Low-Income Energy Services in a Competitive Environment

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ABSTRACT

This paper explores the issue of low-income energy services in a changing energy and social service environment. The authors identify differences across low-income households in receiving services and dealing with high energy burdens. Low-income households with children, regardless of the age of the children, appear to be struggling the most to meet their energy needs. Senior low-income households, on the other hand, appear to struggle the least. Changes in the energy industry and welfare may further exacerbate these differences or create new groups of high need. These findings point to the need for additional research on low-income households to better design and target programs, particularly in this time of change. They also point to the need for low-income safeguards, consumer education, and the ongoing need for low-income energy services.

Introduction

The restructuring of the gas and electric utility industries—coupled with dramatic changes in the welfare system—mandate a comprehensive review of the energy services provided to low-income households. Taken together, welfare reform and utility deregulation may well jeopardize some low-income households' access to energy services. "Energy services" is a term that is frequently used but rarely defined. For the purposes of this discussion, energy services are comprised of the delivery of the commodity (kWhs of electricity, therms of natural gas, etc.) as well as related services such as payment plans, energy efficiency and even maintenance contracts. Low-income energy services are the subset of these services which are designed and targeted to low-income households. In the past they have included different rate structures, payment plans, weatherization, energy assistance and education. The purpose of these services is to make energy more affordable for low-income households.

To ensure that low-income households have adequate access to affordable energy in the future, we need to understand the current state of affairs and the potential effects of the myriad changes afoot. Beyond facts and figures about current program costs, we must know which low-income households have the most difficulty meeting their energy needs. Low-income households are not homogenous. An 88 year-old widow living in her own home and dependent on Social Security has dramatically different needs and concerns than a working poor family living in a run-down apartment on the other side of town—even though both households might qualify for assistance in meeting their energy bills. At present we know less about low-income household energy usage characteristics than about average households, and even less about the differences among the low-income sub-populations.

Using secondary sources and data from a telephone survey in La Crosse County, Wisconsin, this paper explores low-income energy issues and variations in the ways that low-income households cope with their energy costs. These variations point to some key differences among low-income household types—differences that should be explicitly acknowledged and further investigated in the transition to restructured energy markets.

Energy Burdens

Low-income households pay a greater percentage of their income on household energy bills than do non-low-income households; analysts describe this phenomenon in terms of *energy burden*—the percentage of household income spent on home energy costs. Wisconsin's low-income households have an energy burden three to four times that of a median-income household. Table 1 below shows estimates of energy burdens for different Wisconsin household types.

Table 1. Average Energy Burdens (1992) for Various Wisconsin Household Types (Saunders & Spade 1995)

Household Characteristics	Energy Burden
Median income family of three	4%
AFDC family of three	18
Single elderly or disabled on Supplemental Security Income (SSI)	18
Single social security recipients	13

Part of the explanation for low-income households' high energy burden is the relative inelasticity of energy consumption. There is a minimum energy need that all households experience, regardless of income. While low-income households can cut back on many expenditures to stretch their dollars, most household energy consumption is not optional. Beyond the basics required to heat the home, cook and cool food, and maintain hygiene, households require some energy to participate in society—to operate the clocks that ensure they get to work on time and the television or radio that keeps them informed about local events. While it would be difficult, if not impossible, to determine the exact minimum energy need, the point here is simply that many of these expenses are not optional. (U.S. Department of Energy 1990)

Current Amelioration Strategies

Two federal initiatives are aimed at ameliorating low-income households' energy burdens. The Low-Income Home Energy Assistance Program (LIHEAP) provides cash assistance to help cover heating costs. The program is administered through each state and then through local agencies. It provides both seasonal assistance with heating bills and emergency funds for crisis situations. The Weatherization Assistance Program (WAP) delivers energy conservation measures aimed primarily at reducing home heating costs. LIHEAP serves approximately 12 percent of eligible households in Wisconsin and WAP serves much smaller numbers, due to lower funding levels and higher costs per household served. The benefits of weatherization, however, are felt beyond the year measures are installed.

Several programs in Wisconsin supplement the federal programs. Utilities offer additional weatherization, as well as Early Identification Programs (EIPs) that help households manage energy costs with budget counseling and arrearage reduction plans. Wisconsin also has a winter moratorium on electric and gas shutoffs between November 1 and April 15. The moratorium does not apply to 'unregulated' fuels—fuel oil, propane, and wood—which heated 28 percent of the Wisconsin households that received LIHEAP in Federal Fiscal Year 1997. (Wisconsin Division of Housing, 1998) The utility programs are mandated by the Public Service Commission of Wisconsin and utilities are allowed to include these costs in utility rates. In addition, many utilities voluntarily administer fuel funds, which provided an additional $248,217 in Wisconsin for energy assistance in 1996. (LIHEAP Clearinghouse 1996) Table 2 provides a summary of the federal and state programs available in Wisconsin.

Table 2. Summary of Wisconsin's Energy Programs for Low-Income Households

Program	Description	Administration	1995 funding (millions)
Low-income Home Energy Assistance Program (LIHEAP)	Heating bill payment; emergency furnace repair and replacement	State Division of Housing, Energy Services Bureau	$47.4
Weatherization Assistance Program (WAP)	Insulation and weatherization; furnace repair and replacement	State Division of Housing, Weatherization Bureau,	$14.3
Utility Weatherization Assistance Program (UWAP)	Insulation and weatherization; miscellaneous measures	Class A utilities	$7.8
Utility Early Identification Program (EIP)	Budget counseling and arrearage reduction	Class A utilities	$2.5
Utility Fuel Funds	Raise cash for energy assistance and other low-income services	Various utilities	$0.25

According to the National Consumer Law Center, LIHEAP payments reduce the average energy burden of those receiving benefits by three to five percent, leaving the households with an energy burden estimated at between 8 percent and 13 percent. This is still more than double that of the median Wisconsin household. (Saunders & Spade 1995) Low-income households not receiving LIHEAP were in worse shape—they had an energy burden estimated at 13 to 17 percent, depending on household type.

Evaluations of state weatherization programs show an average savings of 23 percent in natural gas usage. (Oak Ridge National Laboratory 1998) Other studies have noted a reduction in arrearages resulting from utility weatherization programs (Skumatz & Dickerson, 1996) but we are not aware of any studies on the impact of weatherization on energy burden.

LIHEAP benefits are not received by all poverty levels proportionately. The average LIHEAP recipient's income is 93 percent of the federal poverty level. Table 3 shows the distribution of Wisconsin's LIHEAP recipients compared to the eligible population. As the table indicates, households at less than 75 percent of federal poverty level (FPL) are less likely to receive benefits than those between 75 and 125 percent of FPL. This is consistent with the findings of Higgins and Lutzenhiser, who found that those less than 50 percent of FPL were underrepresented in the LIHEAP program. They also cite a 1986 National Association for State Community Action Programs study of LIHEAP in the 1980s which found "the households with the lowest incomes were proportionately underserved." They posit that social service connections are a critical factor in whether or not a household receives LIHEAP, pointing out that "eligible households at all low income levels who received no public assistance are much less likely to receive LIHEAP benefits."(Higgins & Lutzenhiser 1995)

Table 3. Summary of Wisconsin's LIHEAP Benefits by Poverty Level

Poverty Level	Wisconsin 1990 Eligible Population*	Wisconsin 1997 LIHEAP Recipients**	Percent of Eligible Served by LIHEAP***
Less than 50%	20%	14%	8%
50-75%	18	14	9
75-100%	19	30	19
100-125%	22	24	13
125-150%	21	17	9

*Eligible population based on the number of households at or below 150 % federal poverty level, according to the 1990 Census.
**1997 LIHEAP Recipient Data; Department of Administration, Division of Housing, Energy Services Bureau
***These percentages were calculated by dividing the 1990 eligible population by the households served in 1997. They do not take into account growth in Wisconsin's population since 1990, and so may overestimate the percentage served.

The under-representation of the poorest households may or may not be problematic. Some of these households are ineligible due to their housing type. This may include subsidized housing that includes a utility allowance, or institutional settings such as nursing homes and prisons. (Tryon & Brown, 1998)

The income distribution of LIHEAP recipients across poverty levels varies by whether or not it is a senior-only household. Seniors who receive LIHEAP are less poor than non-senior recipients. The average percent of FPL for Wisconsin non-elderly households receiving LIHEAP is 85 percent, while it is 105 percent of FPL for elderly households. Virtually none of the senior LIHEAP recipients are below 50 percent of FPL. This may be because the poorest seniors are in nursing homes or other assisted living situations. It also reflects the success of social service programs aimed at seniors.

Federal funding for both LIHEAP and WAP has dropped dramatically since the mid 1980s. The reductions in LIHEAP funding has lead to a subsequent drop in the number of Wisconsin households served and in the amount of the grant offered to participating households. (LIHEAP Clearinghouse 1996) The reduction in WAP funding (by 50 percent in FY96) resulted in a corresponding reduction in the number of households weatherized and in weatherization staff. (Energy Center of Wisconsin 1997) No one argues that there has been a reduction in the number of households needing either of these services.

Despite the high energy burden that many low-income households face, and the reductions in energy program funding, most manage to meet their energy needs and pay their energy bills. The next section examines some of the choices that low-income households report making to meet these needs.

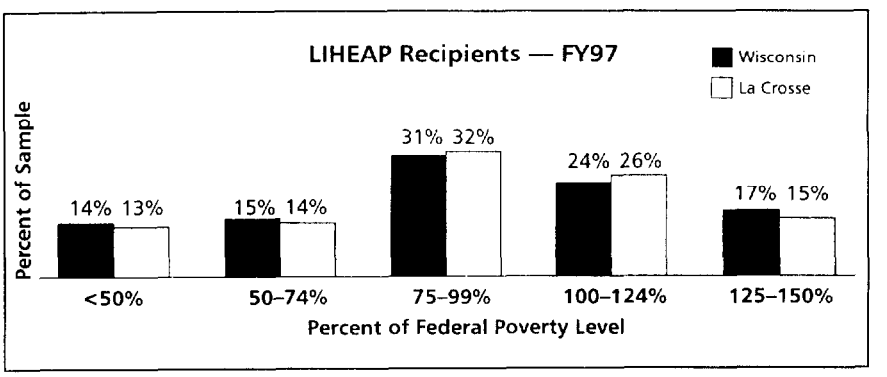
Coping Strategies

In the summer of 1997 we conducted a baseline assessment of low-income households prior to implementation of a low-income pilot program in La Crosse County. The pilot (Energy Services Partnership), funded by the Wisconsin Utilities Association, the Energy Center of Wisconsin, and the Wisconsin Energy Bureau, is developing a partnership among housing and energy service providers in La Crosse county. The county, which provides LIHEAP, and the local CAP agency, which provides weatherization, are among the 16 partner agencies. The purpose of the Partnership is to better coordinate the referral and delivery of these services to the county's low-income households. The partnership was funded in anticipation of utility restructuring and welfare reform activities. The Partnership intends, through coordination of a variety of low-income energy and housing programs, to both reduce the costs of providing the services and to reach a greater number of low-income households.

La Crosse County is a relatively rural county, with the city of La Crosse (population 52,000) as the only urban area within its borders. The county contains farms, as well as households that commute to the Minneapolis/St. Paul metropolitan area. Households in the county are served by a variety of fuel providers—electricity and fuel oil are not uncommon heating sources. Many households outside the City of La Crosse receive service from rural electric cooperatives and heat with electricity.

The county's low-income households share many of the characteristics of the state's low-income households. The distribution of households across low-income groupings mirrors that of the state's low-income population (see Figure 1). LIHEAP recipients resemble those of statewide recipients in income distribution, and in the distribution of elderly and non-elderly households.

Figure 1.



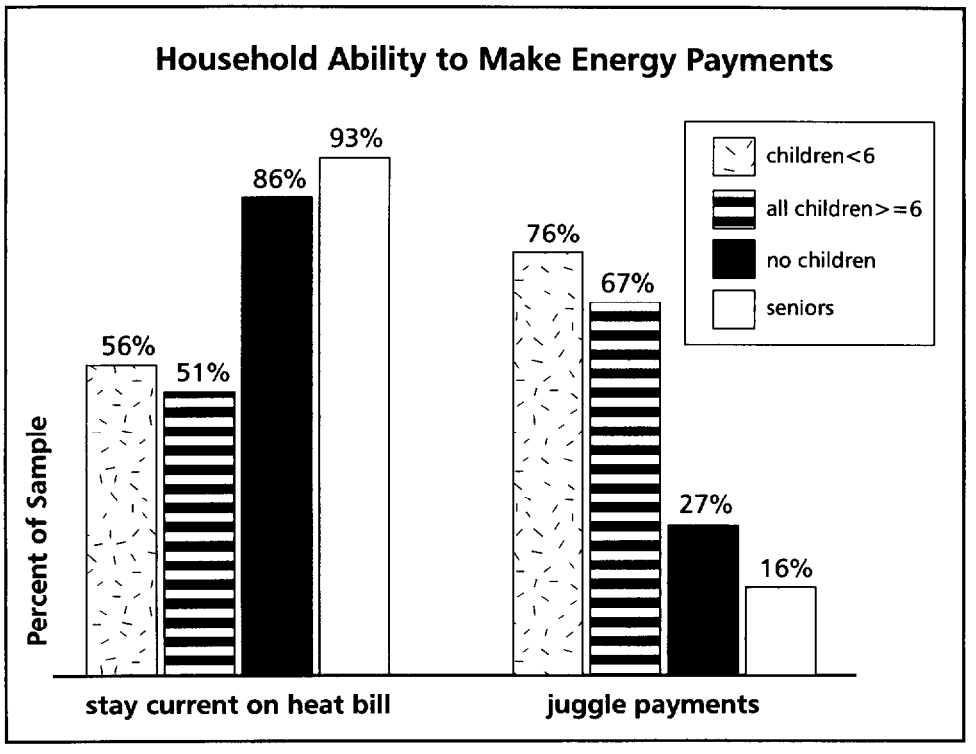
La Crosse County households differ somewhat from the state's, with a slightly greater percentage of households living in rental units than the statewide average—37 and 33 percent respectively. La Crosse residents are more likely to heat with electricity and fuel oil, and less likely to heat with natural gas than elsewhere in the state. Accordingly, La Crosse LIHEAP recipients are more likely to heat with electricity and less likely to heat with liquid propane. Despite these differences, we believe that the survey responses of La Crosse low-income households adequately reflect those of the state low-income households. The noted differences should not affect the issues under study.

We conducted the survey of low-income households in La Crosse County, Wisconsin using a random digit dial approach. Each household was screened to determine whether they were 150 percent or less of federal poverty level (income requirements for both LIHEAP and WAP). No additional income information was obtained. The random digit dial was completed by 188 low-income households.

We chose random digit dialing as the sampling approach to assure inclusion of low-income households that had not participated low-income assistance programs. Past experience taught us that utility records are inadequate at identifying these low-income households, as utilities tend to mark only those accounts that are recipients of energy assistance or are "payment troubled." The random digit dial approach has the disadvantage of excluding households without telephones. In La Crosse County two percent of households are without telephones. (U.S. Census Bureau 1990) We assume that these are predominantly low-income households unable to afford local service. This is a small, but noteworthy consequence of our approach, since the absence of a telephone may represent both greater poverty and a barrier to social services. These households may be the most in need of energy assistance and the most seriously affected by welfare reforms and energy industry restructuring.

Respondents were asked a series of questions about their energy bills. First, respondents were asked "During the last heating season were you able to keep current on your heating bill?" Overall, 75 percent of respondents said that they were able to keep current on their heating bill during the 1996/1997 heating season. The ability to keep current, however, was highly dependent on the composition of the household. Households with children were less likely to say that they were able to keep current on the heating bill than those households without children; this was true regardless of the age of the children. The great majority of adult-only households, especially those comprised of only seniors, were able to keep current on their heating bills. Figure 2 summarizes household responses.

Figure 2



These same households were asked "During the last heating season did you have to juggle payments to keep your heating bill paid?" Overall, 42 percent of the respondents reported that juggling payments was necessary, but again, there were significant differences across groups. Households with children were much more likely to say that they had to juggle payments than adult-only households. The data suggests that senior low-income households appear to have the least difficulty of all low-income households in meeting their energy needs.

We also asked respondents if they had engaged in four activities during the past heating season in order to pay their heating bill:

> During the last heating season, which, if any, of the following actions did you take in order to pay your heating bill? First, did you cut back on food purchases in order to pay your heating bill? During the last heating season did you cut back on clothing or other purchases in order to pay your heating bill? Did you delay medical care? Set your thermostat at a temperature that was uncomfortable for you or other members of your household?

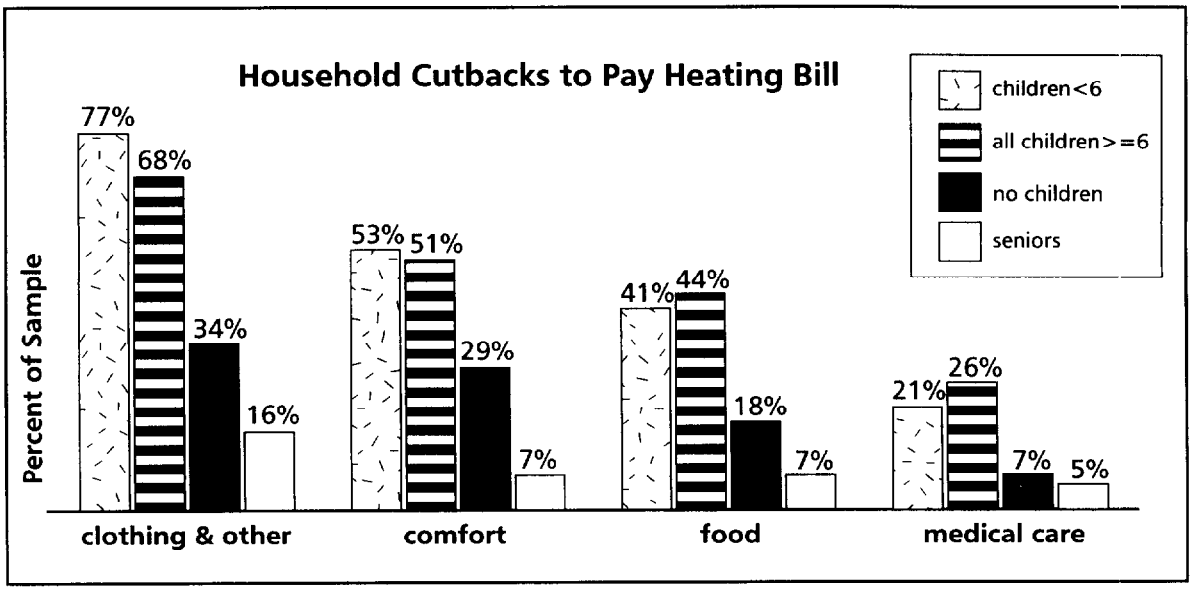
While we acknowledge that there may be problems with the self-reporting mechanism, the results are still important in both magnitude and the patterns they suggest. Responses indicate a general hierarchy of needs consistent across all groups, as well as consistent differences between the groups.

The actions taken, in declining order of likelihood were:

1. Cutting back on clothing and other purchases
2. Setting the thermostat at a temperature uncomfortable to respondent or other members of the household
3. Cutting back on food purchases
4. Delaying medical care

Figure 3 shows the responses across households types—those with children under six, with all children over six, adults-only and seniors.

Figure 3



These findings are consistent with reports from low-income advocates and researchers who have found that some households pay utility bills before they purchase other goods and services. (Hyman 1988, Sheehan 1994) This is also consistent with the findings from a series of focus groups held with low-income household members from around Wisconsin. In these groups participants reported that when prioritizing payments, rent (or mortgage payments) were their first priority, and energy was their second. (Energy Center of Wisconsin 1996)

Households report cutting back on clothing and other purchases more than the other items, and delaying medical care least often. While households were less likely to say they had delayed medical care, roughly one-quarter of households with children report doing so. Senior households, although experiencing greater medical needs, were the least likely to cut back on medical care. They benefit from the federal Medicare and Medicaid programs that assure all seniors access to at least a minimum level of care without compromising other expenses.

We were not surprised that households compromise on other necessities to cover their energy bills. The stark differences between the low-income groups did surprise us. Low-income households with children are more likely to have difficulty keeping current on their utility bills and to cutback on other necessities than households without children. This is true regardless of the age of the children. We found no significant difference between households with children under six and households with children ages 6-17. The presence of minors in the household is correlated with the reported difficulty paying utility bills and with the need to juggle bills to stay current on heating costs.

Elderly low-income households have significantly less difficulty, and make fewer cutbacks in order to keep current on their utility bills. 93 percent of elderly households report being able to keep current on their utility bills. These elderly households are also less likely make any of the cutbacks discussed.

Current LIHEAP regulations require program targeting to households with children under six and senior households. Our findings suggest that there may be reason to revisit LIHEAP priorities. These data suggest that targeting households with children, regardless of age, may be more appropriate. We must also consider new initiatives that address emerging issues resulting from changes in the energy industry and the provision of other social services.

Looking Forward

The findings presented in the previous section illuminate the ways that low-income households are coping with their energy burdens in the current environment, as well as variations within the low-income population. This section explores some of the ways that utility restructuring and welfare reform may affect low-income households. Much of this section is speculative since we cannot predict the outcomes of either initiative with any certainty.

Utility restructuring will lead to a change in the cost of the energy commodity to the consumer. While many tout restructuring as a means to reducing rates, much evidence suggests that residential consumers in general, and those in Wisconsin in particular, will see price increases. If one effect of gas and electric utility deregulation is an equalization of costs across states and service territories, then Wisconsin, as a relatively low-cost state, is likely to experience an increase, especially for electricity. In 1996 Wisconsin's residential sector paid an average of $0.0697/kWh and $5.99/MMBtu compared to the national averages of $.084/kWh and $6.06/MMBtu. (WEB 1998) An increase of $0.01 per kWh represents a 15 percent increase in rates. This increase is especially significant at a time when the electric use for all households is on the rise. (WEB 1998) The impact of price increases on low-income households would be yet a greater energy burden.

Utility restructuring may also mean shifts in the relative costs of electricity across sectors. Energy prices for residential customers may increase at a rate greater than that for the commercial and industrial sectors. We have already seen this trend in natural gas markets since FERC order 636 opened up the pipelines for wholesale transactions. (Barua & Crandall 1997) Low-income households may experience yet greater increases, especially if the energy market follows the trends of other deregulated or competitive markets. In the banking and telecommunications industry low-income households have experienced an increase in price and decrease in service. In competitive markets low-income households tend to pay a premium for goods and services. As advocates point out, the low-cost chain

supermarkets are not located in low-income neighborhoods. We notice that check cashing services and furniture rental outlets are.

Utility restructuring provides opportunities for both creative marketing (packaging of energy commodity and other services) and alternative purchasing scenarios. It is unlikely that low-income households will be attractive to marketers individually, given the high transaction costs relative to usage and marketer concerns regarding payment. The shibboleth of some low-income advocates is the potential for aggregation of low-income households to enhance their market power and allow them to benefit from a competitive environment. Determining how to aggregate low-income households (or any residential group) in a way that is attractive to marketers is difficult. Aggregation may best be done by municipalities, churches, or other more diverse groups. Insofar as there are opportunities to save money through aggregation and other purchase plans, there are also opportunities for unscrupulous marketers to exploit these households.

Welfare reform—whether successful or not—will mean dramatic changes for many low-income households. The current wave of welfare reform represents the most dramatic shift in social policy since the inception of federally-funded "welfare" with the Social Security Act of 1935. The reforms replace the traditional "safety net," designed for women and children, with programs that emphasize work and self-sufficiency. Welfare reform is relevant because the households most affected by these reforms—families with children—are the very households that we see struggling the most to cope with energy costs in La Crosse County, and perhaps throughout the state.

Wisconsin has been a leader in welfare reform and has conducted numerous experiments in the last seven years, culminating in the Wisconsin Works (W-2) program that replaced Aid to Families with Dependent Children (AFDC) as of March 1998. The state's AFDC caseloads dropped from 97,014 in 1986 to less than 50,000 in 1996 and to 22,106 as of December 1997, the lowest level since 1969. (Flaherty and Jaeger 1998) What has happened to the households that are no longer on welfare is unclear. There is anecdotal evidence that some Wisconsin households are worse off than in the past. For example, shelters and food pantries across the state are reporting record-level usage.

The effect of W-2 on a participating household's energy burden will vary by household and over time. Households that use the program to secure well-paying jobs will have a lower energy burden than before, and a lower burden than those households with lower-paying jobs. However, those households initially succeeding in W-2 may struggle to pay energy costs once their transitional benefits for child care and transportation expire. All W-2 recipients are subject to lifetime benefit limits, which for some households may simply delay the point at which they can no longer meet their energy needs.

Welfare reform may also affect access to low-income energy services. As noted earlier, low-income households not involved in other social services are less likely to participate in LIHEAP. This may be especially true when LIHEAP is provided through the same agency as other programs—the case in many Wisconsin counties. Wisconsin has already experienced a 20 percent reduction in LIHEAP recipients between 1996 and 1998. (Wisconsin Division of Housing) Further, the anti-entitlement mood surrounding welfare reform may discourage some eligible recipients from applying for LIHEAP. Finally, the reforms are already affecting outreach activities in some areas of the state. The new system is oriented toward "weaning" people off of assistance, and some county officials are discouraging their staff from promoting LIHEAP to potential recipients.

Conclusions

The discussion of possible effects of utility restructuring and welfare reform lead to four imperatives during this transition period—the need for low-income safeguards, consumer education, and exploration into the targeting and funding of low-income energy services.

First, we need to assure the continuance of consumer protection and safeguards for low-income households. At a minimum, winter (and in some states, summer) moratoria must be maintained to prevent energy-related illness and death. Beyond that, we must include provisions for the delivery of the energy commodity to low-income households at non-discriminatory rates.

The need for consumer information in order to make wise choices is also imperative. Legislatures must provide guidelines for the disclosure of information so that consumers can compare the cost of service from different suppliers, and select an option that best meets their needs. Anyone

attempting to compare long distance telephone rates knows that it is nearly impossible to make side by side comparisons between two companies. Weather makes energy use patterns less controllable than telephone usage, and load profile information for individual residences is often difficult and expensive to obtain. The opportunity to exploit consumers, particularly those with fewer options, should be minimized.

Third, much more investigation is needed into the characteristics of low-income households. We need more research into the differences among these households and we need assistance programs that are sensitive to these differences. This research must be ongoing as the effects of changes evolve. The household's entire energy burden, rather than just heating or cooling costs, must be considered. Potential increases in the price of electricity concurrent with increasing electric consumption suggest the need for new initiatives that will enable households to afford the energy they need for heating and non-heating purposes.

Finally, we must assure that low-income households have ensure not only to the energy commodity, but to other energy services. These should include the traditional low-income energy services such as energy assistance, weatherization, budget counseling, and arrearage programs. As the energy industry becomes more competitive and some low-income energy services are no longer mandated by public utility commissions, it is imperative that we continue efforts to make energy more affordable to low-income households. It may be especially important to ensure the continuation of energy efficiency programs because energy providers will have little apparent incentive to provide these services. Low-income households have always been handicapped in the market place and may lack access to potential energy saving technologies.

In the midst of historic changes both in the energy industry and the social service system we cannot ignore the energy needs of our low-income neighbors.

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