large industrial consumers who threaten either to relocate existing facilities, or to locate new or expanded facilities, to a geographic area outside the utility service territory. While the efforts to purchase the siting decisions of industry

^{\204\} This discussion first appeared as R.Colton (1995). *Beyond Social Welfare: Promoting the Earned Income Tax Credit (EITC) as an Economic Development Strategy by Public Utilities*, Fisher, Sheehan & Colton, Public Finance and General Economics, Belmont, MA.

have been questioned as unwise,^{1205\} they have been pursued nonetheless. Some analysts question whether industries actually deliver on the promises they make in consideration for the rate breaks that are provided.^{1206\} Other analysts question whether the "economic development" generated by utility efforts brings employment that is at all related to the needs of local distressed communities.^{1207\}

Unfortunately, in their quest to deliver economic development through industrial siting decisions, utilities have missed one of the most promising economic development tools available for distressed communities which they serve: promotion of the Earned Income Tax Credit. As Alex Wilson, external programs staffperson for the Edison Electric Institute (EEI), has appropriately noted, "perhaps most importantly, [utility promotion of the EITC] contributes to the service territory's economic development."^{1208\}

The purpose of this paper is to help quantify Wilson's general policy conclusion. More specifically, the analysis below will develop a state-by-

^{1205\} See e.g., Greg LeRoy (1994). *No More Candy Store*, Federation for Industrial Retention and Renewal: Chicago, IL.

^{1206\} See generally, Roger Colton and Mike Sheehan (1994). *Economic Development Rates: Designing, Justifying and Enforcing*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA.

^{1207\} If, in other words, an industry which sites a facility in a local community is such that it must import 90 percent of its workforce, the siting of the facility has done little to address the distressed nature of the local community. For example, the federal Environmental Impact Statement for the Claiborne Enrichment Center, a nuclear reprocessing facility in Louisiana, concluded that the facility "will bring substantial employment and economic benefits which will benefit the entire population." *Final Environmental Impact Statement for the Claiborne Enrichment Center*, at § 4.2.1.7.4 (August 1994). Further inquiry found, however, even the EIC reported that most of the high-paying jobs will go to "migrants" from outside the local community. The EIS reported: "Of the adult (age 16 and over) population in the narrowly defined seven-county. . .employment region, more than 30 percent are not high school graduates. In Claiborne Parish, non-high school graduates represent almost 47 percent of the population ages 16 and older. In both cases, the rates are disproportionately higher for blacks than whites. Most of the employed individuals of both races work in lower skill, lower wage jobs. The likelihood of job training and operations employment will be concentrated among a group of currently more qualified and more educated individuals. These individuals are statistically more likely to be white than black. Lesser qualified individuals in the area will obtain jobs in the cafeteria, administration, general plant maintenance, and support services area."

^{1208\} Alex Wilson, "Another Perspective," *Electric Perspectives*, at 8 (Nov.-Dec. 1994).

state quantification of both the economic activity generated and the new employment created in a state by promotion of additional low-income participation in the EITC program. The evaluation will then present the data which supports the conclusion that the added economic activity, as well as the employment, will tend to stay in the local distressed communities and benefit the existing residents of those communities.

THE EARNED INCOME TAX CREDIT

The Earned Income Tax Credit is a refundable federal tax credit for low-income people who work. For tax year 1994, working families with one child that had income less than \$23,755 could be eligible for a credit of up to \$2,038. Families with more than one child that had income less than \$25,296 could be eligible for a credit of up to \$2,528. Until now, only families with children could receive the earned income tax credit, but this year, for the first time, low-income workers *without* children can be eligible, too, if they have income less than \$9,000. The maximum these workers can receive is \$306.

Low-income households do not have to owe taxes in order to receive the credit. Even workers who earn too little to owe federal income tax, in other words, can be eligible for the EITC. However, they *must* file a federal tax return.

ASSESSING ECONOMIC AND EMPLOYMENT IMPACTS: THE METHODOLOGY

For purposes of assessing the economic impacts arising from a promotion of the EITC by public utilities, we assume a five percent increase in the participation rate. This assumption is empirically-based. In New Jersey, where Public Service Electric and Gas (PSE&G) has aggressively promoted the EITC, there has been a 4.9 percent increase in program participation levels. The five percent increase is thus a demonstrably reachable figure.

Given this increase in participation rates, the analysis below further assumes an average benefit of \$1,000 per household. This assumption, too, has an empirical basis. According to the IRS, in tax year 1993 (tax returns filed in 1994), the most recent year for which data is available, the average benefit was \$1,000.

Given these two inputs, the amount of additional dollars flowing into low-income communities can be calculated on a state-by-state basis. The state-specific participation rate for tax year 1992 is increased by five percent. The number of households represented by that incremental

increase is then multiplied by \$1,000 to obtain the additional revenue attributable to the EITC.

Finally, the economic activity and jobs impact are calculated using state-specific data from the *Regional Multipliers: A User Handbook for the Regional Input-Output Modelling System (RIMS II)*.^{209\} The additional EITC benefits which flow into a state are assumed to be spent in the retail sales sector of the economy. As discussed below, this assumption is consistent with previous research on the uses to which EITC benefits have been put.

ECONOMIC AND JOBS IMPACTS: THE OVERALL RESULTS

The state-by-state impacts of an additional EITC participation of five percent are set forth in Table E-4 below. Nationwide, an increase of five percent in the EITC participation rate over 1992 levels would generate an additional \$1.6 *billion* in economic activity in low-income communities and create an additional 36,000 jobs. In addition to these aggregate numbers, however, is the fact that, as discussed in detail below, this economic activity, and these jobs, will tend to *stay* in the low-income community.

Not surprisingly, the greatest impacts regarding additional economic activity would go to the biggest states. These states have, for the most part, both the highest level of multiplier for each dollar of EITC benefit brought into the state and the highest level of total additional activity generated. The states with the highest economic multipliers, for example, were in descending order: Texas (2.4522), Illinois (2.4184), California (2.3373), Pennsylvania (2.2847), and New Jersey (2.2955). The top ten, however, were not strictly "big states." Utah (#10 at 2.1618), Kansas (#9 at 2.1863) and Colorado (#6 at 2.2447) all made the top ten as well. The ten states with the greatest multiplier as to economic activity are summarized below.

^{209\} The Second Edition (May 1992) is available from the Bureau of Economic Analysis, Washington D.C. or from the National Technical Information Service of the U.S. Department of Commerce.

Table E-1 Additional Economic Activity from 5% Increase in EITC Participation: Top Ten States		
States	Economic Activity Multiplier	Additional Economic Activity from EITC
Texas	2.4522	\$173,572,000
Illinois	2.4184	\$69,571,000
California	2.3373	\$247,580,000
Pennsylvania	2.2847	\$53,121,000
New Jersey	2.2455	\$37,970,000
Colorado	2.2447	\$18,424,000
Georgia	2.2284	\$57,106,000
Ohio	2.2279	\$52,678,000
Kansas	2.1863	\$12,075,000
Utah	2.1618	\$8,549,000

In contrast, the states with the highest creation of *jobs* per dollar of additional EITC benefit brought into the state did *not* involve the largest states. Instead, in terms of jobs created per additional million dollars of economic activity, the top five states were, in order from top to bottom: South Dakota, Utah, North Dakota, Iowa and Kentucky. The top ten states in job creation potential per million dollars of additional EITC benefits, along with the total jobs created in each state, are set forth below:

Table E-2
 Top Ten States in Job Creation Potential
 Per Million Dollars of Additional EITC Benefits

State	Jobs Created/Million Dollars of Additional EITC Benefits	Total Jobs Created with 5% Increase in EITC Participation
South Dakota	59.0	110
Utah	58.7	232
North Dakota	58.3	78
Iowa	58.2	324
Kentucky	56.7	622
Mississippi	56.6	843
Wisconsin	55.8	508
Nebraska	55.7	206
Indiana	55.5	749
South Carolina	55.2	814

As can be seen, therefore, the potential for increased EITC participation to generate substantial benefits for low-income communities, and thus for the utilities serving those low-income communities, is substantial whether in a large state or small. While large states generate impacts of considerable magnitude simply because of the sheer size of their low-income population, the generation of benefits is *not* simply with the domain of large states.

RETENTION OF JOBS AND ECONOMIC ACTIVITY WITHIN LOW-INCOME COMMUNITIES.

The final step in evaluating the extent to which promotion of the Earned Income Tax Credit will benefit low-income communities is to consider the extent to which, if at all, the additional economic activity generated by the additional EITC benefits will stay within the low-income community. If these dollars *do* stay in the low-income community, and create additional employment within those communities, utilities will enjoy even greater benefits by helping to stabilize the distressed communities which they serve, thus preserving customers (and revenue streams) and addressing collection problems.

Looking at the distribution of the additional EITC benefits requires a two-step process. First, it is necessary to obtain some idea of what goods and services the additional benefits are used to purchase. Second, it is necessary to obtain some idea of where low-income households tend to purchase those goods and services.

The best information on the uses to which EITC benefits are put comes from a study commissioned by PSE&G. According to that New Jersey utility, more than 90 percent of the low-income population receiving the Earned Income Tax Credit uses the additional funds to pay for household goods and services. The money is not used for vacations, or to purchase new cars and appliances, and the like. It is instead used for basic living expenses.

This use of EITC benefits is important because existing research indicates that low-income households tend to shop at local retail establishments. For food in particular, low-income households tend to shop at small, local food stores.^{210\} This tendency to shop at local food stores is not necessarily "voluntary." Due to AFDC limitations on the equity which a family may retain in an automobile,^{211\} many low-income households do not have access to low-cost convenient transportation to supermarkets that are not within easy walking distance. In addition,

^{210\} See generally, Morris, *Public Voice for Food and Health Policy, Higher Prices, Fewer Choices: Shopping for Food in Rural America* (1990); see also, Staff of the House Committee on Agriculture, 99th Congress, 1st Session, *A Review of the Thrifty Food Plan and its Use in the Food Stamp Program*, at 22 (Comm. Print 1985).

^{211\} See generally, M.Sheehan and R.Colton (1994). *An Economic Analysis of the HHS Rule Eliminating AFDC Benefits to Families with Motor Vehicle Assets Over \$1,500*, Fisher, Sheehan & Colton, Public Finance and General Economics: Belmont, MA.

the small local stores serving poor people have been found to be more likely to give credit to their customers, a particular help to low-income families who may run out of money for food at the end of the month.

Finally, research in Oakland, California recently found that businesses serving low-income communities "strengthen other locally based business--even more than stores in middle-income neighborhoods."^{212\} According to this research:

Oakland's low-income area businesses have a distribution network (in-coming goods) that is 54 percent Oakland-based. Nineteen percent say their main suppliers are half inside the city and half outside, and 27 percent have suppliers outside the city borders. In stark contrast, only 19 percent of [more middle income neighborhood] stores have main suppliers in Oakland. Twenty-five percent report that half their suppliers are Oakland-based and half are not. Yet 56 percent have main suppliers from outside the city.

The research concluded that "low-income area businesses of whatever kind purchase the bulk of their goods from Oakland-based suppliers. These suppliers are themselves sources of local employment" * * *^{213\}

^{212\} David Dante Troutt (1993). *The Thin Red Line: How the Poor Still Pay More*, at 35, Consumers Union: San Francisco.

^{213\} *Id.*, at 36.

Table E-3:
Supplier Location: Businesses Serving Low-Income and Middle-Income Neighborhoods

SUPPLIER LOCATION FOR SELECT LOW-INCOME AREA BUSINESSES					
Type of Store	Food Stores	Eating Places	Liquor Stores	Personal Services	TOTAL
Inside Oakland	45%	64%	47%	59%	54%
Half Inside, Half Outside	22%	9%	40%	6%	19%
Outside Oakland	33%	27%	13%	35%	27%
SUPPLIER LOCATION FOR SELECT MIDDLE-INCOME AREA BUSINESSES					
Type of Store	Food Store	Eating Places	Liquor Stores	Personal Services	TOTAL
Inside Oakland	12.5%	25%	0%	29%	19%
Half Inside, Half Outside	12.5%	25%	100%	42%	25%
Outside Oakland	75%	50%	0%	29%	56%

In sum, not only will promotion of the Earned Income Tax Credit provide income and employment to low-income households, but the funds that are delivered to such households will likely be spent, retained and recirculated within the low-income community.

SUMMARY AND CONCLUSIONS

Several major conclusions can be drawn from the discussions above.

- o First, nationwide, promotion of the EITC is not simply a social welfare program, but is a significant economic development program as

well. Increasing low-income participation in the EITC by five percent would generate \$1.6 *billion* in economic activity and 36,000 jobs.

- o Second, while the greatest absolute dollar amounts of economic activity will go to the big states, due to the sheer size of their low-income populations, the highest *job* creation potential lies in the smaller states. States such as Iowa, North Dakota, South Dakota, Utah, Nebraska, Utah, South Carolina and Indiana are all represented in the ten states with the largest number of jobs created per additional million dollars of EITC benefits.
- o Third, recipients of EITC benefits tend to devote the EITC to basic household living expenses. Low-income households tend to shop for goods and services within their local community. Moreover, previous research has found that the local businesses in low-income neighborhoods tend to use local suppliers far more than other businesses. Accordingly, both the economic activity and the job creation will likely *stay* in (and thus benefit) the low-income communities served by the EITC.

In sum, utility promotion of the EITC will not only generate substantial economic development activity, but it will tend to target that economic activity (and the jobs associated with that activity) to the distressed communities where it is needed most.

Table E-4
STATE-BY-STATE ECONOMIC ACTIVITY AND JOBS IMPACTS OF
INCREASING EITC PARTICIPATION BY FIVE PERCENT

State	Calculation of Increased Benefits Given 5% Increased Participation				Multiplier per Million \$\$\$ of Increased Benefits		State-Specific Aggregate Impacts Given 5% Participation Increase	
	1992 EITC Participation Rate (HHs)	Additional HHs Given 5% Participation Increase	Average EITC Benefit	Aggregate Increased EITC Benefits	Retail Multiplier	Retail Jobs	Increased Economic Activity	Increased Jobs
Alabama	362,084	18,104	\$1,000	\$18,104,200	2.0236	53.8	\$36,635,659	974
Alaska	18,101	905	\$1,000	\$905,050	1.7495	31.4	\$1,583,385	28
Arizona	249,461	12,473	\$1,000	\$12,473,050	2.0280	48.5	\$25,295,345	605
Arkansas	194,502	9,725	\$1,000	\$9,725,100	2.0395	54.6	\$19,834,341	531
California	2,118,514	105,926	\$1,000	\$105,925,700	2.3373	42.9	\$247,580,139	4,544
Colorado	164,193	8,210	\$1,000	\$8,209,650	2.2447	52.2	\$18,428,201	429
Connecticut	77,634	3,882	\$1,000	\$3,881,700	2.0621	40.0	\$8,004,454	155
Delaware	34,538	1,727	\$1,000	\$1,726,900	1.8907	45.5	\$3,265,050	79
D.C.	48,840	2,442	\$1,000	\$2,442,000	1.3667	11.2	\$3,337,481	27
Florida	847,682	42,384	\$1,000	\$42,384,100	2.0508	49.7	\$86,921,312	2,106
Georgia	512,534	25,627	\$1,000	\$25,626,700	2.2284	51.2	\$57,106,538	1,312
Hawaii	37,486	1,874	\$1,000	\$1,874,300	1.9913	42.9	\$3,732,294	80
Idaho	60,976	3,049	\$1,000	\$3,048,800	1.8561	51.7	\$5,658,878	158
Illinois	575,354	28,768	\$1,000	\$28,767,700	2.4184	49.0	\$69,571,806	1,410
Indiana	270,062	13,503	\$1,000	\$13,503,100	2.1474	55.5	\$28,996,557	749
Iowa	111,443	5,572	\$1,000	\$5,572,150	1.9896	58.2	\$11,086,350	324
Kansas	110,464	5,523	\$1,000	\$5,523,200	2.1863	54.8	\$12,075,372	303

Table E-4
STATE-BY-STATE ECONOMIC ACTIVITY AND JOBS IMPACTS OF
INCREASING EITC PARTICIPATION BY FIVE PERCENT

State	Calculation of Increased Benefits Given 5% Increased Participation				Multiplier per Million \$\$\$ of Increased Benefits		State-Specific Aggregate Impacts Given 5% Participation Increase	
	1992 EITC Participation Rate (HHs)	Additional HHs Given 5% Participation Increase	Average EITC Benefit	Aggregate Increased EITC Benefits	Retail Multiplier	Retail Jobs	Increased Economic Activity	Increased Jobs
Kentucky	219,252	10,963	\$1,000	\$10,962,600	2.1610	56.7	\$23,690,179	622
Louisiana	376,267	18,813	\$1,000	\$18,813,350	2.1218	53.7	\$39,918,166	1,010
Maine	55,605	2,780	\$1,000	\$2,780,250	1.9023	50.8	\$5,288,870	141
Maryland	233,430	11,672	\$1,000	\$11,671,500	2.0702	44.8	\$24,162,339	523
Massachusetts	167,745	8,387	\$1,000	\$8,387,250	2.0619	42.9	\$17,293,671	360
Michigan	368,166	18,408	\$1,000	\$18,408,300	1.9514	48.7	\$35,921,957	896
Minnesota	149,133	7,457	\$1,000	\$7,456,650	2.1514	52.2	\$16,042,237	389
Mississippi	297,985	14,899	\$1,000	\$14,899,250	2.0564	56.6	\$30,638,818	843
Missouri	279,121	13,956	\$1,000	\$13,956,050	2.1607	51.2	\$30,154,837	715
Montana	44,932	2,247	\$1,000	\$2,246,600	1.9232	54.4	\$4,320,661	122
Nebraska	74,031	3,702	\$1,000	\$3,701,550	1.9547	55.7	\$7,235,420	206
Nevada	75,332	3,767	\$1,000	\$3,766,600	1.8068	39.5	\$6,805,493	149
New Hampshire	37,915	1,896	\$1,000	\$1,895,750	2.0306	48.0	\$3,849,510	91
New Jersey	338,193	16,910	\$1,000	\$16,909,650	2.2455	42.2	\$37,970,619	714
New Mexico	127,900	6,395	\$1,000	\$6,395,000	2.0401	52.9	\$13,046,440	338
New York	830,710	41,536	\$1,000	\$41,535,500	2.0153	39.0	\$83,706,493	1,620
North Carolina	505,333	25,267	\$1,000	\$25,266,650	2.0402	52.3	\$51,549,019	1,321

Table E-4
STATE-BY-STATE ECONOMIC ACTIVITY AND JOBS IMPACTS OF
INCREASING EITC PARTICIPATION BY FIVE PERCENT

State	Calculation of Increased Benefits Given 5% Increased Participation				Multiplier per Million \$\$\$ of Increased Benefits		State-Specific Aggregate Impacts Given 5% Participation Increase	
	1992 EITC Participation Rate (HHs)	Additional HHs Given 5% Participation Increase	Average EITC Benefit	Aggregate Increased EITC Benefits	Retail Multiplier	Retail Jobs	Increased Economic Activity	Increased Jobs
North Dakota	26,848	1,342	\$1,000	\$1,342,400	1.9739	58.3	\$2,649,763	78
Ohio	472,901	23,645	\$1,000	\$23,645,050	2.2279	54.5	\$52,678,807	1,289
Oklahoma	202,588	10,129	\$1,000	\$10,129,400	2.1117	51.8	\$21,390,254	525
Oregon	142,147	7,107	\$1,000	\$7,107,350	2.0402	49.8	\$14,500,415	354
Pennsylvania	465,021	23,251	\$1,000	\$23,251,050	2.2847	51.2	\$53,121,674	1,190
Rhode Island	36,204	1,810	\$1,000	\$1,810,200	1.9090	46.8	\$3,455,672	85
South Carolina	295,057	14,753	\$1,000	\$14,752,850	1.9834	55.2	\$29,260,803	814
South Dakota	37,156	1,858	\$1,000	\$1,857,800	1.8899	59.0	\$3,511,056	110
Tennessee	361,580	18,079	\$1,000	\$18,079,000	2.1375	52.5	\$38,643,863	949
Texas	1,415,644	70,782	\$1,000	\$70,782,200	2.4522	52.1	\$173,572,111	3,688
Utah	79,094	3,955	\$1,000	\$3,954,700	2.1618	58.7	\$8,549,270	232
Vermont	24,024	1,201	\$1,000	\$1,201,200	1.8921	50.9	\$2,272,791	61
Virginia	316,935	15,847	\$1,000	\$15,846,750	2.1324	50.2	\$33,791,610	796
Washington	203,952	10,198	\$1,000	\$10,197,600	2.0980	48.0	\$21,394,565	489
West Virginia	96,848	4,842	\$1,000	\$4,842,400	1.7546	53.1	\$8,496,475	257
Wisconsin	182,151	9,108	\$1,000	\$9,107,550	2.0376	55.8	\$18,557,544	508
Wyoming	23,260	1,163	\$1,000	\$1,163,000	1.7973	54.0	\$2,090,260	63

APPENDIX F: CALCULATING ENERGY NEEDS OF THE POOR

Although news stories about the effects of spiraling energy prices and threats of winter fuel shortages are a thing of the past, the poor in this country still struggle mightily to pay for energy to their homes. Across America, low income families have been hit from all sides: rising energy prices, declining real incomes and devastated public benefit programs.

The resulting unaffordability of home energy to low-income households has been well-chronicled. According to the National Consumer Law Center study *The Forgotten Crisis*,^{214\} among the 16 states for which average income data was available for LIHEAP^{215\} recipients, after paying their winter heating bills, the average LIHEAP recipient had roughly \$75 or less remaining per week to pay for all other household expenses, including housing, food, transportation, medical care and clothing. To put that figure in perspective, the average household nationwide spends \$60 per week on housing (excluding energy) and \$67 per week on food.

^{214\} Hill C., et al. (1989), *Energy and the Poor: The Forgotten Crisis: A State-by-State Analysis of the Energy Situation Facing the Nation's Poor*, Boston: National Consumer Law Center.

^{215\} LIHEAP is the federally-funded fuel assistance program. 42 *U.S.C.* §8621, et seq. (1990 and 1992 supp.).

That low-income households often have, quite literally, more expenses than income from which to pay their utility bills is beyond dispute. A 1989 study in Utah,¹²¹⁶⁾ for example, found the cost of a minimum standard of living in that state to be \$9,708 (in 1986 dollars). In contrast, the average income of a Utah LIHEAP recipient (for a family of three) was only \$6,400. Similarly, a 1986 study in Pennsylvania¹²¹⁷⁾ found that the minimum standard of living for a family of two was \$8,445, while in contrast, a two person Pennsylvania household living at 100 percent of the Federal Poverty Level had \$7,050 in annual income. A 1986 study of Nebraska found that the cost of a minimum standard of living in that state was \$8,854 for a family of four.¹²¹⁸⁾ In contrast, the average annual AFDC income was \$3,360; the average income of a household on unemployment was \$6,096.

The inability to pay for monthly energy bills results in many low-income households losing their energy service altogether. One 1991 report, for example, found that a whopping seven percent of all North Carolina households lost their primary heating service for a variety of reasons in the last winter.¹²¹⁹⁾ North Carolina households losing their winter heating service went *without* heat for, on average, from one day (electric heating households) to two weeks (natural gas heated and kerosene heated households), depending on the primary heating fuel.

Many of these households lacked any alternative heating source when their primary heating source was out of operation. Nearly four of ten of those households (38%) having lost their primary heat said that they had *no* alternative and, as a result, that they went *without* heat for some period of time during the winter because of the loss. Even those households who didn't lack heat altogether, however, faced major disruptions in their ability to keep warm. Of those households losing their primary fuel last winter, nearly one in four (24%) used either portable kerosene heaters or portable electric heaters as their (expensive and very dangerous) replacement source of heat. A nearly equal proportion of the

¹²¹⁶⁾ Colton, R. (1989), *Losing the Fight in Utah: Low-Income Households and Rising Energy Costs*, Boston: National Consumer Law Center.

¹²¹⁷⁾ Hill, C., *et al.* (1986), *The Crisis Continues: Addressing the Energy Plight of Low-Income Pennsylvanians Through Percentage of Income Plans*, Boston: National Consumer Law Center.

¹²¹⁸⁾ Bureau of Business Research, College of Business Administration (1986), *The Minimum Cost of Living in Nebraska*, Lincoln: University of Nebraska--Lincoln.

¹²¹⁹⁾ Colton R. and Levison R. (1991), *Poverty and Energy in North Carolina*, at 59, Boston: National Consumer Law Center.

households losing their primary source of heat relied upon either their cooking stove or their fireplace (20%) as their primary heating source.

In sum, low-income households have an absolute mismatch between their resources and expenses. These households do not pay their home energy bills because they cannot afford to pay. Other households pay, but devote an inordinate amount of household resources to so doing. As a result, many households lose their service entirely. In contrast, other low-income households are forced to rely upon expensive, and dangerous, alternative heating sources. Each of these results is unacceptable.

Despite the universally agreed upon proposition that the poor are "in need" when it comes to the affordability of their home energy bills, there is no generally accepted definition of what that "need" is. Having failed to define the "energy needs" of the poor, it has thus not been possible to quantify such needs. Consequently, public efforts to redress those needs fall short as well.

The purpose of this study is to help address that lack of data. The study will examine the different models of "need" that have been advanced in the low-income energy arena, either implicitly or explicitly; quantify the number of low-income households "in need" given the different definitions; and test the significance of using one definition over another. The study will explore the pros and cons of using different definitions of "need" and will make recommendations.

LITERATURE REVIEW

There is little agreement in the literature about the means to measure "energy needs." There are at least three different methods of defining "energy needs." Each is briefly discussed below. The premise of this research is that without clearly defining the "need" sought to be alleviated, public policy aimed at redressing that need will be confused and confusing. Public policy cannot alleviate a need that has not been defined.

Some researchers, but few indeed, recognize the various alternative components in defining energy need. Consider the introductory paragraphs of the section titled "paying for energy with incomes below poverty" in the Final Report of the Blue Ribbon Commission on Energy Policy for Maine's Low-Income Citizens:^{1220\}

^{1220\} Ward S. (1990), *Ready for Winter?: Final Report of the Blue Ribbon Commission on Energy Policy for Maine's Low-Income Citizens*, Augusta: State of Maine Executive Department.

In recent years when energy prices were relatively low, many low-income families still could not afford to pay for energy, simply because their incomes were insufficient to cover all of their basic needs. For households below the poverty level, paying 12% or more of annual income for heat is a heavy or even impossible burden on top of other basic expenses. In some areas of the State, housing costs, excluding energy, often amount to more than 50% of the poverty level --or, in other words, more than 100% of a typical AFDC family's income. These households are simply unable to pay for heat without assistance.

Even when annual energy costs are less than 12% of income, these low-income families face constant crises from lack of money. Large energy bills during periods of cold weather are likely to be unaffordable, but even smaller energy bills may be unmanageable when medical needs, car problems or housing costs become pressing.^{\221\}

Moreover, the Blue Ribbon Commission found:

Basic energy services are necessary for health, comfort and safety. Maine winters can cause serious consequences (including death) for those who cannot afford adequate heat. Households who do not have enough money to pay their basic needs* * will often sacrifice adequate heat to pay for food, housing and medicine. Living with the threat of running out of fuel or having electric or gas service shutoff takes a severe toll on low-income households.^{\222\}

The Commission concluded:

Other Maine households and businesses also suffer from the effects of unmet energy needs of low-income citizens. Electric utilities carry large uncollectible expenses* * which are paid for by all ratepayers as a cost of business.* * Collection costs and working capital on unpaid bills impose costs on energy vendors, utilities, and all consumers."^{\223\}

^{\221\} *Id.*, at 16.

^{\222\} *Id.*, at 32.

^{\223\} *Id.*

This Maine report thus recognizes each of the components of "need": (1) the inability to maintain home energy service;^{1224\} (2) the burden of energy bills as a percentage of income;^{1225\} and (3) the inability to pay for utility service after considering other household expenses.^{1226\} These three approaches incorporate the different models used in defining and assessing low-income energy needs. Each of these models is discussed individually in greater detail below.

Bill as Percent of Income

One primary means to define "need" involves an examination of the extent to which energy bills exceed a designated percentage of a household's income. This is the definition implicit in the promotion of Percentage of Income Payment Plans (PIPPs) throughout the country.^{1227\} While most analysts and utilities involved with PIPPs agree that little, if any, work has been done to determine what percentage of income is "affordable" to the poor, implicit in programs ranging from the Electric Lifeline Rate adopted by Central Maine Power Company, to the Customer Assistance Program adopted by Columbia Gas Company, to the PIPP adopted by the Rhode Island LIHEAP agency, is the assumption that a household's "need" is that portion of the home energy bill that exceeds a designated percentage of income.

Arguments against use of this definition of need include the definition's failure to account for household-specific expenses (such as high medical expenses), to a failure to *justify* what percentage is deemed "affordable," to a failure to account for the large number of low-income households who pay their bills notwithstanding the fact that the bills exceed the "affordable" percentage.

^{1224\} "Living with the threat of running out of fuel or having electric or gas service shutoff takes a severe toll on low-income households."

^{1225\} "For households below the poverty level, paying 12% or more of annual income for heat is a heavy or even impossible burden on top of other basic expenses."

^{1226\} "* * *even smaller energy bills may be unmanageable when medical needs, car problems or housing costs become pressing."

^{1227\} *See generally*, Colton R. (1991), *Percentage of Income Payment Plans as an Alternative Distribution of LIHEAP Benefits: Good Business, Good Government, Good Social Policy*, Boston: National Consumer Law Center; Colton R. (1991), *The Percentage of Income Payment Plan in Jefferson County Kentucky*, Boston: National Consumer Law Center.

One of the first places the percentage of income model appears in the literature is in a 1980 report by the Fuel Oil Marketing Advisory Committee (FOMAC) of the U.S. Department of Energy.^{1228\} FOMAC identified several "flaws" in the 1980 "Federal energy assistance program," including the fact that energy assistance was not "proportional to household energy needs and ability to pay."^{1229\}

FOMAC then defined low-income energy needs in terms of percentage of income expenditures on home energy. Home energy expenditures of low-income households^{1230\} was projected to reach nearly 22 percent in 1980.^{1231\} In contrast, FOMAC said, median-income households would spend only 5.1 percent of their income on home energy.^{1232\} Thus, FOMAC reported:

In brief, the percentage of income that low-income households will spend on home energy, on the average, will be *four times* that of median-income households. Energy costs of the poor will exceed \$800 per household on an annual basis and the poor will utilize *21.8%* of their income directly on household energy.^{1233\}

(emphasis in original). FOMAC concluded as to evidence of low-income energy needs, "it is apparent that the low-income households in

^{1228\} Buckley J. and Maggiore Jr., A. (1980), *Low-Income Energy Assistance Programs: A Profile of Need and Policy Options*, Washington D.C.: Fuel Oil Marketing Advisory Committee of the U.S. Department of Energy.

^{1229\} *Id.*, at 4.

^{1230\} "Low-income" was defined to be at or below 125 percent of poverty for all households except the elderly. Low-income for the elderly was defined to be households living at or below 150 percent of poverty.

^{1231\} *Id.*, at 8.

^{1232\} *Id.*, at 11.

^{1233\} *Id.*, at 11.

America pay a far higher proportion of their total annual income for energy than do median-income households."^{234\}

More recently, a study by Barua, *et al.*, also concentrated on the percentage of income attributes of "energy needs."^{235\} Barua found that "on average, heating costs were equivalent to nearly 25 percent of LIHEAP household income and ranged as high as 71 percent and as low as 8 percent."^{236\} Barua identified two "areas of concern," both of which were based on the percentage of income approach to defining energy needs: "(1) the low level of relative assistance provided to households with very low incomes but high energy costs; and (2) the high energy cost burdens borne generally by low-income households even after the fuel assistance benefits provided by the state program are taken into account."^{237\} Barua cites as evidence for his "concerns" that: "* * *nearly 25 percent of LIHEAP household income is needed, unless full assistance is received, to pay heating costs. For those with less than \$4,000 in annual income, heating costs equal nearly 40 percent of their income." He concluded: "clearly, a substantial burden is being borne by many Delaware households with low incomes in trying to cover their heating costs."^{238\}

Finally, one research effort sought to apply a merged percentage of income/available resource test of sorts. According to Auch, "an individual's `need' for assistance was defined as the ratio of the household's heat cost to annual income adjusted for family size. It represents the percentage of the household's adjusted income that goes to pay for heat."^{239\} The incorporation of the "available resource" model occurs

^{234\} *Id.*, at 14.

^{235\} Barua R., *et al.* (1987), *Energy Needs and Costs of Low-Income Households: A Preliminary Profile of Delaware LIHEAP Clients*, Newark, Delaware: Center for Energy and Urban Policy Research, University of Delaware.

^{236\} *Id.*, at 4.

^{237\} *Id.*, at 5.

^{238\} *Id.*, at 20.

^{239\} Auch L. *et al.* (1992), *A Policy Study for the Washington State Low-Income Home Energy Assistance Program: Final Report*, at 9, Olympia: Washington State Department of Community Development.

through the adjustment in gross income for household size.²⁴⁰ Annual income is adjusted downward to take into account the additional expenses associated with increased family size.

²⁴⁰ *Id.*, at 8 - 9.

Available Resources to Pay Bill

At least two jurisdictions look not at energy bills as a percentage of income as their definition of need, but rather at a calculation of available resources left after paying "necessary" household expenses with which to pay a household's energy bill. This is the principle underlying Iowa's Affordable Budget Payment Plan as well as behind the Customer Assistance Program (CAP) adopted by Philadelphia Electric Company.^{1241\} This definition of need states that it matters not so much what portion of a household's income is devoted to home energy bills, but rather simply whether there is enough household income to pay those bills, be they above or below a designated percentage of income level. To study energy needs using this determinant requires the construction of a household budget and a determination of the extent to which low-income households have little or no income left after paying other essential household expenses.

Arguments against using this mechanism include criticism of the "Big Brotherism" inherent in evaluating what are "essential" household expenses, the administrative costs of making individualized determinations, and the inherent possibility of having different individuals or offices apply different standards to similarly situated households.

Some researchers explicitly set forth this model of defining energy needs. Research by Heiserman is one example. Heiserman sought to evaluate the effectiveness of the Iowa Affordable Heating Payment Program (AHPP).^{1242\} Heiserman posited that the purpose of the AHPP was to "reduce heating cost liability to a payment level* * *sustainable from household resources."^{1243\} He set forth that the "income available to pay heating costs" includes "only the amount remaining after gross income has been reduced by monthly out of pocket expenses for housing (rent, or mortgage, insurance, and taxes), recurring medical costs, child support or alimony payments, and nonheating electricity usage."^{1244\}

^{1241\} This should not be confused with the Energy Assurance Program adopted by the Philadelphia Gas Works or the Customer Assistance Program adopted in Pennsylvania by Columbia Gas Company, both of which are percentage-of-income-based.

^{1242\} Heiserman O. (1990), *Iowa Affordable Heating Payment Program: Pilot Project Evaluation*, Des Moines: Iowa Department of Human Rights.

^{1243\} *Id.*, at 4.

^{1244\} *Id.*, at 33.

Iowa requires 25 percent of this "available income" to be paid toward heating costs.^{245\} This Iowa approach is the prototypical "disposable income model."

The Iowa approach incorporates elements of the "maintenance of service" model, as well, however. Heiserman said, the purpose of the Iowa program was to "provide() a variety of interventions to reduce the risk that low-income households would lose residential heating service."^{246\}

In undertaking to evaluate the Iowa program in light of these definitions of need, Heiserman focuses in on the two constructs that he established at the beginning of his evaluation. He begins on track, by noting amongst other things that the study households "can and do maintain continuous primary heating fuel service" and that a high percentage of the study households "had service for the five month heating season or longer."^{247\} Hence, he considers his maintenance of service constraint. Moreover, Heiserman notes that the program requires participants to "make a `reasonable' co-payment equal to 25% of their available income during the five heating season months* * *."^{248\} As can be seen, Heiserman remains true to his "available resource" model as well.

Philadelphia Electric Company (PECO) is another institution that has adopted the "available resource" model to define low-income energy needs. According to this company's program evaluation for its low-income program (called CAP: the Customer Assistance Program), the utility was "burdened with a cumbersome and lengthy collections process, which claimed the financial resources of the Company (and its ratepayers) and drained the emotional resources of its service representatives."^{249\} According to PECO's evaluation:

^{245\} *Id.*

^{246\} *Id.*

^{247\} *Id.*, at 5.

^{248\} *Id.*, at 6.

^{249\} The Conservation Company (1987), *Evaluation of Philadelphia Electric Company's Customer Assistance Program: November 1 1985 to October 31, 1986*, Philadelphia: Philadelphia Electric Company.

The latter were frequently frustrated by their inability to effectively assist a growing number of their clients: customers who were consistently delinquent, who had accumulated large arrearages, and who appeared to have severe financial difficulty in keeping up with current bills. Many appeared to be unable to handle even the easiest repayment terms* * *.^{250\}

Philadelphia Electric thus created a low-income program that measured "need" based on available resources. "CAP works with each participant through detailed interviewing to arrive at an amount deemed to be affordable for electric service. That fixed monthly amount may be as low as \$2."^{251\} This income and expense statement process is directed at "customers who are payment-troubled --who have fallen seriously behind in paying their bills and/or have broken one or more payment agreements-- and who claim that they are more or less chronically unable to pay* * *."^{252\}

Hoffman approaches his available resource test differently in his model for defining low-income energy needs.^{253\} One approach to defining need, Hoffman states, "would focus on the energy costs of lower-income households relative to available resources."^{254\} Hoffman's "available resource" test, however, assumes that it is the *non-energy* expenses that represent the marginal payments. His concern is not that insufficient household dollars are left to pay energy bills after other household necessities are purchased. Rather, Hoffman states "energy costs vary sharply by circumstance and location, and* * *some households must persistently devote large shares of income to energy, thereby limiting the purchase of other essential items such as food and clothing."^{255\}

^{250\} *Id.*, at I-1.

^{251\} *Id.* at I-1 and III-1.

^{252\} *Id.*, at III-1.

^{253\} Hoffman, W.L. (1979), *Providing Energy Assistance to the Poor: Choices Relevant to Design of Future Programs*, Washington D.C.: The Urban Institute.

^{254\} *Id.*, at 14.

^{255\} *Id.*

Persistent Arrears and Service Terminations

A final mechanism for defining need is to look not at current home energy bills, but to look at the level and impact of household arrears instead. This philosophy holds forth that, regardless of the burden imposed upon a household by the payment of home energy bills, the fact that the household is in "need" is manifested only at that point where the unaffordability of the household's bill will result in adverse payment patterns. The model posits, in other words, that it is irrelevant what the household bill is as a percentage of income, for example, so long as, *in fact*, the household makes its payments. In contrast, payment problems (and thus household energy needs) are reflected in utility arrears and service termination statistics.

Seeking to address this energy need is the purpose of programs such as those adopted by Wisconsin Gas^{1256\} and Niagara Mohawk^{1257\} through which households can work off prior arrears either by making regular current payments or by reducing current bills through conservation, or both.

In this regard, the reasoning of the Pennsylvania Commission in September, 1990, relied upon this model of "need" when it directed Columbia Gas of Pennsylvania to implement a pilot Energy Assurance Program (EAP), stating:

* * *for the poorest households with income considerably below the poverty line, existing initiatives do not enable these customers to pay their bills in full and to keep their service.* * *Consequently, to address realistically these customers' problem and to stop repeating a wasteful cycle of consecutive, unrealistic payment agreements that cannot be kept, despite the best of intentions, followed by service termination, then restoration, and then more unrealistic agreements, we believe that new approaches like* * *the [Office of Consumer Advocate's] proposed EAP program should be tried.^{1258\}

^{1256\} Wisconsin Gas Company (1988), *Weatherization Arrears Savings*, Milwaukee.

^{1257\} Harrigan, M (1992), *Evaluating the Benefits of Comprehensive Energy Management for Low-Income, Payment-Troubled Customers*, Washington D.C.: Alliance to Save Energy.

^{1258\} *Pennsylvania Public Utilities Commission vs. Columbia Gas Company of Pennsylvania*, Docket R-891468, Decision and Order (September

Note that the "problem" identified by the PUC for "the poorest households" in this Order was not a mismatch between income and energy bills, but rather the inability of such households "to pay their bills in full and to keep their service."

Researchers, however, have often tended to confuse this operational definition of "energy needs" with other definitions based on income and expense models. Weathers, for example, begins her analysis of the "unaffordability gap" in Utah by stating "the fact that any low-income utility consumer finds herself perpetually in arrears and repeatedly facing shutoffs despite the existence of emergency assistance programs indicates the need for new solutions."^{259\} She continues: "the thousands of Utahns who watch their utility arrearages grow and confront termination of service repeatedly are not financially capable of providing the solution themselves."^{260\}

Weathers, however, never quantifies this low-income energy "need" as evidenced by her posited permanent --and growing-- arrears as well as repeated shutoffs of service. Rather than staying with her operational definition of energy needs, Weathers instead slips into a percentage of income model in her actual quantification of energy needs, noting three specific findings, including:

- "o The average urban consumer spends 6.5% of gross household income on utility service; low-income consumers spend 22% (close to the percentage recommended by experts for `total' shelter costs including utility service).
- "o The difference between the average percentage of income paid by low-income consumers and that paid by average urban consumers may be assumed to be the portion of their utility costs that they cannot afford to pay, or an `unaffordability gap.'
- "o Were low-income consumers to pay 6.5% of their income for utilities, the dollar difference between what they would pay and

(..continued)

1990).

^{259\} Weathers, S. (1987), *Utility Ratepayers, Winter Heating Costs, and the Unaffordability Gap*, Salt Lake City: Utah Issues Information Program.

^{260\} *Id.*

the amount they accrue in utility costs allows estimation of the size of the `unaffordability gap.'"^{261\}

Weathers explains the change in her analytical framework: "Utility write-offs or `uncollectible' accounts have some bearing on the `unaffordability gap.'* * *It might be thought that the uncollectible and the unaffordable are the same. However, the two are not comparable."^{262\} After making this blanket statement, however, Weathers does not explain the basis for her conclusion.

SUMMARY

Researchers commonly use three different models by which to measure the "energy needs" of low-income households. The first model looks at the percentage of income represented by the home energy bills of the poor. This percentage of income concept does not reflect the actual expenses of the household on other life necessities, or even the actual payments (as opposed to bills) represented by home energy usage. The second model looks at the household resources available to pay home energy bills. This model seeks to determine whether sufficient income exists from which to pay all necessary household expenses, including home energy. It most often assumes that energy bills are the marginal payments. The third model measures "energy needs" in an operational fashion. This model posits that "need" is to be measured by the inability of households to maintain service (without shutoffs) or to maintain an arrears-free account balance. Under this model, households who are not disconnected or in arrears are not "in need," irrespective of the burden which home energy bills place on household income or available resources.

Most researchers never explicitly choose one model of defining low-income "energy needs" over another. These researchers do not consider the relative merits of the different models and make an affirmative selection. Instead, they merely refer to "need" in general while assuming a generally-accepted definition of what precisely that need is.^{263\} Other researchers *effectively* adopt one model over another without articulating the basis for their choice or even acknowledging that they have made a choice among competing alternative analytic approaches. Finally, other

^{261\} *Id.*, at 13.

^{262\} *Id.*, at 15.

^{263\} Either this, or they find no benefit from seeking to define precisely what they mean by "need."

researchers articulate a preference for one of the three alternative models, but then, in practice, allow their actual empirical data collection and analysis to slide into another, without acknowledging, announcing or justifying the change.

In sum, the entire area of defining and measuring the "energy needs" of the poor is confused and confusing. No document has ever explicitly articulated the different ways to define and measure this concept or considered whether the differences between the models have significance.