POVERTY AND ENERGY IN NORTH CAROLINA:

Combining Public and Private Resources

To Solve a Public and Private Problem

PREPARED FOR:

Energy Assurance Study Commission
North Carolina General Assembly

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EXECUTIVE SUMMARY

Little question exists but that the poor of North Carolina are facing severe energy problems. In the 1987 - 1988 LIHEAP Program year, the average income of LIHEAP recipients was $4,811. Those LIHEAP households devoted, on average, $1,083 toward their annual home energy costs (more than 22 percent of their annual income). After paying winter heating bills, a North Carolina LIHEAP household would have a weekly income balance of $60 for *all* other household expenses, including food, housing, transportation, clothing, telephone and water. To put that figure in perspective, the average low-income household spends $60 per week on housing (excluding energy), $67 per week on food, and $39 per week on transportation.

This report sets forth a legislative response to low-income energy problems. It addresses a range of low-income energy needs and discusses appropriate responsive initiatives. A legislative program designed to respond to low-income energy problems in North Carolina should have several components. Legislation should seek to bring energy costs under control. This can be done through measures that address both pricing and consumption problems. A legislative program must ensure that public assistance is allocated in the fairest and most efficient way possible. A legislative solution must develop public/private partnerships where possible and must take advantage of existing federal assistance and incentives. Finally, a legislative solution must recognize the interrelationships between problems. A low-income energy problem, in other words, is not simply an "energy" problem. It is a housing problem and a public assistance problem. It is an economic development problem. It is a government budgetary problem, for all levels of government, state, county and local.

THE POOR OF NORTH CAROLINA

In 1979, 839,950 people out of a total population of 5,881,766 in North Carolina were poor (below 100 percent of the Federal Poverty Level). An even larger number of people (1,174,314) were near-poor, that is, their incomes were less than 125 percent of the Federal Poverty Level. By 1990, an estimated 981,038 persons lived below poverty in North Carolina. Though the average per capita income rose 54% from $7,524 in 1980 to $11,617 in 1985, North Carolina is still a poor state, 37th in the nation.

Approximately half of the poor were children or elderly. About one in four rural North Carolinians lives in poverty. Moreover, an estimated 50 to 60 percent of North Carolina's adults in poverty work. More than one in five of the state's 1.6 million children live in poverty.

Things are not looking better for the poor of North Carolina either. Total manufacturing employment is expected to decrease by more than 30,000 jobs by the year 2000, with much of the loss in textiles and apparel manufacturing because of foreign competition and automation. Tobacco production is expected to show little growth and lumber production slow growth because of decreasing housing starts. North Carolina will continue to lose jobs that low-income individuals traditionally have held, and it is unclear whether the new jobs created will help the low-income rise out of poverty.

THE POOR, HOUSING AND ENERGY

High housing costs are a major reason why low-income people have difficulty meeting their bills in North Carolina. As of January 1991, the U.S. Department of Housing and Urban Development (HUD) estimated the state housing need at 112,082 "inadequately-housed, income eligible" households. (Inadequately housed households are either overcrowded, lack indoor plumbing, or pay more than 30 percent of income for housing.) The annual demand estimate is 19,507. Despite high demand, Federal housing production in North Carolina dropped from more than 7,000 units in 1981 to 411 units in 1989.

Fair Market Rents, as established by HUD, represent the dollar amount needed to rent "decent, safe, and sanitary housing" in the private market. Using the 30 percent of income affordability criterion, average 1979 Fair Market Rents, and a 1989 HUD estimate for median renter income, the Low Income Housing Information Service calculated that 35 percent of North Carolina renters could not afford a one-bedroom apartment and 40 percent of renters could not afford a two-bedroom apartment. A North Carolina worker in 1979 would have had to earn $6.54 an hour to pay for a one-bedroom apartment and $7.69 an hour to pay for a two-bedroom apartment. The study found that in 1989 the average Fair Market Rent for a two-bedroom apartment was 150.4 percent of the maximum AFDC payment for a family of three and 137.5 percent of the maximum AFDC payment for a family of four.

The problem of affordable housing translates into an energy problem as well. Low-income households in North Carolina are more likely to live in homes with little or no conservation measures and with older heating units than their higher income counterparts. As a result, these households have not only less ability to pay, but the payments they *are* making are often directed toward inefficient, wasteful and, more importantly, unnecessary energy use simply because of the physical housing structures in which they find themselves living.

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According to the 1990 U.S. Department of Energy Residential Energy Consumption Survey, low-income households face energy problems in a number of different ways. For example, low-income households in North Carolina will likely live in older homes. According to the DOE data, one in five (19%) households with incomes less than $15,000 live in homes built before 1940. More than three of ten (32%) live in homes built before 1950 and nearly one-half (48%) live in homes built before 1960. Not only do the poor live in older housing structures than their more wealthy counterparts, but they live in homes with older heating units as well. Of all heating units more than 15 years old, nearly 60 percent are in homes occupied by households with annual incomes less than $15,000.

More than repair bills, however, the inefficient and wasteful monthly use of energy due to both old houses and old heating units imposes a substantial, yet avoidable, burden on low-income households. According to the U.S. Department of Energy data, few low-income households have even the most rudimentary of conservation or weatherization measures installed in their homes.

Households on specific public assistance programs (AFDC and SSI), according to U.S. Department of Energy data, are overwhelmingly likely *not* to live in homes with weatherization measures installed. Ranging from 50 percent of all AFDC households who lack *any* attic insulation (let alone *adequate* attic insulation), to 60 percent who lack caulking and weatherstripping, to 80 - 90 percent who lack storm doors and storm windows, these households lack the ability to control their unaffordable bills through the installation of energy savings equipment.

LOSS OF HEATING SERVICE

A whopping seven percent of all households lost their primary heating service for a variety of reasons in the last winter. Some forgot to pay, others could not afford to pay, other had heating systems break. Some households had heating service disconnected while others simply ran out of fuel.

Most heating loss occurred within households served by five major primary heating fuel types: natural gas, LPG, fuel oil, kerosene and electricity. Many of these households lack any alternative heating source when their primary heating source is out of operation. Nearly four of ten of those households (38%) having lost the primary heat said that they had *no* alternative and, as a result, that they went *without* heat for some period of time because of the loss. With the exception of electricity, those households who lost their heat because they could not afford to pay went without heat for noticeably longer periods of time than the total population (which includes those households who lost their service having forgotten to pay or having experienced a breakdown of the heating system.

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Even those households who don't lack heat altogether, however, face 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 replacement source of heat. Adding to the danger of such use is the expense. A nearly equal proportion of the households losing their primary source of heat relied upon either their cooking stove or their fireplace (20%) as their primary heating source.

PUBLIC AND PRIVATE CONSERVATION PROGRAMS

The federal Weatherization Assistance Program (WAP) is the cornerstone of public low-income weatherization efforts. The federal WAP program, however, has been decimated with budget cuts. The state has 556,746 homes eligible for weatherization. At the current rate of weatherized homes per year, it will take nearly 100 years to reach all eligible homes, even then assuming no duplication.

Moreover, less than one-third of North Carolina's weatherization during the current program year will be financed with WAP funds, with the remainder being split equally between *Exxon* and LIHEAP dollars. The oil overcharge funds have been exhausted; no significant additional distribution of oil overcharge funds will occur. And, as discussed elsewhere, LIHEAP appropriations are now low and decreasing. If weatherization is to continue to be a factor in helping to provide assistance to the state's low-income population, new sources of funding must be identified.

The state's public utilities do very little to provide low-income conservation and weatherization services. This is unfortunate given the savings in energy, as well as the savings in arrears, that could be generated by such programs. Vendors of bulk fuels do absolutely no conservation or weatherization work.

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FUEL ASSISTANCE

The Low Income Home Energy Assistance Program (LIHEAP) is the major source of federal aid for low-income energy costs. Originally authorized in 1980 and administered by the Department of Health and Human Services (HHS), LIHEAP is a block grant program, which gives the states substantial flexibility in use of the funds. The upper limit of eligibility for LIHEAP is 150% of the poverty level, and states are prohibited from setting eligibility below 110% of the poverty level. North Carolina sets its income eligibility at 110% of the poverty level income, the lowest income eligibility level allowed under the LIHEAP statute. As of 1987, North Carolina was one of only eight states to use the lowest income eligibility level.

Substantial changes have occurred in North Carolina's LIHEAP population since the inception of the program. One major change is in the primary fuel used by LIHEAP households from 1982 to 1990. The percent of LIHEAP households using electricity as their primary heating source almost doubled from 15.4% in 1982 to 30.6% in 1990. Unfortunately, as the percent of LIHEAP households using electricity as their primary fuel increased steadily, so did the cost of electricity. The cost of all fuels increased during the 1981 to 1991 period. The cost of electricity, however, rose the highest dollar amount from $1.32 to $2.30 per therm, an increase of 74%.

Paradoxically, therefore, several trends have come together in North Carolina in recent years. LIHEAP budgets have seen substantial reductions. At the same time, one particular fuel type, electricity, saw significant increases in cost. And finally, North Carolina LIHEAP households were increasingly using that most expensive fuel to heat their homes.

The current method of distributing LIHEAP benefits in North Carolina is unfair, inequitable, and likely in violation of the federal statutory mandate that benefits are to be targeted based on actual cost, taking into consideration household size and income. A number of methods exist that would result in an improvement in North Carolina's efforts to comply with basic notions of equity and with federal statutory guidelines. Given current levels of LIHEAP funding in North Carolina, however, the most that can be done with the LIHEAP system is to *improve* the equity of its benefit distribution. Insufficient funds exist to make a major contribution toward paying home energy or home heating bills in the state.

The LIHEAP Lifeline Rate is one mechanism for the distribution of LIHEAP benefits which can be viewed as more equitable than North Carolina's existing system of determining LIHEAP benefits. The LIHEAP Lifeline Rate predicates the distribution of LIHEAP benefits on both actual energy costs and the burden which those costs impose on households as a percentage of income. The LIHEAP Lifeline

Rate is administratively simple from all perspectives: the State, the utility and the client. The LIHEAP Lifeline Rate helps bring home heating bills into a more affordable range for LIHEAP recipients. The basic component of the LIHEAP Lifeline Rate is a percentage discount provided by the participating energy vendor and paid for through LIHEAP benefits.

Arrearage forgiveness is an essential component of any redistribution of LIHEAP benefits. It makes little sense to rationalize the system of accounting for current bills if low-income households face unpayable burdens for pre-program arrears. An arrearage forgiveness program helps provide a program participant with a clean slate.

In fact, there is little chance that households in arrears will be able to successfully complete any payment plan designed to retire those arrears. Households having substantial arrears are in significantly "worse" shape than households without arrears. Those households in debt tend to have both less income and higher annual bills. The average annual energy burden they bear as a percentage of income is greater as well.

It is reasonable to have households make some contribution toward their pre-program arrears. The goal is to have households pay what they can. It is important, however, not to attempt too much in this regard. If a utility seeks to collect more than what is affordable, it risks losing not only the unaffordable portion of the household contribution, but the affordable portion as well. From the household's perspective, if no benefit arises from making partial payments, no partial payments will be made.

A household contribution of $3 per month for 36 months will significantly reduce a utility's exposure to forgivable arrears. NCLC has found in a number of studies that such a provision will tend to reduce the forgivable arrears by any where from 40 to 60 percent.

THE UTILITY DUTY TO HELP SOLVE A BUSINESS PROBLEM

The burden of addressing the inability to pay problems of low-income North Carolina households should not fall strictly on the government. This conclusion recognizes that some North Carolina households simply do not have sufficient income to pay for the basic necessities of life, including energy. 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.

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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. While inability to pay utility bills is unquestionably a social problem, in other words, it is not ***exclusively*** a social problem and it should not exclusively be addressed at public expense. The inability to pay is ***undeniably*** a business problem to the state's utilities demanding a business solution. And the state thus undeniably has a right to require the state's utilities to pay their fair share of the costs.

Given a total collection cost of $50 - $100 per household when a customer does not pay on time, the four utilities providing data, for example, spent nearly $5.5 million on credit and collection costs in 1990.

RECOMMENDATIONS

Based upon the above analysis, the following is a summary of the recommendations included in this report:

1. **SALES TAX EXEMPTION:** North Carolina should exempt its LIHEAP recipients from the payment of sales tax on their home energy purchases. Imposition of a sales tax on these purchases serves only to exacerbate the payment troubles of North Carolina's lowest income households. On a $1000 annual home energy burden, North Carolina's sales tax effectively places the state government in the position of taking back one third of the already minuscule $100 LIHEAP benefit provided by the federal government. (See pages 34 - 37).

2. **PRIVATE WEATHERIZATION PROGRAM FUNDING:** The North Carolina legislature should enact legislation, based on Iowa's Senate File 2403 (1990) providing for the participation of public utilities in the offer of energy efficiency strategies. According to the Iowa legislation, rate-regulated gas and electric utilities are to devote a designated percentage of their gross income from intrastate public utility operations to the financing of an energy efficiency plan. Electric utilities are required to devote two percent of their gross income while natural gas utilities are required to devote one and one-half percent. Efficiency measures financed through this provision must be found to be cost-effective.

Because of the tremendous populations served by vendors of deliverable fuels, by EMCs and by municipal utilities in North Carolina, and because of the demonstrated low-income need in the state's rural areas, these remaining unregulated vendors should be responsible for a similar commitment to energy efficiency. These vendors may fulfill their commitment by making

contributions to local agencies administering the state's WAP program equal to the designated percentage of gross revenue. (See, pages 67 - 83).

3.**WAP HEATING REPLACEMENT:** Federal WAP regulations allow replacement of heating systems, but this has not yet been done in North Carolina. With North Carolina's poor quality housing, the maximum WAP grant of $1648 is not enough money to do both the "envelope" weatherization work and the heating system replacement. This is an important area where the weatherization funds generated above should be used to augment WAP funds rather to develop and implement new programs. (See, pages 83 - 84).

4.**WINTER PROTECTIONS FOR UNREGULATED ENERGY VENDORS:** North Carolina should establish winter protection rules for users of unregulated utilities. Whatever the source of home heating energy, low-income North Carolina residents should have the right to access to winter heating fuels with arrears to be paid during the nonheating months. During the six winter heating months of November through April, the legislature should declare that vendors shall not engage in the denial or disconnection of home heating services. (See, pages 57 - 62).

5.**HOUSING CONSERVATION AND REHABILITATION INCENTIVES:** The Energy Conservation and Housing Rehabilitation Incentive Program, operated by the North Carolina Housing Trust Fund, is meeting a major need in North Carolina for coordination of energy improvements with substantial rehabilitation of substandard housing. Program funding should be continued. This funding should include both direct appropriations and a fair share of state bonds issued for low-income housing purposes. (See, pages 86 - 88).

6.**REDISTRIBUTION OF LIHEAP BENEFITS:** The State of North Carolina should pursue a tiered LIHEAP Lifeline Rate on a demonstration basis as a means of distributing LIHEAP benefits for all fuel vendors. A Tiered LiHEAP Lifeline Rate will make heating bills more affordable for more people. It will reduce by 1/3 the percentage of households paying 20 percent or more of their annual income toward home heating bills. The demonstration project should involve at least three types of vendors, including a regulated utility, an unregulated utility and the vendor of a deliverable bulk fuel (such as fuel oil or kerosene). The demonstration project should be for no shorter than a two year period with a decision by the state General Assembly to continue, expand, modify or abandon the project to be made effective no later than year three. The General Assembly should seek an independent evaluation of the pilot to be

provided to the General Assembly with funding provided from unallocated oil overcharge dollars. (See, 95 - 118).

7.**ACTUAL COST BASED CRISIS BENEFIT DISTRIBUTION:** As an alternative to the present Crisis administrative process, the legislature should direct that North Carolina LIHEAP Crisis grants be tied to percentage of income concepts. Under this program, a household could be deemed to be in a crisis situation when it receives a monthly utility bill that exceeds a pre-determined portion of its income. In that situation, the state should provide a Crisis benefit that will buy all or some portion of the particular month's utility bill down toward the designated portion of income. This allocation will work to *prevent* disconnections by recognizing that households are in crisis before imminent disconnection. It will eliminate any incentive toward non-payment by changing the triggering mechanism for the receipt of benefits. (See, pages 133 - 146).

8.**COST-BASED ENERGY ASSURANCE PROGRAM:** The North Carolina legislature should direct the implementation of a pilot Energy Assurance Program for the state of North Carolina. This directive should provide that the North Carolina Utilities Commission shall implement an EAP demonstration project starting no later than October 1, 1991. This demonstration project shall be in operation for a time no shorter than October 1, 1991 through September 30, 1993 and shall include the following components:

1.A determination of household eligibility set at an appropriate level of poverty. The maximum permissible level for eligibility is to be set not greater than 150 percent of poverty and not lower than 110 percent of poverty.

2.A process by which participants make payments toward current bills based upon a percentage of their income, not to exceed 7 percent for heating bills and 3 percent for non-heating bills;

3.A process by which households may earn credits to retire all or part of their pre-program arrears over no longer than a three year period. Notwithstanding the percentage of income payments set forth in Section 1, paragraph b, the Commission may require households to make payments toward their pre-program arrears, not to exceed $3 per month, above and beyond their percentage of income payments.

4.A conservation education program directed specifically toward EAP customers.

(See pages 148 - 174).

9.**"SPECIAL NEEDS" DESIGNATION FOR ENERGY COSTS WITHIN AFDC:** Within the state's AFDC program, North Carolina should define a Special Needs category for energy costs. North Carolina already defines other AFDC Special Needs classifications: tuition costs of children at North

Carolina School for the Deaf and other special school costs; costs of child care and transportation for teenaged parents attending school. For every $37.11 that North Carolina appropriates toward a Special Needs allocation, the federal government contributes $62.89. In other words, every state dollar leverages a $1.69 federal match. (See, pages 192 - 194).

10. **UNCLAIMED UTILITY DEPOSITS AND RATE REFUNDS:** The state legislature should direct that unclaimed utility deposits and unclaimed utility rate refunds that would otherwise escheat to the general fund will be earmarked for use as a state match for an energy related program under the AFDC program or as a supplement to LIHEAP. If used as an AFDC match, these funds should be provided as a "special needs" immediately upon the definition of a Special Needs category for energy costs. (See, pages 181 - 183, and pages 194 - 195).

11. **PRIVATE LEVERAGING OF LIHEAP AND AFDC BENEFITS:** The state legislature should direct that the North Carolina Utilities Commission, in cooperation with the North Carolina LIHEAP agency, shall initiate an investigation into the potential sources of leveraged private dollars for the LIHEAP program. Included among the sources that the Utilities Commission shall consider is the waiver of reconnect fees to income eligible households. (See, pages 183 - 188).

12. **WAIVED LATE FEES FOR LIHEAP CUSTOMERS:** North Carolina's energy vendors (including regulated and unregulated utilities as well as vendors of bulk fuels) should waive their late payment charges for the state's low-income households. The amount of the waived fee should be used as a leveraged resource to gain additional federal low-income energy benefit dollars. The recommended waiver should take effect in the event that after review, the North Carolina Utilities Commission determines that the state's utility late payment fees do not have a cost-basis. In this regard, a "cost-basis" means that the late payment fee generates revenue equal to the cost of the collection process directed toward delinquent bills. The Utilities Commission shall hold hearings and make such a determination no later than ten months after the effective date of the legislation. (See, pages 186 - 188).

13. **INTEREST ON CUSTOMER DEPOSITS:** North Carolina should establish an IOLTA-type fund for low-income energy needs, whereby interest on customer utility deposits is used as a new source of revenue for low-income energy assistance. A program of this type would draw on elements of both a fuel fund and the Interest on Lawyers Trust Accounts (IOLTA) program. The funds generated could be used to provide cash supplements to LIHEAP, Crisis or Emergency Assistance funding. They could also be used to expand the state's

publicly-provided weatherization and conservation assistance to income-eligible households. (See, pages 188 - 190).

INTRODUCTION

Little question exists but that the poor of North Carolina are facing severe energy problems. According to the National Consumer Law Center (NCLC) study *The Forgotten Crisis*, North Carolina residents have lost ground in their fight against poverty. The cost-of-living, for example, can be measured by the Consumer Price Index. In the last five years, the cost-of-living has increased by more than 25 percent. In North Carolina, SSI beneficiaries, for example, have not kept up. The maximum SSI benefit for an elderly individual in 1988 was $354, an increase of only 16 percent from the 1984 level of $304.[1]

Low-income households in North Carolina are simply not "making it." In the 1987 - 1988 LIHEAP Program year, the average income of LIHEAP recipients was $4,811. Those LIHEAP households devoted, on average, $1,083 toward their annual home energy costs (more than 22 percent of their annual income).[2] After paying winter heating bills, a North Carolina LIHEAP household would have a weekly income balance of $60 for *all* other household expenses, including food, housing, transportation, clothing, telephone and water. To put that figure in perspective, the average low-income household spends $60 per week on housing (excluding energy), $67 per week on food, and $39 per week on transportation.

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[1] The 1984 figures are taken from the 1984 NCLC report ***Cold--Not by Choice***.

[2] The burden of these households should be compared to the *total* shelter burden deemed to be affordable by the U.S. Department of Housing and Urban Development (HUD). According to HUD, if a family devotes more than 30 percent of its income toward total shelter costs (housing payments such as rent or mortgage *plus* home energy), the household is overextended.

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Specific data on North Carolina households which depend on AFDC, SSI, Social Security and unemployment as their primary source of income provides informative detail. The maximum monthly benefit for an **AFDC** household of three in 1988 in North Carolina was $259. North Carolina's AFDC households have on average $27 per week remaining after paying their winter home heating costs. The maximum monthly benefit for an elderly individual receiving **SSI** in January 1988 in North Carolina was $354. That individual would have an average of $50 per week left after paying her winter home heating bills.\3\

The average monthly **Social Security** benefit to nondisabled widows and widowers in North Carolina in 1988 was $708. After paying winter home heating bills, these households have a weekly income left of $132 for all other living expenses. Finally, the average monthly **unemployment** benefit in North Carolina in 1988 was $578. After paying their winter home heating bills, these households had an average weekly income left of $102 for all other living expenses.

The Low-Income Home Energy Assistance Program (LIHEAP) provides important help, but is far from being sufficient to address the low-income inability-to-pay problem. In North Carolina, only 26.2 percent of the eligible

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\3\ This result for the elderly is disturbing. In addition to the average weekly expenses for low-income households in general, the elderly [as of 1984] were spending roughly 15 percent of their total income on medical expenses. There is even greater pressure on the elderly, therefore, from low-incomes.

households actually received LIHEAP benefits (159,571 of 608,093) in 1988. The average LIHEAP subsidy benefit in North Carolina in 1988 of $125 covered only 11.5 percent of the average residential energy bill. Moreover, the average North Carolina LIHEAP benefit has dropped from $175 in 1985 to $125 in 1990, a decrease of roughly 30 percent.

This report sets forth a legislative response to low-income energy problems. It addresses a range of low-income energy needs and discusses appropriate responsive initiatives. A legislative program designed to respond to low-income energy problems in North Carolina should have several components. Legislation should seek to bring energy costs under control. This can be done through measures that address both pricing and consumption problems. A legislative program must ensure that public assistance is allocated in the fairest and most efficient way possible. A legislative solution must develop public/private partnerships where possible and must take advantage of existing federal assistance and incentives. Finally, a legislative solution must recognize the interrelationships between problems. A low-income energy problem, in other words, is not simply an "energy" problem. It is a housing problem and a public assistance problem. It is an economic development problem. It is a government budgetary problem, for all levels of government, state, county and local.

Given these observations, the following report is divided into five sections, including:

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- **PART I:** Seeks to define the populations at risk because of unaffordable energy costs. This part examines the poverty population in North Carolina.
- **PART II:** Examines the inextricable interrelationship between the affordability of energy and the affordability of housing in North Carolina and explores how these related problems can be dealt with together.
- **PART III:** Examines the allocation of LIHEAP assistance[4] in North Carolina and proposes an alternative method of distribution that better matches public expenditures to need.
- **PART IV:** Examines the adverse impacts that low-income inability to pay problems have on the state's utilities and proposes means to address those utility business problems.
- **PART V:** Examines existing sources of funds for energy assistance and proposes new methods of generating new benefits.

Each component of this legislative response to low-income energy problems is considered in more detail below. The adoption of this comprehensive program will seek to effect the goal of energy assurance as a basic household necessity. It will help eliminate the threats to the health, safety and perhaps even life of a significant portion of North Carolina's population who simply cannot afford to pay for the necessities of life, including energy and home heating. It will help utilities and other energy vendors save

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[4] LIHEAP is the Low-Income Home Energy Assistance Program, the federal fuel assistance program funded pursuant to 42 ***U.S.C.*** §§ 8621 *et seq.* (1990).

money, thus lowering energy bills for all customers. It will help bring public assistance payments under greater control. And it will help keep North Carolina attractive and competitive, both socially and economically.

Moreover, the adoption of this comprehensive package in an era of scarce financial resources is intended to help control, in the short-term as well as in the long-term, both business and governmental expenditures on a problem that has plagued North Carolina for years.

Before looking at potential legislative initiatives regarding low-income problems in the state, however, it is necessary to gain some insight into what vulnerable populations are at risk.

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PART I: UNDERSTANDING THE POOR OF NORTH CAROLINA.

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I. HOW MANY NORTH CAROLINIANS ARE POOR?

In 1979, 839,950 people out of a total population of 5,881,766 in North Carolina were poor. Their incomes were below the 1979 Federal poverty line of $5,784 for a family of three and $7,412 for a family of four. (The median family income in the state was $16,792.) An even larger number of people (1,174,314) were near-poor, that is, their incomes were less than 125 percent of the Federal Poverty Level. Approximately half of the poor were children or elderly.

TABLE A
1979 POVERTY STATUS IN NORTH CAROLINA[5]

	INCOME BELOW POVERTY LINE	INCOME BELOW 125% OF POVERTY LINE
NUMBER OF PERSONS	839,950	1,174,314
NUMBER OF CHILDREN UNDER 18	298,021	413,500
NUMBER OF PERSONS OVER 65	137,237	195,118
PERCENT BELOW POVERTY LINE	14.8%	20.7%

The 1980 Census showed that the North Carolina poverty rate was higher than the U.S. poverty rate and slightly lower than the rate for the Southern states.[6]

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[5] Table 72, ***General Social and Economic Characteristics, North Carolina***, 1980 Census of Population.

[6] The Census Bureau definition of the South includes Alabama, Arkansas, Delaware, the District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina,

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TABLE B
PERCENT PERSONS, FAMILIES, AND
CHILDREN BELOW POVERTY LEVEL: 1979[7]

	PERCENT BELOW POVERTY LEVEL		
GEOGRAPHIC AREA	**PERSONS**	**FAMILIES**	**RELATED CHILDREN**[8]
U.S.	12.4%	9.6%	16.0%
SOUTH	15.4%	11.9%	19.6%
NORTH CAROLINA	14.8%	11.6%	18.3%

Precise current poverty figures will not be available until completion of analysis of the 1990 Census, but various estimates indicate even more people in poverty today than in 1980. A 1983 estimate prepared by the North Carolina State Data Center, as a planning tool only, showed a poverty rate of 16.7 percent and 996,215 persons below poverty. Another estimate based on the North Carolina sample of the 1988 Current Population Survey of the Bureau of the Census showed a poverty rate of 14.1 percent and 877,261 persons below poverty. The State Data Center cautions that the error in this estimate may be high because only about 2,500 North Carolina households were sampled.[9]

(..continued)

Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

[7] ***1980 Census of Population***, Vol. 1, Chapter C (PC80-1-C).

[8] Under 18 years.

[9] Between each decennial census, the Bureau of the Census conducts an annual Current Population Survey of about 60,000 households designed to produce reliable national or in some cases regional estimates. The sub-sample for North Carolina is generally considered too small to give reliable state estimates.

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Southern poverty data from the March 1990 Current Population Survey can also be used to give a rough approximation of recent poverty in North Carolina. For this estimate, one must assume that the North Carolina poverty rate bore the same relationship to the Southern poverty rate in 1989 as it did in 1979 (the last year that accurate figures are available for both). The Southern poverty rate for persons was 15.4 percent in both 1979 and 1989, although the rate rose from 1979 to 1983 and then declined.

If the North Carolina poverty rate does, in fact, parallel the Southern poverty rate, the 1989 North Carolina rate for persons would be 14.8%, the same as in 1979. The number of people below poverty in North Carolina can then be estimated by multiplying the 14.8 percentage estimate by the 1989 total state population figure of 6,628,637 recently released by the Bureau of the Census. This yields an estimate of 981,038 persons below poverty in the state, well above the 839,950 persons below poverty in 1979. Given the current economic downturn, both the poverty rate and the number of persons below poverty may well be even higher.

The accuracy of the estimate also depends in part on the racial distribution of the 774,861 increase in state population from 1979 to 1989. The percentage of people below the poverty level has consistently been much higher for blacks than for whites. If the new population has a higher percent of

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blacks, the overall poverty rate and number of persons below poverty might be higher.

TABLE C
CHANGE IN NORTH CAROLINA TOTAL POPULATION
1979--1989

	1979[10]	**1989**[11]
TOTAL POPULATION	5,881,776	6,628,637
INCREASE OVER PREVIOUS DECADE	799,707	774,861
PERCENT INCREASE OVER PREVIOUS DECADE	15.7%	12.7%

[10] Table 14, ***General Population Characteristics--North Carolina***, 1980 Census of Population.

[11] 1990 Census of Population.

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TABLE D
PERCENTAGE OF PARTICULAR NORTH CAROLINA POPULATIONS BELOW POVERTY LEVEL IN 1989

POPULATION	UNITED STATES	SOUTH
PERSONS\12\		
Total	12.8%	15.4%
White	10.0	11.4
Black	30.7	31.6
FAMILIES\13\		
Total	10.3%	12.5%
White	7.8	8.9
Black	27.8	28.4
FAMILIES WITH CHILDREN UNDER 18		
Total	15.5%	17.6%
White	18.8	12.4
Black	35.4	35.1
FAMILIES WITH FEMALE HEAD, NO HUSBAND PRESENT		
Total	32.2%	35.7%
White	25.4	26.1
Black	46.5	47.5
FAMILIES WITH FEMALE HEAD, NO HUSBAND PRESENT, CHILDREN UNDER 18		
Total	42.8%	44.0%
White	36.1	33.9
Black	53.9	54.4

\12\Table 22, ***Money Income and Poverty Status in the United States 1989*** (Advance Data from the March 1990 Current Population Survey), 1990, Bureau of the Census, U.S. Department of Commerce.

\13\Ibid., Table 23.

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1989 poverty rates continued to be higher in the South (15.4 percent) than nationally (12.8 percent). Poverty rates were highest for female-headed families with children (44 percent in the South). In all cases, poverty rates for blacks were higher than for whites. This is especially significant for North Carolina, where 22.4% of the 1979 population was black.

TABLE E
PERSONS BELOW POVERTY LEVEL NATIONALLY
BY RACE[14]

YEAR	PERCENT BELOW POVERTY LEVEL		
	ALL RACES	WHITE	BLACK
1980	13.0	10.2	32.5
1981	14.0	11.1	34.2
1982	15.0	12.0	35.6
1983	15.2	12.1	35.7
1984	14.4	11.5	33.8
1985	14.0	11.4	31.3
1986	13.6	11.0	31.1
1987	13.4	10.4	32.6
1988	13.1	10.1	31.6

The poverty definition used in this report is the one used by the Federal government. It consists of a set of income thresholds that vary by family size and composition. The thresholds are updated every year to reflect changes in the Consumer Price Index. Non-cash benefits such as food stamps, public

[14] ***Current Population Reports, Series P-60, No. 166***, 1989 Bureau of the Census, U.S. Dept. of Commerce.

housing, Medicare, or Medicaid are not counted as income. The poverty level thresholds for 1990 are given below. The poverty rate is the percentage of people or families whose incomes fall below the poverty guidelines.

TABLE F
1990 POVERTY INCOME GUIDELINES FOR ALL STATES
(Except Alaska and Hawaii) and the District of Columbia[15]

SIZE OF FAMILY UNIT	POVERTY GUIDELINE
1	$ 6,280
2	$ 8,420
3	$10,560
4	$12,700
5	$14,840
6	$15,980
7	$19,120
8	$21,260

Another way of looking at the problem of people living in poverty in North Carolina is through their "income deficit," which represents the amount of income needed to bring them up to the poverty level. In 1979, the average deficit was $2,860 for all families, $3,240 for female-headed families, and

[15] ***Federal Register***, Vol. 55, No. 33 (February 10, 1990).

$1,665 for unrelated individuals.[16] The median family income for all households in North Carolina in 1979 was $16,792.[17]

TABLE G
MEDIAN INCOME IN 1989[18]

	UNITED STATES	SOUTH
HOUSEHOLDS[19]		
Total	$28,906	$25,870
White	30,406	27,887
Black	18,083	16,788
FAMILIES[20]		
Total	$34,213	$30,499
White	35,975	32,939
Black	20,209	19,029

Though the average per capita income rose 54% from $7,524 in 1980 to $11,617 in 1985, North Carolina is still a poor state, 37th in the nation. Moreover, the per capita income increases mask the deepening income inequalities between the rural and urban parts of the state as well as between the Piedmont and eastern and western parts of the state. About one in four rural North Carolinians lives in poverty. And this problem will only grow worse.

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[16] Table 251, ***Detailed Population Characteristics North Carolina***, 1980 Census of Population, Bureau of the Census, U.S. Dept. of Commerce.

[17] Ibid., Table 244.

[18] *Table 1,* ***Money Income and Poverty Status in the United States 1989 (Advance Data from the March 1990 Current Population Survey***), 1990, Bureau of the Census, U.S. Department of Commerce.

[19] *Table 1,* ***Money Income and Poverty Status in the United States 1989 (Advance Data from the March 1990 Current Population Survey***), 1990, Bureau of the Census, U.S. Department of Commerce.

[20] Ibid, Table 7.

Current projections are that the rural poor will no longer migrate to Northern cities but instead to southern cities, including those in North Carolina.

II. WHO ARE NORTH CAROLINA'S POOR?

A. NORTH CAROLINA'S WORKING POOR.

Examination of data from the 1980 Census shows a very high percentage of working poor in North Carolina. 54.4 percent of poor families had at least one person who worked during the year. Females with no husbands headed 40.2 percent of the poor families and almost half of them worked during the year. 57.1 percent of poor families received either Social Security or Public Assistance. A 1980 State Data Center report indicated that North Carolina had the highest percentage of working mothers (65 percent) in the nation compared to a national average of 55 percent. In 1988, Joel New, head of the Division of Employment and Training in the North Carolina Department of Natural Resources and Community Development, estimated that 50 to 60 percent of North Carolina's adults in poverty work.[21]

[21] *See also*, Anne Jackson and Jack Betts, *Who Are the Poor? The Demographics of Poverty* in ***Profiles in Poverty: State Policy and the Poor in North Carolina***, North Carolina Insight, Vol. 11, No. 2-3, North Carolina Center for Public Policy Research (April 1989).

TABLE H
HOUSEHOLD ATTRIBUTES OF NORTH CAROLINA FAMILIES BELOW POVERTY 1979[22]

Number of families	183,146
Income deficit	$2,860
Received Social Security	53,557
Received Public Assistance	51,065
Householder worked	99,694
Female householder, no husband	73,697
Female householder, no husband (householder worked)	35,479

B. NORTH CAROLINA'S WOMEN, CHILDREN AND ELDERLY.

Setting aside the state's working poor, among North Carolina's most vulnerable low-income populations are women, children and the elderly. A 1983 report by the state Division of Economic Opportunity found that women headed 58 percent of all poor households in the state; 37 percent of the poor households were headed by people over 65.[23] A report of the Child Advocacy Institute said that 22 percent of the state's 1.6 million children live in poverty.

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[22] Table 72, ***General Social and Economic Characteristics North Carolina***, 1980 Census of Population.

[23] Division of Economic Opportunity, North Carolina Department of Natural Resources and Community Development (1983).

C. NORTH CAROLINA'S MINORITIES.

North Carolina's poverty population has more whites than blacks although a greater percentage of blacks are poor. According to the Division of Economic Opportunity's 1983 report,\24\ minority households made up 23 percent of all households in the state but 42 percent of the poverty households. Almost half of the poor white households were elderly while only about a quarter of the poor black households were elderly. Poverty for blacks seems to be more a problem of jobs than of aging.

In 1979, according to the Southern Regional Council,\25\ blacks bore the heaviest burden of North Carolina's poverty. Black poverty families were 27.1 percent of all black families, while white poverty families were 7.6 percent of all white families. The number of black poor families was 86 percent of the number of white poor families, while the total number of black families was only 24 percent of white families.

A Southern Regional Council draft manuscript\26\ postulated that the continued high poverty in North Carolina in 1979, after a decade of strong employment growth, was related to the black/white population distribution.

\24\ Ibid.

\25\ ***Facts of Southern Poverty***, Southern Regional Council (Atlanta, GA 1985).

\26\ Southern Regional Council, ***Running Fast and Standing Still, Poverty and Change in the Southern Sunbelt Boom***, unpublished manuscript (prepared: 1985 - 1986).

Unlike Deep South states, North Carolina hasn't experienced a post-World War II decline in numbers of black households, although the black percentage has decreased because of white population gains. The steady decrease in black percentage of total population reversed in 1979 when the black percent rose to 22.4 percent over 22.2 percent in 1969. Of the 799,707 population gain from 1969 to 1979, the black gain was 192,379 or 31 percent, presumably in part from black in-migration. If the black gain continues, the poverty rate for the state may remain high. The 1989 racial distribution data that the Census Bureau will release this year will provide some helpful information.

III. WHERE ARE NORTH CAROLINA'S POOR?

The rural character of much of North Carolina is important to the state's poverty picture. In 1980, North Carolina had the most rural residents (3,058,914) of any state. The state was sixth in the nation in percent of rural residents (52 percent).\27\ A 1987 report indicates that the poverty rate in Appalachia is still twice the national average.\28\

Poverty in North Carolina is most concentrated in the eastern and western rural areas and in pockets of the metropolitan areas. The state's most rural counties have the highest percentages of poor people: Hyde (31%) and

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\27\ Jonathan P. Sher, ***North Carolina Today: A State of Emergency, A State of Grace, A State of Anticipation***, North Carolina Association of Educators (1988).

\28\ Craig Calhoun, ***North Carolina Today: Contrasting Conditions and Common Concerns***, North Carolina Association of Educators (1988).

Tyrell (27%) in the East and Graham (27%) and Swain (35%) in the West.[29] These counties not only have high percentages of poor, but also modest tax bases to support services to the poor. The urban counties have much lower poverty rates, Mecklenburg (12.3%), Guilford (12.7%), Wake (10.3), and Cumberland (16%), but much higher numbers of poor people. Mecklenburg County, for example, has more people in poverty (51,000) than any other county. Mecklenburg's poverty population is more than five times the combined total populations of Hyde, Tyrell, Swain, and Graham Counties.

In 1979, family poverty rates[30] were above 20% in the state's ten poorest counties. Most of these counties also had high black populations.

[29] Ibid.

[30] Again, the "poverty rate" is the percentage of households below 100 percent of the federal Poverty Level.

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TABLE I

THE TEN POOREST COUNTIES OF NORTH CAROLINA[31]

COUNTY	1979 FAMILY POVERTY RATE	1980 % BLACK	PER CAPITA INCOME AS % OF NATIONAL PER CAPITA INCOME	BLACK PER CAPITA INCOME AS % OF NATIONAL PER CAPITA INCOME
HALIFAX	25.0	47	61.9	36.7
WARREN	24.9	60	59.9	41.8
HYDE	24.7	36	58.9	34.2
SWAIN	23.3	1[32]	56.5	44.9
BERTIE	22.9	59	59.9	45.3
NORTHAMPTON	22.3	61	62.9	45.5
MADISON	22.1	1[33]	63.9	N/A
COLUMBUS	21.6	30	65.1	38.5
BLADEN	21.3	39	61.9	38.8
PERQUIMANS	20.7	38	61.9	38.2

[31] ***Facts of Southern Poverty***, Southern Regional Council (November 1985).

[32] Appalachian Region.

[33] Appalachian Region.

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The 1979 median income was lower in rural areas compared to urban areas and the rural poverty rate was higher.

TABLE J
MEDIAN INCOME IN NORTH CAROLINA: 1979[34]

	HOUSEHOLD INCOME	FAMILY INCOME	PER CAPITA INCOME
STATE	414,481	$16,792	$6,133
URBAN	$14,746	$17,591	$6,655
RURAL	$14,235	$16,195	$5,651

TABLE K
POVERTY RATES IN NORTH CAROLINA: 1979[35]

	FAMILIES	ALL PERSONS
STATE	11.6%	14.8%
URBAN	10.9%	14.5%
RURAL	12.1%	15.0%

The Rise in Poverty in Rural America[36] has described dramatic increases in rural poverty during the 1980s nationally. In 1986, the poverty

[34] Table 57, ***General Social and Economic Characteristics North Carolina***, 1980 Census of Population, Bureau of the Census, U.S.Department of Commerce.

[35] Table 72, ***General Social and Economic Characteristics North Carolina***, 1980 Census of Population, Bureau of the Census, U.S. Department of Commerce.

[36] ***The Rise in Poverty in Rural America***, Population Reference Bureau (1988). This publication uses the terms urban and rural to refer to metropolitan and nonmetropolitan areas although the terms as defined by the Census Bureau are not synonymous. Data for urban and rural areas are usually available from the decennial census, while data for metro and nonmetro are available annually.

rate for persons in rural areas was 18 percent, the same as in central cities, and 50 percent higher than in urban areas. One out of every four children in rural America was poor. Rural unemployment was 26 percent higher than in urban areas. Between 1979 and 1986, real median family incomes in rural areas fell 10 percent. In 1986, 57 percent of black children in the rural South were living in poverty; 78 percent of black children in single-parent families in the rural South were poor.

The Rise in Poverty in Rural America associates the increase in rural poverty with the decline of many rural industries, including agriculture, resource-based industries, and routine manufacturing, which was hurt by foreign competition. The deteriorating rural economy led to out-migration, with young adults and the better educated leaving in the largest numbers. Rural population growth slowed markedly from an annual rate of 1.4% between 1970 and 1980 to only 0.7% during the first half of the 1980s.

The rural poor are less likely to receive public assistance and more likely to be working than urban poor. More rural poor live in married-couple families, making them ineligible for the major welfare program: Aid to Families with Dependent Children (AFDC). Those living on farms may be disqualified from some welfare programs because they have assets. In 1986, only 18 percent of poor young families living in rural areas received cash assistance benefits and only 33 percent received Medicaid. The most commonly received benefits were Food Stamps and the School Lunch Program.

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Trends noted in *The Rise in Poverty in Rural America* continued through 1989, the most recent year for which data are readily available. In 1989, the median family income in nonmetro areas was 73 percent of that in metro areas.\37\ The poverty rates for families and persons were considerably higher in nonmetro than in metro areas.

TABLE L
METRO vs. NONMETRO NATIONAL POVERTY RATES: 1989

	FAMILIES\38\	**ALL PERSONS**\39\
TOTAL	10.3%	12.8%
METRO	9.6%	12.0%
NONMETRO	12.5%	15.7%

For certain groups, the 1989 nonmetro poverty rate is also as high or even higher than the central city rate. For example, the poverty rates for families headed by a woman are almost identical in nonmetro areas (37.9 percent) and in central cities (38.2 percent). Despite the popular perception of concentrated black poverty in the central city, 1989 poverty rates show that black families are more likely to be poor in nonmetro areas (35.4 percent) than in central cities (29.7 percent). The difference is most striking for

\37\Table 7, ***Money Income and Poverty Status in the United States 1989 (Advance Data From the March 1990 Current Population Survey***, Current Population Reports, Series P-60, No. 168, Bureau of the Census, U.S. Department of Commerce.

\38*See*, note **Error! Bookmark not defined.**, *supra*, at Table 23.

\39*See*, note **Error! Bookmark not defined.**, *supra*, at Table 18.

female-headed black families: 64.3 percent living in nonmetro areas were poor compared to 47.1 percent in central cities.

Nonmetro poverty rates for the South are higher than for other regions. In 1986, 22.4 percent of the South's nonmetro population lived below poverty. In addition, almost all of the "persistently low-income"[40] nonmetro counties were in the South.[41]

TABLE M
PERCENT NONMETRO POPULATION IN POVERTY: 1986[42]

SOUTH	22,4%
NORTHEAST	11.2%
MIDWEST	14.4%
WEST	18.3%

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[40] whose income had been in the bottom fifth from 1950 to 1984.

[41] ***Poverty in Rural America - A National Overview***, Center on Budget and Policy Priorities (1989).

[42] ***Poverty in Rural America - A National Overview***, Center on Budget and Policy Priorities (1989).

TABLE N
NATIONAL POVERTY RATE BY RACE AND FAMILY TYPE - 1989
NONMETRO, METRO, CENTRAL CITY[\43\]

	TOTAL	WHITE	BLACK
ALL FAMILIES			
Nonmetro	12.5%	10.3%	35.4%
Metro	9.6%	7.0%	26.3%
Central City	14.9%	10.3%	29.7%
FAMILIES WITH CHILDREN UNDER 18			
Nonmetro	17.7%	14.4%	44.8%
Metro	14.8%	10.9%	33.7%
Central City	23.5%	17.1%	38.6%
FEMALE-HEADED FAMILIES			
Nonmetro	37.9%	31.5%	64.3%
Metro	30.8%	23.8%	44.7%
Central City	38.2%	31.0%	47.1%
FEMALE-HEADED FAMILIES WITH CHILDREN UNDER 18			
Nonmetro	47.8%	41.2%	65.2%
Metro	41.6%	34.6%	51.9%
Central City	49.9%	44.6%	54.8%

[\43\] *See*, note **Error! Bookmark not defined.**, *supra*, at Table 23.

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Although an analysis of the 1990 Census will provide a more current picture of the full extent of North Carolina poverty, it now seems apparent that public policy will have to address a deepening problem.

IV. WHY ARE SO MANY NORTH CAROLINIANS POOR?

A. LOW WAGES.

Dr. Jonathan Sher of the Small Business and Technology Development Center of the University of North Carolina characterized North Carolina as a state "overflowing with working poor."\44\ He pointed out that North Carolina has a poverty rate well above the national average even though it has one of the nation's lowest unemployment rates.

Relocation of branch manufacturing plants from the Northeast to non-union North Carolina has created mainly low-skilled and low-paying jobs. Nationally, as of June 1988, North Carolina had the highest percent of the workforce employed in manufacturing (29 percent)\45\ but was next to last in the nation in average manufacturing wage. According to Dr. Sher, too much of the state's employment has been in "low-wage, seasonal, part-time and dead-end jobs - jobs that do not provide sufficient income, benefits and security to lift even the people *employed* to a place above the poverty line."

\44\ ***North Carolina Today: A State of Emergency, A State of Grace, A State of Anticipation***, North Carolina Association of Educators (1988).

\45\ Anne Jackson and Jack Betts, *Who Are the Poor? The Demographics of Poverty* in ***Profiles in Poverty: State Policy and the Poor in North Carolina***, North Carolina Insight, Vol. 11, No. 2-3, North Carolina Center for Public Policy Research (April 1989).

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Even some of these low-wage jobs are now being lost. As a result of international competition and technological change, textile and apparel manufacturing plants are closing. Between 1970 and 1986, North Carolina lost about 75,000 textile jobs, about one quarter of total textile jobs. Between 1974 and 1982, the number of farms in the state shrank from 91,000 to 73,000. These changes, such as the decline in tobacco production in response to reduced domestic consumption, are seen as permanent.

The new jobs being created in the state don't help many of the poor. With North Carolina's attraction now based more on "lifestyle" than cheap, unskilled labor, much of the new investment is in high technology and information-based industries. The new employment is either in low-wage service jobs that don't pay enough to lift people out of poverty or in white-collar or highly specialized jobs for which the poor lack training. Service employment in the state grew 25.4 percent between 1980 and 1985, but these are often the least well-paid jobs.\46\

B. TAX STRUCTURE.

The state tax structure also presents problems for low-income people. Although the state's personal income tax is progressive, it imposes taxes at a lower income level than in most states.\47\ Also, in 1988 a family of four

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\46\ Craig Calhoun, ***North Carolina Today: Contrasting Conditions and Common Concerns***, North Carolina Association of Educators (1988).

\47\ Charles D. Liner, *Taxes and the Poor in North Carolina: An Unfair Share?*, in ***Profiles in Poverty: State Policy and the Poor in North Carolina***, North Carolina Insight, Vol. 11, Nos. 2 - 3, North

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earning $10,000 would have had a higher state income tax bill in North Carolina than in any other state except Kentucky. The state's sales tax also imposes a burden on low-income taxpayers through taxation of food purchases and utility bills. In contrast, 28 states exempt food from sales tax and 32 states exempt utility bills.

C. INSUFFICIENT BENEFITS.

According to a Southern Regional Council report,\48\ only 28 percent of poor families in its eleven-state region\49\ received public assistance. The report cites increased Southern poverty since 1979 associated with Federal cuts in public assistance. From 1980-1984, 1,428,650 persons in the Southern states were cut from Food Stamp, SSI, and AFDC programs. North Carolina's public benefit programs provide little safety net for the poor.

1. AFDC.

Aid to Families with Dependent Children (AFDC) is North Carolina's major cash assistance program for families with children. The program is jointly funded by the federal and state governments, and the states set eligibility criteria and benefit levels. The federal government matches the

(..continued)

Carolina Center for Public Policy Research (April 1989).

\48\ ***Facts of Southern Poverty***, Southern Regional Council (1985).

\49\ Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia.

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state appropriation using a federal matching rate computed annually for each state.

As in many states, the North Carolina AFDC grant is much lower than the poverty level income. In 1987, maximum 3-person AFDC benefits ranged from 15.6% of poverty level in Alabama to 83.7% in California; North Carolina ranked 42nd in size of its AFDC payment.\50\ In 1990, the maximum AFDC payment for a family of 3 in North Carolina was 30.9% of the $10,560 poverty level income.\51\ A family of 3 receiving AFDC payments and food stamps had income equivalent to only 60.5% of poverty level.

For Fiscal Year 1990, AFDC grants totaling $244,360,669 were made to 112,571 families in North Carolina. The average family size was 2.58 persons, and the average monthly payment was $239.07. 2-parent families in the state can receive AFDC benefits if the primary wage earner works less than 100 hours per month. In 1990, only 171 families received benefits under this AFDC Unemployed Parent (AFDC-UP) program.

The AFDC Emergency Assistance program makes grants for up to one month to families threatened by domestic emergencies or natural disasters. The federal government matches the state appropriation on a 50/50 basis.

\50\ Isaac Shapiro and Robert Greenstein, ***Holes in the Safety Nets, Poverty Programs and Policies in the States: National Overview***, Center on Budget and Policy Priorities (Washington D.C. 1988).

\51\ ***Annual Program Report, State Fiscal Year 1990***, North Carolina Division of Social Services.

The Emergency Assistance program is much smaller than the regular AFDC program. In North Carolina, Fiscal Year (FY) 1991 Emergency Assistance grants totaled $5,536,740. These funds were exhausted by the end of March, 1991.\52\ Of the $4,538,366 AFDC-EA expended by the end of February 1991, $2,611,823 was used to pay utility charges.\53\

North Carolina has no statewide general assistance or relief program to help single people and childless couples.

2. Supplemental Security Income.

Supplemental Security Income (SSI) is a federal program which provides cash assistance for elderly and disabled poor. The federal government sets eligibility criteria as well as an annually adjusted payment schedule. In 1987, the SSI payment was 74.8 percent of the poverty line in North Carolina for an elderly individual and 88.9 percent of the poverty line for an elderly couple. For disabled people, the SSI payment was 68.9% of poverty level for an individual and 80% of poverty level for a couple. Even when SSI recipients receive food stamps, the combination of benefits doesn't bring them up to poverty level. As of 1987, 27 states supplemented SSI, but North Carolina was not among them. The 1991 benefit levels are $535 for an elderly individual and $810 for a couple.

\52\Jane Smith. North Carolina Division of Social Services (telephone communication, April 29, 1991).

\53\Kay Fields, North Carolina Division of Social Services (correspondence, April 1, 1991).

3. Unemployment Insurance.

Only a fraction of jobless workers nationwide receive unemployment benefits in any given month. In 1987, the percent of unemployed receiving benefits was 29.5 percent for North Carolina compared to 32.7 percent nationwide.

The February 1991 unemployment rate for North Carolina was 5.3 percent (adjusted for seasonality).\54\ Although lower than the national rate, it still indicates 183,000 unemployed persons in the state.\55\

Unemployment benefits in North Carolina are paid for 26 weeks for permanent workers and for 13 weeks for seasonal workers. The minimum payment is $20 and the maximum $245. The average weekly payment for 1990 was $151.76, which represented only 74.7 percent of the 1990 poverty level income for a family of 3.

In 1987, unemployment benefits represented 37.2 percent of the wage replaced in North Carolina compared to 36.0 percent nationally. The 1990 North Carolina *maximum* benefit was set at only 66.7 percent of the average

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\54\ ***New York Times*** (March 9, 1990).

\55\ Sydney Armstrong, Employment Security Commission of North Carolina (March 9, 1991).

wage replaced.[56] The *average* benefit was only 41 percent of the wage replaced.

[56] Wanda Aherom, Employment Security Commission of North Carolina (May 7, 1991).

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4. Food Assistance.

The Food Stamp Program is funded by the federal government, which also sets eligibility and benefit standards. Households which receive SSI benefits and households in which all members are covered by AFDC are automatically eligible for food stamps. In 1987, only 72.2 percent of North Carolina's AFDC recipients received food stamps compared to a national average of 83.4 percent. In 1990, 71.5 percent of North Carolina's AFDC recipients received food stamps.

This may indicate an area where the state could easily access some additional federal benefits for its poor citizens.

5. Tax Relief.

State and local taxes are a heavy burden for poor households. In 1988, North Carolina was one of ten states which taxed working families of four with incomes below half of the poverty line. The amount of taxes owed by a family of four with $10,000 income was larger in North Carolina than in all states but Kentucky.[57]

Exemptions can partially relieve the sales tax burden for the poor. In 1986, 29 of the 46 states with a sales tax exempted grocery purchases, 32 states exempted utility bills, and seven states had a low-income sales tax

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[57] Charles D. Liner, ***Taxes and the Poor in North Carolina: An Unfair Share?***, North Carolina Insight, Vol. II, No. 2-3, North Carolina Center for Public Policy Research (April 1989).

rebate program. In North Carolina, items bought with food stamps are exempt from sales tax but otherwise food and utility bills are taxed.

Roughly one-third of the states (31) provide partial relief from the property tax burden through some form of "circuit breaker," which is activated when taxes exceed a specified percentage of income. Other states assist low-income elderly through abatement or tax deferral programs. In North Carolina, the only property tax relief is a $12,000 exemption from taxation on the assessed value of property low-income elderly.

North Carolina should exempt its LIHEAP recipients from the payment of sales tax on their home energy purchases. Imposition of a sales tax on these purchases serves only to exacerbate the payment troubles of North Carolina's lowest income households. On a $1000 annual home energy burden, North Carolina's sales tax effectively places the state government in the position of taking back on-third of the already minuscule $100 LIHEAP benefit provided by the federal government. Given North Carolina's LIHEAP participation rate and fuel distribution, the cost of a sales tax exemption would be as follows:

TABLE O
COST TO STATE OF SALES TAX EXEMPTION
FOR TOTAL ENERGY BILLS FOR LIHEAP RECIPIENTS

	PERCENT OF TOTAL LIHEAP	NUMBER OF RECIPIENTS	ANNUAL TOTAL ENERGY BILL	SALES TAX	PER HOUSEHOLD TAX SAVINGS	AGGREGATE WAIVER COST
NATURAL GAS	17.6%	28,222	$955	3%	$38	$1,078,072
ELECTRICITY	30.6%	49,067	$1,058	3%	$42	$2,076,533

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FUEL OIL	**10.8%**	**17,318**	**$800**	**3%**	**$32**	**$553,480**
LPG	**10.7%**	**17,158**	**$650**	**3%**	**$20**	**$343,160**
KEROSENE	**19.6%**	**31,429**	**$800**	**3%**	**$24**	**$754,296**
TOTAL:						**$4,805,541**

A more limited exemption would follow the exemption created for food stamps, exempting any home energy purchase paid through federal dollars (i.e., LIHEAP). Under this scenario, rather than exempting the *entire* home energy bill, only the portion of the bill paid by the $105 LIHEAP grant would be exempt. Under this scenario, LIHEAP recipients would receive an additional $4 per year in benefits and the cost to the state would reach $0.70 million.

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TABLE P
COST TO STATE OF SALES TAX EXEMPTION
ON ENERGY BILLS PAID BY LIHEAP

	SALES TAX	LIHEAP BENEFITS	TAX ON LIHEAP
Basic LIHEAP Grants	3%	$18,287,789	$548,634
LIHEAP Crisis Grants	3%	$4,441,897	$133,257
Totals:			$681,891

V. WHAT DOES THE FUTURE HOLD FOR NORTH CAROLINA'S POOR?

State economic projections predict a slowing in the annual average growth rate for new non-manufacturing jobs from 3.4 percent in the 1980s to 1.7 percent in the 1990s.\58\ Still 410,000 new non-manufacturing jobs are expected. Total manufacturing employment is expected to decrease by more than 30,000 jobs by the year 2000, with much of the loss in textiles and apparel manufacturing because of foreign competition and automation. Tobacco production is expected to show little growth and lumber production slow growth because of decreasing housing starts. North Carolina will continue to lose jobs that low-income individuals traditionally have held, and it is unclear whether the new jobs created will help the low-income rise out of poverty. Though state economic growth exceeded that of the U. S. since 1974, the projected slow growth environment suggests that per capita income will do little more than hold its own relative to national per capita income during the 1990s.

\58\ ***North Carolina Long-Term Economic-Demographic Projections 1989***, Office of State Budget and Management.

A summary of the *North Carolina Population Projections: 1988 - 2010 Project Implications*[59] suggests that the urban and resort counties will continue to attract in-migrants while some agricultural counties will experience net out-migration. Declines in tax revenues in the counties losing population are expected to adversely affect education and other services.

Over the next 20 years, the most striking population changes will result from aging, with the baby boom population swelling the middle-aged work force. The elderly population, particularly the over 75 group, will grow, while the young adult population will shrink and the population of children will stay about the same.

With this overview of the North Carolina poverty population, it is time to turn attention to the problem of unaffordable energy costs, along with the implications that holds for housing as well.

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[59] ***North Carolina State Data Center Newsletter*** (April 1990).

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PART II: ENERGY AND HOUSING AFFORDABILITY: INEXTRICABLE INTERRELATIONSHIP

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I.HOUSING: AFFORDABILITY AND AVAILABILITY IN NORTH CAROLINA.

A. HOUSING AFFORDABILITY IN NORTH CAROLINA.

High housing costs are a major reason why low-income people have difficulty meeting their bills in North Carolina. According to standards promulgated by the U.S. Department of Housing and Urban Development (HUD), households which pay more than 30 percent of their incomes for housing are overburdened. In 1979, at least 91,155 North Carolina renter households with income below poverty level were paying more than 30 percent of income for rent and at least 69,407 poor renter households were paying more than 50 percent of their income for rent.\60\

Between 1970 and 1980, housing costs in North Carolina rose much more rapidly than income.\61\ The 1980 median rent was $205, a 247 percent increase over the previous decade. The 1980 median house price was $36,000, an increase of 181 percent. During the same time period, the median income had increased only 108 percent. More recently, the North Carolina Board of Realtors\62\ reported an average sales price among 14 member boards of $106,707 for December 1990 compared to $103,115 for December 1989.

\60\Table A-4, ***Metropolitan Housing Characteristics North Carolina***, 1980 Census of Housing.

\61***North Carolina Housing Policy Report***, North Carolina Housing Finance Agency (1988).

\62\Bruce Ewing, North Carolina Board of Realtors, February 14, 1991. The prices are from 14 out of 72 member boards: Ashville, Chapel Hill, Charlotte, Dare County, Gastonia, Greensboro, Hendersonville, Hickory, Highpoint, Raleigh, Rocky Mount, Wilmington, Winston-Salem. The statewide sales prices will probably be slightly lower since the board sample includes some large metropolitan areas and retirement and second-home communities.

As of January 1991, HUD\63\ estimated the state housing need at 112,082 "inadequately-housed, income eligible" households. (Inadequately housed households are either overcrowded, lack indoor plumbing, or pay more than 30 percent of income for housing.) The annual demand estimate is 19,507. Despite high demand, Federal housing production in North Carolina dropped from more than 7,000 units in 1981 to 411 units in 1989.

Fair Market Rents, as established by HUD, represent the dollar amount needed to rent "decent, safe, and sanitary housing" in the private market. The 1991 Fair Market Rent\64\ for a one-bedroom apartment in North Carolina ranges from $394 in the Raleigh-Durham metropolitan area to as low as $256 in some rural counties (Cherokee, Clay, Graham, Swain). In contrast, the 1990 maximum AFDC payment of $272 for a 3-person family would cover the Fair Market Rent only in the least expensive areas, and that leaves *nothing* for other expenses.

Using the 30 percent of income affordability criterion, average 1989 Fair Market Rents, and a 1989 HUD estimate for median renter income, the Low Income Housing Information Service\65\ calculated that 35 percent of North

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\63\Gerald Pifer, HUD, Greensboro, NC.

\64***Federal Register***, Vol. 55., No. 190 (Oct. 1, 1990).

\65\Cushing N. Dolbeare, ***Out of Reach, Why Everyday People Can't Find Affordable Housing***, Low Income Housing Information Service (Washington D.C. 1990).

Carolina renters could not afford a one-bedroom apartment and 40 percent of renters could not afford a two-bedroom apartment. A North Carolina worker in 1989 would have had to earn $6.54 an hour to pay for a one-bedroom apartment and $7.69 an hour to pay for a two-bedroom apartment. The study found that in 1989 the average Fair Market Rent for a two-bedroom apartment was 150.4 percent of the maximum AFDC payment for a family of three and 137.5 percent of the maximum AFDC payment for a family of four. In short, many working families, in additional to almost all families living on AFDC grants cannot come close to affording Fair Market Rent apartments in North Carolina.

In general, the affordability of Fair Market Rents in North Carolina is set out in Illustration 1.

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ILLUSTRATION 1[\66\]

AFFORDABILITY OF FAIR MARKET RENTS IN NORTH CAROLINA

[\66\]Cushing Dalbeare, ***Out of Reach***, Low-Income Housing Information Service (1990).

The rise in homelessness is the most visible sign of the difficulty North Carolina residents have in paying their housing expenses. In July 1988, the North Carolina Division of Community Assistance estimated the homeless population at 8,045, a number they considered very conservative. A more recent Department of Public Instruction survey found 6,166 homeless children. The Raleigh/Wake County Coalition for the Homeless estimates 2,000 homeless during the year.\67\

The shortage of low-cost housing may become worse over the next decade if owners of certain federally-subsidized projects pre-pay their mortgages and convert the units to unsubsidized use. Many federally-subsidized projects have regulatory agreements that permit mortgage prepayment after 20 years with release from the obligation to keep the housing subsidized. Many projects throughout the country will soon reach the 20 year point. In North Carolina, 75 HUD-subsidized projects with 7,131 units will become eligible for prepayment. If developers do prepay, thousands of subsidized housing residents could be forced into the private market. In that event, households will face not only unsubsidized rents, but unsubsidized home energy costs as well.\68\

\67\Linda Shaw, ***Greensboro News and Record*** (October 14, 1990).

\68\When a household resides in subsidized housing, that household obtains a heating allowance to help pay home energy bills. The loss of the subsidized housing unit would thus also result in the loss of the heating subsidy.

B. HOUSING AVAILABILITY IN NORTH CAROLINA.

According to the 1980 Census, North Carolina had a total of 2,223,007 housing units, an increase of 604,900 or 38.5 percent over 1970. Manufactured housing or mobile homes represented 21 percent of the increase. The housing inventory was primarily single-family (79.2 percent) with eleven percent multifamily and 9.8 percent manufactured housing. The state's households were 68.4 percent homeowners and 31.6 percent renters.

The North Carolina Citizen Survey, which was conducted annually until 1985 by the Office of State Budget and Management, is one source of data more current than the 1980 Census. The 1985 Survey found that 75 percent of the state's households live in housing that they own or are buying.

TABLE Q
TENURE AND HOUSING TYPE
OF NORTH CAROLINA HOUSEHOLDS[69]

HOUSING TYPE	OWNER	RENTER
SINGLE FAMILY DETACHED HOUSE	62%	12%
MOBILE HOME	11%	2%
TOWNHOUSE OR CONDO (OWNER) / APARTMENT OR DUPLEX (RENTER)	2%	11%

In 1979, 324,156 housing units or 15.9% of all occupied housing units had occupants with incomes below the poverty level. More than half of the units with low-income occupants were rental whereas statewide less than a third of the housing units were rental.

TABLE R
HOUSING UNITS OCCUPIED BY THE POOR: 1979[70]

	NUMBER OF OCCUPIED HOUSING UNITS	NUMBER OF UNITS OCCUPIED BY POOR	PERCENT OF UNITS OCCUPIED BY POOR
ALL UNITS	2,043,291	324,156	15.9%
OWNER-OCCUPIED UNITS	1,397,426	152,312	10.9%
RENTER-OCCUPIED UNITS	645,865	171,844	26.6%

[69] ***North Carolina Citizen Survey Highlights: Fall 1985***, North Carolina Office of State Budget and Management. Based on a random sample of 1,404 households with a margin of error of less than three percentage points.

[70] Table A-3 and Table A-4, ***Metropolitan Housing Characteristics North Carolina***, 1980 Census of Housing, Bureau of the Census, U.S. Department of Commerce.

Housing units with low-income occupants tended to be older than occupied units in general. Statewide, 17 percent of all occupied units were built before 1940 compared to 25.1 percent for units with low-income occupants. 83,393 units or 24 percent of all units built before 1940 had low-income occupants.\71\

Overall, North Carolina's housing inventory is relatively new, reflecting the state's recent population growth. In 1979, 32 percent of all units were less than 10 years old. Only 17 percent were built before 1940 compared to 25.8 percent nationally.

C. THE PREVALENCE OF MOBILE HOMES.

In 1979, North Carolina had 194,601 occupied mobile home units, about 3/4 owner-occupied and 1/4 renter-occupied.\72\ Between 1980 and 1987, the state received shipment of another 159,030 mobile homes, making it third among the states in shipments after Texas and Florida.\73\

The large number of mobile homes is important for energy policy because most use expensive electric heat. Moreover, some mobile homes built before

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\71\Table 7, ***Metropolitan Housing Characteristics North Carolina***, 1989 Census of Housing, Bureau of the Census, U.S. Department of Commerce.

\72\Table 60, ***Detailed Housing Characteristics North Carolina***, 1989 Census of Housing, Bureau of the Census, U.S. Department of Commerce.

\73\Manufactured Housing Institute, (Arlington, VA).

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the 1976 HUD thermal standards (National Manufactured Home Construction and Safety Standards) likely still exist. Another problem is that many of the commonly used weatherization techniques have very long payback periods for mobile homes. Nationally, mobile homes represent less than five percent of the total housing stock, but 25 percent of buildings that qualify for low-income weatherization.\74\

II. HOUSING AND HOME HEATING PATTERNS.

A. FUEL USE.

Low-income households in North Carolina tend to have energy consumption patterns that differ markedly from the residential population as a whole. The 1985 North Carolina Citizen Survey found that residential customers living in single family homes for the state of North Carolina as a whole more likely use electricity as their primary heating fuel, although electricity, fuel oil and natural gas all have significant market penetrations.

\74\ ***Testing the Effectiveness of Mobile Home Weatherization Measures in a Controlled Environment: The SERI CMFERT Project***, Solar Energy Research Institute (Golden CO 1990).

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TABLE S
PRIMARY HEATING FUEL FOR NORTH CAROLINA'S SINGLE FAMILY HOUSES[75]

PRIMARY HEATING FUEL	PERCENT USING
ELECTRICITY	29%
FUEL OIL	26%
UTILITY GAS	20%
WOOD	17%
ALL OTHERS	8%

In contrast, the 1980 Census indicates that units occupied by the poor are less likely to have electric heat than occupied units overall. Low-income home owners in particular tend to use more fuel oil and kerosene as well as "other fuels" such as wood and coal.

[75] ***North Carolina Citizen Survey Highlights: Fall 1985***, North Carolina Office of State Budget and Management.

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TABLE T
NORTH CAROLINA: LOW-INCOME vs. ALL UNITS
HOME HEATING FUEL PATTERNS: 1979[76]

	OWNER-OCCUPIED UNITS		RENTER-OCCUPIED UNITS	
	ALL UNITS	UNITS WITH POOR OWNER	ALL UNITS	UNITS WITH POOR RENTER
UTILITY GAS	14.2%	9.5%	20.1%	20.8%
BOTTLED, TANK, OR LP GAS	5.5%	9.1%	6.5%	7.8%
ELECTRIC	28.4%	16.1%	31.4%	25.1%
FUEL OIL, KEROSENE	43.7%	51.7%	32.6%	32.0%
OTHER	8.3%	13.5%	9.4%	14.3%

A probable explanation is that poor occupants live in older housing, less likely to be heated by electricity. Electricity was much more commonly used in houses built after 1960 than in houses built before 1960.

TABLE U
NORTH CAROLINA HEATING FUEL BY AGE OF HOUSE[77]

PRIMARY HEATING FUEL	HOUSE BUILT BEFORE 1960	HOUSE BUILT AFTER 1960
ELECTRICITY	9%	42%
FUEL OIL	37%	19%

[76] Tables A-3 and A-4, ***Metropolitan Housing Characteristics North Carolina***, 1980 Census of Housing.

[77] ***North Carolina Citizen Survey Highlights: Fall 1985***, North Carolina Office of State Budget and Management.

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The housing stock in which low-income households live has other significant implications, as well, for low-income energy consumption and thus energy payment problems. Low-income households in North Carolina are more likely to live in homes with little or no conservation measures and with older heating units than their higher income counterparts. As a result, these households have not only less ability to pay, but the payments they *are* making are often directed toward inefficient, wasteful and unnecessary energy use simply because of the physical housing structures in which they find themselves living.

B. AGE OF HOUSING UNIT.

According to the 1990 U.S. Department of Energy Residential Energy Consumption Survey,\78\ low-income households face energy problems in a number of different ways. For example, low-income households in North Carolina will likely live in older homes. According to the DOE data, one in five (19%) households with incomes less than $15,000 live in homes built before 1940. More than three of ten (32%) live in homes built before 1950 and nearly one-half (48%) live in homes built before 1960. The high population of low-income renters who live in these old homes is bothersome as well. Low-income renters not only lack the financial ability to improve their own homes, they live in circumstances where the property owner has no incentive to improve the rental property.

\78\U.S. Department of Energy, Energy Information Administration, ***Residential Energy Consumption Survey***, Public Use Tapes (January 1990). Data was obtained for the Southern Census Region. North Carolina figures are projected from this data.

TABLE V
LOW-INCOME RENTERS IN NORTH CAROLINA:
AGE OF HOME

	RENTERS	
YEAR HOME BUILT	**INCOME < $5000**	**INCOME $5000 - $9000**
BEFORE 1940	20.5%	14.0%
1940 - 1949	11.2%	13.2%
1950 - 1959	15.2%	18.4%
1960 - 1969	19.5%	26.7%
1970 TO PRESENT	33.6%	25.7%
TOTAL	100%	100%

Low-income households certainly occupy a disproportionate number of the older homes. Less than 15 percent of *all* homes, for example, were built before 1940 and only 20 percent of all homes were built before 1949.\79\

\79\A small difference exists between the number found by the 1989 U.S. Census and the 1987 U.S. Department of Energy data.

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C. AGE OF HEATING UNIT.

Not only do the poor live in older housing structures than their more wealthy counterparts, but they live in homes with older heating units as well. Of all heating units more than 15 years old, nearly 60 percent are in homes occupied by households with annual incomes less than $15,000. Of all heating units aged 10 - 14 years, roughly half are in homes occupied by households with incomes less than $15,000.

TABLE W
AGE OF HEATING UNIT IN HOME
FOR LOW-INCOME HOUSEHOLDS IN NORTH CAROLINA

AGE OF HEATING UNIT	PERCENT IN HOUSEHOLDS WITH INCOME LESS THAN $10,000	PCT OF TOTAL UNITS BY UNIT'S AGE
1 YEAR	13%	100%
2 - 4 YEARS	18%	100%
5 - 9 YEARS	16%	100%
10 - 14 YEARS	14%	100%
15 YEARS PLUS	21%	100%

Looked at a different way, of all households with incomes less than $10,000, more than one in three (34%) live in a home with a heating unit older than 15 years. Roughly one half (49%) live in a home with a heating unit older than nine years.

The age of the heating unit and the age of the home are positively associated. Of all homes built before 1940, for example, more than half (53%)

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have heating units older than nine years; more than one-third (36%) have heating units older than 15 years. Similar results hold for other older homes.

TABLE X
AGE OF HEATING UNIT
FOR OLDER HOMES IN NORTH CAROLINA

YEAR HOME BUILT	% HEATING UNITS OLDER THAN 15 YEARS	% HEATING UNITS OLDER THAN 9 YEARS
BEFORE 1940	36%	53%
1940 - 1949	34%	56%
1950 - 1959	42%	51%
1960 - 1969	43%	56%

The age of the housing structure and heating unit have substantial impacts on their low-income residents. It is axiomatic that older heating units, as well as older homes, do not have the efficiencies that the newer technologies and homes would have. As a result, increased consumption would occur for low-income households living under such circumstances and bills would be less affordable. Moreover, older heating units would be more subject to breakdowns, with accompanying repair bills, again imposing increased costs on the very households who can least afford them.

D. USE OF CONSERVATION MEASURES.

More than repair bills, however, the inefficient and wasteful monthly use of energy due to both old houses and old heating units imposes a substantial, yet avoidable, burden on low-income households. According to the U.S. Department of Energy data, few low-income households have even the most

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rudimentary of conservation or weatherization measures installed in their homes.

Households on specific public assistance programs (AFDC and SSI), according to U.S. Department of Energy data, are overwhelmingly likely *not* to live in homes with weatherization measures installed. Ranging from 50 percent of all AFDC households who lack *any* attic insulation (let alone adequate insulation), to 60 percent who lack caulking and weatherstripping, to 80 - 90 percent who lack storm doors and storm windows, these households lack the ability to control their unaffordable bills through the installation of energy savings equipment.

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TABLE Y
PUBLIC ASSISTANCE RECIPIENTS
NOT HAVING WEATHERIZATION MEASURES

WEATHERIZATION MEASURE	PCT RECIPIENTS OF PUBLIC ASSISTANCE PROGRAMS *NOT* HAVING MEASURE\80\	
	AFDC	SSI
STORM DOORS	88%	61%
STORM WINDOWS	81%	N/A
ATTIC INSULATION	48%	N/A
WALL INSULATION	45%	41%
HOT WATER HEATER INSULATION	87%	86%
CAULKING	63%	59%
WEATHER STRIPPING	64%	64%

As before, also, there is particular concern for the low-income renter, who neither has the ability to finance energy efficiency improvements out of the available household budget nor the ability to affect the property owner's decision regarding whether or not to install conservation measures.

\80\Households indicating that they "didn't know" or had "no opinion" are excluded from the population. Thus, 100% is limited to only households giving an answer.

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TABLE Z
LOW-INCOME RENTERS NOT HAVING WEATHERIZATION MEASURES

WEATHERIZATION MEASURE	PERCENT OF LOW-INCOME RENTERS *NOT* HAVING MEASURE[\81\]	
	INCOME <$5,000	INCOME $5-10,000
STORM DOORS	61%	75%
STORM WINDOWS	70%	75%
ATTIC INSULATION	60%	56%
WALL INSULATION	70%	71%
HOT WATER HEATER INSULATION	84%	96%
CAULKING	75%	72%
WEATHER STRIPPING	79%	80%

E. AVAILABILITY OF ALTERNATIVE MAIN HEATING SOURCES.

Moreover, these households who are vulnerable to high and wasteful energy bills are at risk because of their lack of safe alternative heating sources. Many households simply have no alternative in those instances where they lose their energy service, for whatever reason. Other households are forced to rely on dangerous, and expensive, sources of alternative heating such as portable kerosene and portable electric room heaters.

[\81\] Households indicating that they "didn't know" or had "no opinion" are excluded from the population. Thus, 100% is limited to only households giving an answer.

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1. Loss of Main Heating Source in Winter.

A whopping seven percent of all households lost their primary heating service for a variety of reasons in the last winter. Some forgot to pay, others could not afford to pay, others had heating systems break. Some households had heating service disconnected while others simply ran out of fuel.

Most heating loss occurred within households served by five major primary heating fuel types: natural gas, LPG, fuel oil, kerosene and electricity. The distribution of households having lost their primary heat at least once last winter is set out below, along with the distribution of fuel types among the total population.

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TABLE AA
OF THOSE HOUSEHOLDS LOSING SERVICE LAST WINTER
DISTRIBUTION AMONG FIVE MAJOR FUEL TYPES[82]

FUEL TYPE FOR PRIMARY HEAT	PERCENT OF Hhs HAVING LOST HEAT LAST WINTER[83]	DISTRIBUTION IN TOTAL POPULATION
NATURAL GAS	30.63%	43.83%
LPG	17.19%	6.86%
FUEL OIL	16.87%	4.62%
KEROSENE	11.54%	2.80%
ELECTRICITY	18.44%	34.12%

2. Alternative Heating Source in Winter.

Many of these households lack any alternative heating source when their primary heating source is out of operation. Nearly four of ten of those households (38 percent) 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 because of the loss. The average number of hours without heat, by fuel type, is set out below. As can be seen, also, with the exception of electricity, those households who lost their heat because they could not afford to pay[84] went without heat for noticeably longer periods of time than the total population

[82] This does not add to 100 percent since not all fuels are reported.

[83] This column would indicate the following, for example: Of all households losing their primary heating source in the winter, 30.63% heated with natural gas.

[84] For electricity and natural gas service, the loss of heat was due to a "disconnection of service." For LPG, kerosene and fuel oil, the loss of heat was because the fuel ran out.

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(which includes those households who lost their service having forgotten to pay or having experienced a breakdown of the heating system).

TABLE BB
HOURS WITHOUT HEAT IN WINTER
HAVING LOST PRIMARY HEATING SERVICE
AND HAVING NO ALTERNATIVE

PRIMARY HEAT	PERCENT HAVING NO HEATING ALTERNATIVE WITHOUT PRIMARY HEAT	AVERAGE HOURS WITHOUT HEAT: TOTAL HOUSEHOLDS LOSING PRIMARY HEAT	AVERAGE HOURS WITHOUT HEAT: LOST HEAT DUE TO INABILITY TO PAY
NATURAL GAS	15%	327	402
LPG	7%	131	258
FUEL OIL	3%	68	146
KEROSENE	3%	197	291
ELECTRICITY	9%	22	14
TOTAL	38%\85\		

Roughly two-thirds (65%) of the households who lost their heating service (within these fuel types) were urban households, with the other third (32%) being rural.\86\ By far the greatest proportion of the households who lacked any alternative heating source, when they lost their primary heating, were urban residents.

TABLE CC
HOUSEHOLDS LOSING HEAT AND
HOUSEHOLDS LACKING HEAT
WHEN PRIMARY HEAT LOST: URBAN vs. RURAL

\85\This figure represents the following: of those households losing their main heating source in the winter, 38 percent had no alternative heating source.

\86\The total does not add to 100 percent since not all fuels are reported.

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HEAT SOURCE	LOST PRIMARY HEAT LAST WINTER		NO HEAT ALTERNATIVES WHEN PRIMARY HEAT LOST	
	RURAL	URBAN	RURAL	URBAN
NATURAL GAS	5%	27%	2%	13%
LPG	4%	13%	1%	5%
FUEL OIL	10%	6%	1%	3%
KEROSENE	9%	3%	3%	<1%
ELECTRICITY	3%	15%	2%	7%
TOTALS:[\87\]	32%	65%	9%	29%

Even those households who don't lack heat altogether, however, face 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 replacement source of heat. Adding to the danger of such use is the expense. A nearly equal proportion of the households losing their primary source of heat relied upon either their cooking stove or their fireplace (20%) as their primary heating source.

TABLE DD
PERCENT OF HOUSEHOLDS HAVING LOST PRIMARY HEAT

[\87\] Percentage is of those losing heat. Thus, 5 percent of those households who lost heat last winter were rural households using natural gas; 27 percent of those households who lost heat last winter were urban households using natural gas. (The 32 percent plus 65 percent in the "totals" do not add to 100 percent due to rounding.) Similarly, 2 percent of all households who lost heat last winter were rural households using natural gas who had no alternative source of energy. (The 9 percent plus the 29 percent total add to the 38 percent total of all households who lost heat last winter who had no alternative; see Table BB).

HAVING NO HEAT OR RELYING ON SELECTED ALTERNATIVES[88]

PRIM HEAT SOURCE	NO HEAT ALTERNATIVE	PORTABLE ELECTRIC HEATER	PORTABLE KEROSENE HEATER	COOKING STOVE	FIREPLACE
NATURAL GAS	15%	3%	2%	6%	5%
LPG	7%	4%	1%	0%	1%
FUEL OIL	3%	3%	6%	1%	2%
KEROSENE	3%	3%	N/A	3%	0%
ELECTRICITY	9%	N/A	2%	<1%	2%
TOTALS:	38%	13%	11%	10%	10%

As can be seen, the loss of heating service during the winter in North Carolina is likely to represent a major crisis to the affected household. A substantial minority (38%) have *no* heating alternatives. Another substantial minority must rely upon dangerous and expensive portable kerosene or electric heaters. Yet another substantial minority are forced to rely on such ineffective means as the use of cooking stoves and fireplaces as their source of home heating. The energy initiatives discussed later in this report all help address these crisis situations.

[88] Totals do not add to 100 percent since not all alternative sources of heating are listed. Alternative sources of heating are exclusive. A household could not indicate more than one.

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III. NORTH CAROLINA'S PUBLIC AND PRIVATE WEATHERIZATION PROGRAMS.

A. THE PUBLIC PROGRAMS.

1. Background - Weatherization Assistance Program (WAP).[89]

The federal Weatherization Assistance Program (WAP) is the cornerstone of public low-income weatherization efforts. The WAP evolved out of a residential energy conservation program initiated in 1974 by the Community Services Administration (CSA) in response to the 1973 oil embargo. The original program operated through the CSA network of Community Action Agencies (CAAs) created in the 1960s as "frontline" anti-poverty agencies.

In 1976, the WAP program was established within the Federal Energy Administration, now the U.S. Department of Energy (DOE). The WAP goals were to decrease national energy consumption and to reduce the impact of high fuel costs on low-income households, especially the elderly and handicapped. After several years, the CSA program was eliminated. The DOE assumed full responsibility for operating the federal low-income weatherization program, but retained the CSA service delivery structure through the CAAs. Over the years, the program emphasis has shifted from

[89] Sources for this section are: Schlegel, J., et al., ***The State-of-the-Art of Low-Income Weatherization: Past, Present, and Future***, American Council for an Energy-Efficient Economy, Proceedings ACEEE 1990 Summer Study on Energy Efficiency in Buildings, Washington, DC, August 1990; ***Report on the Present Weatherization Grant Program***, Prepared for the Committee on Appropriations of the U. S. Senate, Weatherization Assistance Program Branch, U. S. Department of Energy (August 29, 1989).

volunteer labor and temporary weatherization measures to professional work crews and permanent improvements.

2. Program Design.

The WAP gives priority to elderly and handicapped low-income households and to single-family or other high energy consuming units. At least 40% of the funds must be spent on materials, and the average expenditure per unit cannot exceed $1648. Dwelling units are eligible if the household income is at or below 125% of the poverty level income. States can extend the income eligibility to 150% of poverty level or 60% of the state median income, whichever is higher. Rental units are eligible provided rents are not raised because of increased value resulting from weatherization. Funds can be used for technical assistance and training and for energy conservation education.

Like LIHEAP, the WAP is a formula grant program; i.e., each state is entitled to its formula share of the annual WAP appropriation. States submit annual plans to DOE for review and approval. States are responsible for selection and oversight of subgrantee agencies, which use their own crews or outside contractors to perform the weatherization work. Subgrantees must be CAAs or other public or nonprofit organizations. Nationwide, about 85% of the local service providers are CAAs. A 1990 survey of CAAs by the National Center for Alternative Technology indicated that 39% have their own

weatherization crews, 44% use outside contractors, and 17% utilize their own crews and outside contractors.[90]

3. WAP Funding.

Besides the DOE appropriation, substantial additional funds are channeled through the WAP service delivery system. States can transfer up to 15 percent of their LIHEAP appropriation to the weatherization program, and LIHEAP funds represent a significant portion of all WAP funding. Since 1986, oil overcharge funds have also been widely used by states for weatherization through the WAP system. Between 1986 and 1990, $740 million of oil overcharge funds were transferred to the WAP. This represented 30.4 percent of all WAP funding during that period.

The non-DOE appropriations enable the WAP to reach more low-income households. In addition, since some LIHEAP and *Stripper Well* funds can be used outside the WAP rules, more extensive service can be provided in some cases.

TABLE EE
NATIONAL WEATHERIZATION ASSISTANCE PROGRAM
FUNDING BY MAJOR SOURCE[91]
(millions of dollars)

[90] *See*, Schlegel, *supra* note **Error! Bookmark not defined.**.

[91] Compiled by the Department of Energy, 2/26/91. LIHEAP data based on telephone survey of State estimates of obligations which include oil overcharge funds. Oil overcharge data includes *Exxon*, *Stripper Well*, and *Warner* and are based on expenditures reported by grantees to DOE.

FISCAL YEAR	DOE	LIHEAP	OIL OVERCHARGE	TOTAL
1986	$182.1	$193.0	$27.2	$402.3
1987	$161.3	$220.0	$114.9	$496.2
1988	$161.3	$170.0	$104.8	$436.1
1989	$161.3	$148.0	$121.4	$430.7
1990	$162.0	$132.7	$371.7	$666.4

Funding for the WAP is at a critical juncture because the bulk of the *Exxon* and *Stripper Well* oil overcharge funds has been distributed to the states and spent. As of July 1990, the states had already allocated $3.603 billion (including accrued interest) from the $3.405 billion *Exxon* and *Stripper Well* funds received.[92]

[92] ***Status Report # 7: State Uses of Exxon and Stripper Well Oil Overcharge Funds***, National Consumer Law Center (July 1990).

4. The WAP in North Carolina.

The WAP is administered by the Energy Division in the North Carolina Department of Commerce. Weatherization work is carried out through 45 subgrantee agencies, which are mainly CAAs but also include other nonprofits and a few local government agencies. The Energy Division monitors each subgrantee and provides technical assistance as well as on and off site training. Consumer education about energy conservation takes place at each of four client contact points: service request, energy audit, weatherization service, and inspection.

Since 1979, almost 65,000 North Carolina housing units have been weatherized through WAP. Based on the 1980 Census, the N.C. Energy Division estimates 556,746 WAP-eligible units in the state. At current funding levels, only about 5,000 units are weatherized a year. Households with incomes at or below 150% of the poverty level are eligible for WAP assistance. The state household participation goal is 55% elderly and 10% handicapped and the tenure goal is 65% owner and 35% renter.

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TABLE FF
FISCAL YEAR 1989 WAP SUMMARY DATA

	UNITS SERVED	
	NUMBER	**PERCENT**
UNITS SERVED		
TOTAL	5,445	
Owner	4,107	75.4%
Renter: 1-family	1,147	21.2%
Renter: multi-family	191	3.5%
HEAD OF HOUSEHOLD		
Elderly	2,442	44.8%
Handicapped	765	14.0%
American Indian	123	2.2%
Other	2,115	38.8%
PERSONS ASSISTED		
TOTAL	12,677	
Elderly	3,443	27.2%
American Indian	346	0.3%
Under 6 years old	1,683	13.3%
INCOME		
Under $6,000	2,574	47.3%
$6,000 - $9,999	1,739	31.9%
$10,000 - $14,999	869	16.0%
Over $15,000	263	4.8%

In Fiscal Year 1989, the WAP in North Carolina served a very low income population: 79.2 percent of households had incomes below $10,000.

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Only 3.5% of the units weatherized were multifamily; 96.5% were single-family (75.4% owner-occupied and 21.1% renter-occupied).

As in the weatherization program nationwide, the WAP in North Carolina has received significant LIHEAP and oil overcharge funding. In the future however, these resources may not be available. The North Carolina share of *Exxon* funds is almost exhausted, and only about $7 million of *Stripper Well* funds remain.\93\ Moreover, beginning in 1994, transfer of LIHEAP funds to other Health and Human Services Block Grants, including WAP, will no longer be allowed (Title VII of Public Law 101-501).

TABLE GG
WAP FUNDING IN NORTH CAROLINA BY SOURCE\94\

FISCAL YEAR	DOE	LIHEAP	OIL OVERCHARGE	TOTAL
1990	$2,620,992	$1,737,187\95\	$3,246,250	$7,604,429
1991	$3,241,775	$1,500,000	$3,246,250	$7,988,025

According to the 1991 State Plan, the allowable average weatherization cost per unit is $1,600 and the allowable materials cost is $1,250. Heating

\93\Carol Simon, North Carolina Department of Commerce (April 5, 1990). A description of North Carolina's use of oil overcharge funds is set forth in Appendix B, *infra*.

\94\1990 and 1991 State Plans and phone communication with Jeff Brown, Division of Energy, April 5, 1991. Oil overcharge funding includes $3,200,000 from *Exxon* and $46,250 from *Diamond Shamrock*.

\95\An additional $571,000 is expected to be made available from the LIHEAP Contingency Fund allotment.

system repairs up to $500 are allowed, but replacement of furnaces or boilers is generally not undertaken.\96\

B. UTILITY WEATHERIZATION.

With the approaching depletion of oil overcharge funding for the WAP, utility low-income weatherization programs will assume increased importance. Many utilities have initiated such programs either on their own or at the direction of state regulatory commissions. California, Colorado, Wisconsin, Montana, Connecticut, Massachusetts and Pennsylvania already have low-income weatherization programs mandated by their state Public Utility Commissions. Iowa and Vermont have legislatively directed the implementation of vendor-financed low-income conservation and weatherization programs. Utility programs typically are managed independently of the WAP with separate operating procedures and guidelines. Nationally, annual budget levels for low-income weatherization programs are estimated at approximately $50 million and growing.

1. Adequacy of North Carolina Utility Programs.

The North Carolina Energy Division has been exploring mechanisms for coordinating weatherization efforts with utilities. Using the WAP network for utility and government program delivery could help avoid duplication of

\96\As discussed *infra*, page 86, WAP grants are not sufficiently large to permit both "envelope" weatherization work and heating system replacement, particularly given the poor quality of housing in North Carolina.

services, client confusion, and high administrative costs. The DOE Atlanta Support Office is also implementing a Public/Private Partnership Development Project aimed at involving utilities in the southeast in state and local energy conservation planning. Utility funding can provide flexibility if used for measures not allowed under DOE rules. Utilities can benefit from avoided costs, arrearage reduction, and disconnection and reconnection reduction.

The low-income conservation programs offered by North Carolina's public utilities are not at all impressive. Consider:

oNorth Carolina Natural Gas Company, for example, said that while "in the early 1980s, NCNG had both a residential conservation program and a voluntary fuel fund* * *neither of these programs is active at the present time."

oDuke Power offers loans for the installation of insulation and purchase of a "high efficiency heat pump." Moreover, Duke offers a special lower rate for homes which meet efficient thermal conditioning standards. However, loan programs do not reach low-income households. Moreover, low-income households are not likely to live in homes which meet "efficient thermal conditioning standards."

oCarolina Power and Light offers a low-interest loan program (up to $1,500 for energy conservation measures) in addition to providing free kits containing window covering, caulking, weatherstripping and educational materials. The loan program is not likely to attract

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low-income households and the "kits" result in insubstantial energy (and thus bill) savings.

oNorth Carolina Power, like Duke Power, offers a special rate for homes meeting designated energy efficiency standards. Energy charges are discounted by one-quarter cent if standards outlined in the tariff are met. Low-income homes, however, rarely meet such standards.

In light of this lack of conservation activity by North Carolina's electric and natural gas utilities, it is reasonable for the legislature to take action to require that low-income conservation programs be initiated.

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2. Rationale for Expanded Utility Programs.

Investment in weatherization and conservation measures is a strong tool to use in controlling unaffordable low-income home energy bills and the payment problems which accompanying them. Research has found a "clear correlation" between total annual usage and the level of arrears for Central Maine Power Company. According to the Maine research, the average total arrears for Central Maine Power Company was $48. "While households with an annual consumption greater than 16,000 KWH have an average arrears of $88, for example, households with less than 5,000 KWH of use have an average arrears of only $10."

The association held with winter consumption, the Maine study found. "Total arrears for customers with consumption over 2000 KWH were nearly twice the payment plan average ($91 vs. $48) and nearly triple the arrears of households at the lower consumption levels ($91 vs. $33). The breakpoint for particular payment problems occurs at a winter month usage of around 1300 KWH. Households falling into the band of from 1300 to 2000 KWH per winter month averaged total arrears of $82, again substantially above the total payment plan population."[97]

Wisconsin Gas Company recognized the legitimacy of special low-income conservation and weatherization programs when it implemented a

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[97] National Consumer Law Center, ***An Evaluation of Low-Income Utility Protections in Maine: Payment Arrangements for Maine's Electric Utilities***, Volume II, at 62 (July 1988).

pilot program explicitly designed to use conservation measures as a means to reduce the costs associated with delinquent payments and bad debt. The purpose of the study, Wisconsin Gas said, was "to examine the effects of Wisconsin Gas Company's Weatherization Program on the arrearages of low-income customers."[98] Wisconsin Gas divided its study homes into two groups: (a) single family homes; and (b) two-family homes.[99]

For single family homes, Wisconsin Gas experienced an overall therm savings of 23.4 percent.[100] Moreover, therm savings based on heat load were computed. The company produced "an overall single family heat load savings rate of 30.7 percent* * *."[101] Two-family homes generated similar results.[102]

Wisconsin Gas found that not only did the program reduce arrears for households, but the company recognized significant savings from the program as well. According to the company, without the program, while only nine percent of the study group would have had arrears of $100 or less without the

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[98] *See*, ***Weatherization Arrears Savings***, Wisconsin Gas Company (April 1988).

[99] The company stated, however, that "due to the integrated nature of two-family energy use and weatherization measures, two-family accounts were treated as one dwelling unit." Id., at 1.

[100] While the savings ranged widely between units, the company noted that 64 percent of the single family homes fell in the 10 percent to 35 percent savings range. Id., at 2.

[101] Id. Again, while the savings ranged widely between units, 60.2 percent of the single family homes fell in a range of 25 percent to 50 percent savings.

[102] Id., at 5. Over 70 percent of the dwellings fell in the 10 percent to 35 percent savings range.

program, 27 percent of the group would have annual arrears of $100 or less following weatherization.[103] Moreover, Wisconsin Gas found that it received a 20 percent return on its weatherization investment, *strictly* from the reduced nonpayment, and *before* considering traditional avoided costs, in the first year of the program.

In sum, Wisconsin Gas concluded from its study:

> The study indicates that single family dwellings generated on average $353 less ***annual*** arrears after weatherization. (emphasis added). For the two family group, weatherization reduced arrears $502 ***annually***. (emphasis added). Taken a step further, for 1,300 dwellings weatherized annually and split evenly between single and two-family jobs, over $550,000 in billed arrears or approximately $360,000 in gas cost would have been avoided.[104]

Finally, Wisconsin Gas concluded, "within the parameters of this study, 20 percent of the study group would have generated $0 or less annual arrears with weatherization as compared to 5 percent without. This reflects favorably on weatherization potential as an arrears eliminator."[105] The Wisconsin Gas study is attached as Appendix A.

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[103] Id., at 2.

[104] Id., at 6.

[105] Id.

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Similar results can be obtained for electric companies. One *electric* company in Massachusetts, for example, studied the implementation of an arrears control program using conservation as the mechanism. COM/Electric found that "from the analysis, a Bad Debt Program appears to be not only theoretically sound, but also empirically supported for electrically heated homes and for homes having electric water heaters. It also appears beneficial to offer the program to `other' homes in the Commonwealth service territory."\106\ According to the utility's consultant, "the main source of economic value to COM/Electric is the reduced carrying costs for late payments." The consultant did not study collection costs.

COM/Electric found that the Bad Debt Conservation program had, from a system perspective (i.e., based upon system "avoided cost" savings), a benefit-cost ratio of 1.857 (for electrically heated homes), of 2.290 (for homes with electric hot water but not electric heat), and 1.944 (for all "other" --non-electric heat, non-electric hot water-- homes).

The North Carolina legislature should enact legislation, based on Iowa's Senate File 2403 (1990), providing for the participation of public utilities in the offer of energy efficiency strategies. According to the Iowa legislation, rate-regulated gas and electric utilities are to devote a designated percentage of their gross income from intrastate public utility operations to the financing of

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\106\Synergic Resources Corporation, ***Evaluation of the Cost-Effectiveness of a Bad Debt Conservation Program: Final Report*** (September 1988).

an energy efficiency plan. Electric utilities are required to devote two percent of their gross income while natural gas utilities are required to devote one and one-half percent. Efficiency measures financed through this provision must be found to be cost-effective.

Because of the tremendous populations served by vendors of deliverable fuels, by EMCs and by municipal utilities in North Carolina, and because of the demonstrated low-income need in the state's rural areas, these remaining unregulated vendors should be responsible for a similar commitment to energy efficiency. These vendors may fulfill their commitment by making contributions to local agencies administering the state's WAP program equal to the designated percentage of gross revenue.

Of the financing for energy efficiency programs, vendors shall designate a proportionate share specifically to low-income households, using income and energy burden as a criteria.\107\ The low-income programs shall be expressly designed to overcome market barriers which the vendor identifies as preventing such low-income households from investing in otherwise cost-effective conservation measures, as discussed below.

3. Design of Expanded Utility Programs.

\107\ The proper proportion is the proportion of low-income customers to total residential customers in the service territory.

It is not sufficient for a public utility to simply invest substantial sums of money in "a" conservation program, or set of conservation programs, without first undertaking a careful analysis of precisely what the utility hopes to accomplish through such a program. Too often, conservation program designs tend to exclude rather than include low-income households and any hope of obtaining participation is lost.

Consider the case of Western Massachusetts Electric Company (WMECO). In WMECO's 1987 rate case,\108\ the Hampshire Community Action Commission (HCAC), a local community action agency, challenged both the overall conservation planning of Western Mass Electric Company (WMECO) and the design of specific conservation programs. Both the planning and design components, HCAC argued, were marred by assumptions which, though perhaps unwittingly, nevertheless resulted in the *effect* of excluding low-income households from conservation programs.\109\ This exclusion, HCAC said, denied the opportunity for the poor to reduce their bills by reducing their consumption.\110\

\108\ 87 P.U.R.4th 306 (Mass. DPU 1987); *see also*, ***Re. Cambridge Electric Light Co.***, DPU-87-221-A, at 173 (Mass. DPU 1988).

\109\ "Although WMECO asserts that its programs are designed to be income neutral, HCAC contends that the effect of WMECO's programs, intended or unintended, is to exclude low-income customers." Id., at 404.

\110\ Id., at 417.

WMECO's energy conservation planning resulted in a *de facto* exclusion of the poor because of its failure to consider market barriers that were unique to the poor. Three barriers were discussed in particular. Hurdle rates, that annual return on investment required for a household to invest in conservation measures, were set at levels that ignored low-income data.\111\ In its conservation planning, WMECO assumed that any measure which met a hurdle rate of 30 percent would be implemented without financial assistance from the utility.\112\ According to evidence presented by HCAC, however, low-income hurdle rates reached up to 90 percent. Second, HCAC said, low-income households do not have access to investment capital for conservation measures, even if those measures are recognized by customers as providing economic benefits.\113\ If a household does not have $400 to invest in a new appliance, in other words, it makes no difference that the new appliance would return a savings of $500 to the household. Finally, low-income households have less education, which interferes with their ability to recognize the cost savings that conservation measures might induce.\114\

For a utility effectively to design and offer conservation and weatherization programs to its low-income customers, it should have a clear

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\111\Id., at 404.

\112\Id.

\113\Id.

\114\Id.

grasp of what market barriers prevent the implementation of those measures without utility assistance. The utility program, accordingly, would most rationally be designed to effect the removal of the identified market barriers. If, for example, the market barrier is an unreasonably long payback period, the utility may offer direct subsidies to shorten that period. If, in contrast, the market barrier is a lack of affordable investment capital, the utility may offer a low-interest/no-interest loan fund.

In 1987, the National Consumer Law Center (along with Northeast Utilities) put substantial effort into identifying what market barriers exist to the implementation of conservation measures by consumers. A list of the results of that effort is set forth below:

TABLE HH
RESIDENTIAL MARKET BARRIERS
TO THE IMPLEMENTATION OF CONSERVATION MEASURES

1.	**Information access. Consumers do not have free access to information on capital/operating tradeoffs. There is an implicit cost in time and effort to obtain this information.**
2.	**Uncertain technologies. Consumers have little direct, first-hand experience with new technologies, particularly concerning performance, reliability and operating costs. Information may often be supplied by manufacturers whose credibility is suspect.**
3.	**Consumer credit. The ability to invest in conservation measures often depends on having access to credit. However, consumer credit is often limited by financial institutions that disregard the value of conservation investments.**
4.	**Lack of knowledge. Energy reductions are not always identifiable in the customer's bill. Accordingly, it is sometimes not possible for a customer to make a decision as to the economic viability of conservation programs.**

5.	**Unfavorable payback periods. Even though some conservation measures may be justified when viewed in light of systemwide savings, they may not be when viewed in terms of customer-specific savings.**
6.	**High initial capital cost. Even in the event that a measure is cost-justified in the long-term, if the initial capital cost exceeds the ability of a customer to finance, the program will not be implemented.**
7.	**Difficult installation. Just as there are implicit costs in time and effort to obtain conservation information, there are implicit costs of installation. As these costs go up, the extent of measures installed will go down.**
8.	**Limited or no commercial availability. Even if cost-effective, some demand side measures have a limited (or no) commercial availability to a utility's customers. Often, availability will follow demand, but demand, in turn, is dependent upon availability.**

In addition to market barriers common to all residential ratepayers, however, low-income households have market barriers that are different from, and more extensive than, residential households in general. The result of these market barriers is to more severely restrict the availability of conservation measures to low-income households than to residential households in general. A list of market barriers that make the direct benefits of conservation programs inaccessible to low-income households is set forth below:

TABLE II
LOW-INCOME MARKET BARRIERS
TO THE IMPLEMENTATION OF CONSERVATION MEASURES

1.	**Low income homeowners are reluctant to borrow, even interest-free, to invest in conservation.**
2.	**Low income homeowners have extremely high required returns on investment.**
3.	**Given their lack of liquidity, low income residents cannot hire a contractor as readily as those with greater means.**
4.	**Tenants have little or no incentive to improve the landlord's property.**

5.	**Tenants often have insufficient tenure at a particular service address to cost-justify conservation improvements.**
6.	**Landlords owning housing occupied by tenants whose electricity use is individually metered have little incentive to invest in conservation improvements.**
7.	**Lower income households generally have less education than higher income households and, as a result, are perhaps less aware of the cost savings that energy investments can produce. The lack of education could also make it more difficult to perform the calculations necessary to determine whether a conservation investment is advantageous.**

As a result of this discussion, it is possible to conclude that a response to low-income inability to pay problems must incorporate a component that offers special conservation programs to low-income households, using income and Poverty Level themselves as the factors upon which the targeting of the programs is based. However, greater direction regarding the offer of low-income conservation is necessary. Simply dumping money into low-income conservation programs will not unto itself effectively address the problem. Conservation measures should be offered by public utilities specifically designed to respond to the low-income market barriers identified by those companies in preparation of their low-income strategies.

C. FUTURE ISSUES FOR WEATHERIZATION PROGRAMS.

The primary issue for North Carolina weatherization efforts is adequate funding. Using Department of Energy WAP funds, as supplemented with *Exxon* and LIHEAP dollars, the state of North Carolina will weatherize only 4,794 homes in the 1991 - 1992 program year. In contrast, the state has

556,746 homes eligible for weatherization, of which perhaps 50,000 have been reached within the past ten years. At the current rate, therefore, it will take nearly 100 years to reach all eligible homes, even then assuming no duplication.

The problem is exacerbated by the decreasing monies available for public weatherization programs. Less than one-third of North Carolina's weatherization during the current program year will be financed with WAP funds, with the remainder being split equally between *Exxon* and LIHEAP dollars. The oil overcharge funds have been exhausted; no significant additional distribution of oil overcharge funds will occur. And, as discussed elsewhere, LIHEAP appropriations are now low and decreasing. If weatherization is to continue to be a factor in helping to provide assistance to the state's low-income population, new sources of funding must be identified.

Other major issues pertinent for North Carolina are the presence of inefficient and unsafe heating systems, a dilapidated housing stock that requires rehabilitation as well as weatherization, and a large number of mobile homes for which effective weatherization techniques are still uncertain.

Unvented kerosene heaters, portable electric heaters, and other inefficient or dangerous heating systems are often put back into use after weatherization is carried out. Federal WAP regulations allow replacement of heating systems, but this has not yet been done in North Carolina. With North

Carolina's poor quality housing, the maximum WAP grant of $1648 is not enough money to do both the "envelope" weatherization work and the heating system replacement. This is an important area where utility weatherization funds should be used to augment WAP funds.

WAP has also not dealt with fuel switching, i.e., change of heating systems from electric to natural gas. Since many poor North Carolina residents use dangerous portable kerosene heaters to avoid the expense of electric heat, this is a problem that should be tackled.

Nationally, mobile homes represent about 25% of all buildings that qualify for low-income weatherization, and this figure is probably higher for North Carolina. The actual number of mobile homes weatherized each year through WAP in North Carolina could be obtained from the subgrantee agencies. It's possible that 1,000 or more mobile homes are weatherized in the state each year.

The effectiveness of weatherization measures on mobile homes is still being studied. According to a review of 30 different weatherization evaluations, average energy savings were only 6.0% annually for mobile homes after a $1,012 weatherization expenditure compared to 12.9% for single-family homes after a $1,463 expenditure.\115\ Simple payback was 21

\115\ ***Weatherization Evaluation Findings: A Comparative Analysis***, Meridian Corporation (Alexandria, VA April 1989).

years for mobile homes compared to 11 years for single-family homes. Development of a special audit for mobile homes providing technical information on weatherization measures could be useful. Currently, the same audit is used for mobile homes and site-built homes. It has been suggested that the state's electric membership cooperatives provide mobile home audits because many mobile homes are located in the rural areas the cooperatives serve.\116\

Another issue for WAP is that the program has underserved occupants of rental units, especially multifamily rental units. Nationally, of four million weatherized units, 66 percent are owner-occupied and 34 percent rental. Of the remaining eligible units, 53 percent are owner-occupied and 47 percent are rental.

The key policy question regarding rental units is how to ensure that benefits go to tenants, not landlords. Landlords can profit in four ways. Landlords of individually-metered buildings might raise rents and capture some of the energy savings. Landlords of centrally-metered buildings might not pass on their energy savings to tenants through lower rents. Landlords might evict low-income tenants and replace them with higher-income tenants after weatherization. Landlords who sell their buildings might receive higher prices

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\116\Bleviss, D. l. and Gravitz, A. A., ***Energy Conservation and Existing Rental Housing***, Energy Conservation Coalition, Washington D.C. (October 1984).

because of the weatherization improvements. Binding landlord agreements can protect against these possibilities.\117\

D. NORTH CAROLINA'S HOUSING TRUST FUND.

The North Carolina Housing Trust Fund is beginning to address the need for more substantial low-income energy improvements than provided by WAP. The state capitalized the Housing Trust Fund in 1987 with $22.5 million recovered under the *Stripper Well* oil overcharge legislation. *Stripper Well* funds can be used for energy-saving improvements to existing housing and for energy-related costs of new housing.

The Trust Fund operates two energy-related programs: the Energy Conservation and Housing Rehabilitation Incentive Program and the Energy Efficient Housing Production Program. The Incentive Program provides funding to local governments and nonprofits for energy conservation improvements of up to $7,500 per unit. A program objective is to promote major rehabilitation (at least $10,000 per unit), and priority is given to agencies that match program funds with at least one dollar of matching funds for every dollar of program funds. Community Development Block Grant funds are one source of matching funds. The Production Program encourages production of energy-efficient housing for low-income households.

\117\National Consumer Law Center, ***Protections Accorded Tenants in Weatherized Units***. Washington D.C. (1988).

The Incentive Program requires that at least 30 percent of funds benefit very low-income households (income less than 30 percent of area median); up to 70 percent may be used for low-income households (income between 31 percent and 50 percent of area median) and up to 20 percent may benefit moderate-income households (income between 51 percent and 80 percent of area median). Homeowners can receive grants or loans. Landlords can receive only loans. Landlords must guarantee through contract that assisted rental units will be affordable (rent plus utilities below 30 percent of gross income) and occupied by low- or moderate-income households for a set period. The Trust Fund has had two rounds of Incentive Program funding of approximately $4.5 million each. The first round is essentially completed with the following results:

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TABLE JJ
NORTH CAROLINA HOUSING TRUST FUND
INCENTIVE PROGRAM #1, DECEMBER 31, 1990[118]

	UNITS SERVED	
	NUMBER	**PERCENT**
UNITS COMPLETED		
Owner	917	75%
Renter	686	25%
HOUSEHOLD INCOME		
Up to 30% of median	525	57%
31% - 50%	295	32%
51% - 80%	96	10%
HOUSEHOLD CHARACTERISTICS		
Elderly	627	68%
Handicapped	142	15%
Large Family	35	4%
DISBURSEMENT	$4,445,365	
OTHER FUNDS LEVERAGED	$8.782,798	

The Incentive Program is meeting a major need in North Carolina for coordination of energy improvements with substantial rehabilitation of substandard housing. Program funding should be continued.

[118] North Carolina Housing Trust Fund Annual Report (1990).

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PART III: THE REDISTRIBUTION OF LIHEAP

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I. LIHEAP PROGRAM OVERVIEW.

The Low Income Home Energy Assistance Program (LIHEAP) is the major source of federal aid for low-income energy costs. Originally authorized in 1980 and administered by the Department of Health and Human Services (HHS), LIHEAP is a block grant program, which gives the states substantial flexibility in use of the funds. Until 1990, states could designate up to 15 percent of their LIHEAP allocation to a weatherization program. Now states may apply for a waiver to transfer up to 25 percent for weatherization. Until 1994, states may also transfer up to 10 percent of their LIHEAP funds to other HHS-administered block grant programs. A portion of funds can be reserved for energy crisis intervention. No more than 10 percent of the LIHEAP allocation can be used for administration. For FY 1991, North Carolina allocated its LIHEAP funds as follows:\119\

TABLE KK
DISTRIBUTION OF FY 1991 NORTH CAROLINA LIHEAP FUNDS\120

	DOLLAR ALLOCATION	% ALLOCATION
TOTAL LIHEAP FUNDS	$28,996,128	100.0%
HEATING ASSISTANCE	$18,287,789	63.1%
CRISIS INTERVENTION	$4,441,897	15.3%
TRANSFER TO OTHER BLOCK GRANTS	$2,561,144	8.8%
WEATHERIZATION	$1,737,187	6.0%
ADMINISTRATION	$1,968,111	6.8%

A. ELIGIBILITY CRITERIA.

\119\An overview of North Carolina's LIHEAP population is set out in Appendix C, *infra*.

\120\Deborah Pittard, North Carolina Division of Social Services (January 28, 1991).

The upper limit of eligibility for LIHEAP is 150% of the poverty level, and states are prohibited from setting eligibility below 110% of the poverty level. North Carolina sets its income eligibility at 110% of the poverty level income, the lowest income eligibility level allowed under the LIHEAP statute. As of 1987, North Carolina was one of only eight states to use the lowest income eligibility level. In addition, the state imposes an asset limit of $2,200 for heating assistance recipients. Income eligibility for the weatherization funding in North Carolina is set at the statutory maximum of 150% of poverty level income.

B. LIHEAP FUNDING.

Congressional funding for LIHEAP peaked at $2.1 billion in 1985. Although LIHEAP has been reauthorized through FY 1994, future funding levels remain in question. The FY 1991 appropriation is $1.45 billion (plus $190 million contingency). The result of these cuts in federal appropriations has been to substantially reduce LIHEAP benefits in North Carolina. While in 1985, average North Carolina LIHEAP benefits reached $175 per household. By 1988, the benefit had fallen to $124. Benefits have fallen by another 20 percent since 1988.

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TABLE LL
NORTH CAROLINA LIHEAP HEATING ASSISTANCE BENEFITS OVER TIME[121]

FISCAL YEAR	AVERAGE HOUSEHOLD BENEFIT
1982	$146.83
1983	$204.93
1984	$161.84
1985	$175.36
1986	$146.01
1987	$115.45
1988	$124.33
1989	$111.81
1990	$105.13

In January 1991, HHS Secretary Louis Sullivan proposed cutting the FY 1992 LIHEAP budget from the 1991 level to $468 million, targeted to the Northeastern states. Later press stories have indicated that a final Bush Administration budget recommendation for LIHEAP could be between $900 million and $1 billion.

C. HEATING ASSISTANCE BENEFIT LEVELS.

The actual dollar amount of an individual heating assistance grant in North Carolina depends on the following factors: total funding available, number of eligible households, location of the household within one of seven

[121] ***Annual Program Report, State Fiscal Year 1990***, North Carolina Division of Social Services.

state climatic regions, primary heating fuel out of seven fuel types, income level out of three poverty categories, and percent of vulnerability to fuel price increases.\122\ The rationality of the current system of delivering LIHEAP assistance is examined in more detail below.

Substantial changes have occurred in the LIHEAP population since the inception of the program. One major change is in the primary fuel used by LIHEAP households from 1982 to 1990. The percent of LIHEAP households using electricity as their primary heating source almost doubled from 15.4 percent in 1982 to 30.6 percent in 1990. In the same time period the percent of LIHEAP households using fuel oil or wood was cut almost in half from 38.1 percent in 1982 to 21.2 percent in 1990.

Unfortunately, as the percent of LIHEAP households using electricity as their primary fuel increased steadily, so did the cost of electricity. As shown in below, the cost of all fuels increased during the 1981 to 1991 period. The cost of electricity, however, rose the highest dollar amount from $1.32 to $2.30 per therm, an increase of 74 percent.

TABLE MM
PRIMARY FUEL USED
BY NORTH CAROLINA LIHEAP HOUSEHOLDS\123\

\122\ A household living in unsubsidized housing is fully vulnerable; public housing residents and residents with Section 8 subsidies are partially vulnerable.

\123\ ***Annual Progress Report, State Fiscal Year 1990***, North Carolina Division of Social Services.

FUEL	1982	1990	CHANGE: 1982-1990
ELECTRICITY	15.4%	30.6%	+15.2%
LP GAS	8.9%	10.7%	+1.8%
NATURAL GAS	16.3%	17.6%	+1.3%
KEROSENE	19.5%	19.6%	+0.1%
COAL	1.8%	0.4%	-1.4%
FUEL OIL	19.1%	10.8%	-8.3%
WOOD	19.0%	10.4%	-8.6%

Paradoxically, therefore, several trends have come together in North Carolina in recent years. LIHEAP budgets have seen substantial reductions. At the same time, one particular fuel type, electricity, saw significant increases in cost. And finally, North Carolina LIHEAP households were increasingly using that most expensive fuel to heat their homes.

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TABLE NN
1990 FUEL COSTS IN NORTH CAROLINA[124]

FUEL	PRICE PER THERM 1981	PRICE PER THERM 1991	PRICE CHANGE 1981-1991
ELECTRICITY	$1.32	$2.30	+ $0.98
LP GAS	$1.01	$1.90	+ $0.89
NATURAL GAS	$0.48	$0.52	+ $0.04
KEROSENE	$1.02	$1.41	+ $0.39
COAL	$0.57	$1.53	+ $0.96
FUEL OIL	$0.95	$1.20	+ $0.25
WOOD	$0.75	$1.06	+ $0.31

II. THE DETERMINATION OF NON-CRISIS BENEFIT LEVELS.

The decline in federal funding of the Low Income Home Energy Assistance Program (LIHEAP) in recent years has made more imperative than ever the need to ensure that what funds *do* exist are distributed in the most fair and efficient way possible. Fairness guarantees that some households are not ***over***paid while others are ***under***paid in relation to need. Efficiency guarantees that distribution occurs with a minimum of complexity and a maximum of understandability both by the service providers and by the benefit recipients.

The purpose of this section is to examine the present distribution of LIHEAP in North Carolina. The analysis seeks to determine whether LIHEAP

[124]Quentin Uppercue, North Carolina Division of Social Services (January 29, 1991).

is currently administered so as to best distribute funds based on actual energy bills, taking into consideration household size and income.

The analysis finds that the current method of distributing LIHEAP benefits in North Carolina is unfair, inequitable, and likely in violation of the federal statutory mandate that benefits are to be targeted based on actual cost, taking into consideration household size and income. The section finds that a number of methods exist that would result in an improvement in North Carolina's efforts to comply with basic notions of equity and with federal statutory guidelines.

Given current levels of LIHEAP funding in North Carolina, however, the most that can be done with the LIHEAP system is to *improve* the equity of its benefit distribution. Insufficient funds exist to make a major contribution toward paying home energy or home heating bills in the state.

In short, given the statutory language that LIHEAP funds are to be distributed with the highest levels of assistance going to those households which have the lowest incomes and the highest energy costs in relation to income, changes must be made in the North Carolina LIHEAP structure. The only legitimate question is what those changes should be.

The State of North Carolina should pursue a tiered LIHEAP Lifeline Rate on a demonstration basis as a means of distributing LIHEAP benefits for all fuel

vendors.[125] The demonstration project should involve at least three types of vendors, including a regulated utility, an unregulated utility and the vendor of a deliverable bulk fuel (such as fuel oil or kerosene). The demonstration project should be for no shorter than a two year period with a decision by the state General Assembly to continue, expand, modify or abandon the project to be made effective no later than year three. The General Assembly should seek an independent evaluation of the pilot.

The reasonableness of the distribution of North Carolina's LIHEAP funds is to be measured by the language found in the Low Income Home Energy Act of 1981 (as amended). That statute requires that:

> the highest level of assistance will be furnished to those households which have the lowest incomes and the highest energy costs in relation to income, taking into account family size* * *.[126]

As can be seen therefore, the distribution of North Carolina LIHEAP benefits must meet tests regarding its equity based in both law and policy. For all of the reasons outlined below, the current method of distribution fails those tests.

A. THE INADEQUACIES OF THE CURRENT SYSTEM.

Contrary to federal statute, the current method of distributing LIHEAP benefits is completely insensitive to the actual energy costs imposed upon

[125] The only exception would be to exempt wood vendors, which would continue to be handled under the traditional program.

[126] 42 ***U.S.C.A.*** §8624 (1989 Supp.).

income-eligible households. In one analysis of 1991 LIHEAP benefits, recipient households are segmented into three groups according to household income as a percent of the eligibility income (110% of poverty level income).[127] It is this method of distribution which is challenged.

TABLE OO
1991 LIHEAP BENEFITS IN NORTH CAROLINA[128]

	GROUP 1 0-33%	GROUP 2 34-66%	GROUP 3 67-100%	AVERAGE ALL LIHEAP
MONTHLY INCOME	$205.11	$466.04	$591.89	$453.16
LIHEAP BENEFIT	$115.47	$118.32	$ 93.07	$106.76
INCOME AS PERCENT OF 110% OF POVERTY INCOME	20.3%	53.0%	76.9%	54.9%
PERCENT OF ALL LIHEAP	25.6%	31.5%	42.9%	

1. The Failure to Account for Relevant Variables.

The current system of distributing LIHEAP does not take into account the relevant factors which affect "actual energy consumption" as required by the federal LIHEAP statute. North Carolina purports to determine "actual energy costs" based on three variables: location within one of the various climate zones in the state; fuel type; and income (i.e., Poverty Level). While other variables are used in the determination of the final benefit level (e.g., number of total applicants; LIHEAP appropriation), those variables do not relate to distinguishing between households based on their energy bill. Neither

[127] Note that the poorest third of LIHEAP households receive slightly lower benefits than the middle third.

[128] Quentin Uppercue, North Carolina Division of Social Services (January 29, 1991). Group 1 income = 0-33% of 110% of poverty level income; Group 2 income = 34-66% of 110% of poverty level income; Group 3 income = 67-100% of 110% of poverty level income.

do these remaining variables have any relevance to a determination of a household's actual energy costs.

A wide variety of household factors affect what level of energy a household will consume. As discussed in detail above, factors as simple as the presence or absence of conservation measures, as well as the age of the heating unit, will influence whether a household's consumption is higher or lower.

According to the U.S. Department of Energy's Residential Energy Consumption Survey (RECS), several other factors can be examined as well. Each factor standing alone, *ceteris paribus*, has a discrete impact on energy consumption. These factors include the rural/urban status of the housing structure, the type of housing structure, the number of rooms, the size of the area heated, the year the house was constructed, the age of the household, the household size, and whether the resident is an owner or renter.\129\

The impact of these factors, not considered by the North Carolina LIHEAP agency in setting LIHEAP benefit levels, is uniform across all fuel types. None of the five major fuel types\130\ is immune to changes in consumption as a function of these factors. Consider natural gas, for

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\129\ Unquestionably, some of these factors overlap, with, for example, "renter" status and "multi-unit dwelling" status being one such instance.

\130\ Natural gas, fuel oil, kerosene, LPG and electricity.

example. A home with one household member using natural gas as its primary heating source consumes 71.9 million BTU (MMBTU) per year.\131\ In contrast, a household with 2-4 individuals consumes 81.9 MMBTU and a household with 5 or more members consumes 89.8 MMBTU of natural gas per year, nearly 30 percent more than the one person household. Similarly, a renter heating primarily with natural gas consumes 72.6 MMBTU of gas per year while a homeowner consumes 88.8 MMBTU.

In contrast, consumers of LPG living in homes built before 1949 use 35.8 MMBTU of LPG each year, while consumers living in homes built after 1975, all else equal, will use 44.9 MMBTU, nearly 25 percent more. Not surprisingly, actual consumption is sensitive to the number of rooms in the house. Fuel oil and kerosene consumers living in homes with four or five rooms use 51.5 MMBTU of fuel each year, while those same consumers living in homes with six or more rooms, all else equal, consume 77.0 MMBTU of fuel oil and kerosene each year. More surprisingly, consumption is sensitive to age. A household headed by a person aged 35 - 59 will use 59.4 MMBTU of electricity each year (if they heat with electricity) while a household headed by a person 60 or older, all else equal, will consume only 46.3 MMBTU.

The importance lies in the fact that the federal LIHEAP statute, by its express terms, *requires* LIHEAP benefits to be distributed such that the

\131\A BTU is a British Thermal Unit, a standard unit of measure for energy output.

greatest benefits go to those households with the "lowest incomes and the highest energy costs in relation to income." By not adequately considering actual energy costs, the North Carolina state LIHEAP agency cannot hope to comply with this statutory mandate.

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TABLE PP
USAGE AND DEMOGRAPHICS

	CONSUMPTION IN MMBTU			
HH ATTRIBUTE	**LPG**	**NATURAL GAS**	**FUEL OIL/KEROSENE**	**ELECTRICITY**
HOUSEHOLD MEMBERS				
1	**N/A**	**71.9**	**57.2**	**35.3**
2 - 4	**39.5**	**81.9**	**65.4**	**55.0**
5+	**N/A**	**89.8**	**67.6**	**71.8**
INCOME				
LESS THAN $10,000	**33.5**	**72.3**	**59.0**	**35.1**
$10 - $19,999	**28.9**	**69.9**	**65.2**	**38.7**
$20 - $35,000	**52.2**	**86.1**	**59.4**	**54.4**
$35,000+	**N/A**	**94.9**	**77.2**	**66.4**
YEAR OF CONSTRUCTION				
1949 OR BEFORE	**35.8**	**88.8**	**77.7**	**55.2**
1950 - 1974	**35.0**	**78.2**	**55.9**	**50.2**
1975+	**44.9**	**82.3**	**N/A**	**52.2**
NUMBER OF ROOMS				
1 - 3	**N/A**	**70.3**	**N/A**	**29.2**
4 - 5	**34.9**	**70.4**	**51.5**	**46.6**
6+	**53.5**	**93.9**	**77.0**	**67.2**
AGE OF HOUSEHOLD HEAD				
LESS THAN 35	**38.1**	**72.7**	**50.3**	**44.8**
35 - 59	**32.7**	**88.1**	**67.8**	**59.4**
60+	**47.3**	**84.0**	**71.1**	**46.3**
TYPE OF UNIT				
MOBILE HOME	**25.4**	**N/A**	**50.6**	**41.5**
1 FAMILY	**49.8**	**89.5**	**67.5**	**59.7**
2+ UNITS	**N/A**	**66.7**	**N/A**	**35.4**

URBAN / RURAL STATUS				
CENTER CITY	38.9	91.2	60.6	42.8
NON-CENTER CITY	24.5	82.3	50.5	55.3
NON-METRO	60.0	64.6	71.7	54.2

2. The Inequitable Distribution of Benefits.

The failure to account for the various household attributes that go into determining a household's actual energy consumption leads to the inequitable distribution of benefits amongst North Carolina's low-income population. The distribution of LIHEAP benefits was modelled for North Carolina to determine whether these benefits could be more equitably distributed in a manner that was administratively feasible.

Information for the project was obtained from the U.S. Department of Energy Residential Energy Consumption Survey.\132\ Low-income\133\ household consumption was developed using a blended aggregate of consumption determinants.\134\ Consumption was converted from MMBTU to therms. Bills were obtained by using a 1991 price per therm. Consumption and bills were calculated for five major fuel types: natural gas, fuel oil, kerosene, LPG and electricity.\135\ LIHEAP benefits were distributed to the

\132\Information was obtained for the South Atlantic Region.

\133\Low-income was defined to be consistent with North Carolina's LIHEAP eligibility criteria: at or below 110 percent of the Federal Poverty level.

\134\The determinants included were number of household members, income, year of housing construction, number of rooms, housing type, metro status, tenure status and size of the area heated.

\135\The only consumption studied was the consumption of the primary heating fuel. Thus, if natural gas

households by placing the households on the existing North Carolina LIHEAP matrix.\136\ Based on this analysis, it is possible to conclude that North Carolina's low-income households would face widely divergent energy burdens both before and after the receipt of LIHEAP. Roughly half of these households would pay less than ten percent of their income toward their home heating bills.\137\ Roughly 75 percent paid less than 15 percent of their annual income toward their home heating bills.

There is a substantial minority, however, that pays considerably more. More than one in sixteen (6.0 percent) households would pay more than 50 percent of their annual income toward their home heating. More than one in five (20.3 percent) pay more than 20 percent of their income toward their home heating.

These energy burdens are bothersome for several reasons. First, remember, that the bill represented in this analysis does not include any fuel other than that used as the primary heating fuel). Thus, for example, if a household uses natural gas, fuel oil, kerosene or LPG for heating, but

(..continued)

is the primary heating fuel, but electricity is also used by the home, only the natural gas consumption was considered. No effort was made to separate heating and non-heating consumption within the primary heating fuel. Accordingly, if natural gas is the primary heating fuel, no effort was made to segregate the natural gas used for hot water or cooking from the natural gas used for space heating.

\136\LIHEAP households were assumed to be in Region II as a typical LIHEAP payment.

\137*But see*, note **Error! Bookmark not defined.**, *supra*.

electricity for other home energy needs, the electric bill is not included in this analysis. Second, according to standards set by the U.S. Department of Housing and Urban Development, households who devote more than 30 percent of their annual income toward shelter costs (which includes home *energy* [not home heat] *plus* rent or mortgage payments) are overextended. North Carolina's low-income population is being placed in danger of routinely breaking this limit. The distribution of energy burdens for households at or below 110 percent of the Federal Poverty Level is set forth below. Household energy burden is the home heating bill as a percent of household income.

TABLE QQ
DISTRIBUTION OF HOME HEATING BURDEN BEFORE LIHEAP FOR HOUSEHOLDS AT OR BELOW 110 PERCENT OF POVERTY

HOME HEATING BURDEN	PERCENT OF HOUSEHOLDS
0 - 5 PERCENT	22.0%
5 - 10 PERCENT	31.6%
10 - 15 PERCENT	19.9%
15 - 20 PERCENT	6.8%
20 - 25 PERCENT	8.9%
25 - 50 PERCENT	6.4%
50 - 100 PERCENT	6.0%
100+ PERCENT	0%

The distribution of LIHEAP does not redress this energy problem. North Carolina cannot be said to "overpay" *any* household. The state lacks sufficient LIHEAP benefit dollars to make such "over" payments. No

household, for example, experiences a home heating bill of less than $200 even after receipt of LIHEAP benefits.[138]

The inequities of the LIHEAP distribution can be seen from the "bills left" after receipt of assistance, however. Nearly as many households had home heating bills of more than $1,000 left after receiving LIHEAP (6.1 percent) as there were households who had bills of less than $300 (7.1 percent). Indeed, while more than half of all households would have home heating bills left of less than $400 (51.1 percent), more than one-third would have home heating bills left of more than $700.

Even more telling than looking at the home heating bill left after LIHEAP is received as a measure of LIHEAP equity is to look at the home heating burdens (as a percentage of income) after receipt of LIHEAP benefits. While one-third (30.1 percent) of all households would pay less than five percent of their annual income toward their home heating bills after LIHEAP, and two-thirds (65.5 percent) would pay less than ten percent,

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[138] Seven percent have home heating bills of $200 to $300 left while an additional 44 percent have home heating bills of $300 to $400 left.

TABLE RR
NORTH CAROLINA HOME HEATING BILLS AFTER LIHEAP

HOME HEATING BILLS AFTER LIHEAP	PERCENT OF HOUSEHOLDS
$0 - $100	0%
$101 - $200	0%
$201 - $300	7%
$301 - $400	44%
$401 - $500	3%
$501 - $600	5%
$601 - $700	7%
$701 - $800	13%
$801 - $900	7%
$901 - $1000	7%
$1001+	6%

one-tenth (9.3 percent) would pay more than a quarter of their income toward their primary heating fuel alone, while one eighth (11.6 percent) would pay more than a fifth of their income toward that fuel.\139\

\139\ Again note that a household which pays more than 30 percent for its rent/mortgage, home heating and other home energy is overburdened according to the Department of Housing and Urban Development.

TABLE SS
HOME ENERGY BURDENS
AFTER RECEIPT OF TRADITIONAL LIHEAP GRANT

HOME HEATING BURDEN AFTER RECEIVING LIHEAP	PERCENT OF HOUSEHOLDS
0 - 5 PERCENT	30.1%
5 - 10 PERCENT	35.4%
10 - 15 PERCENT	12.1%
15 - 20 PERCENT	13.2%
20 - 25 PERCENT	2.3%
25 - 50 PERCENT	8.0%
50 - 100 PERCENT	1.3%
100+ PERCENT	0%

These disparities in home heating burdens after receipt of LIHEAP cannot be attributed solely to extraordinarily high heating bills or extraordinarily low household incomes. It is a combination of the two. While, for example, households facing a home heating burden of less than 10 percent (after LIHEAP) have, on average, a home heating bill of $549 and an annual income of $9,621, households with a burden of greater than 25 percent have, on average, an annual bill of $897 and an annual income of only $1,739.

The proposal made below is designed to redress these inequities while keeping the administrative complexity and administrative cost to a minimum. The redress of these inequities can be obtained by moving the distribution of LIHEAP in North Carolina to a LIHEAP Lifeline Rate for all fuels.

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B. AN ACTUAL COST-BASED ALTERNATIVE.

The LIHEAP Lifeline Rate is one mechanism for the distribution of LIHEAP benefits which can be viewed as more equitable than North Carolina's existing system of determining LIHEAP benefits. While not ideal in the theoretical sense, the LIHEAP Lifeline Rate predicates the distribution of LIHEAP benefits on both actual energy costs and the burden which those costs impose on households as a percentage of income. The LIHEAP Lifeline Rate is administratively simple from all perspectives: the State, the utility and the client. The LIHEAP Lifeline Rate helps bring home heating bills into a more affordable range for LIHEAP recipients.

The basic component of the LIHEAP Lifeline Rate is a percentage discount provided by the participating energy vendor and paid for through LIHEAP benefits. The Lifeline discount is calculated using actual home energy bills for the prior year's LIHEAP recipients. The magnitude of the Lifeline discount is determined by the amount of LIHEAP benefits available for distribution to those households. Thus, the larger the amount of total LIHEAP benefits that are available for distribution, the larger the available discount. The cost of the discount can and should be calculated to fall within the level of the available LIHEAP budget.[\140\] Finally, the LIHEAP Lifeline Rate entails a move from making direct cash payments to clients to making direct vendor payments.

[\140\] To state this another way, the sum of the discounted rates should equal the LIHEAP budget.

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The discount would be applied on a per unit of energy (e.g., gallons, CCF or KWH) basis. The application of the discount would be done by the energy vendor and should appear as part of the actual bill rendered to the household. Rather than seeing a LIHEAP benefit check for a certain amount of money, in other words, the LIHEAP recipient would see a certain percentage discount appear on each of her home heating bills.

The discount would be funded by a lump sum payment to the energy vendor at one time during the year.\141\ The lump sum payment is to be determined by calculating the sum of the LIHEAP payments made to LIHEAP recipients of the vendor in the previous year.\142\

The efficacy and fairness of a LIHEAP Lifeline should be measured by comparing: (1) the home energy burdens, as measured by a percentage of income, under the LIHEAP Lifeline, to (2) the home energy burdens under the existing LIHEAP distribution method. The LIHEAP Lifeline has both good and bad aspects.

\141\ The state, however, may well decide that it does not wish to make only one lump sum payment. Semi-annual, quarterly or other periodic payments would be entirely appropriate within the context of such a proposal.

\142\ This would need to be adjusted each year for changes up or down in LIHEAP appropriations. Thus, if last year's payment was $100 and LIHEAP benefits are cut by ten percent (10%), the benefit underlying the discount will be only $90.

On the one hand, the primary limitation of the LIHEAP Lifeline rate is that it has no component that promotes regular monthly household payments. The LIHEAP benefit is provided as a percentage discount on the bill and is not made contingent upon payment of the prior month's bill by the low-income customer. To obtain such a regular monthly payment is made more likely by making energy more affordable; it is not, however, an explicit component of the program.\143\

On the other hand, the LIHEAP Lifeline has definite advantages. First, for combination utilities,\144\ the LIHEAP Lifeline does not require separate tracking of household payments toward their separate energy services (electric and natural gas). The Lifeline is applied on a per unit of consumption basis for the affected fuel and is easily incorporated into single balance billing. Second, the LIHEAP Lifeline ties the distribution of LIHEAP benefits directly into the level of energy consumption. In this fashion, the household still retains some sort of "price signal" for purposes of controlling wasteful energy consumption. Third, the LIHEAP Lifeline Rate can be administered as easily for vendors of deliverable fuels (such as fuel oil, LPG and kerosene) as it is by public utilities. Fourth, the LIHEAP Lifeline Rate is easily combined with the EAP proposed elsewhere so as to present a comprehensive low-income energy solution. Fourth, the LIHEAP Lifeline Rate will see direct and substantial benefits as

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\143\ *Compare*, the Energy Assurance Program proposed for utilities below, which is expressly designed to require timely monthly payments as a prerequisite to receipt of EAP benefits.

\144\ A "combination utility" is one providing both electric and natural gas service.

low-income homes are weatherized and made more energy efficient through the expanded conservation programs proposed in this report.

Alternative means of providing a LIHEAP Lifeline are available. The two alternatives discussed below include: (1) the straight Lifeline; and (2) the tiered Lifeline. The "straight" LIHEAP Lifeline Rate is a uniform percentage discount on home heating bills. The "tiered" LIHEAP Lifeline presents an increasing level of sophistication in the targeting of the Lifeline rate. The preferred method of providing LIHEAP benefits through the LIHEAP Lifeline is the "tiered" Lifeline. This alternative offers the most precise targeting of benefits.

While the LIHEAP Lifeline Rate has never been implemented in any jurisdiction (it was first conceived in September 1990 as a means of distributing limited LIHEAP funds in Southern states), it has been studied for this report through computer models, using consumption data from the U.S. Department of Energy and LIHEAP data from the North Carolina Department of Social Services.

1. <u>Straight LIHEAP Lifeline Rate</u>: The "straight" LIHEAP Lifeline Rate involves a uniform percentage discount applied to each unit of energy[\145\] consumed by every LIHEAP recipient. The discount is paid through LIHEAP

[\145\] As discussed below, the discount is indexed by fuel type. Discounts are uniform within primary heating fuels.

benefits. The straight LIHEAP Lifeline Rate is designed to "spend" within the existing LIHEAP budget. The existing level of LIHEAP benefits in North Carolina (roughly $110 per household) can fund a base discount on home heating bills of from five percent for natural gas up to 27 percent for electricity.\146\ The fuel index and its impact on the fuel-specific discount funded by existing North Carolina LIHEAP benefits are set forth below:\147\

TABLE TT
FUEL SPECIFIC DISCOUNT INDEX

DISCOUNT INDEX		
FUEL	**INDEX**	**STRAIGHT DISCOUNT**
NATURAL GAS	1.0x	5%
ELECTRICITY	5.4x	27%
KEROSENE	2.7x	13.5%
LPG	3.7x	18.5%
FUEL OIL	2.3x	11.5%

While not perfectly targeted, the straight LIHEAP Lifeline Rate offers distinct improvements to the LIHEAP population *vis a vis* existing LIHEAP distribution methods. On the positive side, using the straight Lifeline, more than 80 percent of all LIHEAP recipients would pay 15 percent or less of their

\146\The discount is offered for the *annual* bill for that fuel designated as the primary heating fuel. If the discount was limited to only the winter heating months, it would be somewhat larger.

\147\The fuel index is to account for the difference in price on a per therm basis for each fuel type. Thus, natural gas, the least expensive, having a price of $0.52 per therm, is set equal to 1.0x. Electricity, the most expensive, having a price of $2.80 per therm, is set equal to 5.4x.

income toward the annual bills for their primary heating fuel.\148\ Nearly ninety percent of LIHEAP recipients would pay 20 percent or less of their income toward those annual heating fuel bills. In contrast, on the negative side, even given the straight LIHEAP Lifeline, roughly one in ten of North Carolina's LIHEAP recipients would pay more than 25 percent of their income toward the bills for their primary heating fuel.

As heavy as the percentage of income burden may seem for the "top end" households under the straight LIHEAP Lifeline proposal, it nevertheless is a *substantial* improvement over the current LIHEAP system. The present LIHEAP benefit distribution, for example, results in more than one in five North Carolina LIHEAP recipients paying in excess of 20 percent of their annual income toward their primary heating fuel bills.

\148\ It is important to remember, however, that the household's other home energy bills would be in addition to this payment.

TABLE UU
HOME ENERGY BURDENS
AFTER RECEIPT OF STRAIGHT LIHEAP LIFELINE RATE DISCOUNT

HOME HEATING BURDEN AFTER RECEIVING LIHEAP STRAIGHT LIFELINE DISCOUNT	PERCENT OF HOUSEHOLDS
0 - 5 PERCENT	27.7%
5 - 10 PERCENT	38.6%
10 - 15 PERCENT	14.9%
15 - 20 PERCENT	5.7%
20 - 25 PERCENT	6.6%
25 - 50 PERCENT	8.9%
50 - 100 PERCENT	0.6%
100+ PERCENT	0%

The increased efficacy of the LIHEAP program is obtained with the same LIHEAP budget currently in use. Indeed, the average LIHEAP grant is *identical* as between the current program and the straight LIHEAP Lifeline Discount. That result is no accident. The discount was designed with that result as a goal.

2. <u>Tiered LIHEAP Lifeline Rate</u>: In the alternative, a "tiered" LIHEAP Lifeline Rate involves a three-step percentage discount applied to energy consumed by LIHEAP recipients. The tiered Lifeline first offers a graduated discount to households whose energy bills represent heavier burdens of income. Under the tiered LIHEAP Lifeline Rate, a base discount is offered to households whose primary heating fuel imposes a burden of from 0

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to 10 percent of income. Heavier burdens result in a higher discount.\149\ The proposed tiers are set forth below:

TABLE VV

TIERED LIHEAP LIFELINE INDEX		
HEATING BURDEN	**INDEX**	**PERCENT DISCOUNT**
0 - 10 PERCENT	1.0x	5%
11 - 25 PERCENT	1.2x	6%
25+ PERCENT	1.6x	8%

Not surprisingly, the tiered Lifeline offers the most precisely targeted provision of LIHEAP Lifeline benefits. As a result, primary heating bills are made more affordable for a larger portion of the population than under either the straight Lifeline or the traditional LIHEAP programs. Under the tiered program, roughly 80 percent of the participating households pay 15 percent or less of their income toward the bills for their primary heating fuel; more than 85 percent pay 20 percent or less; more than 90 percent pay 25 percent or less. Finally, again, this increased efficacy of the LIHEAP program is obtained with the same LIHEAP budget currently in use.

\149\ The discount is level for any given household. This is not a two-step process. A person with an energy burden of 30 percent, for example, receives the same discount on their *entire* primary heating bill, not one discount on 0 - 10 percent and a greater discount on the remainder.

TABLE WW
HOME ENERGY BURDENS
AFTER RECEIPT OF TIERED LIHEAP LIFELINE RATE DISCOUNT

HOME HEATING BURDEN AFTER RECEIVING LIHEAP TIERED LIFELINE DISCOUNT	PERCENT OF HOUSEHOLDS
0 - 5 PERCENT	25.8%
5 - 10 PERCENT	39.4%
10 - 15 PERCENT	15.0%
15 - 20 PERCENT	6.8%
20 - 25 PERCENT	5.5%
25 - 50 PERCENT	9.2%
50 - 100 PERCENT	0%
100+ PERCENT	0%

3. The Reason for the Targeting Difference: The difference in energy burdens between the differing methods of implementing the LIHEAP Lifeline Rate comes in the lowest energy burden as measured by percentage of income. As the targeting of the LIHEAP Lifeline Rate is increasingly refined, households who pay a smaller portion of their incomes toward their winter home heating lose some LIHEAP benefits (by receiving a smaller discount). These benefits are then redistributed (through the grant of a larger discount) to households who pay a greater percentage of their income toward their winter home heating.

In sum, under the LIHEAP Lifeline Rate, LIHEAP benefits are distributed through means of a per unit discount on a household's heating bill. Under

the "tiered" Lifeline Rate, the discount provided to households with a smaller energy burden (as measured by the bill as a percentage of income) is smaller than the discount provided to households with greater energy burdens. In this fashion, LIHEAP benefits are targeted to those households most in need as determined by the actual cost of energy. Through the process of distinguishing the level of discounts, LIHEAP benefits are redistributed away from households "less" in need to households who are "more" in need.\150\

Again, the essence of the LIHEAP Lifeline Rate is that the distribution of LIHEAP benefits comes in the form of a per unit discount on a participant's energy bill. That discount is paid for with LIHEAP funds. The LIHEAP benefit is paid directly to the energy vendor. The vendor then provides the discounted bill. The sum of the discount should equal the LIHEAP benefit budget.

4. <u>Administrative Burden of the LIHEAP Lifeline Rate</u>: The administrative costs of a LIHEAP Lifeline Rate will not be substantial to the state or to the state's energy vendors. The state need not be involved at all with a periodic distribution of LIHEAP benefits.\151\ Instead, the state should make direct vendor payments to the various energy vendors at one time in the

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\150\This statement is somewhat misleading in that all households who qualify for LIHEAP are poor and in need. While, *relative to each other*, some may be "less" in need and others "more" in need, the need of all participants cannot be questioned.

\151\It could, however, at its discretion, choose to distribute LIHEAP in installments rather than in one lump sum. This choice is certainly not mandated by the LIHEAP Lifeline Rate.

year. The vendors would then draw down against this payments as the benefit is distributed on a per unit of energy basis.

a. State Administrative Costs.

Indeed, from the state's perspective, the process of distributing funds will be substantially easier than it is currently. Generally, LIHEAP heating assistance benefits are made via five different types of payments: checks to clients, two-party checks, vouchers, vendor payments, and landlord payments. ***In 1990, North Carolina was alone among the states in use of checks to clients as the only form of payment.***\152\ Thirty-six states issue checks to clients under restricted circumstances, but not as the primary payment mechanism.

Forty states utilize vendor payments to state-approved energy suppliers. This is the most common type of payment. Eleven states issue vouchers or certificates, and three of these states - New Mexico, Ohio, and South Carolina - use vouchers as the sole payment method. The vouchers are payable to the client for redemption by state-certified fuel vendors.

Two-party checks payable to the client and an energy supplier are used by 18 states. Only California uses two-party checks as the only payment

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\152\ Table H6. LIHEAP Heating Assistance Forms of Benefits (By State, FY 1990), prepared by the National Center for Appropriate Technology for the ***Catalog of Fiscal Year 1990 State Low Income Home Energy Assistance Program Characteristics***, Office of Energy Assistance, U.S. Department of Health and Human Services. (to be published).

method. Idaho, Kansas, and New Jersey use two-party checks as the primary payment mechanism and issue checks to clients when heat is included in rent. States often use two-party checks for households served by energy suppliers which haven't entered into LIHEAP agreements with the state.

One tremendous advantage to the state arising from the LIHEAP Lifeline Rate, therefore, is the move to direct vendor payments which the LIHEAP Lifeline Rate entails.

The administration of the proposed LIHEAP Lifeline Rate can be compared to the much more complex Percentage of Income Payment Plans (PIPPs) being administered by the states of Wisconsin and Rhode Island to determine whether there is reason for concern with regard to increased administrative costs. Those two states, in particular, show that concerns regarding administrative expenses are not well-founded.

The Wisconsin program consists of three basic components: (1) a consumption-sensitive LIHEAP payment; (2) a household contribution; and (3) a "shortfall" payment, covering the difference between items (1) and (2).

The household's LIHEAP payment in Wisconsin's pilot projects is set through an interplay of the household's income, size and actual energy bill. The benefit amounts are designed to cover portions of the past year's home energy costs, with the precise extent of coverage being based on the

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household's poverty level. Thus, for example, a household at 85 percent of poverty would receive a payment covering a certain percent of the prior year's heating costs while a household at 120 percent of poverty would receive a benefit covering a smaller portion.

Household contribution levels are separately based on the "reasonable" percentage of income that could be expected to be paid toward home energy bills. The income percentage varies by household size. There are, however, minimum percentages of the bill that must be paid by the household. A household below 85 percent of poverty, for example, is required to pay at least ten percent of her heating costs, while a household at 120 percent of poverty is required to pay at least 30 percent.

Finally, an "energy assurance supplement" is made available to households experiencing a shortfall between their actual energy bills and the payments made through LIHEAP and household contributions. To be eligible for the supplement, a household is required to make all of its required payments. Moreover, in no event, will the supplement exceed the initial LIHEAP payment. In total, the sum of the LIHEAP payment, the household contribution and the "supplemental energy assurance payment" is designed to represent one hundred percent of the household's energy bills.

Wisconsin found, much to everyone's surprise, that administrative costs dropped during the first year of its Energy Assurance pilot. According to the Division of Policy and Budget, of the Department of Health and Social Service,

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administrative costs on a per case basis declined from $10.73 to $7.79 in the pilot counties. This Wisconsin data was taken from a time period to avoid inclusion of "a number of costs associated with starting up a new pilot program that would not necessarily be associated with the on-going administration of the program." Overall, Wisconsin found that "administrative costs per case declined by 25.3% in the pilot counties and by 13.8% in the controls. The difference, a decline of 11.5%, may be attributed to the pilot."

So, too, in Rhode Island, did administrative expenses either decrease or stay constant. The Rhode Island Percentage of Income Payment Plan (PIPP) involves two basic components: (1) a copayment mechanism; and (2) an arrearage forgiveness mechanism. The first component is oriented toward current bills. Under the program, so long as a household makes regular monthly payments toward its home energy bill based on a predetermined and reasonable percentage of its income, LIHEAP will pay the difference between the household payment and the actual bill. The second component is oriented toward pre-program arrears. So long as the household continues to make complete and timely payments toward its current bills, any pre-program arrears it might have had will be forgiven over a three year period.

The Rhode Island PIPP involves a complex vendor payment process. Participating utilities submit a computer tape to the state each month containing the names of PIPP participants as well as indicating the bill for those participants and the payments, if any, made by participants. The state

LIHEAP agency subtracts the household copayment that was made from the monthly bill and makes a monthly payment to the utility for the difference. The most complex part of this process involves the continuous transfer of data between the utilities and the state.

Like Wisconsin, Rhode Island has seen no increase in administrative costs attributable to the PIPP. In Rhode Island, the participating Community Action Agencies are effectively called upon to administer two different LIHEAP programs: (1) the PIPP for regulated utilities; and (2) the historic flat grant program for deliverable fuels. Nevertheless, the costs of the program remain very similar. Administrative expense data is available for four Rhode Island Community Action Agencies for FY 1990, two of which administer the PIPP and two of which do not. Despite these program differences, administrative dollars on a per household basis are nearly identical as between agencies. The two agencies with PIPP responsibilities have administrative costs of $32.50 and $26 per household (for caseloads of 2,600 and 3,300 respectively). The two agencies without PIPP responsibilities have administrative costs of $28 and $28.60 per household (for caseloads of 3,100 and 1,650 respectively).

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b. Vendor Administrative Costs.

Neither should the administrative costs be great to the vendors. North Carolina's utilities (private, public and Co-op) universally offer level budget billing plans to their customers. Moreover, of the 18 fuel oil vendors responding to NCLC's inquiries for this report, virtually all offered multi-month levelized budget billing plans.\153\ The significance of these plans lies in the process of estimating annual bills that such budget billing plans involve. A levelized budget billing plan involves the vendor estimating the customer's bill for the next 12 months and billing in equal monthly installments. The LIHEAP Lifeline Rate, which requires an identical estimate as part of its process of determining benefits, will involve nothing more and nothing less for the vendor.

Even if administrative costs go up somewhat for vendors, vendors are being provided an opportunity to generate funds to offset those costs. Under LIHEAP's current benefit delivery system, benefits are paid as direct cash benefits to consumers. Those payments may or may not, at the consumer's discretion, actually be used for the payment of home energy bills. Under the LIHEAP Lifeline Rate, the LIHEAP benefits will be paid directly to the vendor.

Moreover, under the LIHEAP Lifeline Rate, the vendor will distribute these benefits as a per unit of energy discount. Depending on how the LIHEAP Lifeline Rate is operated, the benefits will be provided over either a full

\153\ These generally involved nine month, ten month or twelve month payment plans.

twelve months or over the six month heating season.\154\ Assuming that the LIHEAP Lifeline is available for the winter only, the energy vendors, as a result, will be able to pocket the interest generated by retaining the LIHEAP benefit for the course of the six month heating season.

Over the course of the heating season, North Carolina's vendors will have access to an average balance of funds equal to half of the sum of the beginning payment and the ending positive balance. This average balance assumes that the funds are drawn at a steady, even rate. Thus, given a distribution of $18.3 million in heating benefits, over the course of the time period, the average balance held is $7.6 million.

Assuming an interest rate of eight percent, the payment of LIHEAP benefits directly to energy vendors will generate roughly $608,000 in simple interest. An interest rate of seven percent would generate $532,000 while an interest rate of nine percent would generate $684,000. This would be the amount of money available if the unused fuel-assistance balances were invested in short-term financial instruments. These calculations assume the earned interest is not itself reinvested. This would be most realistic if the interest earned is to be used on a current basis to run programs. The total potential earnings would be the sum of the interested earned on short-run --perhaps daily-- investments. Because the investment would not be

\154\The six month heating season is considered to be the six months of November through April.

reinvested, the total potential would be equivalent to simple interest. This interest will be available statewide to offset whatever increased administrative costs are incurred.

Even if, however, there are uncompensated administrative costs associated with the move to the LIHEAP Lifeline Rate, the contribution of the vendors toward a system whereby LIHEAP payments are assured of being directed to those vendors is not unreasonable.

The conclusion must be that implementation of the LIHEAP Lifeline Rate will not impose substantial administrative costs on either the state's energy vendors or on the state LIHEAP agency itself. To the extent that *any* vendor costs are incurred, the new LIHEAP distribution system creates a stream of revenue that offsets those costs.

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C. ARREARAGE FORGIVENESS.

Arrearage forgiveness is an essential component of any effort to address the payment problems of low-income consumers. It makes little sense to rationalize the system of accounting for current bills if low-income households face unpayable burdens for pre-program arrears. An arrearage forgiveness program helps provide a program participant with a clean slate. And, under the newly formulated LIHEAP, rate and conservation/weatherization programs, since households should not incur new arrears, the utility will not face an ongoing exposure to unpaid debt. The State and the utilities can, in other words, expect a synergism to exist between the LIHEAP, rate, conservation/weatherization and arrearage forgiveness programs. While the LIHEAP, rate and weatherization programs will ensure that current bills are accounted for, the arrearage forgiveness program will account for pre-program arrears.

Under an arrearage forgiveness program, the pre-program arrears for participating households will be reduced over a period of time. In a 36-month program, for example, for every payment made by a household toward its current energy bill, the utility will reduce the household's pre-program arrears by 1/36th.\155\ At the end of the 36 month period, therefore, a household will be "even," owing no current bill and having had the entire amount of pre-program arrears forgiven.

\155\ A household must successfully complete the first six months of the PIPP before obtaining any forgiveness, however. At that time, she receives her first six months of forgiveness and a *pro rata* portion thereafter.

1. THE POLICY JUSTIFICATION.

In approving an arrearage forgiveness program associated with the Rhode Island Percentage of Income Payment Plan (PIPP), the Rhode Island Public Utilities Commission noted the need for both elements of the program: the percentage of income payment element to take care of current bills and the arrearage forgiveness element to take care of pre-program debts.\156\ These two program components, the Rhode Island Commission said, must be viewed "as a unified design and strategy."\157\ What results, the Commission said, "should be synergism predicated upon the ability to erase previously incurred bills with current consumption patterns."\158\

In fact, there is little chance that households in arrears will be able to successfully complete any payment plan designed to retire those arrears. Households having substantial arrears are in significantly "worse" shape than households without arrears. Those households in debt tend to have both less income and higher annual bills. The average annual energy burden they bear as a percentage of income is greater as well.

\156\ ***In Re. Percentage of Income Pilot Program Petition, Filed by the Coalition for Consumer Justice***, Docket No 1725, Rhode Island Public Utilities Commission.

\157\ ***In Re. Percentage of Income Pilot Program Petition, Filed by the Coalition for Consumer Justice***, Docket No 1725, Decision and Order, at 7, Rhode Island Public Utilities Commission (January 1987).

\158\ Id., at 7.

The National Consumer Law Center has studied arrearage forgiveness programs in a number of states.\159\ Households simply have insufficient funds to absorb current bills plus arrears into their budgets, NCLC has found. The impact of "requiring" households to retire arrears in addition to paying current bills is to push total bills into unaffordable ranges. Even during the least expensive non-heating months, arrears push monthly household payments into the range of 15 - 20 percent of income. During the more expensive heating months, the average payment required to pay current bills plus arrears would reach an impossible 25 - 35 percent of income.\160\ It is because of the futility of making such demands that an arrearage forgiveness program is proffered.

In short, the availability of a deferred payment plan does not ensure that households in arrears will be able to extricate themselves from payment troubles. Indeed, data supports the conclusion that some households become hopelessly behind and need an arrearage forgiveness provision to make it likely, at all, that they will ever become current on their bills.

\159\ *See*, ***The Percentage of Income Payment Plan in Jefferson County, Kentucky: One Alternative to Distributing LIHEAP Benefits*** (April 1991); ***Controlling Uncollectible Accounts In Pennsylvania: A Blueprint for Action*** (December 1990); ***Fuel Assistance Alternatives for Utah*** (June 1989); ***Low-Income Utility Protections in Maine: An Evaluation of Low-Income Utility Protections in Maine: Fuel Assistance and Family Crisis Benefits***, Vol. III (July 1988); ***An Evaluation of the Warwick (Rhode Island) Percentage of Income Payment Plan*** (January 1988).

\160\ *See*, ***In Re. Request of Philadelphia Gas Works for Increase in Base Natural Gas Rates***, Direct Testimony and Exhibits of Roger D. Colton, filed on behalf of Philadelphia Public Advocate (November 1990).

2. CUSTOMER PAYMENTS TOWARD ARREARS.

Despite the importance of the arrearage forgiveness component of a program to address the plight of low-income households, it is important, as well, for the program not to overreach its purpose. The intent of the arrearage forgiveness provision is to allow low-income households who have fallen "hopelessly behind" a fresh start. If a household, in contrast, is "only" one or two months behind, those are not the arrears sought to be addressed by this type of provision.\161\

It is reasonable to have households make some contribution toward their pre-program arrears. The goal is to have households pay what they can. It is important, however, not to attempt too much in this regard. If a utility seeks to collect more than what is affordable, it risks losing not only the unaffordable portion of the household contribution, but the affordable portion as well. From the household's perspective, if no benefit arises from making partial payments, no partial payments will be made.

A household contribution of $3 per month for 36 months will significantly reduce a utility's exposure to forgivable arrears. NCLC has found in a number of studies that such a provision will tend to reduce the forgivable arrears by any where from 40 to 60 percent.\162\ In Vermont, for example, the household

\161\This assumes that these months do not represent winter heating bills.

\162\All this means is that most households have arrears less than $108.

payment reduced the total forgivable arrears exposure by more than fifty percent.\163\ The Vermont study found that the household would result in the payment of the *entire* pre-program arrears for a substantial number of accounts, ranging from a low of 42 percent of all delinquent accounts for Vermont Gas to a high of 59 percent for Green Mountain Power. Similar results have been found in Rhode Island,\164\ Utah,\165\ Maine\166\ and Kentucky.\167\

Each dollar of additional customer contribution, however, yields smaller returns. An increase from $3 per month to $4 per month, for example, lowers the total exposure of a utility less than a move from $2 to $3.\168\ The increase in the required customer payment, in other words, results in substantially increased risk that no payment will be received while yielding only marginally increased benefits.

\163\Direct Testimony and Exhibits of Roger D. Colton, on behalf of the Vermont Department of Public Service, ***In Re. Investigation and Implementation of Low-Income Energy Programs***, Docket 5308 (October 1989).

\164\National Consumer Law Center, ***An Evaluation of the Warwick (Rhode Island) Percentage of Income Payment Plan*** (January 1988).

\165\National Consumer Law Center, ***Fuel Assistance Alternatives for Utah*** (June 1989).

\166\National Consumer Law Center, ***Low-Income Utility Protections in Maine: An Evaluation of Low-Income Utility Protections in Maine: Fuel Assistance and Family Crisis Benefits***, Vol. III (July 1988).

\167\National Consumer Law Center, ***The Percentage of Income Payment Plan in Jefferson County, Kentucky: One Alternative to Distributing LIHEAP Benefits*** (April 1991).

\168\This result is constant over the range of arrears. Thus, a move from $4 to $5 would result in a smaller reduction in arrears than a move from $3 to $4.

Given the marginal increases in benefits to the utility from the increase to a household contribution of $4 per month, and the danger of risking the overall affordability of the program, monthly household contributions to pre-program arrears should not be pushed to that level. The benefit of a $2 per month or a $3 per month contribution, given the marginal reduction in exposure to write-offs, is closer and is a decision to be made at the local level.

Finally, it is important to structure an arrearage forgiveness provision properly so as to encourage the retirement of arrears and not *vice versa*. Accordingly, the arrears subject to forgiveness should be the arrears that appear on a bill on a date certain. Historically, this has been the arrears appearing on the September bill. In this way, a household does not have the incentive to delay entering the PIPP until spring, taking advantage of winter shutoff protections in the meantime, so as to make the winter bills subject to the arrearage forgiveness provision.

3. WHO BEARS THE COST OF FORGIVEN ARREARS.

Having established all of the above, the fundamental issue of who bears the cost of the forgiven arrears must be addressed. The net cost of the arrearage forgiveness provision should be included in rates to be charged to all ratepayers. As used for other utilities participating in an arrearage forgiveness program, the "net costs" are to be determined by the following formula:

NC = FA - (OBD + AND + CS + WCS + LTV + O)

where:

NC=	net costs of arrearage forgiveness
FA=	amounts of arrears to be forgiven
OBD=	amount of arrears forgiven that would otherwise have become bad debt in any event
AND=	bad debt avoided by having households participate in the program
CS=	savings in collection activities
WCS=	savings in working capital costs as revenue lag days are decreased
LTV=	savings from elimination of lost time value of money
O=	Other factors deemed relevant by the utilities, the Commission or other interested parties.

In fact, universally, utilities involved with arrearage forgiveness programs have found that there is *no* net cost to be included in rates, as calculated by this formula. These utilities find, in other words, that the arrearage forgiveness program results in net savings to ratepayers.

III. THE DETERMINATION OF CRISIS BENEFITS.

The Crisis component of North Carolina's LIHEAP program administration is in need of substantial reform as well. This report proposes to introduce percentage of income concepts into the distribution of LIHEAP Crisis (sometimes known as "emergency") benefits. This proposal not only more closely ties the grant of benefits to actual cost, and thus to actual need, but it

addresses several aspects of LIHEAP Crisis administration that should generate regulatory concerns as well.

The Crisis component of LIHEAP is specifically established by the Low-Income Home Energy Assistance Act of 1981.\169\ The LIHEAP statute defines "crisis" to include "weather-related and supply shortage emergencies and other household energy-related emergencies."\170\ The law requires states to reserve a "reasonable amount" of their LIHEAP appropriations "for energy crisis intervention." The statute does not require cash grants as a response to energy emergencies. Rather, the states, within 48 hours of a household application, must provide "some form of assistance to resolve the energy crisis."\171\

North Carolina's LIHEAP program, however, imposes eligibility requirements that are irrelevant to the existence or not of a household crisis. In many instances, the eligibility criteria simply do not measure (or demonstrate) what they purport to measure. Among the objectionable eligibility criteria is the prerequisite that households be facing a disconnection of service.\172\ According to the North Carolina Crisis plan, a household must

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\169\ 42 ***U.S.C.*** §§ 8621, *et seq.* (1989).

\170\ 42 ***U.S.C.*** § 8622(1) (1989).

\171\ 42 ***U.S.C.*** § 8623(c)(1) (1989). The assistance must be provided within 18 hours if the household is in a "life-threatening situation." Id.

\172\ In FY 1988, 31 states required that households face a "disconnect threat" to be eligible for crisis assistance. An *additional* nine (9) states required that households actually have experienced a

"be in a heating-related crisis" in order to receive Crisis benefits. The state indicates that "a household is in crisis when it is experiencing or is in danger of experiencing a life-threatening or health-related emergency and sufficient, timely, and appropriate assistance is not available from any other source." Among the factors that a caseworker "must" consider is whether "(1) the fuel supply has been exhausted or terminated, or, (2) the notice has been received notifying the household of termination of the heating or cooling source."\173\

A. SHUTOFFS AS ELIGIBILITY CRITERION.

An actual or threatened disconnection of service does not adequately define a "crisis" situation facing a low-income household. Most often, to define "crisis" as being the presence of an imminent disconnection of service is likely to be ***under***inclusive. Two situations are immediately apparent of households who should, but do not, receive Crisis grants under this criterion. First, grants may be withheld until there is little hope of providing effective relief to households in crisis. Second, grants may be withheld from households who seek to resolve their payment troubles through payment plans that are destined to fail.

(..continued)

disconnection of service to receive crisis assistance. ***Catalog of Fiscal Year 1988 Low Income Home Energy Assistance Program Characteristics***, at Table E-28, page 50, American Public Welfare Association (April 1988). (hereafter Catalog).

\173\A need for the repair of the heating or cooling system is also to be considered. Other factors, too, go into the determination of a crisis. Whether the family experienced the crisis as a result of "an event beyond their (sic) control," whether the lack of heating or cooling places someone's life in danger, and whether some other resource exists to alleviate the crisis are all among the inquiries to be made.

a. <u>Winter protections</u>: A household facing unaffordable heating bills during January and February, but who is protected from service disconnection by Public Utility Commission winter shutoff protections, may end up with no Crisis benefits, but high and unpayable bills. By the time the spring disconnection is forthcoming, the arrears may well be unaffordable (Crisis benefits or not). It is axiomatic that, given high winter heating bills, the longer a household waits for Crisis assistance, the higher the ultimate arrears will be.[\174\]

The household who has a winter energy bill that imposes an untenable burden as a percentage of income is faced with no means to avoid the impending crisis. That low-income household faces this dilemma: if the household enters into some type of payment plan early in the winter, it not only commits itself to pay its monthly installment payment to retire its arrears, it commits itself to pay the entire current winter monthly bill in full as each bill becomes due. Because of winter shutoff restrictions, however, Crisis grants are not available to help with these current bills. If, on the other hand, the household waits until the end of the winter before

[\174\] The impact of waiting before seeking relief from winter bills is discussed in: National Consumer Law Center, ***An Evaluation of Low-Income Utility Protections in Maine: Payment Arrangements for Maine's Electric Utilities***, at 54 - 59 (July 1989). (hereafter Maine Low-Income Protections).

entering into a payment plan, it will have higher arrears and a shorter payback time with which to cope.[175] Crisis grants, in these cases, may be insufficient to provide meaningful assistance. Either strategy, therefore, poses serious problems, since a failure to make any given payment in full will be considered a payment default and the spring shutoff is thus inevitable.[176] As can be seen, in these situations, the "crisis" is not created by the spring disconnection but rather by the burden which the energy bill imposes on the household during the winter, shutoff or not.

b.<u>Payment plans</u>: Even in the spring, some households will enter into new payment plans through which their arrears are to be retired, thus postponing the threatened or actual disconnection of service. Unfortunately, many (if not most) low-income households who are faced with such payment plans face no-win situations. Households which have substantial bills owing on the date they enter into a payment arrangement may have great difficulty in making their required monthly payments. In a study of households entering into spring payment plans in Maine, for

[175] This assumes that the utility requires arrears to be retired before the start of the next winter heating season.

[176] In addition, one must be cognizant of the negative ability to pay of many, if not most, households living at or below 150 percent of Poverty. A "negative ability to pay" means that the household's expenses exceed its available income.

example, NCLC found that "for persons entering into plans in and after May, *every* combined monthly payment (i.e., current bill plus increment to retire arrears) will substantially exceed what would otherwise have been the highest winter current monthly bill."[\177\] Moreover, in a recent natural gas rate case for Columbia Gas Company of Pennsylvania, NCLC found that 1,636 of the 3,907 households studied who had payment plans already had an acknowledged *negative ability to pay* even before entering into any payment plan.[\178\]

Excessive monthly payments create problems not only relative to the payment of the required installments designed to retire the arrears, but also relative to the payment of current monthly bills as well. The higher the total combined monthly bills (arrears installments plus current bill) get for a particular customer, the less likely it is that that customer will make *any* payment toward that bill. Since a customer is no less disconnected for paying $60 toward a $100 bill than for paying nothing, no incentive exists to make the $60 partial payment, even if that partial payment would be "affordable."

[\177\] ***Maine Low-Income Protections***, *supra* note **Error! Bookmark not defined.**, at 57.

[\178\] Direct Testimony and Exhibits of Roger D. Colton, ***Pennsylvania Public Utilities Commission v. Columbia Gas of Pennsylvania***, Docket No. R-891468, filed on behalf of the Office of Consumer Advocate (April 1990).

In addition to these payment plan problems, if a household enters into a payment plan, Crisis benefits will not be forthcoming at all since the disconnection of service has been avoided for the time-being. To avoid that result, the Crisis program which requires an actual or pending disconnection of service as an eligibility criterion forces the household to refuse to negotiate a payment plan, and walk to the edge of the precipice of a real or threatened disconnection, in order to qualify for the additional assistance.

c.<u>Summary</u>: In sum, the existence of an actual, or threatened, disconnection of service is not sufficient evidence of the presence of a crisis situation facing low-income families. Most frequently, this definition of "crisis" fails to capture all households who are, in fact, facing an energy crisis. Accordingly, LIHEAP Crisis grants are not being distributed to all those households who are eligible for that assistance.

B. COMPETING PUBLIC POLICIES.

Legitimate concerns exist, as well, that defining "crisis" to include the requirement that households must be facing a pending disconnection of service interferes with other important public policy goals. In these programs, to be eligible for Crisis assistance, the household must have become far enough in arrears that the utility has turned to the disconnection of service as a

collection device. While a pending disconnection of service is no doubt a "crisis" to the affected household, to condition the receipt of additional public aid on this criterion has substantial adverse side-effects.

Substantial effort is made on the part of many individuals and institutions to promote and obtain timely regular monthly payments toward utility bills. These payments serve four purposes.

- First and foremost, they ensure that utility service is paid for and the disconnection of service, or *threat* thereof, is avoided. Eliminating the threat of disconnection is an important goal, in addition to eliminating the actual disconnection of service. The issue affects the "quality of life" as much as anything, seeking to remove the constant fear of the creditor seeking collection.
- Second, the ability of households to make regular monthly payments is socially empowering, permitting households to retain the basic dignity associated with full payment of the their household expenses.
- Third, it keeps a household from becoming hopelessly behind. Households should not be placed in the desperate situation of having "no way out" of the black box of nonpayment.
- Finally, timely payments results in cost savings to the utility and thus in lower rates for all utility customers. Avoided credit and collection expenses, working capital expenses and the like favorably affect low-income ratepayers along with all other customers.

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Conditioning the grant of Crisis assistance on a household facing the imminent disconnection of service, therefore, runs contrary to much that consumer advocates and public utility commissions seek to accomplish with low-income households. The contradictory messages are clear. On the one hand, low-income households are repeatedly told that they "must" pay their bills on a regular and timely basis. On the other hand, the LIHEAP Crisis program provides that if bills are *not* paid, additional financial assistance will be forthcoming. In this situation, non-compliance with payment responsibilities is rewarded and encouraged in several ways:

oFirst, households are encouraged to create, by nonpayment of bills, the situation whereby a disconnection will be threatened, thus triggering the availability of additional funds. A household's pursuit of these funds cannot be faulted; indeed, such pursuit represents sound money-management techniques.

oSecond, households are discouraged from paying what they are capable of paying. Instead, the household is provided an incentive to maximize their arrears so as to maximize the grant of Crisis benefits. If a household can afford to pay $50 of a $300 bill, but without such payment would be otherwise eligible for a $300 Crisis grant, an affirmative incentive exists *not* to make that $50 payment. A $300 Crisis benefit cap, in other words, encourages a household to make sufficiently few payments so as not to "waste" the opportunity to receive maximum Crisis benefits.

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Rather than paying what is possible, the household is encouraged to accrue an arrears that is sufficiently high to exhaust the limit of Crisis benefit dollars.

oThird, households are discouraged from entering into beneficial payment plans. If a $50 downpayment and an agreement to spread arrears over ten months will forestall a disconnection of service, it will also eliminate the household's eligibility to receive Crisis benefits. The households thus has an incentive to refuse to negotiate the payment plan.

oFinally, households are discouraged from entering into level budget billing plans. If a household has the option of scraping together $50 each month to pay a budget billing obligation on its own, or facing a crisis-inducing high winter heating bill (which will trigger additional public assistance), the wise money management technique will be to refuse the budget billing and to seek the additional public aid.

Finally, conditioning the receipt of Crisis assistance on the pendency of a disconnection of service serves as a disincentive for utilities to provide meaningful assistance to their low-income customers that might threaten the passthrough of this public aid. It is unreasonable to expect a utility to aggressively support rate breaks for the poor, for example, if in so doing, the utility will eliminate the potential to receive an income stream through the Crisis program. Moreover, it is unreasonable to expect a utility to offer special

protections to forestall or prevent disconnections if, because of the definition of "crisis," it is only through a pending service disconnection that the customer will become eligible for additional public aid to ensure that the bill is ultimately paid.

C. THE ACTUAL COST BASED CRISIS ALTERNATIVE.

As an alternative to this present Crisis administrative process, the Crisis grant can be tied to percentage of income concepts. Under this program, a household should be deemed to be in a crisis situation when it receives a monthly utility bill that exceeds a pre-determined portion of its income. In that situation, the state should provide a Crisis benefit that will buy all or some portion of the particular month's utility bill down toward the designated portion of income.

An actual-cost based Crisis grant program could work in the following manner:

1. The state would provide emergency Crisis benefits whenever a household's winter energy bill exceeds a designated portion of income. A household which experiences this excess billing will be *deemed* to be facing a crisis situation by definition.
2. A household facing a crisis situation would be provided a supplemental Crisis grant that equals the excess of the bill over the designated portion of income up to a predetermined maximum. The predetermined maximum would be set on a sliding scale which varies as a function of the extent to which the household bill

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exceeds the allowed percent of income. A household who receives a bill equal to thirty (30) percent of household income, in other words, would have a higher maximum than the household which receives a bill equal to twenty (20) percent of income.

3. The utility bill subject to an emergency Crisis grant is a monthly utility bill. The household income would be the income determined for purposes of establishing LIHEAP eligibility *pro rated* on a monthly basis. A Crisis payment for any month in which the bill does not exceed the designated portion of income would be equal to zero dollars.

4. A household could seek multiple emergency Crisis grants in any one heating season. The total household Crisis payment for the season, however, may not exceed the predetermined maximum.\179\ The maximum, in other words, represents a cap both on the benefits that may be received in any month as well as on the benefits that may be received in any given heating season.

Through this mechanism, the state, the utility and the household would gain several benefits:

1. States would more likely target their emergency Crisis benefits to those households most in need. Crisis grants would be calculated using actual energy costs as a basis for the grant.

\179\ The level of the maximum could be set based strictly on budgetary considerations.

2. The LIHEAP Crisis program would no longer reward non-payment. A household gains no benefits by "generating" a disconnect situation. Neither is a household provided incentives to seek to increase its emergency Crisis grant by increasing its outstanding arrears through nonpayment.

3. LIHEAP Crisis programs would gain a degree of fundamental fairness. This proposal recognizes the crisis inherent in having energy bills exceed a designated level of income. This Crisis proposal does not distinguish between those households who forego food, clothing or medical attention in order to retain sufficient funds to pay utility bills and those households who buy food but who don't pay their utility bills.

4. LIHEAP Crisis programs would incorporate an early identification element. In this program, a household would not face the need to permit itself to become sufficiently far in arrears to force the utility to resort to the disconnection of service as a collection device. Rather than seeking to extricate a household from its crisis situation, the emergency grant program seeks to incorporate an early identification of developing crisis situations.

5. LIHEAP Crisis programs can eliminate a large degree of staff-intensiveness. There would be no need for individualized inquiry into changes in circumstances. The calculation of an "emergency" situation can be largely automated.

6.LIHEAP Crisis programs would still retain budget control over its benefit levels. The Crisis program would not become another entitlement payment. Rather, Crisis payments would be made up to some designated maximum. That maximum may or may not be equal to the entire excess of the bill over the designated portion of income.

Since the Crisis grant would be made a function of the bill as a percent of income in any given month (and not upon the arrears), the entire collection process involved with the disconnection and reconnection of service should be avoidable. The utility is not forced to engage in the collection process as an artificial prelude to the grant of additional public assistance.\180\ Indeed, one primary purpose of the actual-cost-based Crisis proposal is to identify potential payment troubles early and to provide those households with assistance to avoid falling into the abyss of utility credit and collection measures.

\180\Even if the household receives a shutoff notice, the notice is but a minuscule portion of the total cost of collection.

PART IV:
UTILITIES AS A PRIVATE PARTNER IN
NORTH CAROLINA'S PUBLIC/PRIVATE LOW-INCOME PARTNERSHIP

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I. THE UTILITY DUTY TO HELP SOLVE UTILITY BUSINESS PROBLEMS.

The burden of addressing the inability to pay problems of low-income North Carolina households should not fall strictly on the government. This conclusion recognizes that some North Carolina households simply do not have sufficient income to pay for the basic necessities of life, including energy. 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.

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. While inability to pay utility bills is unquestionably a social problem, in other words, it is not ***exclusively*** a social problem and it should not exclusively be addressed at public expense. The inability to pay is ***undeniably*** a business problem to the state's utilities demanding a business solution. And the state thus undeniably has a right to require the state's utilities to pay their fair share of the costs.

The fact that low-income inability to pay is a business problem demanding business solutions has been recognized by utility companies in other parts of the country. In March, 1991, for example, in the pending Montana Power Company rate case, Montana Power Company offered an across-the-board 10 percent rate discount for LIHEAP customers. Montana

Power witness James Gannon explained the company justification for the proposal. Gannon testified:

> Nonpayment of monthly gas and/or electric utility bills is a problem that the Company handles in the normal operation of its business for all customers. There are a number of related Company activities associated with the nonpayment of power bills. These include: the handling of delinquent accounts, service disconnections, service reconnections, customer complaints, payment arrangements, and other account collection activities. The costs associated with these activities contribute to the cost of providing utility service and the overall level of utility rates. We believe that these activities may have a relationship to a customer's inability to pay utility bills as a result of low-income levels.[181]

The rate-setting process, Gannon continued, is an appropriate place to consider and include a rate adjustment that provides for low-income energy assistance. "Given the size of the LIHEAP customer base (approximately 9000 customers) and the combined effects and costs of delinquent accounts, service disconnections, service reconnections, customer service inquiries, customer complaints, and payment arrangements, and other account collection activities for low-income customers, it is appropriate for the regulatory process to consider a special rate for these customers."

Gannon continued: "All of the above items contribute to the overall cost of providing utility service and setting utility rates. To the extent a low-income

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[181] Rebuttal Testimony of James Gannon, on behalf of Montana Power Company, ***In Re. Montana Power Company***, Docket No. 90.6.39 (March 1991).

rate may improve a low-income customer's ability to pay the utility bill, then it may also have a beneficial effect on the related utility activities/costs associated with nonpayment."

Because of the impacts that nonpayments have on the state's utilities, it is reasonable to expect those companies to contribute to solving their own problems. The adverse consequences of inaction on their part are discussed in more detail below. These consequences arise in the form of increased collection costs, lost fixed cost contributions during warm weather months, and decreased cost-effectiveness of deferred payment plans.

A. EXCESSIVE COLLECTION COSTS.

Current North Carolina utility collection practices impose substantial collection costs on the state's utility ratepayers. Each time a household gets disconnected, the affected utility must spend money on each step of the collection process. The issuance of reminder and disconnect notices, the provision of personal notice (by telephone or by premise visit), and the actual disconnection of service. The process of reconnecting service, where that occurs, adds yet additional expense to the activity of collection.

It is reasonable to assume a total collection cost of $50 - $100 per household. The total cost to four North Carolina utilities, for example, to disconnect and reconnect households as a collection device is set out below.

TABLE XX
CREDIT AND COLLECTION COSTS FOR

FOUR NORTH CAROLINA UTILITIES

COLLECTION ACTIVITY	NCNG	CPL	NCP	DUKE
SHUTOFF NOTICE:	$ 5.00	N/A	$ 7.00	N/A
TELEPHONE CONTACT:	$ 10.00	N/A	$ 3.00	N/A
PREMISE VISIT CONTACT:	$ 20.00	N/A	$ 19.00	N/A
DISCONNECTION:	$ 30.00	$ 16.00	$ 11.00	$ 24.00
RECONNECTION:	$ 50.00	$ 12.00	$ 32.00	$ 24.00
TOTAL:	$115.00	$28.00	$72.00	$ 48.00

The costs of collection activity can thus be seen for these four North Carolina utilities. Consider the 1990 disconnections for the utilities discussed above:

TABLE YY
AGGREGATE CREDIT AND COLLECTION COSTS FOR FOUR NORTH CAROLINA UTILITIES

COMPANY	NO OF SHUTOFFS	COST PER SHUTOFF	TOTAL COLLECTION EXPENSE
NCNG	4,784	$115	$550,160
CP&L	33,530	$ 28	$938,840
NCP	4,697	$ 72	$338,184
DUKE	73,919	$ 48	$3,548,112

As can be seen, North Carolina's public utilities\182\ are faced with a substantial collection cost with the disconnection and reconnection process. These four utilities, unto themselves, spend nearly $5.5 million simply on the disconnection and reconnection of service in the state. Considering that, even aside from the state's other investor-owned utilities, that the state's municipal's and EMCs serve nearly one million customers, the statewide utility credit and collection costs are substantial. It should not be the role of the state to use public money alone to bail these companies out of their credit and collection problems.

\182\ Data provided by a sample of municipal electric companies and Electric Membership Corporations indicate similar results.

B. THE MAINTENANCE OF LOAD CONSEQUENCES.

The inability of North Carolina's utilities to keep low-income customers successfully on the system results in the state's utilities losing substantial revenue during the non-heating months as households are disconnected from the system, and remain off the system. It makes little sense for North Carolina's utilities to disconnect households precisely at the time that their heating bills become affordable. Each of those lost accounts represents a lost revenue stream to a company, a revenue stream that would help pay the fixed costs of the system.

The problem faced by North Carolina Natural Gas (NCNG) is indicative of this loss of revenue. In 1990, NCNG lost more than 20,000 residential accounts during the warm weather months, only to gain those accounts back at the time of the winter heating season, when bills are most unaffordable. NCNG's 1990 residential customer base looked like the following on a month-to-month basis:

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TABLE ZZ
MONTHLY LOST CUSTOMERS/REVENUES
NORTH CAROLINA NATURAL GAS COMPANY

MONTH	NO. RES. CUSTOMERS	AVG RES HEATING BILL
JANUARY	67,540	$90.10
FEBRUARY	67,974	$51.96
MARCH	68,032	$46.99
APRIL	68,031	$38.14
MAY	67,749	$25.20
JUNE	67,010	$16.17
JULY	44,717	$13.77
AUGUST	44,277	$12.74
SEPTEMBER	44,145	$13.43
OCTOBER	65,387	$13.45
NOVEMBER	67,719	$24.23
DECEMBER	69,692	$46.94

When viewed in light of monthly disconnect patterns, this period of disconnection (for NCNG as a natural gas provider) is during the warm weather months when it is most likely that the company could have received full payment of current bills plus some retirement of arrears. In endorsing a 10 percent discount for Montana's LIHEAP customers, Montana Power Company witness Gannon noted this problem, and concluded: "Another aspect of a low-income rate which should be considered in ratemaking is that it may help retain these customers. That is, to the extent a low-income rate assists in

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retaining a residential customer on the system, that particular customer continues to cover some portion of the fixed costs of providing service. If the customer is completely lost, then all of the other utility customers' rates would tend to increase as they eventually absorb the previously covered portion of fixed costs."

This "retention concept" is not new to utility ratemakers, Montana Public Service Company witness Gannon testified. "The ratemaking process has been concerned with customer retention. It was the theme that led to the implementation of the Industrial Market Retention rate for large natural gas customers."

C. THE CONSEQUENCES OF LOSSES IN MAXIMIZING MARGIN.

Utility companies advance a major fallacy when they seek to disconnect households who fall behind in their bills rather than trying to keep these households on the system through reduced rates. Removing a nonpaying customer from the utility system does not necessarily result in the least-cost provision of service to all remaining ratepayers. Whenever a customer's service is disconnected, two things happen. First, the company avoids the variable cost of delivering that unit of energy to the household. Second, the company forgoes the revenue that *would have been* collected from the household but for the disconnection of service. To the extent that the revenue would have exceeded the variable cost of delivering the energy (whether it be gas or electricity), other ratepayers lose a contribution toward the payment of

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the fixed charges of the company.\183\ In this instance, the disconnection of service leaves remaining, paying, customers worse off than had the disconnection not occurred.

In general, there is an advantage to all ratepayers from keeping as many households on the system as possible. So long as households pay the variable costs of delivering the energy they consume, other ratepayers are no worse off. To the extent that households pay anything beyond the variable cost of the energy they consume, they are making a contribution toward the fixed costs of the system and all ratepayers are better off than they would have been had those households been disconnected. It could thus well be cost-effective to the utility, and to all remaining ratepayers, to provide payment-troubled customers with an incentive to make some partial payments (even if full payment cannot be made) by deciding *not* to disconnect so long as the customers continue to pay more than the variable cost of providing service.

Unfortunately, many times people react to nonpayment by assuming that disconnection of service to the nonpayers results in least-cost service. That assumption, however, is not *a priori* correct. The Table below sets out a hypothetical that reveals the fallacy in this assumption. This Table assumes

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\183\ The "variable" costs of a utility system are those costs that vary as a function of the amount of energy consumed. The cost of fuel for electricity, and the cost of natural gas, are classic examples of variable costs. The "fixed" costs of the system are those costs which remain fixed regardless of the energy consumed. The costs of overhead, the costs of power plants and pipelines, and the like are all considered to be fixed costs.

the simplest system possible, a system with two natural gas ratepayers identical in all respects except that Ratepayer 1 (RP1) is about to be disconnected and Ratepayer 2 (RP2) is not. Average annual consumption is 120 MCF. The variable price is $0.42 per CCF ($504 for 1200 CCF) and the retail price is $0.70 per CCF ($840 for 1200 CCF). Ratepayer 1 is facing an involuntary disconnection of service due to nonpayment. In this hypothetical, the utility agrees not to disconnect RP1 so long as that ratepayer pays an amount equal to $0.46 per CCF ($552 for 1200 CCF) toward her natural gas bill.

TABLE AAA
THE RATE IMPLICATIONS OF NOT DISCONNECTING NON-PAYING CUSTOMERS

FULL BILL	VARIABLE BILL	REDUCED BILL	FULL CONTRIBUTION	REDUCED CONTRIBUTION	DIFFERENCE
$840	$504	$552	$336	$288	$48
RATEPAYER 1: WHO IS A NONPAYING CUSTOMER. RATEPAYER 2: WHO IS A PAYING CUSTOMER.					

What this Table shows is that there are two ways to look at the operation of this utility collection policy. The first is to look at what RP1 is paying under the reduced bill vis a vis what that ratepayer would have paid if she paid her full bill. Viewed from this perspective, there is a $288 shortfall and Ratepayer 2 is $288 "worse off." The RP2 bill under the utility policy is $1,128 ($840 full bill + $288 shortfall from Ratepayer 1).

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The second way to look at the utility's policy is to recognize that if RP1 was removed from the system permanently as a nonpayer, RP2 would have to pay the entire amount of what had been RP1's contribution toward fixed costs. In this hypothetical, if Ratepayer 1 is disconnected for nonpayment, Ratepayer 2's bill would be $1,176 ($840 full bill + $336 lost contribution).

Clearly, therefore, the disconnection of service to Ratepayer 1 is not without a very real monetary cost to Ratepayer 2. Indeed, in this instance, Ratepayer 2 is $48 better off by having Ratepayer 1 remain on the system, paying less than the full bill, than by having Ratepayer 1 disconnected.

The Philadelphia Gas Commission endorsed this reasoning when it adopted the Philadelphia Gas Work's (PGW's) Energy Assurance Program (EAP). The Commission stated in its November 1989 order:

"The recommended energy assurance program recognizes that:
(a)low-income customers do not have enough money to pay their fully-embedded cost of service; and
(b)without a program to address these issues, these customers will pay nothing or will pay only some portion of their fully-embedded bill; and
(c)in either case, PGW loses the full contribution to its fixed cost; and
(d)this occurs whether or not the household is ultimately permanently disconnected; and
(e)special pricing arrangements are good for all ratepayers, since the energy assurance program encourages more low-income customers to remain gas customers and to make some payments toward their bills, which payments are better than no payments at all."[184]

[184] ***In Re. Proposed Revisions to the Customer Service Regulations of the Philadelphia Gas Works***, Decision and Order (November 3, 1989).

For this approach to work, the utility must structure the payment obligations to recover the variable costs of the system plus make some contribution from the customer class paying through EAP. In essence, this proposal is no different than the treatment that many states accord their large natural gas and telecommunications customers who have the ability and inclination to engage in bypass. In effect, these residential customers who, because of their inability to pay their utility bill, would be disconnected from the utility system and forced to move to alternative sources of home energy, would be treated as opportunity sales by the utility. If the program is structured so that it will recover the variable costs of delivering natural gas to program participants, 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.

In 1990, North Carolina Natural Gas Company disconnected roughly 2,200 households from May 1990 through September 1990. The total bill for each of those households for that five month period would have been $81.00. According to NCNG's Form 2 filed with the Federal Energy Regulatory Commission, their commodity cost of gas for those months would have been $2.865 per DT. By disconnecting these households, therefore, NCNG cost its remaining ratepayers more than $73,000 in lost contributions toward the fixed cost of the system. When factored over one hundred fifty thousand customers

disconnected in North Carolina each year, the lost contribution is more than $5.0 million per year.

II.THE UTILITY CONTRIBUTION: THE ENERGY ASSURANCE PROGRAM.

As a response to these business problems facing North Carolina's utilities, and because LIHEAP has insufficient funds to make energy affordable for all participating customers, the North Carolina legislature should expressly direct the North Carolina public utilities commission to implement an Energy Assurance Program (EAP) for all regulated utilities. While the legislature need not *mandate* the full-scale implementation of such a plan, it should at least direct that the EAP be tested on a pilot basis.

The legislature should direct the North Carolina Utilities Commission to asses whether the EAP is found to increase net revenues to the participating utility. Net revenues constitute the revenue generated by the EAP as offset by the incremental costs of administration. In the event that such a finding is made, the EAP should be implemented on a full-scale basis.

A. OVERVIEW OF THE UTILITY EAP.

The goal of a public utility commission as to low-income rates is to have a utility collect the greatest proportion of a current bill that it can from low-income households while minimizing the costs of collection. Stating the issue in this fashion recognizes the warning of the Vermont Department of Public Service, when it said in 1990 that:

The Department's Basic Energy Needs Program (BENP)

> recognizes 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. The net stream of income is thus less than the total outstanding bill."[185]

The Energy Assurance Program is set forth to address these dual problems: (1) an inability to collect some money at all; and (2) the need to expend considerable sums on the very process of collection for much of the rest.

The EAP is not simply sound social policy. It is also based on sound regulatory principles. A utility is required to operate with all reasonable efficiencies. This is part and parcel of the obligation to provide least-cost service. Accordingly, North Carolina's utilities should pursue all reasonable means of minimizing total revenue requirement, including the adoption of innovative collection techniques. The requirement that utility activity contribute toward the provision of least-cost service pervades every aspect of a utility's business including its collection of revenue from those households who are unable to pay.

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[185] ***In Re. Investigation into Design and Implementation of Low-income Energy Programs***, Docket 5308, Initial Brief and Argument of the Vermont Public Service Department (January 1990).

It is important to recognize that the purpose of the EAP is not to serve as a social program providing rate discounts to low-income households. Rather, the purpose of the EAP is to recognize, in advance, those households who will likely find it impossible to pay their utility bill 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 the EAP, North Carolina's utilities would collect the *entire* bill from households who are likely to be able to pay their entire bill. The rate relief is offered only to those for whom it can reasonably be determined the entire bill will not be paid.

The EAP is explicitly designed to collect the entire bill from those households who are able to pay their entire bill. If, because of relatively higher income or relatively lower utility bills, the designated percent of a household's income (plus LIHEAP) will exceed its annual bill, the household will receive no benefit from the EAP. In those instances, the utility bill is deemed "affordable" and the participating utility will collect the entire fully-embedded rate. Only in those instances where the household, due to low-incomes or high bills, faces an energy bill that exceeds the designated percent of its income do we conclude that it is reasonable to expect payment problems in the near and long-term and offer the EAP as an alternative collection process for those bills.

Accordingly, to characterize the EAP as a "rate program" is to misconceptualize both the purpose and design of the EAP. While the EAP does involve a prospective adjustment in the rates charged (recognizing that

those rates will not be paid), the EAP is intended to be a collection device. It is 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 delinquent payments.

B. THE COMPONENTS OF AN EAP.

An Energy Assurance Program (EAP) should have three components:

1. A process by which participants make payments toward current bills based on a percentage of their income. The recommended percentages are seven percent toward heating and three percent toward non-heating.[\186\]
2. An earned credit provision by which households will earn credits to retire a portion of their pre-program arrears over a three year period.
3. A conservation education program directed specifically toward EAP customers.

Through these three components, the EAP is offered as an efficient and effective collection mechanism for those households who will not likely be able to pay their bills in a timely and full fashion. Households who are defined to be unable to pay are those households who meet ***both*** of two criteria:

[\186\] These percentages might vary up or down as between utilities. It is recommended below, however, that in no instance should the percentage contributions exceed eight percent for heating and four percent for non-heating.

1. They live at or below 150 percent of the Federal Poverty Level; and
2. Their utility bill exceeds seven percent of their income (if a heating customer) or three percent of their income (if a non-heating customer).

These eligibility criteria are not tied to some social policy of who merits assistance through low-income energy rates. Rather, the criteria are intended to be used as a surrogate for a case-by-case determination of inability to pay. The use of a surrogate for a case-by-case determination should be explained. The EAP is offered as an efficient and effective collection mechanism for those households who will not likely be able to pay their bills in a timely and full fashion. Both of these tests --(1) efficient; and (2) effective-- are intended to have meaning.

Perhaps a utility would be better able to target an EAP rate to all households who are unable to pay, but to no households other than those unable to pay, through a case-by-case determination of need. To do so, however, would require individual interviews with all potentially eligible households. The question, therefore, is whether the marginal increase in effective targeting merits the time and expense to be devoted to the process. The answer quite clearly is no. In the overwhelming majority of cases, the individualized interviews will reach the same conclusion that is reached by the EAP categorical eligibility criteria laid out above: that households meeting these two criteria are unable to pay their bills.

Under the EAP, the households who are defined to be unable to pay their bills in a full and timely fashion are those households who meet both of two criteria: (1) they live at or below 150 percent of the Federal Poverty Level; and (2) their utility bill exceeds the designated percent of their income. If either criteria goes unmet, the household will not be eligible for EAP.

The EAP is set forth as a cost-justified response to low-income energy problems. However, EAP does not have to result in savings that more than offset the costs of the program for its adoption to be justified. The appropriate analysis is whether EAP does a ***better*** job of collecting revenue than the available alternatives. The issue is not whether there is a cost to EAP but rather whether the cost of EAP is more or less than the cost of the alternative collection mechanisms. If the EAP collects the same amount of money as the disconnection process but costs less, the EAP should be adopted.

In evaluating the cost-justification of EAP, it is important to remember that EAP does not *create* the costs of low-income inability-to-pay, but instead merely recognizes them. The costs of low-income inability to pay already exist: through collection expenses; through working capital; through bad debt. EAP aggregates those expenses into one "pot": the difference between the household payment and the fully-embedded cost. Nevertheless, those costs would be there, EAP or not. The point of EAP is that, by explicitly recognizing these costs, a program can be designed to minimize them.

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In this fashion, EAP should ***minimize total revenue requirement*** rather than expanding it. Accordingly, no inter-ratepayer subsidy occurs. Under the disconnection process, every time the utility incurs an expense to seek collection from Ratepayer B, Ratepayer A pays. Every time the utility incurs a bad-debt expense attributable to Ratepayer B, Ratepayer A pays. To lower total revenue requirement, and thus to be cost-justified, EAP need only be less expensive than these alternatives.

In sum, the total benefit of an EAP to a utility must thus consider both aspects of the problem. First, the EAP will likely decrease expenses in a variety of ways. Second, the EAP will likely increase revenues for the utility. Either result individually, or the two results in tandem, represent real and tangible benefits to the utility and all of its ratepayers.

C. RESULTS FROM EXISTING PROGRAMS

The Energy Assurance Program, in the form proposed for North Carolina, has been implemented on a pilot basis for Philadelphia Gas Works (PGW) and will be implemented by Columbia Gas Company in October 1991.

1. The Philadelphia Gas Works Program.

The PGW program to date has shown outstanding success. By November (six months into the program), an aggregate of 71 percent of all EAP customers were *totally current* on their EAP bills. In comparison, 95 percent were either totally current or less than three months behind. Of the

households who had been on the program three or more months (N=709), 462 (65 percent) were totally current.

No question exists but that before beginning to "jump for joy," caution should be noted that the Quarterly Report (November 1990) notes several times that the existing PGW data is too limited from which to draw conclusions. Nevertheless, consider that these very preliminary figures come from a program where:

- 47 percent of its participants live at or below 50 percent of poverty; and
- 12 percent of its participants entered the program owing $2500 or more in arrears; 47 percent entered the program owing $1000 or more in arrears; and 75 percent entered the program owing $500 or more in arrears.

Moreover, consider that the alternative to the EAP for Philadelphia Gas Works is its 5 and 2 payment plan program.\187\ Again noting the caveat mentioned above regarding the limited data, it is possible to compare Table 3-7 in the Third Quarter Report with experience in the 5 and 2 program. The experience with 5 and 2 was provided in response to Public Advocate Data Request 219 in the 1989 PGW customer service proceeding. That comparison reveals that:

\187\ Under the 5 and 2 plan, a customer makes a downpayment of five percent of her outstanding bill. Fifty percent of the remainder is then paid in installments of two percent per month. Fifty percent of the arrears is forgiven.

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oFrom October 1985 through March 2, 1989, 73 percent of all 5 and 2 plans had been broken (i.e., had sufficient numbers of nonpayment that they had been abrogated);

oIn 1988, alone, the last year for which complete data is available, 58 percent of the 5 and 2 plans entered into were broken; 75 percent were either broken or defaulted.

oFrom October 1985 through March, 1989, PGW's 5 and 2 customer made less than 6 out of every 25 required payments.

This early PGW data well illustrates the basic concept of the EAP. There is no question but that the EAP will result in a continuing shortfall between the households' monthly payments under EAP and the fully-embedded cost of providing service. Moreover, there is no question but that *some* households will not make even their EAP payments. The real issue with EAP, however, is whether the shortfall is greater with EAP than without EAP. The real issue is whether more people keep more current, making more payments, under the EAP than under the existing alternatives to EAP. Since the shortfall under EAP will be less, it represents an improvement over existing collection alternatives.

Again note the limitation of the PGW report. The report quite rightfully states in a number of places that the results represent participation by a limited number of households for a relatively limited period of time (six months).

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Inadequate experience thus exists from which to draw conclusions as to the operation of the EAP. Nevertheless, there are three observations in particular to make about this early PGW data.

- First, the relatively successful payment results of EAP participants in the warm weather months is particularly promising. These warm weather months in Philadelphia, as elsewhere, are the months in which EAP percentage of income payments come closest to being equal to or in excess of actual monthly bills. It is during these months that it is hardest to convince participating households that EAP is a "good bargain" and that they should continue to make their monthly percentage of income payments.
- Second, it is during these warm weather months that low-income households are least concerned about defaulting on their utility bill payments and thus losing service.
- Finally, experience in other states has indicated that even of those households that break their EAP agreement, when the option arises either of "curing" those missed payments and continuing in the program another year, or of refusing to cure those payments and becoming ineligible for the subsequent year, most households who have broken their plans will bring their payments sufficiently up-to-date to

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continue on the EAP. That will likely happen in the PGW program as well.

2. The Columbia Gas Company Program.

Columbia Gas Company of Pennsylvania will implement an EAP beginning in October, 1991. Coming in response to a Pennsylvania Public Utilities Commission order directing the implementation of a pilot project, the Columbia Gas program will involve 1000 income eligible households. In its pending 1991 rate case, Columbia Gas has set forth the costs of its program.

The Columbia Gas program reaffirms the basic philosophy of the Energy Assurance Program (EAP) concept. Without CAP, Columbia Gas would be looking at a "shortfall" of more than $650,000 toward current bills and zero payments toward pre-existing arrears. Given Columbia EAP's combination of percentage of income payments, LIHEAP benefits and targeted conservation, the Company instead is looking at a shortfall of less than $200,000 and a collection of some part of its pre-existing arrears.

In addition to this enhancement of revenues attributable to the Columbia Gas CAP, Columbia Gas will experience a substantial advantage in foregone credit and collection expenses, foregone working capital expense and the like.

The Columbia Gas program will be implemented with minimum administrative expenses. According to the Company, it will spend $25,000 a

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year for the first four years in start-up computer programming expenses; $25,000 a year for the first four years on evaluation; and $47,000 in increased staff.[188]

3. Other Similar Programs.

The PGW and Columbia Gas experiences reflects the experience in other programs called Percentage of Income Payment Plans (PIPPs). Through a PIPP, household payments toward their home energy bills are set at a reasonable percentage of household income. As a result, in Rhode Island, for example, PIPP resulted in an improvement in payment patterns for both the gas and the electric companies. At the end of the first program year, when an evaluation of the program was performed, instead of having 55 percent of its pre-PIPP LIHEAP households three or more months behind on their unaffordable bills, Providence Gas had 95 percent of its PIPP households totally current or only one month behind. Similarly, instead of having 45 percent of its LIHEAP households three or more months behind, Narragansett Electric had 95 percent of its PIPP households either totally current or only one month behind.[189]

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[188] Columbia has also proposed to include a budget counselling and conservation component with its EAP.

[189] John Rao, ***The Rhode Island Percentage of Income Plan: Benefits to the Poor, the Utility and the State*** (November 1988).

Experience in from the Clark County (Washington) Public Utility District is nearly identical. Clark County has implemented what it terms its "Guarantee of Service Program" (GOSP). Through that program, household payments are set at no more than nine percent of household income. That utility reported in April 1990:

> The change in customer payment practices is best illustrated by the following statistics: Out of 1,966 GOSP participants, 86 customers were removed from the plan for default. 161 customers were two months past due. This equated to an overall success rate of 76 percent of GOSP customers who were *completely current* in their obligation. 87 percent were one payment or less in arrears. When you consider that 67 percent of all those entering the plan had a delinquent balance, the results are impressive.[\190\]

In sum, programs whereby household utility payments have been set equal to an affordable percentage of income have seen dramatic increases in the extent to which participating households have kept current on their monthly payments. Increased revenue and decreased collection costs have resulted. Indeed, in the three programs discussed above, as opposed to the nearly universal presence of arrears by participants before the programs began, virtually every household was either totally current or only slightly behind. By setting payments at an affordable percentage of household income, the actual receipt of those payments by the affected utility was greatly enhanced.

[\190\] Clark Public Utilities, ***GOSP Evaluation: Nov. 1, 1988 - Nov. 1, 1989*** (February 1990).

D. THE ADVANTAGES OF EAP OVER A LIFELINE RATE.

At first blush, the notion of providing a straight rate discount seems attractive. It is administratively simple. It is a means to provide substantial benefits to low-income households. If one is to create a low-income benefit program, a Lifeline rate involving an across-the-board discount seems better than the more complex EAP. This thesis, however, is rejected.

The purpose of the EAP is not simply to provide rate relief to all low-income customers. Rather, the purpose of the EAP is to recognize in advance those households who will likely find it impossible to pay their utility bill 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 the EAP, a utility collects the *entire* bill from households who are likely to be able to pay their entire bill. The rate relief is offered only to those who we can reasonably determine will not pay their entire bill.

When viewed from this perspective, it is possible to determine the advantage of the EAP and the failure of a straight low-income rate program. A uniform discount (whatever the size of the discount) bears no rational relationship to collection savings (and, indeed, is not designed to bear any relationship to collection savings). 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.

In sum, the EAP is offered as a new and useful mechanism to assist North Carolina utilities to avoid or to minimize uncollectible accounts. The EAP is intended to be a collection device. It is offered as a mechanism to maximize the collection of revenue while minimizing collection expenses. Through the EAP, North Carolina's utilities will pursue the least-cost provision of service in the credit and collection arena.

III. THE RECOMMENDED LEGISLATIVE ACTION.

The North Carolina legislature should direct the implementation of a pilot Energy Assurance Program for the state of North Carolina. This legislation should provide that the North Carolina Utilities Commission shall implement an EAP demonstration project starting no later than October 1, 1991. This demonstration project shall be in operation for a time no shorter than October 1, 1991 through September 30, 1993 and shall include the following components:

1.A determination of household eligibility set at an appropriate level of poverty. The permissible level for eligibility is not to be greater than 150 percent of poverty and not to be lower than 110 percent of poverty.

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2.A process by which participants make payments toward current bills based upon a percentage of their income, not to exceed 7 percent for heating bills and 3 percent for non-heating bills;

3.A process by which households may earn credits to retire all or part of their pre-program arrears over no longer than a three year period. Notwithstanding the percentage of income payments set forth in Section 1, paragraph b, the Commission may require households to make payments toward their pre-program arrears, not to exceed $3 per month, above and beyond their percentage of income payments.

4.A conservation education program directed specifically toward EAP customers.

As a means to minimize administrative expenses by participating utilities, the project should include a provision that any determination of eligibility, as well as any verification of income, for the state Low-Income Home Energy Assistance Program (LIHEAP) shall be considered a determination of eligibility for EAP as well as an income verification for EAP.

The state Public Service Commission shall commission an evaluation of the demonstration project and shall provide an interim report to the General Assembly no later than January 1, 1993 and a final report no later than January 1, 1994. The Commission, on its own motion or on petition by another party, may choose to expand this demonstration project to include additional

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geographic areas, additional utilities, or additional program participants, in the event that the Commission determines such expansion is in furtherance of the provision of least-cost energy service by increasing revenues or decreasing expenses.

The cooperation of several parties will be necessary. The legislation should expressly provide that the Commission, the state Office of Consumer Advocate and the Department of Social Services shall provide the necessary cooperation for this demonstration project to meet the requirements of this statute. Moreover, the legislation should direct that each utility chosen for participation in this pilot shall provide the information necessary for the successful design and implementation of the project, as determined by the Utilities Commission.

The legislation should finally provide that the costs necessary to administer and evaluate this demonstration project shall be considered an administrative cost of the Utilities Commission. Moreover, the Commission should be authorized to adopt appropriate cost-recovery mechanisms for the net costs, if any, to participating utilities arising from participation in a demonstration EAP. The "net cost" will include only those incremental administrative costs in addition to any decrease in the amount of revenue that would otherwise have been collected from the program participants but for the implementation of the demonstration project.

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PART V: ADDITIONAL SOURCES OF PUBLIC DOLLARS.

I. LEVERAGING AFTER THE 1990 LIHEAP REAUTHORIZATION.

In the reauthorization of the LIHEAP program by Congress in this past Congressional session,[\191\] Congress enacted a new section which provides "supplementary funds to States that have acquired non-Federal leveraged resources for" LIHEAP.[\192\] The Legislature can take an aggressive stand by directing North Carolina's utilities to provide certain leveraged funds to the LIHEAP program.[\193\]

The term "leveraged resources" is a defined term in the LIHEAP reauthorization statute. The statute provides that "leveraged resources" include benefits made available to "federally qualified low-income households." These can include, among other things resources that:

(1) represent a net addition to the total energy resources available to State and federally qualified households in excess of the amount of such resources that could be acquired by such households through the purchase of energy at commonly available household rates; and

(2)(A) result from the acquisition or development by the State program of quantifiable benefits that are obtained from energy vendors through negotiation, ***regulation*** or competitive bid;* * *[\194\] (emphasis added).

[\191\] Augustus Hawkins Human Services Reauthorization Act of 1990, 101st Congress, 2nd Session, H.Rep. 101-816 (to accompany H.F. 4151).

[\192\] Hawkins Human Services Reauthorization Act of 1990, at § 707 (creating "incentive program for non-federal resources" within LIHEAP).

[\193\] There is no reason that these suggestions must apply only to *regulated* utilities. They can apply equally well to EMCs and to municipal companies as well.

[\194\] Id., at § 707(b)(2)(a).

The statute provides that the share of leveraged federal funds is to be based upon a federally developed formula that "shall take into account the size of the allocation of the State under this title and the ratio of leveraged resources to such allocation."\195\

Clearly, providing for leveraged LIHEAP resources redounds to the benefit of all involved. By expanding the amount of LIHEAP benefits, receivables are reduced, working capital is reduced, uncollectibles are reduced, credit and collection expenses are reduced, and the like. This possibility should intrigue the Legislature, since the Legislature has a direct interest in minimizing the expenses of each energy vendor so as to ensure that home energy is more affordable for all North Carolina residents. Moreover, the prudent and efficient business manager should act quickly to take advantage of this opportunity to leverage federal funds that would help pay the bills of customers whose bills might otherwise go unpaid.

The North Carolina legislature, as well as the state's energy vendors, low-income advocates and other interested parties have a unique window of opportunity to determine whether there are ways to bring additional federal dollars into the state to help pay low-income energy bills. Given the overlapping interests of the Utilities Commission with the state LIHEAP agency

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\195\ Id.

in making sure that LIHEAP funds flow to North Carolina,[196] the legislature should initiate a process through which to consider a variety of proposals to leverage federal LIHEAP dollars. The following discussion is intended to be illustrative: to prompt further thinking about the types of creative mechanisms that can be pursued to generate the dollars necessary to obtain additional federal funding:

A. UNCLAIMED DEPOSITS.

Unclaimed utility deposits are a source for funds to be used to obtain federal matching dollars through the new LIHEAP leveraging provision. In this fashion, rather than letting this ratepayer supplied money escheat to the state's general fund, by using it to provide the match for LIHEAP leveraging, not only will the funds be returned to benefit the class likely to have paid them in the first place, but those funds can be increased through the federal leveraging provision.

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.[197]

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[196] It should be noted, too, that the additional benefits to be provided for leveraged state resources have been provided by Congress. The only issue is how those funds will be apportioned amongst the states.

[197] An additional amount, hard to estimate according to Colorado officials, will be acquired from

To recapture unclaimed deposits, unclaimed rate refunds and the like in North Carolina would generate substantial funds in North Carolina. Four regulated utilities provided data when asked to provide the amount of unrefunded deposits escheated to the state for the past three years. Those four utilities, alone, would have provided nearly $120,000 in additional funds in 1990:\198\

TABLE BBB
1990 ESCHEATED DEPOSITS: SELECTED COMPANIES

COMPANY	ESCHEATED DEPOSITS
DUKE POWER	$50,025
NORTH CAROLINA POWER	$1,663
CAROLINA POWER AND LIGHT	$62,142
NORTH CAROLINA NATURAL GAS	$4,971
TOTAL:	$118,801

At current LIHEAP benefit levels in North Carolina, the contributions of these four companies, alone, would have provided LIHEAP benefits to an additional 1200 low-income households.

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

(..continued)

unrefunded interim rate increases.

\198\ Prior years would have generated the same general amounts.

households. Those mobile households will tend to be poor. A study of low-income households by the National Consumer Law Center considered the mobility of low-income households.\199\ According to NCLC, 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.

B.AVOIDED CREDIT & COLLECTION COSTS ASSOCIATED WITH LIHEAP CRISIS FUNDS.

A second source of funds for LIHEAP leveraging is obtained by looking directly at utility credit and collection expenses. First, there are collection expenses. Among those expenses are: (1) the cost of reminder and shutoff notices; (2) the cost of making personal contact (by phone or by premise visit) prior to a shutoff; (3) the cost of disconnecting and reconnecting a nonpaying household's service; (4) the cost of negotiating payment plans; (5) the cost of collection agencies; and the like.

The calculation of the utility contribution would be as follows: If a utility's disconnection process can be short-circuited through a LIHEAP Crisis program grant, and the utility bills paid without the need for extensive collection activity, dollar savings should arise from the foregone need to pursue those

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\199\ National Consumer Law Center, ***The Forced Mobility of Low-Income Households: The Indirect Impacts of Shutoffs on Utilities and Their Customers*** (March 1991).

credit and collection measures. These foregone expenses should be shared with the LIHEAP program, particularly under the federal statute providing additional LIHEAP benefits to states which leverage private funds.

The requirement that North Carolina's utilities provide a sharing of these collection savings has an economic basis. Through the LIHEAP Crisis benefits, the utilities are able to avoid the process of disconnecting and reconnecting service to the participating household. In helping to avoid that disconnection, the LIHEAP Crisis program is saving the utilities certain expenses. By providing for a sharing of those avoided expenses, the LIHEAP Crisis program seeks only to recapture part of that forgone expense. So long as the sharing does not exceed what the utilities *would have spent* on the disconnect/reconnect process, the utilities are no worse off because of the sharing. Indeed, considering that the amount of the utilities' sharing would then be returned as an additional low-income grant through the leveraged federal LIHEAP funds, the utilities would see an immediate and substantial benefit.

C. WAIVED RECONNECT FEES.

A third source of leveraged LIHEAP funds involves waived utility reconnect fees. It is axiomatic that frequently a utility is forced to disconnect a household's utility service in response to nonpayment. It is equally axiomatic, however, that households do not generally remain permanently disconnected. Indeed, North Carolina Natural Gas reports that households who use gas for

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heating and other uses remain off the system for only 3 - 72 hours, a time consistent with research undertaken by NCLC in other states.[\200\] Accordingly, a typical utility spends from $50 to $100 on the two-step collection process of (1) disconnecting and (2) reconnecting the customer.

The utility could seek to collect the cost of that disconnection and reconnection process from the low-income household. That effort, however, is a risky proposition at best. Since the low-income household has a limited corpus from which to draw to make utility payments in the first place, if the utility succeeds in collecting the cost of disconnection and reconnection through a cost-based fee, all the utility has really done is to divert the household's limited resources from making current monthly payments to making payments toward the reconnect fee.

If instead, the reconnect fee could be waived for LIHEAP households, that waived fee could be used as a private resource provided under the leveraging provisions of the 1990 LIHEAP reauthorization statute. If used as a matching grant for North Carolina's Emergency Assistance program, the grant would be returned to the utility with a match of one-for-one. Under these circumstances, the utility would experience no net loss and, indeed, would receive not only the benefits of the leveraged federal revenue, but the benefits of the avoided credit and collection expenses as well.

[\200\] Duke Power, North Carolina Power and Carolina Power and Light all reported that they did not have data on how long customers remain off the system when disconnected.

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The waiver of reconnect fees would generate substantial sums of funds in North Carolina. For the four utilities providing data, more than three-quarters million dollars would be generated in privately leveraged funds:

TABLE CCC
1990 RECONNECT FEES: SELECT COMPANIES

COMPANY	RECONNECT FEES
DUKE POWER	$146,154
NORTH CAROLINA POWER	$149,460
CAROLINA POWER AND LIGHT	$447,202
NORTH CAROLINA NATURAL GAS	$83,385
TOTAL:	$826,201

D. WAIVED LATE FEES.

A similar analysis can be applied to utility late charges. Late charges can rarely be cost-justified.\201\ Instead, the utility late charge is justified as a means to create an incentive for households to pay on time. While this rationale may be reasonable for households who can pay but don't, it makes little sense to react to nonpayment by households who cannot afford to pay by *increasing* their bills. As found by numerous utilities, late fees are *not* effective in accelerating payments by low-income households.\202\

\201\ While this issue is subject to litigation, most utilities do not even seek to justify the level of their late charges on the basis of cost-justification today. *See generally*, National Consumer Law Center, ***The Cost-Effectiveness of Utility Credit and Collection Practices*** (July 1990).

\202\ National Consumer Law Center, ***Understanding Why Customers Don't Pay: The Need for Flexible Utility Collection Practices*** (November 1990).

Accordingly, North Carolina's energy vendors[\203\] should waive their late payment charges for the state's low-income households.[\204\] The amount of the waived fee should be used as a leveraged resource to gain additional federal low-income energy benefit dollars. According to recent studies, those households who don't pay because they cannot afford to pay represent roughly 40 percent of a utilities delinquent accounts. Using this assumed figure, the waiver of late fees simply for the four utilities reporting data would generate roughly $2.5 million in privately leveraged funds. The total late fees collected by the four reporting utilities reach nearly $6.0 million:

TABLE DDD
1990 LATE PAYMENT FEES: SELECTED COMPANIES

COMPANY	LATE FEES
DUKE POWER	$2,865,000
NORTH CAROLINA POWER	$285,683
CAROLINA POWER AND LIGHT	$2,693,712
NORTH CAROLINA NATURAL GAS	$112,626
TOTAL:	$5,957,021.00
40 PERCENT CAN'T AFFORD:	$2,382,808

The recommended waiver should take effect in the event that after review, the North Carolina Utilities Commission determines that the state's

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[\203\] In addition, the waived late fee is not a resource that is unique to North Carolina's public utilities. A survey of North Carolina fuel oil vendors undertaken for this project found that the imposition of late payment charges when accounts become delinquent is universal.

[\204\] Low-income shall be defined as meaning any household who can demonstrate that it has, within the previous 12 months, been found eligible for (1) LIHEAP, (2) SSI, (3) WAP, (4) AFDC, (5) Food Stamps, (6) Women, Infants and Children (WIC), or (7) Medicaid.

utility late payment fees do not have a cost-basis. In this regard, a "cost-basis" means that the late payment fee generates revenue equal to the cost of the collection process directed toward the delinquent bills to which the charge is attached.\205\ The Utilities Commission shall hold hearings and make such a determination no later than ten months after the effective date of the legislation.

E. INTEREST ON CUSTOMER DEPOSITS.

Interest on customer utility deposits may be an important new source of revenue for low-income energy assistance. A program of this type would draw on elements of both a fuel fund and the Interest on Lawyers Trust Accounts (IOLTA) program.

IOLTA uses otherwise idle funds to support public interest law projects. Lawyers routinely hold funds in trust for their clients pending future transactions.\206\ If the funds are large or held for a long time, they are deposited in interest-bearing accounts to benefit the client. Before IOLTA, however, smaller amounts of funds, or funds held for a short time, were placed in an aggregated non-interest-bearing commercial bank checking accounts. These accounted benefitted only the banks, which could use the funds interest-free. In 1978, Florida was the first state to adopt an IOLTA program in

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\205\ Since the cost of carrying arrears is included in the working capital expense of a utility, this cost shall not be considered in determining whether the late payment fee is cost-based.

\206\ *See generally*, Randall C. Berg, Jr., ***A Significant New Revenue Source for Legal Services Begins: Interest on Trust Accounts***, National Legal Aid and Defender Association, Washington D.C. (Winter 1981).

which lawyers deposit "nominal" or "short term" trust funds in aggregated interest-bearing accounts which pay interest to a nonprofit corporation for legal public service projects.\207\ By 1991, all states except Indiana have implemented IOLTA programs.

A similar program, implemented for deposits held by North Carolina's public utilities, could be used to provide cash supplements to LIHEAP, Crisis or Emergency Assistance funding. They could also be used to expand the state's publicly-provided weatherization and conservation assistance to income-eligible households.

The devotion of interest on customer deposits to low-income energy programs could generate substantial funds for such programs. Data on five companies which have provided data on utility deposits\208\ in presented below:

TABLE EEE
POTENTIAL EARNINGS FROM INTEREST ON DEPOSIT PROGRAM

	TOTAL DEPOSITS HELD	INTEREST RATE PAID		
		5%	6%	7%
CP&L:	$4,226,000	$211,300	$253,560	$295,820
NCNG:	$1,785,163	$89,258	$107,109	$124,961

\207\State supreme courts, also, often establish commissions to administered IOLTA funds.

\208\This data is for total company deposits. Data disaggregated by customer class was not available.

DUKE POWER:[\209\]	$5,654,528	$282,726	$339,272	$395,817
N.C.POWER[\210\]	$2,182,243	$109,112	$130,934	$152,757
PSC-NC	$1,866,889	$93,344	$112,013	$130,682
TOTALS:		$785,732	$942,891	$1,099,157

As can be seen, interest on the deposits held only by these five utilities can generate anywhere from $800,000 to $1.1 million in additional funds for low-income programs.[\211\] When other investor-owned utilities, in addition to the multitude of municipal utilities and EMCs are considered, the potential of a utility-based IOLTA effort to fund low-income programs can be significant.

II. LEVERAGING CRISIS BENEFITS THROUGH TITLE IV-A.

Over the next few years, federal funding for the LIHEAP program may decrease and oil overcharge funds will certainly be depleted. Therefore, all sources of other money potentially available for energy assistance should be

[\209\] This is a derived figure. The total deposits of $7,518,405 were allocated to North Carolina on the basis of the percentage of North Carolina customers (1,192,690) to total company customers (1,585,831).

[\210\] This is a derived figure. The total deposits of $43,644,864 were allocated to North Carolina on the basis of the percentage of North Carolina customers (90,664) to total company customers (1,747,282).

[\211\] This recognizes that, just as with IOLTA funds, some of the deposits will be substantial enough that the interest will be directed to the customer placing the deposit. Thus, interest will not be quite this substantial.

explored. One possible funding source is the federal share of costs for the Aid to Families with Dependent Children (AFDC) program.

A. EMERGENCY ASSISTANCE.

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 (E.A.)[\212\] 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 both the cuts in appropriations for LIHEAP in recent years, and the diminishing oil overcharge and other funds available to make up for those cuts.

E.A. is an optional program within a welfare program, AFDC,[\213\] under which the federal government provides the states with matching funds (1:1) for short term help to AFDC and other needy families with children unable to meet

[\212\] 42 ***U.S.C.*** §§ 601, 603(a)(5), 606(e) (1983 and 1990 Supp.)

[\213\] Aid to Families with Dependent Children.

emergency expenses. The types of emergencies covered by E.A. are matters of local discretion. Utility emergencies, however, are prominently mentioned in the statute's legislative history.[\214\]

In 1985, there were only five states that used E.A. monies to assist households confronted with utility shut-offs or fuel shortages, or threats of either. As of June, 1990, however, roughly a dozen states have E.A. plans approved by HHS which explicitly state their intent to use E.A. funds to meet the needs caused by energy emergencies.[\215\]

B. ENERGY ASSISTANCE AS A SPECIAL NEED.

In addition, at least three states currently define the need for energy assistance as a Special Need. In Pennsylvania, all AFDC recipients who are LIHEAP-eligible receive energy benefits through AFDC Special Needs instead of through LIHEAP. All AFDC recipients eligible for LIHEAP Crisis Intervention receive benefits through AFDC Emergency Assistance instead of through Crisis Intervention. This enables Pennsylvania to use its LIHEAP allocation for a broader population.[\216\] Michigan also defines heating and

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[\214\]*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.

[\215\]Delaware, Georgia, Maine, Maryland, Massachusetts, Minnesota, Montana, Nevada, Ohio, Oklahoma, Oregon, and West Virginia.

[\216\]Pennsylvania Department of Public Welfare, Office of Income Maintenance, Bureau of Policy. Patricia O'Neil (March 25, 1991). Marty Clark (March 26, 1991).

electric assistance as a Special Need, and most AFDC recipients receive heating assistance through the AFDC program rather than through LIHEAP.[217] As in Pennsylvania, the LIHEAP funds are used for a wider population. In Illinois, a Special Needs allowance is also available for utility costs of AFDC recipients.[218]

North Carolina should define a Special Needs category for energy costs. North Carolina already defines other AFDC Special Needs classifications: tuition costs of children at North Carolina School for the Deaf and other special school costs; costs of child care and transportation for teenaged parents attending school.[219] For every $37.11 that North Carolina provides[220] toward a Special Needs allocation, the federal government contributes $62.89. In other words, every state dollar leverages a $1.69 federal match. Besides attracting federal matching dollars, earlier intervention in energy costs through Special Needs might prevent some of the perilous energy situations that lead people to apply for Emergency Assistance.

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[217] Tom Dominguez, Michigan Department of Social Services, Division of Energy Services (March 21, 1981).

[218] Wayne Curtis, Illinois Department of Commerce and Community Affairs (March 25, 1991). Bill Opper, Illinois Department of Public Aid (March 25, 1991).

[219] ***Characteristics of State Plans for Aid to Families with Dependent Children under Title IV-A of the Social Security Act***, Office of Family Assistance, Family Support Administration, U.S. Department of Health and Human Services (1989).

[220] It is important to remember that it need not be public money.

The federal financial share differs for regular AFDC payments and for Emergency Assistance payments. The federal government pays the states for 50% of all Emergency Assistance payments, while the federal share of regular AFDC payments (including Special Needs) varies from 50% to 65%, depending on the state. For North Carolina, the federal matching rate for Fiscal Year 1991 is 62.89%.[\221\] This means that state funds used for AFDC Special Needs will receive a 62.89% match of federal funds.

C. SOURCES OF STATE FUNDS FOR THE AFDC MATCH.

AFDC monies need not involve state appropriations and may be generated in much the same way as additional LIHEAP funds are. Consider the following:

1. **UNCLAIMED UTILITY DEPOSITS:** Unclaimed utility deposits are one source for funds used to match under Title IV-A. In this fashion, rather than letting this ratepayer-supplied money escheat to the general fund, by using it to provide the match for federal Emergency Assistance, not only will the funds be returned to benefit the class likely to have paid them in the first place, but those funds can be doubled through the federal match.

[\221\] AFDC Action Transmittal No. FSA-AT-89-39, Family Support Administration, U.S. Department of Health and Human Services (August 24, 1989).

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. As discussed above, 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. Households who are recipients of public assistance, households who are minorities, and households who are female-headed are disproportionately represented in the "mover" population. It is safe to assume, also, that these same households are disproportionately represented in the population from whom deposits are demanded.

In sum, as federal LIHEAP assistance and oil overcharge funds dwindle, states may help pick up the shortfall between available assistance and need by using unclaimed deposits as a state contribution to obtain the federal match for an energy component to the Emergency Assistance program directed toward households with children. To do so would cost the utilities nothing: without such a use, these unclaimed funds would simply escheat to the state. Moreover, because of the federal match, the available assistance obtained through the capture of these unclaimed funds would be doubled or more.

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2.**SHARED AVOIDED CREDIT AND COLLECTION EXPENSES:** One source of funds for the Emergency Assistance program is obtained by looking directly at utility expenses in the same fashion as with LIHEAP. If a utility's disconnection process can be short-circuited through an E.A. program grant, and the utility bills paid without the need for extensive collection activity, dollar savings should arise from the foregone need to pursue these credit and collection measures. In addition, if the household is in arrears, the receipt of Emergency Assistance will decrease revenue lag days. For each E.A. grant provided for a utility emergency for a North Carolina utility's household, that utility should share, on a 50/50 basis, the avoided collection costs with the E.A. program. In turn, those shared benefits can be returned to the utility through additional E.A. utility grants, along with the 1-for-1 federal matching grant.

The rational for sharing these expenses is even stronger for E.A. than for LIHEAP. The grant of E.A. benefits directly and unequivocally prevents the need for the utility to engage in the expensive collection process. Emergency Assistance in North Carolina will not generally be provided for utility shutoffs unless the household has received a final utility shutoff notice. To prevent that shutoff is the whole purpose of an E.A. grant. Through the Emergency Assistance benefits, therefore, North Carolina's utilities are able to avoid the process of disconnecting and reconnecting service to the participating household.

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To thus provide for a 50/50 sharing is "fair" for two reasons. First, in helping to avoid that disconnection, the E.A. program is saving the utility certain expenses. By providing for a sharing of those avoided expenses, the E.A. program seeks simply to recapture part of the forgone expense. So long as the sharing does not exceed what the utility *would have spent* on the disconnect/reconnect process in the first place, the utility is no worse off because of the sharing. Second, considering that the amount of the utility's sharing would then be returned to the utility as an additional Emergency Assistance grant, along with a 1-for-1 federal match, the utility would see an immediate and substantial benefit by engaging in the savings.

3.**FUEL FUNDS:** Fuel funds can be another and potentially more secure source of state matching funds for an energy-related component of the AFDC program. This already is being done in Georgia. Since 1983, individual utilities and energy vendors have contributed to the state part or all of the funds they collected for low-income energy needs.\222\ Georgia then leverages these funds by using them as the state match for the AFDC Emergency Assistance program. This is a resourceful mechanism for getting the most low-income energy cash assistance out of fuel fund contributions.

\222\ Alicia Ayotte, Georgia Human Resources Department, Family and Children Services Division (March 27, 1991).

North Carolina should encourage utilities and energy vendors to make their fuel fund collections available to the state for use as the state match toward the AFDC Emergency Assistance program. This will allow fuel fund dollars to leverage an equal amount of federal dollars.

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SUMMARY OF RECOMMENDATIONS

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Based upon the above analysis, the following is a summary of the recommendations included in this report:

1. **SALES TAX EXEMPTION:** North Carolina should exempt its LIHEAP recipients from the payment of sales tax on their home energy purchases. Imposition of a sales tax on these purchases serves only to exacerbate the payment troubles of North Carolina's lowest income households. On a $1000 annual home energy burden, North Carolina's sales tax effectively places the state government in the position of taking back one-third of the already minuscule $100 LIHEAP benefit provided by the federal government. (See pages 34 - 37).

2. **PRIVATE WEATHERIZATION PROGRAM FUNDING:** The North Carolina legislature should enact legislation, based on Iowa's Senate File 2403 (1990) providing for the participation of public utilities in the offer of energy efficiency strategies. According to the Iowa legislation, rate-regulated gas and electric utilities are to devote a designated percentage of their gross income from intrastate public utility operations to the financing of an energy efficiency plan. Electric utilities are required to devote two percent of their gross income while natural gas utilities are required to devote one and one-half percent. Efficiency measures financed through this provision must be found to be cost-effective.

Because of the tremendous populations served by vendors of deliverable fuels, by EMCs and by municipal utilities in North Carolina, and because of the demonstrated low-income need in the state's rural areas, these remaining unregulated vendors should be responsible for a similar commitment to energy efficiency. These vendors may fulfill their commitment by making contributions to local agencies administering the state's WAP program equal to the designated percentage of gross revenue. (See, pages 67 - 83).

3.**WAP HEATING REPLACEMENT:** Federal WAP regulations allow replacement of heating systems, but this has not yet been done in North Carolina. With North Carolina's poor quality housing, the maximum WAP grant of $1648 is not enough money to do both the "envelope" weatherization work and the heating system replacement. This is an important area where the weatherization funds generated above should be used to augment WAP funds rather to develop and implement new programs. (See, pages 83 - 84).

4.**WINTER PROTECTIONS FOR UNREGULATED ENERGY VENDORS:** North Carolina should establish winter protection rules for users of unregulated utilities. Whatever the source of home heating energy, low-income North Carolina residents should have the right to access to winter heating fuels with arrears to be paid during the nonheating months. During the six winter heating months of November through

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April, the legislature should declare that vendors shall not engage in the denial or disconnection of home heating services. (See, pages 57 - 62).

5. **HOUSING CONSERVATION AND REHABILITATION INCENTIVES:** The Energy Conservation and Housing Rehabilitation Incentive Program, operated by the North Carolina Housing Trust Fund, is meeting a major need in North Carolina for coordination of energy improvements with substantial rehabilitation of substandard housing. Program funding should be continued. This funding should include both direct appropriations and a fair share of state bonds issued for low-income housing purposes. (See, pages 86 - 88).

6. **REDISTRIBUTION OF LIHEAP BENEFITS:** The State of North Carolina should pursue a tiered LIHEAP Lifeline Rate on a demonstration basis as a means of distributing LIHEAP benefits for all fuel vendors. A Tiered LiHEAP Lifeline Rate will make heating bills more affordable for more people. It will reduce by 1/3 the percentage of households paying 20 percent or more of their annual income toward home heating bills. The demonstration project should involve at least three types of vendors, including a regulated utility, an unregulated utility and the vendor of a deliverable bulk fuel (such as fuel oil or kerosene). The demonstration project should be for no shorter than a two year period with a decision by the state General Assembly to continue, expand,

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modify or abandon the project to be made effective no later than year three. The General Assembly should seek an independent evaluation of the pilot to be provided to the General Assembly with funding provided from unallocated oil overcharge dollars. (See, 95 - 118).

7. **ACTUAL COST BASED CRISIS BENEFIT DISTRIBUTION:** As an alternative to the present Crisis administrative process, the legislature should direct that North Carolina LIHEAP Crisis grants be tied to percentage of income concepts. Under this program, a household could be deemed to be in a crisis situation when it receives a monthly utility bill that exceeds a pre-determined portion of its income. In that situation, the state should provide a Crisis benefit that will buy all or some portion of the particular month's utility bill down toward the designated portion of income. This allocation will work to *prevent* disconnections by recognizing that households are in crisis before imminent disconnection. It will eliminate any incentive toward non-payment by changing the triggering mechanism for the receipt of benefits. (See, pages 133 - 146).

8. **COST-BASED ENERGY ASSURANCE PROGRAM:** The North Carolina legislature should direct the implementation of a pilot Energy Assurance Program for the state of North Carolina. This directive should provide that the North Carolina Utilities Commission shall implement an EAP demonstration project starting no later than October 1, 1991. This

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demonstration project shall be in operation for a time no shorter than October 1, 1991 through September 30, 1993 and shall include the following components:

1.A determination of household eligibility set at an appropriate level of poverty. The maximum permissible level for eligibility is to be set not greater than 150 percent of poverty and not lower than 110 percent of poverty.

2.A process by which participants make payments toward current bills based upon a percentage of their income, not to exceed 7 percent for heating bills and 3 percent for non-heating bills;

3.A process by which households may earn credits to retire all or part of their pre-program arrears over no longer than a three year period. Notwithstanding the percentage of income payments set forth in Section 1, paragraph b, the Commission may require households to make payments toward their pre-program arrears, not to exceed $3 per month, above and beyond their percentage of income payments.

4.A conservation education program directed specifically toward EAP customers.

(See pages 148 - 174).

9.**"SPECIAL NEEDS" DESIGNATION FOR ENERGY COSTS WITHIN AFDC:** Within the state's AFDC program, North Carolina should define a Special Needs category for energy costs. North Carolina already

defines other AFDC Special Needs classifications: tuition costs of children at North Carolina School for the Deaf and other special school costs; costs of child care and transportation for teenaged parents attending school. For every $37.11 that North Carolina appropriates toward a Special Needs allocation, the federal government contributes $62.89. In other words, every state dollar leverages a $1.69 federal match. (See, pages 192 - 194).

10. **UNCLAIMED UTILITY DEPOSITS AND RATE REFUNDS:** The state legislature should direct that unclaimed utility deposits and unclaimed utility rate refunds that would otherwise escheat to the general fund will be earmarked for use as a state match for an energy related program under the AFDC program or as a supplement to LIHEAP. If used as an AFDC match, these funds should be provided as a "special needs" immediately upon the definition of a Special Needs category for energy costs. (See, pages 181 - 183, and pages 194 - 195).

11. **PRIVATE LEVERAGING OF LIHEAP AND AFDC BENEFITS:** The state legislature should direct that the North Carolina Utilities Commission, in cooperation with the North Carolina LIHEAP agency, shall initiate an investigation into the potential sources of leveraged private dollars for the LIHEAP program. Included among the sources that the Utilities Commission shall consider is the waiver of reconnect fees to income eligible households. (See, pages 183 - 188).

12. **<u>WAIVED LATE FEES FOR LIHEAP CUSTOMERS</u>:** North Carolina's energy vendors (including regulated and unregulated utilities as well as vendors of bulk fuels) should waive their late payment charges for the state's low-income households. The amount of the waived fee should be used as a leveraged resource to gain additional federal low-income energy benefit dollars. The recommended waiver should take effect in the event that after review, the North Carolina Utilities Commission determines that the state's utility late payment fees do not have a cost-basis. In this regard, a "cost-basis" means that the late payment fee generates revenue equal to the cost of the collection process directed toward delinquent bills. The Utilities Commission shall hold hearings and make such a determination no later than ten months after the effective date of the legislation. (See, pages 186 - 188).

13. **<u>INTEREST ON CUSTOMER DEPOSITS</u>:** North Carolina should establish an IOLTA-type fund for low-income energy needs, whereby interest on customer utility deposits is used as a new source of revenue for low-income energy assistance. A program of this type would draw on elements of both a fuel fund and the Interest on Lawyers Trust Accounts (IOLTA) program. The funds generated could be used to provide cash supplements to LIHEAP, Crisis or Emergency Assistance funding. They could also be used to expand the state's publicly-provided

weatherization and conservation assistance to income-eligible households. (See, pages 188 - 190).

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APPENDIX A:

WISCONSIN GAS WEATHERIZATION ARREARS SAVINGS

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APPENDIX B:

NORTH CAROLINA'S USE OF OIL OVERCHARGE FUNDS

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Oil overcharge funding for low-income energy programs resulted from suits filed against oil companies for overcharges in violation of price controls on crude oil and petroleum products from 1973 to 1981. Through settlement of the *Exxon* case, the states and U.S. territories in 1986 received $2.1 billion, to be returned to consumers via five federal energy programs, including WAP and LIHEAP.[223] Another $50 million was distributed to the states in 1986 under the *Diamond Shamrock* agreement.

USE OF *EXXON* FUNDS[224]

	NORTH CAROLINA	ALL STATES
FUNDS RECEIVED	$47.03	$2,064.68
FUNDS ALLOCATED	$38.44	$2,355.19
% RECEIVED FUNDS ALLOCATED	82%	113%
LIHEAP	$9.64	$555.63
WAP	$10.6	$597.33
LIHEAP + WAP	$20.24	$1152.96
LIHEAP %	25%	24%
WAP %	28%	26%
LIHEAP + WAP %	53%	49%
SECP/EES	$10.7	$136.15
ICP	$7.5	$327.76

As of July 1990, all but six states had allocated 100% or (because of accrued interest) more than 100% of their *Exxon* funds. North Carolina had allocated $38.44 million or 82% of its *Exxon* funds, compared to 113% allocation for the states as a

[223] Low Income Home Energy Assistance Program (LIHEAP); Low Income Weatherization Assistance Program (WAP); State Energy Conservation Program (SECP); Energy Extension Service (EEP); Institutional Conservation Program (ICP).

[224] ***Status Report #7: State Uses of Exxon and Stripper Well Oil Overcharge Funds***, National Consumer Law Center (July 1990). (Dollar amounts in millions).

whole. As of July 1990, North Carolina had allocate 53% of its *Exxon* funds for the LIHEAP and WAP programs compared to 49% for these programs countrywide.

Settlement of the *Stripper Well* case gave the states an additional $1.36 billion for energy programs from 1986 through July 1990. The states will receive roughly another $500 million to $600 million of *Stripper Well* funds over the next five to ten years. The funds may be used through the five federal energy programs or through a broad range of other energy-related programs. A supplemental agreement requires that states spend an "equitable share" of *Stripper Well* funds on low-income programs.

USE OF *STRIPPER WELL* FUNDS[\225\]

	NORTH CAROLINA	ALL STATES
FUNDS RECEIVED	$30.58	$1,340.95
FUNDS ALLOCATED	26.97	1,268.33
% RECEIVED FUNDS ALLOCATED	88%	95%
LIHEAP %	0	11%
WAP %	0	9%
OTHER LOW-INCOME USES	20.6	152.8
TOTAL LOW-INCOME	20.6	399.36
TOTAL LOW-INCOME %	76%	31%

North Carolina has allocated $26.97 or 88% of its *Stripper Well* funds compared to 95% allocation countrywide. $20.5 million were allocated to the North Carolina Housing Trust Fund, created in 1987 to increase the supply of "decent, affordable, and energy-efficient housing for very low, low and moderate-income residents." The *Stripper Well* funds allocated to the Housing Trust Fund are used for energy-related structural repairs. North Carolina has allocated 76% of its *Stripper Well* funds for low-income purposes compared to 31% countrywide.

[\225\] ***Status Report #7: State Uses of Exxon and Stripper Well Oil Overcharge Funds***, National Consumer Law Center (July 1990). (Dollar amounts in millions).

APPENDIX C:
NORTH CAROLINA LIHEAP RECIPIENT CHARACTERISTICS

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BENEFIT LEVELS	
Total spending on household grants	$16,945,699
Average benefit per household	$105.16
Minimum benefit per household	$5.00
Maximum benefit per household	$364.00
RECIPIENTS	
Number of assisted households	160,351
Total number of recipients	387,498
Average household size	2.42
HOUSEHOLDS CONTAINING A TARGET GROUP MEMBER	
Over age 60	41.4%
Handicapped	20.2%
Migrant farmworker	0.03%
Under age 4	25.9%
Unduplicated total	77.2%
OTHER ASSISTANCE RECEIVED	
AFDC	24.9%
SSI	34.4%
Food stamps	65.9%
Veterans	3.3%
Unduplicated total	81.1%
GENDER OF HOUSEHOLD HEAD	
Female	78.5%
Male	21.5%
RACIAL/ETHNIC DISTRIBUTION OF HOUSEHOLD HEAD	
White	40.7%
Black	58.2%
Native American	0.7%
Other/Unknown	0.4%

APPENDIX D:

INNOVATIVE LOW-INCOME ENERGY PROGRAMS IN OTHER STATES

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The Southern states present several special problems for low-income energy policy. First, some housing is in such poor repair that weatherization improvements without more extensive renovation make little sense. Frequently more heat is lost through rotten floors than through uninsulated attics. Energy policy should encourage combining weatherization and housing rehabilitation. North Carolina is taking this approach in its Housing Trust Fund Incentive Program.

A second regional problem is cooling. A mid-1980s survey of Weatherization/LIHEAP Program Directors in the South done by the Alliance To Save Energy identified low-income cooling needs as a major issue. As of 1990, only 11 states plus the District of Columbia provided cooling assistance through LIHEAP.\226\ The Southern states providing cooling assistance included Florida, Louisiana, Mississippi, Texas, and Virginia. Other low-income energy issues are the special needs of the elderly and the difficulty convincing landlords to weatherize multifamily rental housing.

Noteworthy or innovative programs in other states are described below for consideration in North Carolina.

\226\ ***Results of Summer Telephone Survey of Fiscal Year 1990 Low Income Home Energy Assistance Program Estimates***, Office of Energy Assistance, U.S. Department of Health and Human Services (January, 1991).

I. UTILITY PROGRAMS

Utility low-income energy programs include fuel funds, energy education, weatherization/conservation, elderly assistance and discounts.

Fuel funds consist of voluntary contributions from customers, employees, and, in some cases, the utility company. The fuel funds are used to help low-income households pay their energy bills. The funds are usually disbursed by nonprofit organizations, such as the Salvation Army or United Way, which screen applicants and identify needy households.

The Heating Energy Assistance Team (H.E.A.T.) fuel fund project in Georgia is of special interest because the money is given to the state, which operates H.E.A.T. as an emergency program under AFDC and draws a 1:1 match of federal funding. Since the money is distributed through county Departments of Family and Children's Services, no fuel fund cash is used for administrative costs. Contributions come from customers of Atlanta Gas Light Co. and Georgia Power Co. and from the Salvation Army.

Weatherization/conservation programs include rebates, zero- or low-interest loans, volunteer labor, and contribution of materials. Project MAX of the Memphis Light, Gas and Water Division, is of particular interest because it combines weatherization with substantial rehabilitation. Projects range from complete renovation involving plumbing, painting, and roofing repairs to replacement of inefficient water heaters. Volunteer labor is provided by company employees, local

contractors, church groups, youth workers, ex-convicts and people with drunken driving convictions performing community service. Materials are either donated or purchased. Over 700 houses have been weatherized and repaired by Project Max since 1984.

A Georgia weatherization program is worth noting for cooperation between the state and participating electric membership corporations. Under the Georgia Energy Fund, a revolving loan fund operated by the Georgia Residential Finance Authority, utility customers receive 5% interest loans of up to $3,000, repayable on their utility bill. The electric membership corporations conduct the energy surveys and recommend weatherization measures.

Elderly initiatives include targeting elderly for first service during emergencies, change in billing date to come after receipt of SSI or Social Security checks, education on avoidance of hyperthermia or hypothermia, and third party notification for disconnections. "Gatekeeper" programs train utility personnel who come in contact with elderly to detect possible signs of trouble and to notify appropriate social service agencies. Some utilities use retired elderly volunteers to weatherize houses of other elderly. Other programs employ social workers to help elderly and low-income access community resources.

Discounts and customer charge waivers are used to help low-income customers when permitted by the state public utility commission. For example, the Alabama Public Service Commission allows waiver of the monthly customer charge

for households receiving SSI or AFDC benefits. As of December 1990, Alabama Power waived its $7 monthly service charge for 23,831 customers ($2.0 million annual benefit) and Alabama Gas waived its $7.78 monthly service charge for 12,537 customers ($1.1 million annual benefit). Similarly, in November, 1990, Mississippi Power Company stipulated to a waived customer charge for its lowest income customers.

STATE PROGRAMS

Multifamily weatherization is an important policy issue because many low-income people are renters and benefit from energy improvements in rental housing. Owners of multifamily housing, however, are reluctant to pay for energy changes that they don't see returning direct or immediate financial benefits. Two states offer interesting incentive programs for energy improvements by landlords.

The Oregon Department of Energy (ODOE) is using a strategy of strong financial incentives plus aggressive program marketing to encourage weatherization of multifamily buildings. Oregon state and utility programs make the bottom line of weatherization attractive for landlords. The ODOE offers a Business Energy Tax Credit of 35% for weatherization expenses. The tax credit can be applied to state income tax over five years (10% in each of the first two years and 5% in years three, four, and five) or it can be sold to participating utilities for a 29% up-front cash payment. In addition, utilities offer a 25% cash rebate for recommended measures up to $350 per unit for buildings heated with gas or electricity. For rentals heated with oil, a 50% cash rebate is offered if renters are low- or moderate-income. The ODOE

Small Scale Energy Loan Program of fixed-rate, low-interest loans over 5 to 20 years can also be applied in some cases.

Even with financial incentives, owners of multifamily buildings often hesitate to make weatherization improvements, especially where tenants pay their own heating costs. Recognizing the reluctance of property owners to invest in weatherization, Oregon uses *Stripper Well* funds to support a marketing and recruitment program run by the nonprofit agency, Portland Energy Conservation, Inc. In Lane County, the Eugene Water and Electric Board also operates a rental weatherization program that employs similar techniques for motivating landlords.

Both organizations stress the importance of outreach and one-on-one assistance to property owners all through the weatherization process. Agency staff generate mailing lists for promotional information from tax or building department records; they offer free energy audits and encourage weatherization as a means of staying competitive with new developments; they explain the tax credit and utility rebate, fill out the forms, answer technical questions, identify competent contractors, schedule and evaluate bids, and stay involved until completion.

New York State's Energy Investment Loan Program also encourages multifamily weatherization. This program lowers the interest rate on bank loans for energy improvements to 4% for loans up to five years and 6.5% for loans up to 10 years. The state will customize the loans to assist landlords with repayment during the first few years until energy savings begin to accrue. Since most landlords in the

program pay tenant heating costs, the landlords benefit directly from energy savings. The New York State Legislature is also considering a new program which would structure energy improvement loans 50% at market rate from a bank and 50% at zero interest from a state revolving fund.

Consortia on Energy and Aging currently are active in a number of states (Arkansas, Arizona, Georgia, Louisiana, Mississippi, Oklahoma, New Jersey, New York, Tennessee, Wisconsin). These coalitions of government, business, consumer, and social service organizations work to improve energy services for the elderly in their state. The University of Oklahoma has recently been awarded a U. S. Administration on Aging grant to establish ten additional state energy and aging consortia in the south and east central regions. This could be an opportunity for North Carolina to develop an additional resource for managing elderly energy problems.

APPENDIX E:

IN-STATE LOW-INCOME ENERGY SUGGESTIONS

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QUESTIONNAIRE RESPONSES

In March 1991, the following questionnaire was sent to a variety of people and agencies in North Carolina familiar with energy issues affecting the poor. The purpose of the questionnaire was to identify energy problems and potential solutions as seen by knowledgeable people within North Carolina. Surveys were sent to all 100 county social service departments (which administer LIHEAP) and to a cross section of 150 community development corporations, state officials, city and town planners, Area Agencies on Aging, nonprofit organizations, housing authorities, and energy suppliers. This was not intended to be a statistically significant survey but rather a means of eliciting views from persons involved in energy programs and policies throughout the state.

Responses were received from 40 of the 100 county social service agencies. This impressive 40% response rate\227\ indicates the importance that agency staff attach to energy problems of the poor. Responses were received from 42 of the 150 other people and organizations surveyed (28% response rate). Responses from the county social service departments and from the cross-sectional group were considered separately. Within each group, answers to the first two questions were combined because of the strong overlap observed. The most frequently mentioned responses are listed first.

Summary of Responses

The major problems identified by both groups of respondents were the high cost of energy in relation to income, substandard housing with poor insulation and obsolete heating systems, a deficiency in energy conservation education, inflexible payment plans of energy suppliers, and fire and health hazards of inappropriate modes of heat. High utility deposits and connection fees were cited as particular impediments. Concerns about administration of LIHEAP included receipt of the benefit check late in the heating season and use of the money for purposes other than energy.

Recommendations for solving these problems stressed expansion of weatherization and housing rehabilitation programs, more funding for energy assistance, more energy conservation education, and more flexible payment plans for the poor. It was suggested that LIHEAP payments go directly to

\227\Mail surveys typically have very low response rates, often in the range of 10-15%. In this survey, no follow-up mailings or phone calls were made to non-respondents.

energy vendors and that the application process start earlier. An innovative proposal was made for designation of interest on utility deposits to a special fund for energy assistance.

County Social Service Departments

What are the most pressing energy problems of the poor in North Carolina?

What other energy problems do the poor face?

Costs

oHigh cost of energy in relation to income.[228]
oHigh utility deposits.
oHigh connection fees.
oHigh cost of electricity.
oSales tax on fuel.
oHigh cost of housing.

Housing Condition

oSubstandard housing.[229]
oPoor insulation.[230]
oInadequate and poorly maintained heating equipment.
oDifficulty heating mobile homes.
oDifficulty of poor in obtaining loans for home repairs.

Administration of Government Programs

oFebruary receipt of LIHEAP checks is too late in the heating season.
oLIHEAP checks not always spent on energy.
oLIHEAP Crisis Intervention funds depleted early.
oSame people come in and use the Crisis Intervention funds.
oFrustration of "red tape."
oBenefit checks don't cover the cost of one delivery.

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[228]Mentioned by more than half of respondents.

[229]Ibid.

[230]Ibid.

Energy Suppliers

oInflexibility in negotiating extensions, partial payments and budget plans.
oPoor credit prevents low-income from buying in bulk.
oMinimum fuel amount required for delivery.
oPayment in full required at delivery.

Other Energy Problems

oLack of conservation education.
oFire and health hazards caused by use of inappropriate modes of heat such as ovens or improper use of kerosene heaters and wood stoves.
oPaucity of public transportation.
oHealth problems of young, elderly, and frail poor.
oPhysical difficulty in obtaining wood or kerosene, especially for elderly.
oProhibition against supplementary heating source in public housing.

What three programs would you recommend to solve these problems?

oMore weatherization assistance.
oMore money for LIHEAP and Crisis Intervention.
oMore energy conservation education. Encourage inclusion in school curriculum.
oLIHEAP benefits earlier in the heating season.
oLIHEAP checks to vendor or two-party checks to client and vendor.
oLow-income housing.
oMake LIHEAP eligibility automatic for people receiving AFDC, SSI, or Food Stamp benefits.
oMoney management education.
oImproved public transit.
oPublic regulation of electric membership corporations to encourage better treatment of low-income.
oGovernment negotiation with energy suppliers to reduce energy costs.

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What can be done by the state? by local government? by nonprofit agencies? by utilities?

State

oMake LIHEAP checks payable to energy vendor.
oAppropriate funds to supplement the federal LIHEAP funds.
oSend the LIHEAP checks earlier. Consider summer applications so the checks can be received before the heating season.
oNegotiate with energy suppliers for bulk purchases.
oRequire landlords to provide adequate and energy-efficient heating systems.
oRegulate electric membership corporations.

Local Government

oInclude energy conservation in school curriculum.
oEncourage energy vendors in Crisis Intervention Program to bid on contracts.

Utilities

oIncrease flexibility of payment plans for the poor.
oLower rates for elderly, disabled, and low-income.
oLimit arrears accumulation to two months.
oProvide free weatherization.
oEstablish a cutoff moratorium for elderly, poor, and disabled.

Nonprofit Agencies

oEnergy education.
oWeatherization.
oAdvocacy.

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Cross-Sectional Group

What are the most pressing energy problems of the poor in North Carolina?

What other energy problems do the poor face?

Costs
oHigh cost of energy in relation to income.[231]
oNo assistance for cooling, a special problem for elderly.
oHigh utility deposits.
oHigh transportation costs.

Housing Condition

oPoor insulation.[232]
oSubstandard housing.
oObsolete and inefficient heating systems.
oOut-of-date appliances.
oLack of central heating and cooling.
oLack of money to convert to a different heating source.

Administration of Government Programs

oElderly don't want "welfare."
oFear of approaching government agencies for help.
oLIHEAP check too late in the heating season.
oLIHEAP check not used for energy.
o"Red tape."

Energy Suppliers

oNeed for consumer education.
oRefusal to deliver less than $100 worth of fuel.
oPrice gouging.
oDifferent cut-off regulations for gas and electric utilities.

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[231] Ibid.

[232] Ibid.

What three programs would you recommend to solve these problems?

oMore weatherization assistance.[\233\]
oAffordable housing development and rehabilitation.
oMore LIHEAP funding.
oLIHEAP benefits to vendors, not to clients.
oConsumer education.
oEnergy conservation education.
oDevelop alternative fuel sources - solar.
oLower utility costs for poverty households.
oFree firewood.
oFree smoke detectors.
oLegal aid for payment problems.
oRent vouchers or subsidies.
oFuel vouchers.
o$1 service charge on utility bills for a special fund to aid the poor.
oInverted rates.
oBudget payment plans.

What can be done by the state? by local government? by nonprofit agencies? by utilities?

<u>State</u>

oStronger housing codes relating to energy efficiency.
oStricter energy regulations for new low-income housing; no electric heat.
oGeneral Assembly must establish housing preservation and energy conservation as priorities.
oSupplement federal LIHEAP funds.
oSupplement federal weatherization funding beyond the allowable limit.
oInteragency planning.
oForm a partnership between state Energy Division and utilities.
oHousing subsidies for low-income.
oLegal assistance funding.
oFree firewood from state forests.

[\233\] Ibid.

Local Government

- oEnforce stricter housing and building codes.
- oCoordinate distribution of assistance.
- oUse local funds to expand LIHEAP and weatherization.
- oProvide transportation to application sites.
- oForm partnerships with nonprofits and utilities.
- oRequire federally-assisted housing to be energy efficient.
- oSupport low-income housing.
- oMore outreach.

Utilities

- oReduce rates for poor and elderly.
- oEnergy conservation education.
- oZero-interest or low-interest weatherization loans.
- oWaive deposits.
- oConduct energy audits and suggest conservation solutions.
- oEqual payment plans.
- oUse interest on utility deposits to supplement LIHEAP.
- oNon-termination policy for poor and elderly.
- oInnovative rate structures.
- oExpand fan program for elderly.
- oEncourage charitable contributions for energy assistance.

Nonprofit Agencies

- oConsumer education.
- oWeatherization.
- oCoordinate volunteer housing rehabilitation programs.
- oSeek private sector resources.
- oDevelop ways for elderly to shut off part of their homes or to use the cash assets built up in their homes.