ELECTRIC RESTRUCTURING AND THE LOW-INCOME CONSUMER:

Legislative Implications for Colorado

June 1999

Prepared For:

Electricity Advisory Panel
Colorado General Assembly

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June 1999

This report was prepared for the Electricity Advisory Panel of the Colorado General Assembly. The views in this report do not necessarily represent the views of the Advisory Panel.

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INTRODUCTION AND OBJECTIVES

This report examines the impacts of restructuring on low-income Colorado consumers and considers policy and program options for addressing those impacts. More specifically, the objectives of this report are three-fold:

1. To develop Colorado-specific information which presents the potential risks, benefits and impacts of restructuring on low-income Colorado consumers;

2. To present concrete Colorado-specific *policy* options to address potential challenges to low-income consumers; and

3. To present concrete Colorado-specific *program* options to address potential challenges to low-income consumers.

The following discussion consists of two sections and six parts. Section 1 presents background information on low-income Colorado consumers, their home energy bills and needs, and the potential impacts of electric restructuring on these consumers and the programs which serve them. Section 2 presents a package of potential legislative responses. More specifically, the organization of the report is as follows:

SECTION 1: BACKGROUND INFORMATION

Part 1 provides basic background material on low-income Colorado consumers as well as both their electric and total home energy bills.

Part 2 provides basic background material on existing public and private low-income fuel assistance in Colorado.

Part 3 identifies a range of concerns that Colorado's low-income stakeholders, as well as others, have identified with respect to electric restructuring.

SECTION 2: POTENTIAL LEGISLATIVE RESPONSES

Part 4 discusses potential price protection responses that Colorado might pursue to address low-income concerns.

Part 5 discusses potential market responses that Colorado might pursue to address low-income concerns.

Part 6 discusses potential funding responses that Colorado might pursue to address low-income concerns.

Each of the potential legislative responses is accompanied by proposed language and a brief commentary.

Appendix A presents a table of regulatory and legislative decisions regarding low-income programs authorized and/or funded through electric restructuring decisions.

SECTION 1: BACKGROUND INFORMATION

SOCIO-ECONOMIC CHARACTERISTICS OF LOW-INCOME COLORADO RESIDENTS

Three sets of socio-economic characteristics of low-income consumers are relevant to an examination of electric restructuring in Colorado:

- The extent and distribution of poverty;
- The energy use of low-income consumers; and
- Certain housing characteristics of low-income consumers.

Each of these attributes is examined individually below.

EXISTENCE AND DISTRIBUTION OF POVERTY

The generally accepted measure of "being poor" in the United States today indexes a household's income to the federal "Poverty Level" published each year by the U.S. Department of Health and Human Services (HHS). The Poverty Level looks at income in relation to household size. This measure recognizes that a three person household with an annual income of $6,000 is, in fact, "poorer" than a two person household with an annual income of $6,000.

The federal government establishes a uniform "poverty level" for the 48 contiguous states. Since 100 percent of Poverty Level is generally considered to be too low to be reasonable,

other estimates of "being poor" range from 150 to 200 percent of Poverty.[1] Because energy assistance nationwide is frequently tied to 150% of the Poverty Level, including in Colorado, that definition is accepted as appropriate for defining who is "poor" in Colorado for purposes here.[2]

Nearly 20% of all households in Colorado live at or below 150% of the federal Poverty Level. As Table 1 shows, roughly 260,000 of the 1.3 million households in Colorado live with incomes at or below 150% of Poverty.

Distribution Amongst Poverty Levels

Many times when persons hear that 20% of households live at or below 150% of Poverty, they hear the "at" but not the "or below" portion of the sentence. In assessing the impacts of public policy on low-income consumers, it is important to remember that there is a distribution of consumers over the various ranges of Poverty. While some households live closer to the top (*e.g.*, 140% of Poverty), others live closer to the bottom (*e.g.*, 20% of Poverty). Table 1 shows the actual distribution of Colorado households who are "poor" over the full range of Poverty Levels. Examining a 2-person household illustrates. The 1998 Poverty Level for a 2-person household was $10,850. Using the distribution of persons from the 1990 Census, Table 2 sets forth the distribution that would thus apply in Colorado. As can be seen, while 61,000 2-person households live with an annual income of less than $16,275 (150%), more than 23,000 of those households live with incomes less than $8,138 (75%) and over 16,000 of those households live with incomes of $5,425 or less (50% or less). Saying simply that 61,000 2-person households live at or below 150% of Poverty Level, in other words, does not convey the full story.

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[1] A household's "level of Poverty" refers to the ratio of that household's income to the federal Poverty Level. For example, the 1998 Poverty Level for a two-person household was $10,850. A two person household with an income of $5,425 would thus be living at 50% of Poverty.

[2] The appropriate Poverty Level for determining who is "poor" is a matter of some dispute. Even different federal assistance programs have eligibility guidelines tied to different levels of Poverty.

Table 1:
1990 Census Public Use Microdata Sample A (5%)
Colorado Distribution of Householder's Income in 1989 as % of Poverty by Household Size
Weighted to Represent Total Population

Income in 1989 as % of Poverty	Number of Households By Size of Household						
	1 Person	2 Persons	3 Persons	4 Persons	5 Persons	6 Plus	Total
25% or below	12,381	7,935	4,020	3,465	1,659	1,011	30,471
26% - 50%	7,410	8,553	6,165	5,073	2,259	1,551	31,011
51% - 75%	13,722	7,854	4,596	4,407	2,598	2,175	35,352
76% - 100%	25,545	10,206	5,616	6,258	3,669	1,983	53,277
101% - 125%	21,858	13,170	7,857	6,156	3,618	2,619	55,278
126% - 150%	17,397	13,539	6,447	7,368	4,407	2,580	51,738
151% or more	241,449	361,827	177,945	158,889	56,973	23,796	1,020,879
Total below 150%	98,313	61,257	34,701	32,727	18,210	11,919	257,127
Total	339,762	423,084	212,646	191,616	75,183	35,715	1,278,006

NOTE:

This Table shows that the total number of households in Colorado is 1,278,000. Of those households, for example, there are 30,471 (2.4%) who live at or below 25% of the federal Poverty Level. Similarly, of the 30,471 households who live at or below 25% of the federal Poverty Level, 12,381 have only one person in that household.

Table 2
Distribution of 2-Person Colorado Households By Poverty Range

Ratio of Income to Poverty Level	Income in Dollars at Ceiling of Range	2-person Households	
		No. of Households	% of Households <150%
25% or below	$2,713 /a/	7,935	13%
26% - 50%	$5,425 /b/	8,553	14%
51% - 75%	$8,138 /c/	7,854	13%
76% - 100%	$10,850 /d/	10,206	17%
101% - 125%	$13,563 /e/	13,170	22%
126% - 150%	$16,275 /f/	13,539	22%
Total below 150%		61,257	101%
All 2-person households		423,084	14% /g/

/a/ Income at 25% of Poverty
/b/ Income at 50% of Poverty
/c/ Income at 75% of Poverty
/d/ Income at 100% of Poverty
/e/ Income at 125% of Poverty
/f/ Income at 150% of Poverty
/g/ Percentage of all 2-person households living at or below 150% of Poverty.

Geographic Distribution of Poverty

Understanding the geographic distribution of poverty is important, as well, in a consideration of low-income energy needs. If the proportion of low-income households is relatively uniform throughout the state, it is possible for each geographic region to support the energy affordability assistance in that region (assuming an energy affordability program is adopted). If, however, certain regions of the state have a disproportionate number of low-income consumers, then an affordability assistance program is best implemented on a statewide basis, with funds necessarily flowing between regions of the state.

While the low-income population of Colorado represents roughly 20 percent of the entire state's population, the distribution of low-income households is much different. In particular, many of the rural counties in Colorado have a high percentage of total households who would be considered "poor." Eight counties have two-in-five households who live at or below 150 percent of the Poverty Level; 23 of Colorado's counties have one-in-three (or more) of their households who live at or below 150 percent of the Poverty Level.[\3\] Pueblo is the largest county with a much higher than average poverty rate, at 31 percent. Other counties with large total populations (*e.g.*, Denver, Larimer, El Paso, Boulder) approach (but are less than) the statewide average poverty rate of 20 percent.

LOW-INCOME ENERGY BILLS IN COLORADO

An examination of low-income energy bills in Colorado should separately consider heating bills and non-heating bills.

Low-Income Heating in Colorado

Table 3
Fuels Used for Primary Heating
Low-Income Colorado Households

Natural Gas	Electricity	LP Gas
81%	14%	4%

[\3\] Crowley (60%); Conejos (57%); Costilla (49%); Huerfano (48%); Saguache (44%); Las Animas (43%); Alamosa (42%); Baca (41%); Prowers (39%); Jackson (38%); Bent (38%); Gunnison (38%); Mineral (38%); Rio Grande (37%); Otero (37%); Delta (37%); Kiowa (37%); Fremont (35%); Custer (35%); Dolores (34%); Phillips (33%); Washington (33%); and Chaffee (33%).

Natural gas is the primary fuel used for space heating for low-income households in Colorado. Statewide, 80 percent of all low-income households use natural gas as their primary heating fuel. In contrast, electricity is the primary fuel for space heating in 14 percent of low-income Colorado households. LP gas falls even further behind, being used by four percent of low-income households. Other fuels (such as coal, wood, solar, kerosene) fall far behind, each using just a fraction of one percent within the low-income population.

Despite the relatively low penetration of electric space heating in Colorado, the cost of that heating is significant. As Table 4 shows, the price per million Btu (mmBtu) of energy[4] for natural gas was only $4.71 in 1995[5] as compared to $21.75 per mmBtu for electricity and $8.97 per mmBtu for LP gas. The impact of these price differences in heating a low-income home in Colorado, when combined with differences in the relative efficiency of the respective fuels, yields substantial differences in the cost to heat a home. While, on average, the cost to heat a home with natural gas in Colorado was only $283,[6] the cost to heat the same home with electricity would be $979; the cost to heat the same home with propane would be $504.

[4] Btu's are British Thermal Units. It is the amount of energy that is needed to raise the temperature of one pound of water one degree. Btu's are used to allow inter-fuel comparisons of price, efficiencies and the like.

[5] 1995 is the last year for which data is now available. U.S. Department of Energy, Energy Information Administration (August 1998). ***State Energy Price and Expenditure Report: 1995***, U.S. Superintendent of Documents: Washington D.C. (Colorado: Table 42, page 52).

[6] Total household natural gas consumption, it should be remembered, would likely include other end uses, such as hot water and cooking.

Table 4
Comparative Cost to Heat Identical Home: Natural Gas, Electricity and Propane

	Natural Gas	Electricity	Propane
mmBtu to heat	45.0	45.0	45.0
mmBtu per energy unit /a/	0.1/therm	.003412/kWh	.0915/gal
Efficiency of fuel	0.75	1.0	0.8
Units of energy to heat	600	13,235	615
Cost per unit of energy /b/	$0.471	$0.074	$0.819
Total cost to heat	$283	$979	$504

NOTES:

/a/ Natural gas units are therms, electric units are kWh, LPG units are gallons.
/b/ Fuel costs assumed to be: natural gas ($4.71/mmBtu), electricity ($21.75/mmBtu), LPG ($8.97/mmBtu).

Non-Heating Bills

Table 5
Total Low-Income Usage and Bills
vs. Heating Usage and Bills

	Usage (mmBtu)		Bills ($s)	
	Total	Htg	Total	Htg
Low-income	77.2	44.0	$1,129	$394

It would be a mistake for Colorado policymakers to focus their attention exclusively on heating bills. Existing Colorado-specific work has found that while heating *consumption* for low-income Colorado residents is roughly 60% of their total consumption, heating *bills* for low-income Colorado residents are roughly 35% of total energy bills. Electric bills, in other words, represent 65% of a low-income Colorado consumer's total energy bill. As can be seen, what happens to the price of electricity is thus critically important to low-income consumers. A low-income energy policy focused exclusively on home heating addresses less than half of the low-income energy dollars expended in the state of Colorado.

LOW-INCOME HOUSING CHARACTERISTICS IN COLORADO

The final set of socio-economic characteristics particularly relevant to a discussion of low-income energy needs involves specific housing characteristics. While low-income consumers have lower than average home energy consumption (attributable primarily to smaller living spaces and fewer appliances), that consumption tends to be less efficient than consumers with higher incomes. This inefficiency can be measured through the "intensity" of energy consumption.

According to the U.S. Department of Energy (DOE), while low-income households use less energy in their homes overall, their *rate* of consumption is much higher than their higher income counterparts. The DOE study found that the "intensity" of energy use is directly related to income, with low-income households consuming 14% more energy per square foot than the average household, while spending 11% more per square foot on energy than higher income households.[7]

DOE explained that the higher intensity of energy use arises because of less efficient housing. In addition, DOE said, "relatively inefficient" *appliances* contribute to the overall higher energy intensity. While statewide data directly measuring the energy intensity of appliances and housing is not available for Colorado, it is possible to conclude that the DOE observations are accurate for Colorado as well. The age of housing is generally related to the energy efficiency of housing.

Table 6
Annual Household Energy Use Intensity

	Low-Income	Others
Btu (000)/SqFt	57	50
Dollars/SqFt	$0.69	$0.62

[7] A.D. Lee, *et al.* (1995). ***Affordable Housing: Reducing the Energy Burden***, Pacific Northwest Laboratory, Batelle Memorial Institute, U.S. Department of Energy: Richland, WA.

The older a home, the less efficient it is likely to be.

In Colorado, the housing available to lower-income consumers is also associated with the age of the housing. Table 7 reveals, for example, that while 24% of housing units affordable to households with incomes below 50% of median income --50% of median income is roughly equal to 200% of the federal Poverty Level-- only 12% of the housing units affordable to households with incomes above 80% of median income are that old. Conversely, while 30% of all housing units affordable to households with incomes above 80% of median were built after 1980, only 15% of units affordable to households with incomes below 50% of median are that new.

Table 7
Percent of Colorado Housing Units Affordable
at Different Levels of Median Income
By Age of Housing Unit

Date Unit Built	Level of Median Income			
	0 - 30%	31 - 50%	51 - 80%	80% and above
Before 1940	17%	17%	13%	9%
1940 - 1949	6%	7%	6%	3%
1950 - 1959	9%	14%	17%	10%
1960 - 1979	51%	46%	40%	47%
1980 - 1990	17%	15%	24%	30%

SOURCE:

U.S. Department of Housing and Urban Development, CHAS Data Base CD-ROM (1993).

SUMMARY

Based on the above analysis, the following three observations are important to a legislative consideration of the impacts of electric restructuring in Colorado:

- While low-income is defined to include incomes at or below 150% of Poverty, there are a substantial number of low-income households who live far below that 150% ceiling.

- While 20% of all consumers statewide are low-income, the distribution of low-

income consumers is not uniform throughout the state. There are 23 counties having at least 30% of their population which is low-income. Eight counties have 40% or more of their population that is poor.

- While heating is 60% of low-income usage, it is only 35% of a low-income bill. Non-heating electric bills are a much more substantial part of the total low-income home energy bill in Colorado than is heating.

EXISTING LOW-INCOME FUEL ASSISTANCE

FEDERAL LEAP ASSISTANCE

The primary fuel assistance program in Colorado is the federally-funded Low Income Home Energy Assistance Program. Known as LEAP in Colorado, this program supplies funds through which the state provides basic cash grants to income-eligible households to cover home heating bills.

Colorado has adopted an approach to targeting energy assistance based on home heating burdens. Through the LEAP program, Colorado buys down a low-income consumer's heating burden to a designated percentage of income. If a household has a higher energy burden relative to income, irrespective of the reason --whether lower income, the use of higher cost fuel, the maintenance of a larger family, the ownership or rental of a less efficient home-- the Colorado LEAP program targets additional benefits to that household.

During the most recently completed Fiscal Year (FY 1998), LEAP provided basic cash fuel assistance to 57,752 households. Average grants were $343. The greatest portion of these basic cash benefits went to the poorest households in the state. As Table 8 shows, more than 8,000 Colorado households (8,098) with incomes less than $4,000 were served by LEAP in FY 1998, and more than 16,500 households (16,537) with incomes less than $6,000 were served. Of Colorado's 57,752 LEAP recipients overall in FY 1998, only 8,097 had incomes of $15,000 or more.

Table 8 Annual Incomes: FY 1998 Colorado LEAP Households	
Income Range	No. of Households
$0	3,585
$1 - $1,999	736
$2,000 - $3,999	3,777
$4,000 - $5,999	8,439
$6,000 - $7,999	14,668
$8,000 - $9,999	6,704
$10,000 - $11,999	5,134
$12,000 - $14,999	6,612
$15,000 and over	8,097
Total	57,752
SOURCE: Colorado state LEAP office (March 1999).	

As in prior years, LEAP fell far short of serving Colorado's total low-income population in Fiscal Year 1998. Roughly 250,000 Colorado households live at or below LEAP's 1998 eligibility standard of 150 percent of the federal Poverty Level. LEAP provided basic cash assistance to only 58,000 of those households, or roughly 23 percent.

In addition to serving but a fraction of the low-income households, LEAP covered but a fraction of the home energy bills even for those households who *did* receive assistance. Statewide, the average 1998 basic cash benefit of $343 paid roughly 30 percent of the average home energy bill ($1,120) of LEAP recipients.

The situation is one that is deteriorating rather than improving. LEAP has never been adequately funded on a national basis, and those inadequate federal budgets have translated directly into inadequate funding at the state level in Colorado. In addition, given even further reductions in federal LEAP dollars in recent years, Colorado has seen a steady erosion in its ability to serve low-income households. While Colorado's LEAP program received roughly $33.3 million in Fiscal Years 1984 and 1985, by Fiscal Year 1998, that federal appropriation

had fallen to only $15.7 million.[8]

OTHER ENERGY-RELATED *PUBLIC* ASSISTANCE

Colorado has two primary public assistance initiatives other than LEAP that provide energy-related assistance to low-income Colorado residents. The first program provides a property tax/rent/heat rebate on Colorado income taxes. The second provides "utility allowances" to residents of public and publicly-assisted housing in the state.

The PTC Program

One major Colorado public benefit program that provides "heating" assistance is the "PTC" (property tax credit) program. In tax year 1998, this program was available to any Colorado resident who was:

- at least 65 years old, or[9]
- a surviving spouse at least 58 years old, or
- a person who was disabled for the entire tax year, regardless of age.[10]

In addition to these eligibility criteria,[11] Colorado residents must meet income criteria to qualify for the PTC. Under changes adopted in 1998, effective in tax year 1999, a single person must have income less than $11,000 for the year while a married couple must have income of less than $14,700. In addition, no person may claim the credit if they were claimed as a dependent on the state or federal tax returns of another person.[12] According to the Colorado Department of Revenue, the 1998 legislative changes are expected to result in a 50% increase in the number of taxpayers applying for the credit.

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[8] When combined with CEAF dollars, described further below, carryover from the prior year, and "leveraging" funding, total benefits reached nearly $20 million.

[9] For married couples, only one partner need be age 65 or older to qualify.

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

[11] Thus, for example, a TANF recipient does not qualify for the rebate unless he or she also meets the age or disability requirements.

[12] For example, a disabled child who is claimed as a dependent does not qualify for the credit.

Through the PTC program, a person may receive a credit on their property tax or rent up to a maximum of $500. In addition, a person may receive a credit for their heating bills "actually paid" up to a maximum of $160.[13] The actual benefit is based on a formula which reflects decreasing credits as incomes increase.

In calendar year 1998, the state received 32,416 claims and disbursed $9.972 million in rebates. The average benefit was $308.[14] According to the state Department of Revenue, this tax year continued the 10-year decline in both number of applicants and dollars reimbursed, as increasing incomes pushed persons over income eligibility guidelines that had remained the same over the years. Those incomes have been adjusted upward starting for tax year 1999 (with credits claimed beginning in 2000).

Public and Assisted Housing

Utility allowances provided through public and assisted housing programs represent the second major non-LEAP energy assistance program directed toward low-income households. Public housing is generally owned and managed by local Housing Authorities. The primary source of assisted housing is through the federal Section 8 program. For purposes of the discussion below, public housing units will be set aside and assisted housing will be the focus.[15] Colorado has over 23,300 units of assisted housing available for low-income consumers.[16]

While the numbers of households being served through public and assisted housing are less than the numbers of households being served through the federal fuel assistance program, the *dollars* involved are cumulatively equal. On a per household basis, utility allowance grants to assisted housing tenants provide substantially greater annual assistance than LEAP. While

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[13] If heating is paid as a part of rent, it is assumed that 10 percent of the rent is for heat.

[14] The state does not separately track how much of a credit is provided for heating and for property tax/rent. Only consolidated figures can thus be provided.

[15] More often than not, public housing involves master metered consumption, with "utility allowances" being provided in terms of units of energy. Public housing residents are then charged if their consumption, as measured by "check-meters," exceeds their designated utility allowance. In contrast, the "utility allowance" provided to tenants of assisted housing is in dollars as described below.

[16] National Association of Housing and Redevelopment Officials (1995). ***The NAHRO Directory of Local Agencies and Resource Guide***, NAHRO: Washington D.C.

state-specific data is not available on the average utility allowance in Colorado, the average *monthly* utility allowance for Section 8 households nationwide was $64 in 1991. Applying that figure to Colorado's 23,000+ assisted housing units yields an annual average flow of utility assistance of nearly $18 million to Colorado assisted housing residents. This includes all fuels as well as water/sewer payments.[17] A breakdown by type of utility is not available.

Summary

For purposes of assessing the impact of electric restructuring on low-income consumers in Colorado, the following four observations are appropriate:

- Three major sources of public fuel assistance exist for low-income Colorado households: LEAP, the PTC program, and the utility allowances provided to tenants of assisted housing.

- The Colorado LEAP program is quite limited. It serves fewer than 1-in-4 low-income consumers and covers less than one-third of the home energy bill of those consumers who do receive benefits.

- Even aside from its existing limits, the Colorado LEAP program is becoming more limited, as Congress reduces federal funding.

- The PTC and Section 8 programs are specific programs targeted to narrowly-defined populations. They do not provide sources of general fuel assistance to the low-income population.

PRIVATE FUEL ASSISTANCE IN COLORADO

The primary source of *private* low-income fuel assistance in Colorado involves the Colorado Energy Assistance Foundation (CEAF), a non-profit fundraising organization under the direction of the Colorado Commission for Low-Income Energy Assistance. Created in 1989, CEAF is designed to help bridge the gap between the growing need for heating assistance statewide and the decreasing availability of federal funds.

CEAF awards an annual contribution to the state LEAP agency for winter energy assistance and approved special projects. CEAF moneys are *not* used to cover LEAP's administrative costs. In 1997, more than 70% of CEAF's $3.628 million in expenditures went to the state

[17] Section 8 utility allowances pay for all utilities except telephones.

LEAP program.

In addition to this winter heating assistance, CEAF has provided other types of assistance to promote affordable home energy bills. In 1994, for example, CEAF started an energy assistance grants program to assist households from May through October, the months during which LEAP does not operate.[18] In 1994, the new program distributed $75,000 through 11 Denver agencies to assist more than 700 families. In 1997, more than $666,000 was distributed helping approximately 3,500 families.

CEAF's fundraising involves legislation, customer contributions, special requests during utility refunds, company matching programs, the Combined Federal Campaign, investment and interest earnings, events, corporate contributions, and settlement agreements.

Table 9
CEAF Sources of Revenue: 1996 - 1997

Source of Revenue	FY 1996	FY 1997
Customer contributions	$1,988,150	$610,395
Utility company contributions	$2,033,020	$1,706,751
Unclaimed utility deposits and refunds	$531,983	$2,058,653
Other income	$1,081,664	$2,566,481
In-kind donations	$44,831	$64,917
Total revenue	$5,679,648	$7,007,197

SOURCE:

CEAF Annual Reports: 1996 and 1997

[18] Given the decision to reduce LEAP's months of operation to include only November through February, CEAF will be unable to maintain its commitment to help provide benefits during all non-LEAP months. CEAF's program will begin much later in the year than the closing date for LEAP.

Other Private Assistance

A variety of other funding sources also exist in Colorado that provide private financial assistance to help low-income consumers pay home energy bills. Examples of those private fuel funds include Citizens Option to Provide Energy (COPE) (Colorado Springs) and Metro CareRing (Denver).

These private fuel funds, however, provide exclusively crisis assistance to help low-income consumers avoid the adverse consequences of a disconnection (or loss) of service due to nonpayment.[19] They do not provide basic fuel assistance subsidies. In addition, their funding is quite limited (ranging from $20,000 annually to roughly $100,000 annually). They do not represent a resource that can help the state to meet basic ongoing affordability requirements.

Summary

For purposes of assessing the impact of electric restructuring on low-income consumers in Colorado, the following three observations are appropriate:

- The Colorado Energy Assistance Foundation (CEAF) provides a modest supplement ($2.5 million in 1997) to the Colorado LEAP program.

- CEAF funding is inadequate to address either the limited number of households covered by LEAP, or the limited portion of a low-income consumer's total home energy bill covered by LEAP.

- Colorado's private fuel funds provide crisis assistance and are unavailable, both by size and by design, to help supplement basic energy affordability subsidies in the state.

THE ROMER ENERGY REFORM TASK FORCE

Governor Romer's Energy Assistance Reform Task Force was charged with the responsibility of developing a cohesive and effective strategy to address home energy needs for Colorado's low-income individuals and families.[20] More specifically, the objectives of the Task Force

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[19] One should beware a focus on the "disconnection" of service. Disconnection implies the loss of *utility* service (electric or natural gas). The loss of heating when fuel oil, propane, kerosene and the like are used do not involve a disconnection so much as an inability to obtain a tank fill.

[20] ***A Report from Governor Romer's Energy Assistance Reform Task Force: Final Report*** (February

were three-fold:

- to identify and recommend solutions or strategies that require legislation;

- to develop strategies to diversify and expand funding for low-income energy assistance, identifying which of these strategies or mechanisms require legislation; and

- to evaluate the present energy assistance system for effectiveness, efficiency, sufficiency and coordination/integration.

The Task Force met for one full year (December 1996 through December 1997). It was composed of individuals representing the Department of Human Services, the Colorado Office of Energy Conservation and the Colorado Department of Regulatory Agencies. Members also included individuals from public and private utilities, public and private energy assistance providers, energy assistance recipients, and representatives from the financial community.

Benefits of Low-Income Assistance

The Romer Task Force found that "low-income energy assistance programs benefit not only the low-income consumer, but also energy providers and communities." Among the "community/societal benefits" generated by low-income energy assistance, as cited by the Task Force, were:

- A reduction in forced mobility. Observing that low-income households are twice as mobile as households generally, the Task Force noted: "a low-income household has a limited amount of income, and, when they are assessed a disconnect fee and a reconnect fee, the money that is spent on those fees is taken away from the household's ability to pay the current bill."[\21\]

- A reduction in educational problems. "Research has shown that children with frequent mobility have poor educational attainment and are more likely to drop out of school. There is also the increased demand on teachers and school systems to address the needs of these students which takes away time with

(..continued)

1998).

[\21\] ***Task Force Report***, *supra*, at 20.

other students."[22]

- A reduction in homelessness and housing abandonment. "Utility terminations have been strongly linked to the problem of housing abandonment. In Philadelphia, a study showed that an average of 32 percent of the homes of residential electric customers were abandoned within one year following termination. In research done by the Northern Kentucky Coalition for the Homeless, disconnection of utility service was one of the reasons consistently cited as a cause of homelessness."[23]

- An increase in safety. "Often times, households will use alternative sources for home heating, such as space heaters, or even the oven, to keep their home at a bearable temperature. Home heating equipment is the leading cause of all residential fires. Fires caused by space heaters are five times more likely to result in a fatality than the average house fire and ten times more likely to result in a fatality than all fires."[24]

In general, the Task Force noted, helping low-income consumers pay their bills provides important community benefits. "According to the National Center for Health Statistics, approximately 60,000 lives are lost annually by problems associated with cold weather, including fires, carbon monoxide poisoning, pneumonia, influenza and other infectious diseases, and, of course, hypothermia."

Impacts of Electric and Natural Gas Restructuring

The Romer Task Force concluded that "the monumental changes in both the gas and electric industries may put low-income Colorado households at a tremendous disadvantage, and the threats to this vulnerable population in an unregulated environment are numerous."[25] Amongst the "potential risks to low-income consumers" identified by the Task Force were:[26]

- Higher residential rates;

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[22] ***Task Force Report***, *supra*, at 20.

[23] ***Task Force Report***, *supra*, at 20.

[24] ***Task Force Report***, *supra*, at 20 - 21.

[25] ***Task Force Report***, *supra*, at 28.

[26] This is not the complete list of the Task Force.

- Customer confusion about changes;
- Negative policy changes regarding termination protection, credit policies, collection practices, payment practices, and understandable billing;
- Potential to have limited service in lieu of shut-off; and
- Redlining of low-income neighborhoods.[27]

In addition, the Task Force identified threats to fundraising for low-income assistance, including reduced attention to customer solicitations in energy bills and reduced matching contributions. Overall, the Task Force concluded:

> in a deregulated environment, these important fundraising avenues either may no longer exist, or may not be viewed as an important endeavor by the newly deregulated entity. New avenues must be developed to work within a restructured system in order to ensure stable funding for Colorado's neediest residents.[28]

Funding Recommendations

The Task Force established a set of four criteria that should be adhered to when crafting funding mechanisms:

- Repeatable--A funding source should be repeatable each year.
- Stable--Funding mechanisms should generate a stable source of revenue.
- Targeted to need--Energy assistance should be targeted to households that have an energy need, which are those households with a disproportionate burden of energy expenses as a percent of income.
- Self-Sustaining--A funding source that does not require annual or periodic decisions for its continuity is conducive to crafting a permanent energy

[27] ***Task Force Report***, *supra*, at 28.

[28] ***Task Force Report***, *supra*, at 29,

assistance structure.

Ultimately, the Task Force recommended that any electric restructuring legislation in Colorado provide for a System Benefits Charge. The Task Force recommended that any such legislation:

- Require a specific portion of that fee be used to provide energy assistance for households with incomes less than 200 percent of the federal poverty level;
- Require energy providers to collect the charge;
- Direct all of the portion designated for energy assistance programs to the Colorado Energy Assistance Foundation (CEAF);
- Give CEAF discretion over portioning funds to cash assistance and weatherization programs; and
- Authorize CEAF to donate the revenue generated from the charge to public or private agencies that assist the low-income population with its energy needs.[29]

The Task Force finally recommended that, of the $55 million level of funding which it found was appropriate, $45 million (75%) should be allocated for cash assistance and $10 million (25%) should be allocated for weatherization programs. This allocation, the Task Force found, would allow the State to weatherize 5,000 low-income homes each year and to provide cash assistance to 90,000 low-income families.[30] Final decisions on program funding, however, would be made by CEAF.

Reasonableness of the Task Force Funding Recommendation

The funding recommendations of the Romer Task Force began with an estimated cost of $126 million to reduce total home energy bills for all households living at or below 200% of Poverty to a ten percent (10%) burden. That $126 million figure represents a reasonable estimate for 100% participation of households living at that income level. Table 10 presents a range of costs for three estimates of low-income energy bills. Consistent with the definition of "low-income" presented earlier, these cost estimates are limited to consumers at or below 150

[29] ***Task Force Report***, *supra*, at 38 - 39.

[30] ***Task Force Report***, *supra*, at 39.

percent of the federal Poverty Level.

Table 10
Colorado Low-Income Needs Based on Various Bill Estimates
(million dollars) /a/

	$1,050 Bill	$1,150 Bill	$1,250 Bill
100% participation	$95.1	$114.4	$136.6

NOTES:

/a/ "Low-income" defined to include households with annual incomes of at or below 150% of Poverty Level.

The adjustments made by the Task Force are also reasonable. It would be unreasonable to fund a program for 100 percent participation. Moreover, the Task Force reasonably could conclude that it would pay only a portion of a low-income household's bill. The portion of the bill deemed to be "essential," as well as the estimated participation rate, involve policy decisions not subject to empirical review in this report.

PUTTING IT ALL TOGETHER

Determining the need for additional funding to pay for low-income energy affordability assistance involves the an examination of the intersection between existing and potential resources. As indicated above, the findings of the Romer Task Force reasonably calculated a need for $55 million in low-income assistance. The need to fund that $55 million would be net existing LEAP and CEAF dollars. If, therefore, LEAP and CEAF provide $20 million in funding, an electric System Benefits Charge would need to raise $35. If a natural gas System Benefits Charge was also established (raising, hypothetically, $5 million), the electric fund would be $30. Table 11 identifies potential low-income resources to fund affordability assistance.

Table 11 Potential Resources to Fund Low-Income Affordability Assistance	
LEAP	1998: $15.7 million
CEAF	Annual: $5 - $6 million
Natural gas SBC	$5 million
Private fuel funds	None
Prior year rollover	Variable
Electric SBC	Up to $55 million

Taking a snapshot look at potential low-income resources at any given point in time, however, does not reflect the risks to which those resources are subject. Federal funding for low-income fuel assistance is being placed at increasing risk as the federal budget constraints tighten. While natural gas restructuring might raise a certain amount of affordability assistance dollars, it is not clear that Colorado's natural gas utilities would file retail choice plans, even if given the opportunity to do so. A natural gas System Benefits Charge is dependent on the submission and approval of such plans. CEAF is in constant risk of reduced earnings through any one or more of its fundraising mechanisms identified above. Table 12 identifies the risks that exist to potential low-income affordability resources.

Table 12 Risks to Potential Resources to Fund Low-Income Affordability Assistance	
LEAP	Congress defunds
CEAF	Reduced earnings
Natural gas SBC	No plans filed
Private fuel funds	Not applicable
Prior year rollover	Not applicable
Electric SBC	Not applicable

THE IMPACTS OF ELECTRIC RESTRUCTURING

OVERVIEW

The theory behind electric restructuring, as is true for any reliance on a market economy generally, is that competition can effectively enforce price discipline and service quality standards in the delivery of goods and services. If rates or charges are too high, the theory goes, or if service quality is unacceptably low, consumers will simply buy from someone else. The economic Darwinism of the market economy will ensure that those market participants providing the highest quality goods at the lowest prices will stay in business, while others will not.

These theoretical benefits from competition are, by most accounts, not likely to materialize for low-income consumers. According to one analysis from California:

> In competitive markets, willingness to pay and ability to pay are more important than the consumer's need for a product or service. The direct consequence of this fact is that consumers with limited or inadequate ability to pay will be excluded from the market or limited in their participation by means of exclusionary credit policies or limitations on the nature and the extent of the service available to them.
>
> * * *
>
> By itself, moving to a "consumer choice" environment would not appear to

> provide any significant benefits to low-income consumers, except to the extent that total costs to serve all consumers decreased. However, the opposite risk is also present that cost-shifting and lack of market power will result in small captive customer rates increasing. If this was the case, the current programs and efforts which are often woefully inadequate would need to be expanded and strengthened.\31\

Other researchers recognize the adverse impact of competitive markets on low-income consumers as well. One researcher found that, in general, competitive markets do not serve low-income consumers well. Citing empirical work in Oakland and San Francisco, Carl Oshiro, in his report for the Consumer Research Foundation, found problems with the competitive delivery of food, housing, health care, insurance and financial services to low-income consumers. Oshiro found amongst other things: (1) "enormous problems of unavailability, inconvenience, high prices and poor quality" for low-income food shoppers; (2) a lack of housing availability, relative housing unaffordability, and poor housing conditions; and (3) higher bank fees and greater inconvenience.\32\ In addition, Oshiro said:

> Other studies have documented how low-income consumers are not well served by the markets for health care and health insurance, automobile insurance, and banking and credit services. The same economic forces that produce a lack of choices, higher prices, and poor service in these markets will be at work in a restructured electric industry.\33\

Oshiro concluded that while "competitive markets are remarkable mechanisms," they "do not serve all customers well. Markets allocate goods and services based on a consumer's ability to pay and tend to increase prices and provide poorer service to consumers who have little economic power."\34\

\31\ John Stutz, *et al*. (1996). ***Can We Get There from Here? The Challenge of Restructuring the Electric Industry so that We All Can Benefit***, at 3-43, Utility Consumers' Action Network: San Diego (CA).

\32\ Carl Oshiro (1997). ***Universal Service in a Restructured Electric Industry: Can we ensure that all consumers have access to affordable electric service?***, at 11 - 12, Consumer Research Foundation: San Francisco (CA).

\33\ ***Oshiro***, *supra*, at 12 (citations omitted).

\34\ ***Oshiro***, *supra*, at 11.

RESTRUCTURING AND COMPETITION FOR LOW-INCOME CUSTOMERS

The failure of a competitive industry to protect the interests of low-income consumers flows from two general types of problems: (1) the failure of competitive markets to compete for low-income consumers; and (2) the inability or unwillingness of low-income customers to participate in the competitive market.

Will Competitive Electric Service Providers Compete for Low-Income Customers?

The theory that competitive service providers will actively compete for all customers, providing options from which to choose and opportunities through which to express preferences, is seen by many to be unrealistic when applied to low-income and other small user consumers. The New Jersey Board of Public Utilities spoke of the problem when it wrote its report on electric competition:

> . . .there may well be a tendency for certain suppliers to focus their marketing efforts on the most lucrative customers, which may well include industrial and large commercial customers, and perhaps a subset of larger, more affluent residential customers. As a result, while all market segments are simultaneously and proportionately provided the *opportunity* to shop, there is a concern that in *actuality* certain customer groups will have few options available.[35]

Experience seems to be bearing these New Jersey concerns out. Setting aside places like Massachusetts and California where low standard offer prices are impeding the introduction of competition into the electric industry, the experience in Pennsylvania's move to electric competition can be instructive. As of December 1998, virtually no-one was competing for small users in Pennsylvania. According to industry reports, while over 80 electric suppliers have registered to provide electricity in Pennsylvania, only about a half dozen are competing for residential customers outside the high cost PECO service territory (Philadelphia).[36]

This result does not appear to be attributable to conditions unique to Pennsylvania. In January, 1999, the largest competitor for small users in the nation --Enron-- announced that it was abandoning its quest for residential customers. The decision was one of sheer

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[35] New Jersey Board of Public Utility Control (April 1997). ***Restructuring the Electric Power Industry in New Jersey: Findings and Recommendations***, at 71. (emphasis added).

[36] ***475,000 Consumers Estimated to Switch***, 3 ***LEAP Letter***, at 6:19 (Nov./Dec. 1998).

economics.

> Enron, Inc., the largest trader of electricity and natural gas in the nation, says it is shelving plans to sell electricity to residential customers in states that offer customer choice. It says the profit margins are too low. Instead, the company will market only to business customers, which provide higher returns and also buy other services, such as energy-use management.\37\

The National Regulatory Research Institute (NRRI) recently considered the factors influencing consumer participation in natural gas retail choice programs. One important factor, NRRI found, involves "the willingness of third parties to enter a new market and provide services previously supplied by an incumbent utility."\38\ This willingness, NRRI said, "in accordance with economic theory, depends on the firm's expected future profits." NRRI noted that "the profit margin for serving small retail customers is small."\39\ It observed:

> A recent industry survey calculated that the cost of pursuing and signing one residential gas customer by a marketer is around $200, while the margin for that customer would average only $25 per year. This translates into an eight year payback period, which would discourage most marketers from entering the residential market.\40\

This result is neither surprising nor unique to the natural gas or electric industry. It is based on the same economic decisionmaking that has led competitive financial institutions, health insurers, and telecommunications providers to shun the small user market for markets involving larger --and more profitable-- consumers.

\37\ SnoPUD's ***Watt's in the News*** (Jan. 25, 1999).

\38\ Kenneth Costello (January 1999). ***Household Participation in Gas Customer Choice Programs: Some Facts, Explanations, and Lessons Learned***, at 16, National Regulatory Research Institute: Columbus, OH.

\39\ ***Household Participation in Gas Customer Choice Programs***, *supra*, at 19.

\40\ ***Household Participation in Gas Customer Choice Programs***, *supra*, at 16, *citing* "Appeal of Residential Market Uneven as Suppliers Seek New Opportunities," ***Gas Utility Report***, at 9 (February 27, 1998).

Will Consumers Shop for Competitive Electric Service?

The failure of competition to protect the interests of small users, including low-income consumers, does not exclusively involve the economics of the industry. Consumer-side characteristics impede the realization of the theoretical gains from competition as well.

In his California study, Stutz identified "three distinct reasons" why consumers may not participate in a competitive market.

- First, some consumers are simply not interested in making market decisions. This customer behavior involves routinized decisions, often based on habit purchases.[41]

- Second, some customers do not seek to maximize their economic benefits. Instead, these consumers engage in what is called "satisficing." These customers engage in a process that "after considering to some degree the potential exchange, they conclude that the status quo is good enough, albeit not necessarily the best possible deal that they could get."[42] This process of "satisficing" is particularly prevalent amongst small users, where maximizing benefits would nonetheless still yield small gains.

- Third, market barriers exist that impede customer participation in the competitive market. These barriers include high information and transaction costs, the uncertainties involved with making assessments, and the efforts needed to be expended to switch providers.[43]

The empirical experience to date is consistent with these theoretical considerations. Indeed, if the natural gas industry is any indication of what to expect in electricity, the future is bleak for small users. Reports continue to be published about how "competition has come" to millions of Americans. A December 1998 report by the U.S. General Accounting Office (GAO), however, presents a somewhat different perspective. According to the GAO, as of July 1998,

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[41] *See also*, Roger Colton (1993). "Consumer Information and Workable Competition in Telecommunications Markets," XXVII ***J. Econ. Issues*** 775; *see also*, Robert Lane (1991). ***The Market Experience***, Cambridge University Press: Cambridge (MA).

[42] ***Can We Get There from Here***, *supra*, at 3-24.

[43] ***Can We Get There from Here***, *supra*, at 3-25.

34 gas utilities had natural gas retail access pilots with 15 million residential customers eligible to participate. Of those 15 million customers, however, only 553,000 (4%) had *actually* selected a gas marketer as a new supplier of gas.[44] Even that number is somewhat overstated, since four Pennsylvania programs account for one-third of all those participants.

The highly variable participation rates in natural gas customer choice programs led the National Regulatory Research Institute (NRRI) to consider *why* residential customers were not exercising their "right to choose" when choices were provided to them. In its January 1999 study,[45] NRRI concluded:

- ". . .small customers such as households may find it more difficult and less beneficial than large customers to switch from their incumbent supplier."[46]

- ". . .customers [are] more likely to participate in a customer choice program when they expect to receive higher net benefits. Net benefits are inversely related to the price of third-party service relative to the utility's price, the cost of switching from the incumbent to another supplier, and the lower service quality anticipated by customers when switching to a third party."[47]

If small consumers are to be expected to participate in a competitive market --particularly low-income consumers with smaller benefits and higher risks-- a state will need to adopt specific policies to both enable and encourage such participation. It is not likely that small user participation will arise spontaneously as a market phenomenon, even if consumers are given the "opportunity" to choice.

LOW-INCOME CONCERNS ARISING FROM ELECTRIC RESTRUCTURING

Having identified the overall concern that low-income consumers may well be excluded from receiving the benefits of a competitive market, the question that next marches forward is whether moving to a competitive electric industry will generate *specific* harms. The discussion below identifies potential adverse consequences to low-income customers in the

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[44] U.S. General Accounting Office (Dec. 1998). ***Energy Deregulation: Status of Natural Gas Customer Choice Programs***, GAO/RCED-99-30, U.S. General Printing Office: Washington D.C.

[45] Kenneth Costello (January 1999). ***Household Participation in Gas Customer Choice Programs: Some Facts, Explanations, and Lessons Learned***, National Regulatory Research Institute: Columbus (OH).

[46] ***Household Participation in Gas Customer Choice Programs***, *supra*, at 4.

[47] ***Household Participation in Gas Customer Choice Programs***, *supra*, at 16.

areas of rates, bills and service quality.

Impacts on Rates

While the general message decisionmakers often hear today is that a move from a regulated to a competitive market will deliver economic advantages to consumers, such conclusions are generally couched in terms of "aggregate" or "average" consumers. A 1998 report by the Consumer Energy Council of America Research Foundation perhaps stated it best, in finding:

> While there is a growing body of evidence that shows all customer classes can ultimately benefit from competitive markets, it is important to remember that there will always be winners and losers, at least in the short-term, due to any major economic and societal transformation. This is particularly true for those consumer classes that are most vulnerable --residential and small business consumers. More specifically, special vigilance must be paid to mitigate any negative impacts of the transition to competition on low-income consumers, rural consumers and those small consumers who currently reside in low-cost states.[48]

CECA cited research by the National Regulatory Research Institute (NRRI), for example, finding that "retail gas consumers cumulatively saved as much as $100 billion" as a result of natural gas deregulation in the mid-1980s. NRRI continued on to note, however, that the benefits of natural gas deregulation have not been spread evenly over all customer classes. "[T]here is a legitimate concern that small retail customers, relative to other gas customers, may have received too few benefits from the recent reforms in the natural gas industry."[49]

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[48] Ellen Berman, *et al.* (March 1998). ***Restructuring the Electric Utility Industry: A Consumer Perspective***, at 89, Consumer Energy Council of America Research Foundation: Washington D.C.

[49] Kenneth Costello and Daniel Duann (July 1996). "Turning Up the Heat in the Natural Gas Industry," ***Regulation***, at 3.

Price Shifting

The conclusion that price shifting will occur is not simply a political statement, but is a real economic phenomenon. "The process of restructuring inevitably requires public utility commissions to determine how to separate and unbundle costs between classes of customers. Utilities and large industrial customers who exercise significant influence over these decisions pressure regulators and legislators to shift a disproportionate share of legitimate social, joint and common costs such as transmission costs, distribution costs, environmental costs, and network management costs to residential and small commercial ratepayers."[\50\] This result is not limited to industrial utility customers (standing in opposition to residential utility customers). It arises whenever a competitive service provider serves two markets, one of which is more competitive than the other. In that instance, the provider will tend to allocate a disproportionate share of common costs to the less competitive market.[\51\]

Are these price shifts theoretical or real? One recent analysis concluded that:

> Better deals for large utility customers at the expense of others are not unusual; indeed they mirror the market segmentation that occurs in many industries where price is unregulated. An early example of market segmentation after deregulation is in the natural gas industry. In 11 years of deregulation, the residential price decrease has averaged only four percent and has never been more than 11%. In 1996, residential prices were four percent higher than in 1985. But the industrial price drop averaged 25%, has been as large as 32%, and in 1996 was 13%.[\52\]

\50\ Mark Cooper (July 1998). ***The Residential Ratepayer Economics of Electric Utility Restructuring: Balancing all the Costs and Benefits***, Consumer Federation of America: Washington D.C.

\51\ *See e.g.*, Roger Colton (1994). "Institutional and Regulatory Issues Affecting Bank Product Diversification Into the Sale of Insurance," ***Journal of the American Society of CLU and ChFC***. ("Whenever there are common costs associated with production in a multi-product firm, there will be issues of cost-allocation if one of the products or services is provided to a captive audience. The question is whether banks will have both the ability and incentive to allocate costs in a manner so as to shift costs away from the competitive insurance affiliates and onto captive bank customers. Particularly if the insurance industry will be as competitive as urged by proponents of banking diversification, there will be an incentive for bank holding companies to subsidize their insurance operations from captive banking customers in order to protect their revenue base from substantial erosion.")

\52\ Jerrold Oppenheim (February 1999). ***Cap the Gap: Assuring Residential Customers Share Benefits of Electricity Industry Restructuring***, National Consumer Law Center: Boston (MA).

Similarly, this analysis found that "the experience with telephone deregulation has been even worse for the consumer."

> The rates for long distance, which most residential customers use relatively rarely, dropped sharply while costs were shifted to local service. In 13 years of deregulation (1984 - 1996), the price of local home telephone service jumped 52%; for big business, long distance is the largest part of the bill and dropped at least 50%.[53]

State specific recent research on both natural gas and electric rates in Colorado reveals much the same results with respect to small residential customers. Colorado's experience with natural gas allows a consideration of what happens when competition comes to one class but not to others. In the mid-1980s, the Federal Energy Regulatory Commission (FERC) effectively introduced competition for natural gas purchased by large users, but not for small users.

While in pre-competition days, gas price increases for the industrial and residential customer classes closely tracked each other, competition changed all that. As Figure 1 demonstrates, a significant gap arose in Colorado between large and small users as industrial customers captured the benefits of competition and residential customers could not. In addition, the trend line becoming evident over recent years shows that the increasing disparity between prices for large and small users is likely to continue.

Figure 1 not displayed

[53] ***Cap the Gap***, *supra*, at v.

In contrast to these results in the natural gas industry, Colorado has *not* seen a large increase in the gap between the electric rates of large and small users. As Figure 2 shows, while the gap between residential and industrial rates has increased in terms of cents per kWh from 1970 through 1995, the gap in terms of percentage difference has *not* seen such an increase. The Colorado electric price differential between residential and industrial customers in 1970 was 55%, but had decreased to less than 40% 25 years later.[54] In the period 1980 through 1995, the gap remained virtually unchanged, staying at about 36% (+/- two or three percentage points in any given year). In the period 1991 through 1995, however, the gap has begun a small but noticeable creep upwards, increasing from 35% in 1991 to 39% in 1995.

Figure 2 not displayed

Provider of Last Resort

A final price concern facing low-income consumers is that customers served by the public or residual markets, known as "provider of last resort" in current electric restructuring parlance, will see significant price increases. As nearly everyone recognizes, a restructured electric industry needs to establish a Provider of Last Resort, both for: (1) customers who have been presented with no offers for supply by alternative suppliers; and (2) those who have been dropped by their alternative supplier for any reason, including non-payment. A provider of last resort is necessary to ensure that all residential consumers --provider of last resort is generally limited to residential consumers-- have access to power.

Several problems are likely to arise in a provider of last resort mechanism, primarily from the low-income consumer perspective. While the provision of basic generation service (which is likely to be what is provided through the provider of last resort) is generally seen as a market-

[54] ***Cap the Gap***, *supra*, at 7.

based rate, in all likelihood, it will nonetheless be a "plain vanilla" service.\55\ Customers involuntarily taking basic generation service are thus denied the ability to take full advantage of competitive service offerings. As a result, the advantages of competition are denied to all customers in the state.

Moreover, the mere fact that the provider of last resort will offer "cost-based" service does not offer substantial price protection. As the high risk, high cost customers become segregated into the residual pool, it is likely that rates will increase, even if formulated on a cost-basis. This expectation is supported by experience from the insurance industry's provider of last resort mechanisms as well. The insurance industry is perhaps the industry best known for establishing a "provider of last resort" mechanism.\56\ One insurance analyst has observed that "residual market plans commonly charge higher rates than the voluntary markets. Indeed, at least one court has steadfastly ruled that residual market insureds are *supposed* to pay higher rates."\57\ According to a 1974 Federal Insurance Administration study, rates in such plans averaged 45% higher than rates for similar drivers in the voluntary market.\58\ This result was subsequently confirmed as well.\59\ This result is as true for residual markets for property insurance as it is for residual markets for automobile insurance.\60\

To the extent that low-income electric consumers are primarily served by a provider of last resort, through a residual market mechanism, they should be protected against the increased rates that have been experienced in similar circumstances in parallel industry situations.

\55\ Similarly, the insurance industry provides "plain vanilla" service through its public market mechanisms. In the automobile insurance residual pools, for example, "typically, the coverage was limited to the minimum requirements of compulsory insurance and financial responsibility." Regina Austin, "The Insurance Classification Controversy," 131 ***U.Pa. L.Rev.*** 517, 523, n. 27 (1983).

\56\ Roger Colton (Dec. 1998). "Provider of Last Resort: Lessons from the Insurance Industry." 11 ***The Electricity Journal*** 77.

\57\ ***Austin***, *supra*, at 523. (emphasis added).

\58\ U.S. Dep't of Housing and Urban Development, Federal Insurance Administration, ***Full Insurance Availability*** 1-3 (1974), U.S. General Printing Office: Washington D.C.

\59\ U.S. Dep't of Housing and Urban Development, Federal Insurance Administration, ***Insurance Crisis in Urban America*** at 20 - 22 (1978), U.S. General Printing Office: Washington D.C.

\60\ David Badain, "Insurance Redlining and the Future of the Urban Core," 16 ***Columbia J.L. & Soc. Probs.*** 1, 9 (1980) (FAIR plan insureds generally pay higher premiums than do voluntary market insureds).

Impacts on Bills

It is not simply the kWh charges, however, that are of concern to low-income consumers in a restructured electric industry. It is the number, size and incidence of all the supplemental service fees as well.

The imposition of service fees by a competitive industry is perhaps best exemplified by the competitive banking industry. These fees have drawn ire from consumers and policymakers alike, particularly with respect to the imposition of ATM fees. The Federal Reserve Board submits an annual report to Congress tracking the imposition of fees by competitive banks. The Federal Reserve report is based on a survey of a random sample of 700 members of the Bank Insurance Fund (BIF) and 350 members of the Savings Association Insurance Fund (SAIF).[\61\]

Overall, the number of supplemental bank fees which the Federal Reserve specifically tracks is now up to 39. The report evaluates information on the size, number and incidence of fees. The size of the fee refers to the dollar value of the fee. The number of fees refers to the number of separately identified fees imposed. The incidence of fees refers to the number of banks charging any particular fee.

In addition to the number, size and incidence of supplemental fees, the 1998 assessment of bank fees raises a second concern about the potential impacts on consumers of one aspect of electric restructuring. Of particular concern in an era of mergers and acquisitions in the electric industry •-it is estimated that the current level of roughly 200 electric utilities will decrease to 50 in the next 10 to 15 years• the Federal Reserve concluded that the bigger the banks, the higher the fees, even after controlling for cost factors that might affect those fees. According to the Federal Reserve, "the average fees charged by multistate organizations are significantly higher than those charged by single-state organizations."[\62\] The report stated:

> In 1997, as in previous years, most of the fees charged by multistate banks were on average significantly higher than those charged by single-state banks. Of the nineteen comparisons of fees charged by multistate and single-state banks, twelve showed a significant difference between the two types of bank, and in

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[\61\] Board of Governors of the Federal Reserve System, ***Annual Report to the Congress on Retail Fees and Services of Depository Institutions***, at 2 (June 1998).

[\62\] ***1998 Annual Report***, *supra*, at 1.

all twelve, the multistate bank fees were higher.\63\

According to the Federal Reserve, multistate banks on average charged about $4.50 more for stop-payment orders than did single-state banks, about $4 more for insufficient funds checks, and about $3.50 more for overdrafts. The Federal Reserve noted further that "significantly higher fees at multistate organizations are also found after statistical analyses that are designed to account for the role of locational and other factors in fee setting."\64\

In addition to the size difference in fees, the 1998 Federal Reserve report noted that "five of six comparisons between multistate and single-state banks regarding the incidence of fees indicate that multistate banks are more likely to charge a fee than are single-state banks."\65\ As can be seen, bigger banks are not only more likely to charge a fee, but more likely to charge a *higher* fee.

INCREASING UTILITY ANCILLARY FEES

Bad check fees
Late fees
"Collection" fees/"Posting" fees
Disconnect visit charge
Issuance of disconnect notice

Preliminary work has examined how a move toward competition in the electric industry has affected supplemental fees. This inquiry recognizes that the electric industry is "restructuring" whether or not individual states allow retail competition. As in banking, continuing increases have been found in the number, the size and the incidence of supplemental fees in the electric industry in the past four years. Particularly ubiquitous is the imposition of --or the substantial increase in-- late fees, bad check fees, and "collection fees" (imposed when a company has to initiate the collection process).

Not only do these fees particularly affect low-income payment-troubled customers, but these fees are becoming increasingly divorced from a cost basis. They are instead used more and more to create "incentives" or "disincentives" for consumers to do or not to do certain things. This, too, mirrors the banking industry, which is turning the collection of supplemental fees into significant profit centers.\66\

\63\ ***1998 Annual Report***, *supra*, at 11.

\64\ ***1988 Annual Report***, *supra*, at 2.

\65\ ***1988 Annual Report***, *supra*, at 11.

\66\ Stephanie Weber, "Excessive Bank Fees: Theories of Liability and the Need for Legislative Action," 25 ***Univ. Memphis L.Rev.*** 1439 (1995) (Reports state that fees for "bounced checks" have risen from an average of $15.11 in 1990 to an average fee of $19.35 per check by 1993. The large banks are charging

The imposition of these supplemental fees, particularly in the collection context, can represent major impacts on a low-income consumer. Assume, for example, a low-income consumer with an annual bill of $1,100. A single returned check charge of $30, or a single field collection charge of $25, would represent an increase in "rates" of anywhere from 2.5% to 3%. Under a regime of new and increased supplemental fees, it is not unreasonable to expect low-income interactions with electric service providers resulting in fees of $50 or more per year.

The conclusion arising from this discussion of supplemental fees does not depend on the direct analogy of the banking industry to the electric utility industry. Rather, the conclusion is that the *prices* charged by electric utilities on a per kWh basis, and the *bills* experienced by low-income customers --particularly low-income payment-troubled customers-- may be quite different. A low-income consumer that experiences supplemental charges of $50 a year, for whatever reason, is experiencing a five percent increase in "rates" even if the cents per kilowatthour charge remains constant.

Impacts on Service

One inevitable impact of electric restructuring is a reduction in the workforce of electric utilities. According to the Energy Information Administration, from 1986 to 1995, "employment at major IOUs decreased by about 20 percent, a reduction of more than 100,000 employees. . .In an increasingly competitive industry, staff reductions and downsizing are likely to continue. Many utilities have announced plans to revamp their organizational structure, streamline their operations, and reduce staff."[67]

There are both direct and indirect customer service implications to these staffing cutbacks. Staff reductions can have a direct impact on reduced customer service quality. In the telecommunications industry, for example, a "competitive" U.S. West reduced its workforce by 9,000 persons and consolidated its 560 customer service centers in its 14 state region to 26 centers in 10 major cities. Oshiro reports that "following this re-engineering, customer service disintegrated to the point where state regulators were inundated with thousands of customer complaints. Regulators in Colorado, Washington, Oregon, New Mexico, Arizona, Montana and Minnesota required that US West pay millions of dollars in fines, penalties, and

(..continued)

fees averaging 971% more than the processing costs.)

[67] U.S. Department of Energy, Energy Information Administration (Dec. 1996). ***The Changing Structure of the Electric Power Industry: An Update***, at 86, U.S. Department of Energy: Washington D.C.

reparations for poor service."[68]

Similar cutbacks have already begun in the Colorado electric industry. In August 1994, the following story appeared:

> Public Service Co. of Colorado plans to close 32 customer-service offices in the state, leaving only its downtown Denver center open, as part of its massive restructuring program. The closures, set to be mostly complete by year end, will help cut costs, PSC spokesman Mark Stutz said Tuesday. "Ten percent or fewer (of customers) use the offices, but everybody has to pay for them," he said. "It's not the most cost effective way for us to provide physical payment centers."
>
> * * *
>
> The closures are part of a PSC restructuring plan that will cut 1,100 positions by year end and result in a cost-savings of about $60 million over five years. The job cuts include about 550 employees who participated in an employee buyout program last spring.
>
> * * *
>
> The 33 customer-service centers range from the bustling office at 14th and Glenarm Place in downtown Denver, the only one to remain open, to stand-alone offices in rural communities. About a dozen are in the Denver area.[69]

This reduction in customer service centers is a common impact of restructuring.[70]

Defining What Constitutes a Utility "Service"

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[68] ***Oshiro***, *supra*, at 17.

[69] "Public Service closing 32 customer-service centers," ***Rocky Mountain News***, August 31, 1994. Subsequently, the Glenarm Place customer service center was also closed.

[70] *See*, Barbara Alexander (April 1996). "How to Construct a Service Quality Index in Performance-Based Ratemaking," ***The Electricity Journal*** 46, 47 (". . .even well meaning managers who seek to improve efficiency may engage in such an orgy of downsizing and centralization of far flung local offices that, even though not intended, poor service quality results.")

Before beginning an evaluation of the impacts that electric restructuring might have on the service delivered to Colorado's low-income customers, it is necessary first to define what activities make up the "services" provided by an electric company. Traditionally, regulators have tended to view the "service" provided by an electric utility as solely the provision of kWh through wires to the consumer. This view is too narrow.

A better approach is to consider an electric utility as the distributor of a "manufactured" product and adopt the manufacturing concepts of "product" and "service." In the manufacturing world, a company's offering to its market is composed of both a physical product and a bundle of related or supporting services. A simple example would be the appliance manufacturer who offers free delivery, free installation and a 90-day warranty with the purchase of any appliance. The delivery, installation and warranty comprise the "service" component of this offering. Applying these concepts to an electric utility leads one to define the kWh provided to consumers as the "product" component of the company's market offering. All other activities related to the provision of electricity or supporting the provision of electricity would be the "service" component.

The flowchart displayed in Figure 3 helps to define the service component of an electric utility's offering to low-income customers. As that Figure indicates, every interaction between a company and its customers consists of an offering of a product or service (by the company) and a consumption of that product or service (by the customer). Therefore, it is valid to define the product and service components of an electric utility's market offering by identifying the various company/customer interactions that occur. This definition of "service" was adopted for the discussion below.

Assessing Service Quality Concerns

The process of assessing services offered primarily or exclusively to low-income consumers for this research involved: (1) interviewing people who are *inside* of utility companies and *provide* services to low income customers, and (2) also interviewing advocates and direct service providers who are *outside* of the companies and represent the low income people who *consume* those services. The interviews were designed to directly elicit identification of the "services" that are provided by Colorado's electric companies to their low-income customers. This "insider/outsider" and "service provider/service consumer" approach was expected to provide a fair, balanced picture for the Advisory Panel.

Interviews were conducted with representatives of Public Service of Colorado and Colorado Springs Utilities and with various concerned individuals throughout Colorado's low-income advocacy community. Participants were asked to comment directly, based on their knowledge and experience, about the services that are provided by Colorado's electric

companies to their low-income customers. Participants were also asked to comment directly on the likely impact to these services, again based on their knowledge and experience, of electric restructuring in Colorado.

The opinion expressed, time and again in this interview process was not that electric restructuring would threaten the *existence* of services. It was rather that the quality of the service or the time required to obtain the service would degrade. This general conclusion becomes clearer as specific service components are discussed below.

FLOW OF CUSTOMER THROUGH A UTILITY SYSTEM

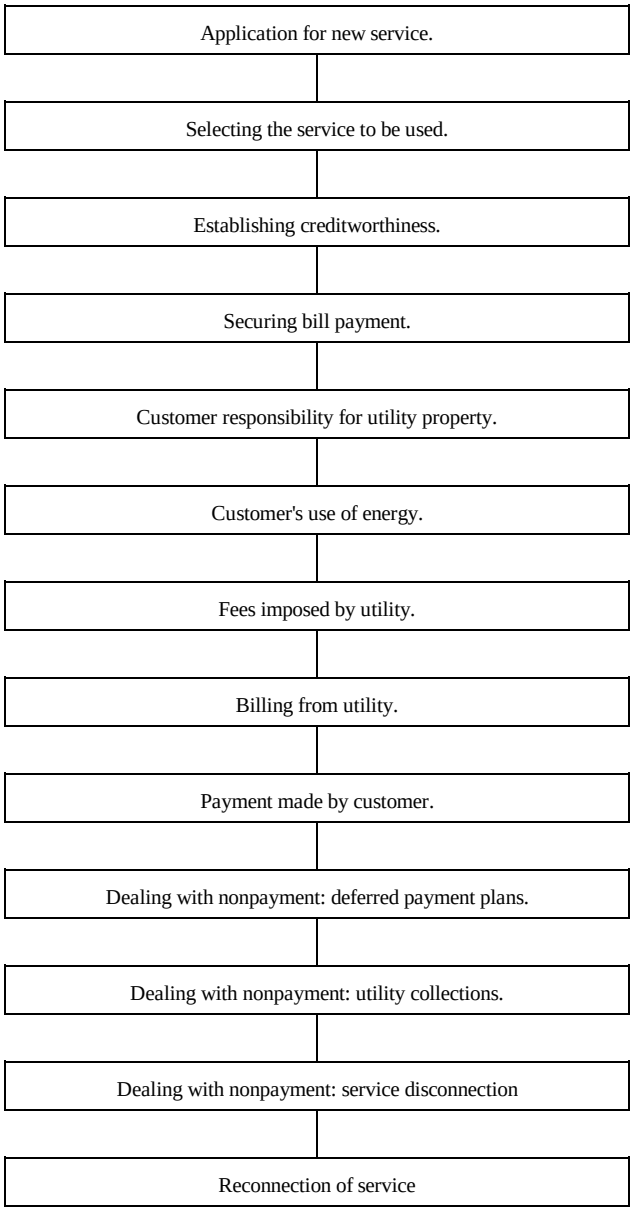

Figure 3

Direct Service Quality Impacts

Five aspects of electric utility service have been identified as having particular importance to the low-income community.[71] They are: (1) standard payment plans, (2) negotiated non-standard payment plans, (3) ten-day disconnect holds, (4) historical customer account information, and (5) service termination avoidance. Each is discussed in more detail below.

1. **Standard Payment Plans:** Standard payment plans are a component of service coming out of the Credit and Collections group at Public Service of Colorado and the equivalent group at Colorado Springs Utilities. Low-income advocates consider both the quality and timeliness of standard payment plans to be at risk as Colorado restructures the electric industry. After its merger with Southwestern Public Service, advocates decried the closing of PSCo's customer service centers because low-income customers frequently pay their electric bills in cash. But the closing of these service center also meant that the low-income population could no longer meet face-to-face with a company representative and arrange a standard payment plan. Such plans are still offered by PSCo and the terms of such plans are generally unchanged, but the quality has degraded because they are more difficult to obtain (*e.g.*, takes more effort, more personal resources). Timeliness is also degraded because it simply takes longer to reach the company by telephone. Advocates fear similar degradation in quality as restructuring progresses.

2. **Negotiated Non-Standard Payment Plans:** Negotiated non-standard payment plans are a component of service coming out of the PAR group at Public Service of Colorado. When a low-income customer is referred to the PAR group, the PAR representative has the authority to negotiate payment terms that differ from case-to-case and from the Rule 13 disclosures.[72] Advocates fear that the pressures of competition in a restructured Colorado electric industry will threaten both the quality and timeliness of this service.

This reduced quality would manifest itself in two ways. First, staffing within the PAR group of PSCo may be reduced in response to the cost reduction demands of competition. Fewer company representatives means that to negotiate a non-standard payment plan is both more difficult and less timely. To actually reach a PAR representative will require more effort and

[71] The initial inquiry involved an attempt to define services that were used exclusively or predominantly by low-income consumers. The interview process made clear, however, that an electric utility generally has no idea of the income of persons using their various service processes. The inquiry thus became: "what services are used sufficiently frequently by low-income consumers to be of particular importance to the low-income community?"

[72] Rule 13 is the state Public Utilities Commission regulation governing customer service.

take longer as the number of representatives is reduced. This analysis parallels that presented above regarding standard payment plans.

Second, pressure already is building within PSCo for every department to "improve the bottom-line." Within the PAR group, this means not only reducing staff, but also negotiating non-standard payment plans that are more favorable to the company. PAR representatives have been told to "get tougher" in negotiations. This represents a decline in the quality of non-standard payment plans from the low-income customer's perspective.[73] Again advocates fear that this trend will only worsen as restructuring draws nearer.[74]

3. **Ten-Day Disconnect Holds:** Ten-day disconnect holds are a service component within the PAR group at Public Service of Colorado. The Rule 13 disclosures of the company include the commitment to automatically delay the disconnection of service to any customer who has applied for energy assistance (LEAP) and so notified the company. The immediate persons who seek to use this process are the staff within Colorado's district LEAP offices. The end customer, however, is the low-income customer.

LEAP office staff have already experienced a decline in the quality of this service. As the staffing of the PAR unit has declined, the ease with which a telephone contact is made has also declined. It is expected that this trend will worsen. Cases have occurred where a disconnection was completed while a LEAP office was trying to notify PSCo of the customer's LEAP application and consequent "right" to a ten-day hold.

4. **Historical Customer Account Information:** Completion of the application paperwork for energy assistance in Colorado requires knowledge of a customer's current account status with the energy provider and information regarding the historical level of energy bills. This information is a component of service coming from the PAR group at Public Service of Colorado and the equivalent group at Colorado Springs Utilities. It is typically provided during a telephone call between the company and a third party energy assistance provider.

This is another case where a decline in the quality of service has already been experienced.

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[73] Note, however, that it represents an *improvement* in the "quality" of that same service from the company's perspective.

[74] In addition, it is not unreasonable to foresee that non-standard payment plans are eliminated altogether by PSCo although no one suggested that this was being considered. Experience indicates, however, that diversity in administrative practices causes complexity; complexity is expensive. One generally-accepted cost reduction technique is to standardize a process and then hire lower skilled personnel to perform the tasks.

Third party energy assistance providers spoke of incidents when a low-income client was sitting with a counselor in the counselor's office unable to complete a LEAP application form because they were waiting on-hold to speak with a PSCo PAR representative. The ability to complete the LEAP application "today" was seriously compromised.[75]

5. **Service termination avoidance:** Negotiations with low-income consumers to avoid the disconnection of service due to nonpayment have previously often been handled through local customer service offices at Public Service of Colorado. With the closure of those offices, advocates have noted, what previously had been face-to-face negotiations have become negotiations via telephone instead.

The experience to date has been that telephone negotiations have resulted in greater difficulties in reaching agreement on the immediate and long-term actions which the customer needs to take to avoid service termination. Low-income consumers, and their advocates, have reported a greater difficulty in "making their case" via telephone. While immediate service terminations are generally still avoided, there has been a degradation in service in reaching agreement on the necessary customer actions.[76]

THE STONE AND WEBSTER RESTRUCTURING ANALYSIS

Because Colorado has low generation costs relative to other states, with the low retail rates that accompany such costs, "it is not obvious. . .whether electric industry restructuring in Colorado will result in lower or higher retail electric prices for the consumers in the state."[77] Because of this, the Colorado Electric Advisory Panel retained Stone and Webster Management Consulting to analyze the impacts of restructuring on retail prices to be paid by Colorado retail customers under various alternative market structures and sensitivity scenarios.

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[75] Completing the application process "today" is often the key to completing it at all. Once a low-income client leaves the counselor's office, they often fail to return.

[76] This conclusion that telephone contacts are not the substantial equivalent of in-person, face-to-face contacts, it should be noted, is consistent with the academic literature examining a reliance on telephones for negotiations. Face-to-face negotiations have consistently been found to allow for increased communication, an increased ability to reach consensus, and an increased ability to reach compromise. The reliance on telephone communication for such activities (*e.g.*, negotiations) eliminates important non-verbal communication that helps facilitate this process. *See generally*, Derek Rutter (1987). ***Communicating by Telephone***, 81 - 145, Pergamon Press: New York; D.R. Rutter, G.M. Stephenson, M.E. Dewey (1981). "Visual Communication and the Content and Style of Conversation," 20 ***The British Journal of Social Psychology*** 41.

[77] Stone & Webster Management Consulting, ***Energy and Economic Modeling Issues***, at ES-1, Colorado Electricity Advisory Panel: Denver (CO).

The primary conclusion reported by Stone and Webster was that:

> Restructuring the electric industry in Colorado will likely lead to an increase in retail electricity rates throughout the state. This finding holds for the current customers of all utilities, for all but one customer class (irrigation customers), for all years, for all regulatory cases considered, and for all scenarios considered.\78\

According to the Stone and Webster estimates:

> statewide average rates are forecast to increase from 6.4 cents/kWh in 2003 to nearly 9.7 cents in 2017, an average annual increase of 3.0 percent. The retail rates for all five utilities are projected to increase at approximately the same rate, varying between 2.7 percent per year for TSGT and 3.2 percent per year for PSCo.\79\

The rates for all five customer classes (residential, small commercial and industrial, large commercial and industrial, irrigation/agriculture, other) increase at approximately the same rate. According to Stone and Webster, the "key finding" of its study is that "at the utility level, the retail rates in the poolco case are higher than in the cost-of-service case for the current customers of all five utilities."\80\ The increase, it should be noted, is relative to continued cost-of-service regulation, not to existing rates. Stone and Webster forecasted that average statewide retail rates would increase an average of 1.3 percent per year under cost-of-service regulation (from 6.0 cents/kWh in 2000 to 7.52 cents/kWh in 2017).\81\ In the full competition with poolco scenario, Stone and Webster projected that at the statewide level, retail rates would exceed cost-of-service rates by "nearly 3 mills/kWh in 2003, and ris[ing] steadily to 2.2 cents/kWh in 2017."\82\

\78\ ***Energy and Economic Modeling***, *supra*, at ES-2.

\79\ ***Energy and Economic Modeling***, *supra*, at 3-12 - 3-13.

\80\ ***Energy and Economic Modeling***, *supra*, at 3-15.

\81\ ***Energy and Economic Modeling***, *supra*, at 3-25.

\82\ ***Energy and Economic Modeling***, *supra*, at 3-25. Stone and Webster reported that its findings were "robust" with respect to the various scenarios it considered. The estimated rates impacts do not vary substantially between scenarios. *Id.*, at 3-26.

Moreover, Stone and Webster reported, because of the market power Public Service Company of Colorado (PSCo) "will possess," PSCo will:

> be able to raise prices in a poolco-like market structuring by increasing its bids to the poolco above its costs. This will result in higher profits for PSCo, as well as the other utilities in the state.\83\

The ability of PSCo to maintain this market power will last for five years, Stone and Webster reported, before entry of additional merchant plants into the market will cause that company to abandon its pricing strategy. According to Stone and Webster, PSCo's pricing will drive retail prices seven percent higher than the base case full competition (with poolco) scenario in 2003, with the price increase reduced to four percent above the base case by 2007.\84\

The purpose of the following discussion is to briefly note the implications of the Stone and Webster analysis on low-income consumers. Average residential electric consumption in Colorado is roughly 7,600 kWh per year.\85\ Each 3 mil increment of additional electric cost attributable to electric restructuring thus costs individual consumers roughly $17.50 per year (7,600 kWh x $0.003/kWh = $17.48). According to Stone and Webster, average retail rates will rise to $0.022/kWh above what they would have been without restructuring. Applying this price hike to low-income consumers yields an increased annual electric bill of nearly $170 (7,600 kWh x $0.022/kWh = $167).

From a low-income perspective, the significance of the price increases forecast by Stone and Webster can be viewed on both an individual and aggregated basis. From an aggregated basis, the price impacts of electric restructuring will erode the ability of existing low-income programs to keep home energy bills affordable. From an individual basis, the price impacts will significantly increase the home energy burdens of the lowest income consumers.

On an aggregated basis, assuming that Congress, at best, leaves LEAP funding at constant levels, the increase in electric costs attributable exclusively to electric restructuring will take $9.7 million of energy costs out of the low-income population receiving LEAP benefits. A decision to restructuring the electric industry in Colorado, therefore, will thus erode Colorado's LEAP funding by more than 60 percent ($9.7 million / $15.7 million = 61.5%).

\83\ ***Energy and Economic Modeling***, *supra*, at ES-2.

\84\ ***Energy and Economic Modeling***, *supra*, at 5-5 - 5-6.

\85\ Energy Information Administration (October 1998). ***Electric Sales and Revenue: 1997***, at Table 14, Energy Information Administration, U.S. Department of Energy: Washington D.C.

Stone and Webster's market power scenario (7% over the poolco price) would erode Colorado's 1998 LEAP funding by nearly two-thirds ($10.33 million / $15.7 million = 65.8%).

The increase in electric costs attributable to electric restructuring will completely eliminate (and more) any impacts of private fuel assistance in Colorado. At 1997 LEAP participation levels (57,752), and assuming no degradation in future CEAF earnings, the added low-income electric costs attributable to electric restructuring (through either the base case poolco or the market power scenarios) will equal roughly four times (400%) what CEAF contributed to LEAP in 1998 ($2.5 million) to help pay low-income home energy bills.

The impact of electric restructuring price increases on the lower income individual Colorado residents is considerable, as measured by energy burdens (bills as a percent of income). The base case scenario yields an average bill increase of roughly $170 by 2017 (7600 kWh x $0.022/kWh = $167). For consumers with annual incomes at or below $8,000, the increased energy burden exclusively to the price hike caused by restructuring will range from two percent (2%) to 17% percent of income. The market power scenario imposes even greater bill increases. The number of Colorado LEAP participants at the lowest income levels has remained relatively constant over time.

Energy Burden Increase Attributable Exclusively to Price Increases Associated with Electric Restructuring in Colorado for Colorado LEAP Participants (Incomes <$8000)						
	Energy Burden Increase		Number of Colorado LEAP Participants by Year			
	Base Case	Market Power Case	1986	1990	1994	1998
$0 - $2000	17%	18%	5,652	5,374	5,122	4,241
$2001 - $4000	6%	6%	7,764	7,488	7,043	3,777
$4001 - $6000	3%	4%	23,228	22,765	20,417	8,439
$6001 - $8000	2%	3%	8,447	9,299	12,947	14,668
Total < $8,000:			45,091	44,926	45,529	31,125
Total LIHEAP recipients			62,108	60,384	71,139	57,752

As can be seen, given the electric price increases forecast by Stone and Webster, energy for Colorado's lowest income consumers will become substantially less affordable and the effective resources to help defray those home energy costs will be seriously eroded.

SUMMARY

In sum, the above analysis identifies and explains many of the adverse impacts which a move to restructuring is expected to have on low-income consumers. Low-income customers are not expected to be active participants in a competitive electric market. This is true both because competitive service providers are not expected to actively compete for small user customers generally, let alone for high cost, high risk small user customers such as low-income customers. In addition, low-income customers face specific consumer-side market barriers involving low potential economic gains even if they do shop for electricity. In addition, the risks of changing are great (given the frequent need to avail themselves of customer services), and search costs are high.

A variety of adverse impacts are expected to arise because of these barriers that impede the participation of low-income consumers in a competitive electric market. The discussion above identifies and summarizes these consequences not as an end unto itself, but rather as a predicate to specific remedial legislation that is discussed in detail below. Adverse consequences to low-income customers are expected in the areas of rates, bills and customer service.

SECTION 2: POTENTIAL LEGISLATIVE RESPONSES

PRICE PROTECTION RESPONSES TO LOW-INCOME CONCERNS

Three specific price/bill concerns were identified above with respect to the low-income population. These include:

- An increasing disparity between prices charged to large and small users as common costs are disproportionately allocated to the less competitive customer class;

- An eventual fly-up in rates charged to high risk, high cost, customers that are assigned to the provider of last resort.

- The imposition of a variety of supplemental fees akin to the unbundled fees which the banking industry attaches to services that historically have been included in basic service charges.

The following proposals might address these concerns:

Proposal #1: Impact Assessment

PROPOSAL #1 LANGUAGE

1. *The state public utilities commission shall, in consultation with the Office of Consumer Counsel, monitor on an on-going basis the state of competition, as it exists and as it is likely to evolve. Not later than January 1, _____ (insert date as appropriate) and annually thereafter, the commission shall report its findings to the standing committee(s) of the General Assembly having cognizance of matters relating to energy. This report shall contain the following:*

    a. *Information on electric prices, including (i) electricity spot price information for the previous calendar year, including but not limited to, the average regional monthly spot price; (ii) a determination of whether or not all customer classes are being adequately served by competitive energy markets; (iii) a determination of the competitiveness of energy markets, including a determination of whether or not the electric industry is providing consumers with the lowest prices possible within a restructured competitive retail marketplace. Said report shall identify any substantial fluctuation or pricing differences in the cost of electricity available to consumers, especially with respect to geographic regions and low and moderate income customers.*

    b. *Information on residential customer aggregation, especially with respect to low and moderate income customers, including (i) the number of residential customers purchasing electricity through aggregators, (ii) the barriers which impede the organization and operation of aggregators, and (iii) recommendations for encouraging and supporting the aggregation of small user customers.*

    c. *Information on the pricing of electricity made available through a provider of last resort for residential customers, especially with respect to low and moderate income customers, including: (i) the average of all rates charged to customers taking service from the provider of last resort and for each sub-class within the provider of last resort. This report shall detail the status of pricing disparities between each sub-class of customers served by the provider of last resort and the same customer sub-class taking service in the voluntary market; pricing disparities between regions of the state; and pricing disparities between different distribution companies serving as provider of last resort.*

d. Information on the customers taking service through a provider of last resort, especially with respect to low and moderate income customers, including: (i) the number of customers taking service from the provider of last resort relative to the total number of customers taking electric service in the state; (ii) the reasons why such customers are taking service from the provider of last resort; (iii) the type, level and quality of service made available to customers taking service through the provider of last resort; and (iv) whether alternative provider of last resort mechanisms exist to improve price and service to customers while promoting competitive retail choice.

Discussion

The statutory section above creates reporting requirements for the transition years of competitive retail choice. The reporting requirements seek to document whether: (1) pricing volatility or other price impacts are affecting small user customers; (2) whether aggregation is occurring and, if not, how such aggregation might be promoted; and (3) whether the provider of last resort mechanism is providing equal levels of service at reasonable prices.

The provision imposes minimal costs for reporting and no immediate requirement for legislative or regulatory action. It is a reporting requirement which allows policymakers (and others) to stay informed on the impacts which restructuring has on vulnerable classes.

Proposal #2: Quality of Service Metrics

PROPOSAL #2 LANGUAGE

By December 31, _____ (insert date as appropriate), the Colorado public utilities commission shall develop quality of service measurements for all aspects of customer service by electric utilities and shall report on quality of service to the General Assembly using those measurements.

DISCUSSION:

Proposing quality of service language as part of a low-income "price protection" package within electric restructuring legislation is supported by two propositions: (1) that a move to a competitive market potentially places service quality at risk; and (2) that a reduction in service quality is likely to adversely affect low-use, low-income consumers.

The concern that a move to a competitive environment may result in adverse impacts on

service quality is supported by the recent experience in the telecommunications industry. The National Regulatory Research Institute (NRRI) has commented:

> The immediate concern of state regulatory commissioners and staff responsible for quality of service provided by regulated monopolies is that preparing the way for competition may directly or indirectly lead to a decline in service quality. Downsizing is a trend, perhaps even a fad, throughout the American economy. Companies about to face rivalry are likely to be particularly concerned with cutting labor costs.\86\

In addition to citing a multitude of service quality lapses throughout the telecommunications industry, largely traceable to staff reductions,\87\ NRRI cites a Wall Street Journal article talking of "service glitches" that increasingly appeared as telecommunications companies reduced staff. "Customer service lines yield busy signals for hours, callers are exiled and put on hold, some customers must wait months to get a second line installed, and directory assistance inquiries can go unanswered."\88\

The potential for quality of service deterioration has implications for small use consumers in particular. As NRRI has observed with respect to telecommunications:

> Quality-of-service has important efficiency and equity implications. In monopoly environments, the firm's profit-maximizing quality selection is often inconsistent with a social welfare optimum and can result in inferior price-quality choices for low demand customers.\89\

Particularly in circumstances where there is substantial competition for one set of customers (*e.g.* large users) and little or no competition for a different set of customers (*e.g.*, small users), "minimum quality standards prevent the monopolist from excessively degrading the price-quality combinations it offers to low-demand customers to prevent high-demand

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\86\ Vivian Witkind Davis, *et al.* (1996). ***Telecommunications Service Quality***, at 4, National Regulatory Research Institute: Columbus (OH).

\87\ ***Telecommunications Service Quality***, *supra*, at 2 - 4.

\88\ ***Telecommunications Service Quality***, *supra*, at 1, *quoting*, Leslie Cauley, "Baby Bells Face a Tough Balancing Act: Reputation for Service is on the Line Amid Deep Staff Cuts," ***Wall Street Journal***, 4 January, 1996, A2.

\89\ Michael Clements (1998). ***Quality-of-Service and Market Implications of Asymmetric Standards in Telecommunications***, iii, National Regulatory Research Institute: Columbus (OH).

customers' switching."[90]

Service Quality Concerns to Low-Income Consumers

The question for Colorado legislators really is not *whether* to pursue quality of service standards, but *how* to do so. One aspect of quality of service that has received scant attention, but which nonetheless is of particular importance to low-income consumers --as evidenced by the discussion of service quality concerns by Colorado low-income stakeholders as reported above-- involves the delivery of service other than kWh. Aspects of this customer service were discussed above relative to Figure 3. Little consideration, however, has been devoted to service quality standards within the context of Figure 3. One industry analyst has proposed four types of "customer service measurements":[91]

- Customer satisfaction;[92]
- Business office performance;
- Service reliability; and
- Regulatory performance measurements.[93]

Since the "regulatory performance measurements" are the newest concept, two illustrations are presented to help explain how "quality" can become an issue in this context. First, quality of service measurement can assess the extent to which Colorado's electric utilities are complying with *specific* regulatory program mandates. The service quality issue is the extent to which a utility has engaged in those activities "required" by regulatory rule or order to ensure that low-income consumers have the ability to maintain service.

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[90] ***Quality-of-Service and Market Implications***, *supra*, at iii.

[91] Barbara Alexander (April 1996). "How to Construct a Service Quality Index in Performance-Based Ratemaking," ***The Electricity Journal*** 46, 48 - 49.

[92] Alexander noted, however, that "the general survey of customers who have done nothing more than receive a bill and pay it is not as good a predictor of service quality as the responses of those customers who initiated a request for service or called the utility with a question or concern on their bill. These transaction-based surveys should be done routinely. . ."

[93] According to Alexander, "this category would measure utility programs that respond to commission mandates. . ."

Consider the case of Central Maine Power company (CMP) with respect to a specific program requirement. Regulations of the Maine public utilities commission created a particular category of deferred payment arrangements called "special payment arrangements" (SPAs) that were to be offered to low-income customers. The PUC further required that Maine's electric utilities integrate their offer of low-income energy efficiency measures with these deferred payment plans. In 1989, however, while CMP had 21,376 special payment arrangements, the company had installed or accomplished only 194 energy management service measures for these customers.

Based on this data, the PUC staff asserted in a 1991 CMP rate case that CMP had engaged in "ineffective marketing" of its energy management services to low-income customers. The state Office of Public Advocate agreed, saying that not only would the successful integration of the energy efficiency and SPA programs have helped the low-income consumers, but the utility would have saved as much as $2 million a year "if CMP ha[d] been successful in delivering its Insulation Plus and Bundle Up programs to its special payment arrangement customers." Even more critically, the PUC agreed and directed the company to take remedial actions.\94\

Beyond regulatory directions with respect to specific programs, a quality of service index could and should measure compliance with general regulatory policy as well. One example might involve service termination policies. As Alexander has observed:

> A utility driving toward a more competitive environment may pursue tougher collection policies, permit fewer payment extensions, and require swifter disconnection for nonpayment with stiff reconnection requirements. This suggests the need for closer monitoring of payment arrangements and disconnections, particularly with respect to residential and small-business customers.\95\

One way to track "service quality" with respect to payment plan practices under competition involves measuring the treatment of payment-troubled customers, including the number of customers in arrears who are placed on payment plans as well as the number of payment plans that are successfully completed.\96\

\94\ ***In Re. Central Maine Power Company Proposed Increase in Rates***, Docket No. 90-076, Decision and Order (May 15, 1991).

\95\ ***How to Construct a Service Quality Index***, *supra*, at 49.

\96\ Roger Colton (June 1998). "Universal Service: A Performance-Based Measure for a Competitive Industry," ***Public Utilities Fortnightly***.

The development of a specific quality of service index is not a legislative task. Deciding which aspects of service quality to measure, as well as the specific indices to use, is certainly a regulatory initiative. The legislative language proposed above, however, recognizes the importance of service quality issues within a competitive environment and directs the Colorado commission to adopt specific quality of service metrics. The proposed language has three important components beyond the general directive to develop the quality of service metrics: (1) the metrics must be developed by a date certain; (2) the metrics must cover "all aspects of customer service" (not merely the traditional technical aspects of outages and reliability); and (3) the metrics must be reported to the General Assembly.

Proposal #3: Phase-in of Choice

PROPOSAL #3 LANGUAGE

Each step of the phase-in of customer choice must encompass a cross-section of customers that is representative of the overall customer mix to each utility's service territory.

Discussion

Defining the type of market exclusion that one seeks to prevent is important for purposes of deciding upon the public policy responses establishing appropriate remedies for the objectionable behavior. If, on the one hand, the exclusion which one seeks to prevent involves irrational and uneconomic decisionmaking (*e.g.*, based on stereotypes and prejudice), the appropriate response might be simply to promote increased competition. This competition would increase the potential emergence of a firm that would serve this unserved, or under-served, yet profitable market.

If, on the other hand, the market exclusion which one seeks to prevent involves economically rational decisionmaking, promoting additional competition would *not* be the appropriate public policy response. It was the economics of the situation that created the exclusion in the first place and additional competition may exacerbate rather than alleviate the problem.

This proposed language ensures that the *state*, itself, will not be a party to the rollout of competition to one customer class to the exclusion of others. If large customers are entitled to exercise retail choice, then so shall small customers. If urban customers are entitled to exercise retail choice, then so shall rural customers.

When combined with the market-based responses presented below designed to further address

low-income concerns, the package of policies adopts a middle road holding that, even if real economic issues impede competition for low-income customers, the root cause of those economic problems can be addressed while allowing a move to retail choice to proceed.

Proposal #4: Non-Discrimination

PROPOSAL #4 LANGUAGE

It shall be unlawful for any electric service provider to discriminate against any person with respect to any aspect of a consumer transaction on the basis of race, color, creed, national origin, age, gender, religion, source of income, receipt of public benefits, family status, credit status, sexual orientation, disability, or geographic location.

Discussion

The flipside of promoting increased competition as a response to the exclusion of certain customer classes is to prohibit the consideration of certain customer characteristics in "any aspect of a consumer transaction." This proposal merely incorporates the fundamental principle that an electric service provider should have the obligation to make service available on a non-discriminatory basis.

This duty of "non-discrimination" should adopt principles in line with traditional notions of consumer protection. Actions that have the *effect* of imposing adverse impacts on a protected class should be unlawful unless they are dictated by a business necessity.

Decisions that might arise in a competitive electric industry, for example, that would tend to exclude low-income customers include:

1. **Refusal to serve:** Electric service providers could decide not to serve particular geographic areas. These might include inner cities, where heavy concentrations of poverty might threaten the easy collection of revenue. They might include various areas where lower incomes are viewed as associated with lower use and thus lower profit potentials. This refusal to serve could be evidenced not simply by a refusal to serve (as in the home mortgage industry), but by the cherry-picking found in telecommunications. A decision to serve *only* high income suburban areas, in other words, excluding every other place, would be this type of action.

2. **Territorial pricing:** Electric service providers could decide to vary the price

for service based on geographic location. Like insurance companies that increase prices based on "territorial ratings," electric companies could allege that the cost of serving particular geographic areas (such as low-income and minority neighborhoods) is higher and thus merits correspondingly higher prices.

3. **Lack of infrastructure development:** Electric service providers could refuse to install newer technology necessary to provide either a diversification of service or a higher quality service. The infrastructure needed to permit time-of-day pricing, or real time pricing, for example, could be denied to markets that industry participants simply do not wish to serve.

4. **Level and type of service:** Electric service providers could refuse to provide the same quality of service based on geographic considerations. A decision to offer certain neighborhoods or communities service based only on prepayment meters or service limiter adapters would be a type of exclusion.

Just as the above discussion refers to geographic decisionmaking, electric industry decisions could be made on demographic or socio-economic bases. Each would be subject to the non-discrimination provision. The proposed language mirrors federal consumer protection language in that it prohibits discrimination in "any aspect of a consumer transaction."

Proposal #5: Cap the Gap

PROPOSAL #5 LANGUAGE

At least annually, the public utilities commission shall compute the rate differential for electric service between residential and industrial customers by comparing the total average residential rate and the total average industrial rate, based on filings made by electric suppliers and electric distribution companies with the Federal Energy Regulatory Commission or the commission. The rate differential shall be the difference between the total average residential rate and the total average industrial rates divided by the total average residential rate.

If the commission determines that the rate differential for electric service between residential and industrial customers has increased to a percentage differential that is at least three percent greater than the percentage differential in the calendar year in which retail choice is first implemented, the commission shall institute an investigatory proceeding in which the Office of Consumer Counsel shall participate. Not more than ninety days after the official

commencement of the proceeding, the commission shall issue written findings that identify the factors or circumstances that contributed to such increase in the rate differential.

As used in this subdivision, "total average residential rate" means the total residential revenues divided by total residential kilowatt hour sales, and "total average industrial rate" means the total industrial revenues divided by total industrial kilowatt hour sales.
Whenever the average of industrial class prices for a twelve-month period is less than that of residential class prices by a percentage that is at least three percent greater than the percentage differential in the calendar year in which retail choice is first implemented, the distribution company will increase the access charge per kWh to all industrial customers by an amount equal to the difference between the average industrial price in the aforementioned twelve-month period and the average industrial price in that period had the price been the same percentage less than the average residential price that it was in the calendar year in which retail choice is first implemented. The sums so collected shall be credited to the residential access charge as an equal amount per kWh in the subsequent twelve months.

Discussion

As discussed above, a move to retail competition will likely result in an increasing price disparity between small and large users. This is not surprising. Basic economic theory counsels that when a firm faces two markets, one of which is competitive and one of which is not, the firm will tend to shift costs on to the non-competitive market participants to maximize its revenue. It happened in telecommunications; it has happened in natural gas; and it is happening in electricity. The cause of the increasing gap between industrial and residential prices is not so much a fly-up in rates as it is the failure of competition to capture the benefits of competition for all customers. In response to this problem, the Connecticut legislature adopted a "cap the gap" measure in its 1998 electric retail choice legislation (HB-5005).

A cap the gap mechanism in Colorado would operate as follows. To illustrate,[\97\] the average price of electricity in Colorado in 1991 was as follows for residential and industrial customers:

Residential (per kWh)	$0.071
Industrial (per kWh)	$0.046

[\97\] Since a cap the gap provision in Colorado would operate prospectively, this retroactive application is purely illustrative.

Price gap	35%

Accordingly, the price gap would be frozen at 35% in subsequent years. Using the methodology set forth in the Connecticut legislation, the price gap is calculated as follows:

1. (total average residential rate - total average industrial rate) / total average residential rate

WHERE:

total average residential rate = total residential revenues / total residential kWh
total average industrial rate = total industrial revenues / total industrial kWh

The automatic adjustment clause is based on the prior year. Hence, the adjustment for 1998 would be based on 1997 figures. The adjustment for 1997 would be based on 1996 figures, and the like. Since the most recent data available is for 1997, the operation of the cap the gap adjustment clause can be illustrated for the years 1992 - 1996.\98\ The table below shows what the capped price would have been in order to keep the gap the same as existed in 1991. Thus the capped industrial price for 1992 - 1996 would be calculated as follows:

2. capped industrial price = prior year residential price - (prior year residential price x .35)

WHERE:

.35 = constant gap cap (1991 price differential)

	1992	1993	1994	1995	1996
Residential price	$0.071	$0.072	$0.072	$0.074	$0.074
Industrial price	$0.046	$0.046	$0.045	$0.046	$0.045
Gap	35%	36%	38%	38%	39%
Gap cap	35%	35%	35%	35%	35%
Gap cap industrial price	$0.046	$0.046	$0.047	$0.047	$0.048

This capped price results in a surcharge imposed on the distribution component of industrial bills as follows:

\98\ Since 1991 is the base year, and adjustments are lagged by one year, 1992 would have no adjustment.

	1992	1993	1994	1995	1996
Capped industrial price	$0.046	$0.047	$0.047	$0.047	$0.048
Actual industrial price	$0.046	$0.046	$0.045	$0.046	$0.045
Cap the gap surcharge	$0.000	$0.001	$0.002	$0.001	0.003

The final step, under the automatic adjustment clause mechanism, would be to aggregate the industrial surcharge and distribute it evenly as a per kWh credit to residential customers on their distribution bill.

		1992	1993	1994	1995	1996
1.	Cap the gap surcharge	$0.000	$0.001	$0.002	$0.001	$0.003
2.	Industrial usage (million kWh)	6,849	7,024	9,620	9,706	9,947
3.	Total industrial surcharge (1 x 2)	$0	$7,024,000	$19,240,000	$9,706,000	$29,841,000
4.	Residential usage (million kWh)	10,216	10,656	10,939	11,307	11,915
5.	Residential credit (3 / 4)	$0.0	$0.00066	$0.00176	$0.00086	$0.00247

NOTES:

/a/ Cap the gap mechanism lags actual data by one year.

SOURCES:

1992 - 1995: U.S. Department of Energy, Energy Information Administration (Dec. 1997). *State Energy Data Report: 1995*, Table 50, page 62.

1996: U.S. Department of Energy, Energy Information Administration (Oct. 1998). *Electric Power Annual: 1997, Volume II*, Table 4, page 19.

Colorado industrial customers had an average annual 1996 consumption of 4.97 million kWh (9,947 million kWh for 2,000 industrial customers).\99\ At the 1996 surcharge of $0.003/kWh, therefore, there would be an average industrial revenue impact of $14,920 per year, or roughly $1,243 per month. Since the "cap-the-gap" provision is applied to distribution rates, it is competitively neutral. Since the provision does not apply to the competitive portion of a consumer's bill, it should have no impact on the competitive generation service providers.

Proposal #6: Supplemental Fees

PROPOSAL #6 LANGUAGE

Charges and fees related to the direct business relationship between an electric service provider and a customer, including but not limited to the interruption of service, disconnections, and rebates and credits, are deemed to involve customer service regulations and not the regulation of rates and charges pursuant to this section.

Discussion

\99\ U.S. Department of Energy, Energy Information Administration (Oct. 1998). *Electric Power Annual: 1997, Volume II*, Table 4, page 19, U.S. Department of Energy: Washington D.C.

One way in which low-income consumers are likely to face increased prices because of competition is through service providers who take specific elements of service that are provided as part of the overall package of service today, segregate those services out, and impose separate charges for the newly divided-up service. The additional charges resulting from this process can represent a significant increase in "rates" to customers even if base per kWh rates remain the same.

The language set forth above addresses this potential by classifying supplemental fees as "customer service" regulations subject to continuing state regulation rather than "prices" subject to deregulation. This regulatory framework mirrors the framework established by Congress for competitive cable television companies. Under the federal cable television statute, local governments are barred from exercising ratemaking authority over the provision of cable television service when such service is provided in markets that are workably competitive. Local governments, however, were explicitly authorized to make and enforce "customer service requirements" by Section 632 of the Cable Act.[\100\] The term "customer service requirements" was defined to mean "the direct business relationship between a cable operator and a subscriber," with specific references to the interruption of service, disconnections, and rebates and credits. The conclusion that, under this statutory language, these service fees fell within the regulated ambit of "service" rather than the unregulated ambit of "rates" has also been confirmed by the courts.[\101\]

The language proposed above will help Colorado avoid importing the competitive banking industry's imposition of a soaring number of fees (with soaring costs) into a competitive electric industry.

\100\ 47 U.S.C. • 552.

\101\ ***City of Sterling Heights v. Comcast Cablevision of Sterling Heights***, 443 N.W.2d 440 (Mich. 1989), leave to appeal denied, 434 Mich. 876 (1990).

MARKET RESPONSES TO LOW-INCOME CONCERNS

LOW-INCOME AGGREGATION

"Aggregation" is nearly universally set forth as one of the primary "answers" available to address the concerns of low-income consumers in a competitive electric industry. Consumer aggregation is the process by which individual consumers band together to collectively purchase electricity. Through aggregation, the reasoning goes, small users (including low-income customers) will be able to pool their purchasing power in order to exert the influence that might otherwise only exist for large customers. Typical forms of aggregation involve geographic aggregation (*e.g.*, municipal aggregation), affinity group aggregation (*e.g.*, through organizations such as the Sierra Club or AARP), or quasi-geographic aggregation (*e.g.*, buying cooperatives).

The Barriers to Aggregation

Other industry observers are less confident that aggregation will benefit low-income consumers. Problems with low-income aggregation arise from the perspective of all three parties to the transaction: (1) the consumer; (2) the aggregator; and (3) the power supplier.

The Consumer

As discussed in detail above, substantial economic and non-economic constraints exist which impede consumer reactions to price changes even when consumers know of the changes and understand their significance. Even setting aside such issues as nonprice competition, habit buying, product differentiation and the like, constraints exist.

A consumer's decision to change service providers involves weighing the costs of the search against the amount of the gain. For a consumer to switch providers, the difference between the price offered by the current provider and that offered by a competing supplier must have a substantial enough spread to meet the customer's desired level of increased benefit. To motivate a consumer to change, this "spread" must represent more than some minimal savings. As discussed in detail above, small users in particular engage in the process of "satisficing." Under this process, even if they do not have the optimally priced service, they do not shop for alternatives if the price of their service is "sufficient" to meet their needs. The potential savings to be generated by a switch in electric providers, therefore, must be sufficiently high to overcome this "satisficing" barrier.

Consumer reaction to price changes will involve a variety of identifiable costs. The primary cost is perhaps the cost of the search. Consumers will, at the least, be required to devote time and effort to shopping for a new provider. Indeed, for many, the question involves not simply who the least-cost producer is, but involves, also, who is offering the "best deal," taking into account price, service quality, the "greeness" of power, and other factors.

Against these costs, the consumer will weigh the potential for gain. In calculating the potential future savings, it is not the absolute rates that matter, it is the *difference* between companies.\102\ A variety of analyses have found that residential consumers will not change providers for less than a bill savings ranging from five to ten percent (5% - 10%).

In short, there are two items that should be considered regarding the extent of consumer responsiveness to price changes by electric service providers. The first is the investment which the consumer must make to bring about the change. The costs of the search and the costs of making the change are included in this investment. The second is the potential savings that might arise from making the change. This arises from the price difference between the new service provider and the current service provider. In both an absolute and

\102\ In measuring that potential, the consumer will also take into account the risk that the projected savings will *not* occur. The mechanisms through which consumers do this is set aside for this analysis.

relative fashion, the potential savings, offset by the risk of being wrong, must be sufficiently large to overcome the small user tendency to engage in "satisficing" rather than optimizing behavior.

The Aggregator

Aside from the barriers facing individual consumers, barriers face the aggregator as well. To be effective, an aggregated group must reach some minimal size. While no formal research yet exists defining what that size is, it is becoming increasingly clear that there are not electric competitors queuing up to "snap up" aggregated groups of hundreds of low-use or low-income customers.

This failure creates market problems for aggregators. The larger the aggregated group of customers must be, the greater the need for a formal administrative structure to service those customers. In these circumstances, the aggregated group would likely need to retain a marketer to seek out other groups, hire an administrator to service the coalition, and develop some type of overall multi-organizational structure for planning, negotiating, and establishing accountability. Each step makes it less likely that aggregation will happen.

While low-income aggregation may sound good in the abstract, its operational feasibility is questionable. Consider that Colorado has roughly 250,000 low-income households. If 20% of those households were "aggregated" for electric purchasing, there would be nearly 50,000 customers in that group. The infrastructure to aggregate on this level of magnitude does not now exist and will not exist in the future without assistance. Indeed, in serving a roughly equivalent group (57,000 households), the state LEAP program had an annual administrative budget of $1.56 million in Fiscal Year 1998.

Even beyond the administrative considerations, aggregating low-income load for electric purchases is not a simple endeavor. Several layers of expertise are required, including: (1) an expertise to determine load characteristics for solicitations of proposals; (2) a technical expertise to review RFP responses; (3) an expertise (and experience) in contract negotiation; and (4) a legal expertise in developing and reviewing contract documents.[\103\]

The Minnesota state LIHEAP office recently released a report on low-income aggregation by local LIHEAP agencies taking into account these same activities.[\104\] In Minnesota, LIHEAP

[\103\] John Howat Associates (Feb. 1999). ***Effective Aggregation Strategies: Positioning to Participate Effectively***, National Consumer Law Center: Boston (MA).

[\104\] Pam Marshall and Roger Colton (1998). ***Aggregating Low-Income Consumers: Can Market-Based Solutions Fix Market-Based Problems***, Energy Cents Coalition: Minneapolis (MN).

is distributed not through county social service offices, as in Colorado, but rather through local community action agencies (called subgrantees). The purpose of the Minnesota analysis was to determine the efforts necessary for LIHEAP subgrantees to aggregate low-income clients in a competitive electric and/or natural gas industry. Table 13 presents the activities that LIHEAP offices would need to pursue in their capacity as aggregators.

In Colorado, according to state LEAP officials, the Colorado LEAP office does not have the in-house resources to support such activities. Moreover, LEAP does not have the resources to *procure* the necessary expertise to successfully "aggregate."

The Power Supplier

Finally, barriers to low-income aggregation face the power supplier as well. One of the primary barriers involves the load shape of residential customers. Residential customers tend to have "peaky" loads. Their electricity use is uneven, both throughout the day and throughout the year. As a result, they are more expensive to serve than customers whose usage is spread out evenly on both a daily and seasonal basis.

Aggregation does not address this barrier. As a recent report by the National Conference of State Legislatures concluded:

> Even if customers with similarly unattractive load profiles combine their accounts, they will simply become one large account with an unattractive load profile. . .[T]he single aggregated customer is not as appealing as a customer with large usage spread evenly over the entire day and year.\105\

Aside from load profiles, NCSL further noted that the administrative cost barriers to serving low-use customers is a barrier to aggregation. The NCSL analysis of small use customers cites NRRI for the proposition that "it costs approximately $57 each year to serve the basic billing, meter reading and other customer service needs of an electricity customer, whether large or small." NCSL goes on to observe:

\105\ Matthew Brown, Joel Eisenberg and Lawrence Hill (July 1998). ***Restructuring and Small Electric Customers***, at 6, State Legislative Report 23:15, National Conference of State Legislatures: Denver (CO).

Table 13
Activities of Low-Income Aggregators

1. **Identify alternative sellers:** An aggregator for low-income consumers must identify alternative sellers. The first step in assuring a competitive market is to promote a multiplicity of sellers. This should involve a proactive effort (seeking out sellers) rather than a reactive effort (responding to sellers that approach the low-income community).

2. **Collect information from sellers:** Collecting information from sellers is a critical role for low-income aggregators. This information will involve a variety of components including but not limited to price. The customer services offered (*e.g.*, what energy efficiency services are offered, are there local business offices), the consumer protections offered (*e.g.*, what are service termination policies), and the service attributes (*e.g.*, how "green" is the power, how reliable is it) are three major attributes in addition to price.

3. **Identify service needs of buyers:** The aggregator must also identify the service needs of the buyers. If the buyers tend to pay by cash rather than checks, local business offices or community pay stations are important (rather than relying exclusively on the mail). If a substantial proportion of buyers run arrears, information on policies regarding service terminations, deferred payment plans and late fees is important. If the buyers have frequent personal contact with their electricity provider, then information on access policies (*e.g.*, is there an 800 number; are customer telephone centers open reasonable hours) is important to obtain. In this regard, aggregators not only socialize the cost of information collection, but facilitate the articulation of needs as well. While it may be difficult for any individual customer to say to a competitive service provider "I often don't pay my bill and I frequently need to contact you to ask for help," it would be easier for an aggregator to say "some portion of my constituency is payment-troubled and I want to know what your policies are."

4. **Balance price and service offerings of sellers:** After complete information collection, the aggregator must balance the price and service offerings of the sellers. If lowest price is the sole determining factor, the balancing may be easier. If price is *not* the exclusive factor, the question becomes how to trade off a higher price for "greener" power? for easier credit terms? for greater investments in energy efficiency?

5. **Process price information:** A final step in "shopping" involves processing the price information collected. Prices will not likely be provided on a flat cents per kilowatthour (kWh) basis. Instead, price will likely have a base rate component along with a fuel charge. It will likely vary by season and may vary by time-of-day. It is likely to vary based on consumption blocks (with the charge for kWh 0 - 500 that differs from the charge for kWh 501 - 800 that differs from the charge for kWh 801+). This price information must be processed in light of known information about buyer usage characteristics to determine the "best deal."

6. **Act to minimize adverse cost attributes:** An aggregated group can take specific affirmative steps to mitigate high cost characteristics of the group. One high cost characteristic of residential customers, for example, involves their high summer peak demand. On an individual basis, this peaking tendency would be difficult to address. Given an aggregated load, however, one role for the aggregator might be to seek partnerships who have offsetting (known as "balancing") load characteristics. In these circumstances, a power solicitation combining the LIHEAP load with the balancing load would present a level load that could be served less expensively than either customer group could be served independently.

7. **Minimize transaction costs:** An aggregator should be prepared to address how it will help a competitive service provider reduce the transaction costs of serving its constituency. One major cost of providing competitive electric power is the cost of acquiring the customer. This cost includes marketing, along with the physical act of enrolling the customer as a customer. Competitive service providers often complain that the acquisition cost for residential customers is too high to make serving such customers economic. The aggregator, therefore, should address how its participation will either help reduce reaching customers in bulk or will help reduce the cost of enrolling customers.

> Electricity suppliers would prefer to service one large customer account, so that this $57 administrative cost appears small by comparison with the large customer's entire electricity bill. If there are a multitude of small accounts, that same administrative cost could be as high as 10 percent of each customer's annual electric bill.\106\

Aggregation does not address this inherent problem with serving small use customers. As the Minnesota LIHEAP analysis ultimately concluded: "aggregation does not change the fact that low-income households have little ability to shift their usage to off-peak periods and that low-income customers can be more costly to serve."\107\

In sum, three parties are involved with an aggregation transaction: the consumer, the aggregator and the power supplier. Barriers to aggregation exist from the perspective of all three parties. The following proposals help to address and overcome the above-identified concerns:

Proposal #7: Strong Community Choice

PROPOSAL #7 LANGUAGE

Any municipality or any group of municipalities acting together within the state is hereby authorized to aggregate the electrical load of interested electricity consumers within its boundaries: provided, however, that such municipality or group of municipalities shall not aggregate retail load if such are served by an existing municipal light plant. Such municipality or group of municipalities may enter into agreements for services to facilitate the sale and purchase of electric energy and other related services. Such service agreements may be entered into by a single city, town, county, or by a group of cities, towns or counties.

A municipality or group of municipalities which aggregates its electrical load and operates pursuant to the provision of this section shall not be considered a utility engaging in the wholesale purchase and resale of electric power. Providing electric power or energy services to aggregated customers within a municipality or group of municipalities shall not be considered a wholesale utility transaction. The provision of aggregated electric power and energy services as authorized by this section shall be regulated by any applicable laws or regulations which govern aggregated electric power and energy services in competitive

\106\ ***Restructuring and Small Electric Customers***, *supra*, at 3.

\107\ ***Aggregating Low-Income Customers***, *supra*, at 54, *citing*, ***Oshiro***, *supra*, at 13.

markets.

A municipality may initiate a process to aggregate electrical load upon a majority vote of the local governing body. Two or more municipalities may as a group initiate a process jointly to authorize aggregation by a majority vote of each particular municipality as herein required.

Upon an affirmative vote to initiate said process, a municipality or group of municipalities establishing load aggregation pursuant to this section shall, in consultation with the office of consumer counsel,[108] *develop a plan for review by its citizens detailing the process and consequences of aggregation. Any municipal load aggregation plan established pursuant to this section shall provide for universal access, reliability, and equitable treatment of all classes of customers and shall meet any requirements established by law or the state public utilities commission concerning aggregated service. Said plan shall be filed with the commission for its final review and approval and shall include, without limitation, an organizational structure of the program, its operations, and its funding; rate setting and other costs to participants; the methods for entering and terminating agreements with other entities; the rights and responsibilities of program participants; and termination of the program. Prior to its decision, the commission shall conduct a public hearing. The commission shall not approve any such plan if the price for energy would initially exceed the price of the standard offer, as established pursuant to section _____ of this chapter, for such citizens in the municipality or group of municipalities, unless the applicant can demonstrate that the price for energy under the aggregation plan will be lower than the standard offer in the subsequent years or the applicant can demonstrate that such excess price is due to the purchase of renewable energy as defined by the state energy office.*

Participation by any retail customer in a municipal or group aggregation program shall be voluntary. If such aggregated entity is not fully operational on the retail access date, any ratepayer to be automatically enrolled therein shall receive standard offer service unless affirmatively electing not to do so. Within 30 days of the date the aggregated entity is fully operational, such ratepayers shall be transferred to the aggregated entity according to an opt-out provision herein. Following adoption of aggregation through the votes specified above, such programs shall allow any retail customer to opt-out and choose any supplier or provider such retail customer wishes. Once enrolled in the aggregated entity, any ratepayer choosing to opt-out within 180 days shall do so without penalty and shall be entitled to receive standard offer service as if he was originally enrolled therein. Nothing in this section shall be construed as authorizing a city or town or any municipal retail load aggregator to restrict the ability of retail electric customers to obtain or receive service from any authorized

[108] Or Office of Aggregation Assistance if adopted.

provider thereof.

It shall be the duty of the aggregated entity to fully inform participating ratepayers in advance of automatic enrollment that they are to be automatically enrolled and that they have the right to opt-out of the aggregated entity without penalty. In addition, such disclosure shall prominently state all charges to be made and shall include full disclosure of the standard offer rate, how to access it, and the fact that it is available to them without penalty.

Discussion

The first appropriate response to the need for low-income aggregation is to enact a strong community choice bill. Such a model allows a local government to aggregate all of the consumers within its geographic boundaries. It further allows groups of communities to combine to form a buying pool. In this fashion, community choice is akin to the type of shopping that many communities use to purchase solid waste collection services today. If any individual consumer wishes to opt out for whatever reason, the community choice model allows that to happen.

Strong community choice language benefits low-income consumers in at least the following ways:

- The size of the total customer base in community aggregation dilutes the adverse impacts of credit risks associated with any particular sub-class within the community.

- The aggregation of all types of consumers (residential, commercial, industrial, institutional) allows the peaks of the residential class to be smoothed by complementary loads or made less significant by the size of the total load.

- The larger size of the load represented by a community will allow the community to exercise greater bargaining power than any given individual low-income customer or even any given *group* of low-income customers.

- The fixed search costs of seeking out competitive suppliers, as well as the fixed marketing costs of forming and administering an aggregation group, can be spread over a larger number of customers thus lowering costs on a per customer basis.

After considering these and other factors, the Minnesota LIHEAP report concluded:

> Separating low-income customers from any larger aggregated pool. . .is a disservice to low-income households. Fragmenting low-income customers into a stand alone subset of electric customers is exactly contrary to the ability of low-income customers to exercise the maximum amount of negotiating power in a competitive electricity market.[109]

This is not to say that municipal aggregation is without problems. On the plus side, municipal aggregation has been likened to the provision of other city services such as solid waste disposal, where the city or local government can obtain and provide "basic services which can be more efficiently or equitably provided or procured on behalf of the community rather than by individuals."[110]

On the negative side, however, "municipal governments have long been criticized (and the criticism continues today) for their failure to negotiate adequate consumer protections in municipal cable television franchise agreements. There is no reason to believe that municipal governments will not replicate similar problems in negotiating electric contracts as well."[111] These problems, however, seem to be best addressed through mechanisms such as the aggregation training and technical assistance initiative discussed below.

Proposal #8: State Purchasing Pool

PROPOSAL #8 LANGUAGE

The State of Colorado shall operate a purchasing pool for the purchase of electricity for state facilities. Such office shall provide the opportunity to participate in such purchasing pool to each household that includes an individual who receives means-tested assistance by the state or federal government. Any such household shall receive through such purchasing pool the same benefits and discounted rates available for state facilities.

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[109] ***Aggregating Low-Income Customers***, *supra*, at 54.

[110] Blossom Peretz (1998). ***Preliminary Position Paper on Municipal Aggregation***, at 6 - 8, New Jersey Division of the Ratepayer Advocate: Newark (NJ).

[111] ***Aggregating Low-Income Customers***, *supra*, at 19.

Discussion

The operation of a state purchasing pool is a second appropriate policy response to issues involving low-income aggregation. The Connecticut electric restructuring legislation, for example, provides that when the State buys electricity for state facilities, it will allow any household with at least one member receiving a means-tested public assistance benefit to buy electricity at that same price.

The state purchasing pool concept offers the same advantages as does a municipal aggregation pool. It allows for the dilution of credit risks; a mix of load factors; greater bargaining power due to size; the spreading of fixed administrative costs over larger numbers of customers; and a specific focus on low-income needs.

In addition to Connecticut's decision to operate a state purchasing pool for electricity, the state purchasing pool model is akin to the state health care purchasing pools that have become so popular.[\112\] In those pools, small businesses are allowed to purchase health care insurance as part of the contract that providers have with a state for a state's Public Employee Retirement System (PERS). The advantages of state pool purchasing in the health care field have been found to be at least two-fold:

- **Acquiring expertise:** The primary purpose of health care aggregation has been to spread the cost of acquiring and exercising shopping expertise over many consumers. Rather than simply becoming bigger, in other words, health care co-ops seek to increase the sophistication of employee bargaining by pooling and analyzing information. Unquestionably, size is important under this model. The approach requires that an aggregation pool reach a certain size to justify the investment in gaining expertise. The effectiveness of bargaining under this approach imposes upon the aggregator a duty to learn about the prices, terms and quality of the various alternative health plans from which to choose. Without aggregation, consumers would lack the resources (or the financial incentive) needed to gather the information to make good choices and thus make the market work. The state health care purchasing pool allows that to happen.

- **Spreading administrative costs:** A second primary purpose of state-

\112\ *See generally,* Roger Colton (1998). ***Consumer Aggregation and Sophisticated Purchasing: Electric Restructuring Lessons from the Health Care Industry***, Fisher, Sheehan and Colton, Public Finance and General Economics: Belmont, MA.

sponsored health care aggregation initiatives has been to generate the efficiencies of larger groups. Health purchasing cooperatives are designed to address the cost issues of high fixed costs and high risk premiums through economies of scale. "For those interested solely in efficiency, health alliances are essentially purchasing cooperatives that allow small buyers to benefit from the economies of scale in bargaining and in implementation that are available to large purchasers of health coverage."[\113\] One area of cost control involves overhead costs. The U.S. General Accounting Office (GAO) has found that because larger health care cooperatives are able to spread their fixed costs over more members, those larger co-ops spend a much smaller share of premiums on overhead costs.[\114\] In addition to high administrative costs, higher costs to small groups of consumers can be attributed to increased marketing costs as well. Because one-time marketing costs are spread over fewer persons, the per enrollee cost of marketing is quite high for smaller consumers. Indeed, for many, the *core* idea of purchasing cooperatives for small groups of individuals is to streamline marketing.

These same advantages found in state health care purchasing pools would apply to state purchasing pools for electric energy as well.

Proposal #9: Assistance in Aggregation

PROPOSAL #9 LANGUAGE

There is hereby created an Office of Aggregation Assistance to be placed in the Colorado Division of Housing. The Office of Aggregation Assistance (OAA) shall have the power: to provide technical assistance, either to particular eligible organizations or in the form of assistance such as the publishing of materials or holding of conferences or the like, intended to contribute to the public purpose of aggregating residential and small business consumers generally, and low-income residential consumers in particular; to appear in its own behalf before boards, commissions, departments, or other agencies of municipal, state or federal government; and to do any and all other things necessary or convenient to carry out its purposes and exercise the powers expressly granted in this section.

\113\ Henry Greely, "Policy Issues in Health Alliances: Of Efficiency, Monopsony, and Equity," 5 ***Health Matrix: Journal of Law-Medicine*** 37, 37 (1995).

\114\ General Accounting Office, ***Access to Health Insurance: Public and Private Employers' Experience with Purchasing Cooperatives***, at 4 (May 1994).

OAA may, subject to appropriation by the general assembly, or funds made available from any other public or private source, and pursuant to rules and regulations adopted by the Division of Housing, provide technical assistance to any public or non-profit private entity intended to contribute to the public purposes of this chapter generally, provided that preference shall be given to projects in which community controlled organizations or community action programs have an ownership or management interest.

For purposes of this section, the term "technical assistance" means professional and other assistance to eligible organizations to plan, organize, and implement electric or natural gas aggregation activities which may reasonably be expected to contribute to the bargaining for the purchase of electric or natural gas supplies on behalf of residential or small business customers. Such assistance shall include, but is not limited to, assistance with respect to organizational development, aggregation planning, financial planning or packaging, the development of grant or other applications, market research, business plan development or review, management training, and such accounting, technical, administrative and legal services as may be necessary to enhance or render effective any of the foregoing. Such assistance may be provided by the office directly by staff or other agents of the office or through contract with a third party Technical assistance shall not include cash grants directly or indirectly to eligible organizations.

OAA shall annually submit a complete and detailed report of the Office's activities within ninety days after the end of the fiscal year to the clerk of the house of representatives and to the clerk of the senate.

Discussion

The creation of an assistance in aggregation program is appropriate. Just as many state housing, and many more state community development (or economic development) agencies, provide legal, technical and administrative support to negotiate housing tax credits, work through bonding requirements, and the like, an Office of Aggregation Assistance can help draft RFPs, analyze responses, and negotiate contract terms.

Providing technical assistance in aggregation is akin to some of the highest affordable housing priorities of the Division of Housing in the Colorado Department of Local Affairs. In its *1998 Annual Consolidated Action Plan*, prepared as a prerequisite to obtaining federal housing funding, the Department of Local Affairs listed as its *first* strategy in pursuing affordable housing in Colorado:

> To increase the capacity of local housing and service providers by furnishing

information, education, training, and additional capital resources in the development of affordable housing so that they are better able to meet the housing needs of their communities.\115\

Amongst the "one year goals and actions" identified by the Division of Housing were:

Action 1: Over the next twelve months, provide training to local and regional housing service providers on techniques for packaging of housing projects. Provide technical assistance to rapidly growing rural communities as they develop comprehensive growth plans.

Action 4: Over the next 12 months, assist local communities in the development of affordable housing by coordinating six (6) local housing seminars that bring together local government agencies, housing providers, developers, realtors, and private lenders. The goal of these sessions will be to identify specific actions that communities can take to produce affordable housing.

Action 5: Over the next 12 months, assist in the development of one Community Housing Development Organizations (CHDOs) from within the 5 targeted regions (4,5,6,11,12 and 14).

Action 6: Program-specific training will be held with local housing and service providers to discuss issues such as new monitoring requirements and new or changed federal requirements. . .

Action 8: Provide information and strategies to assist private and public housing developers to successfully navigate the local and federal regulatory environment to complete housing development in a more timely manner.

An Office of Aggregation Assistance would provide similar services, albeit in the field of procuring affordable energy rather than in the field of developing affordable housing. It would provide training on techniques of packaging energy projects; provide seminars and help to identify specific aggregation opportunities; assist in the development of small user aggregation entities; provide program-specific training; and help aggregators navigate the

\115\ ***1998 Annual Consolidated Action Plan***, at Section 1, Strategy 1, for the period April 1, 1998 through March 31, 1999, Division of Housing, Department of Local Affairs: Denver (CO).

regulatory and contractual environment.

The division of housing provides other technical assistance as well. Strategy IX, for example, is "to help improve the leadership and governing capacities by assisting leaders to develop community goals and provide the necessary training and resources to help achieve these goals." Amongst the "one year goals and actions" identified were:

Action 1: Provide goal-setting assistance to 25 communities.

Action 2: Assist in conducting 20 formal and informal training sessions for local officials.

Action 3: Provide funding each year to local/regional Enterprise Zones to augment marketing efforts.

Action 4: Arrange for joint multi-enterprise zone marketing in at least three national or regional trade shows.

As is clear, the current provision of technical assistance to public and private entities in support of critical state needs is part of the traditional mission of the Department of Local Affairs, including the Division of Housing. The recommended Office of Aggregation Assistance would provide precisely the types of administrative, legal and technical assistance necessary to facilitate the aggregation of residential and small business customers generally, and low-income customers in particular, for purposes of purchasing competitive natural gas or electric service.

LOW-INCOME CONSUMER EDUCATION

The need for consumer education, generally, in support of electric restructuring in any given state is well-accepted. That need will not be reviewed in depth here. All consumers, including low-income consumers, need to know about electric restructuring generally, how to shop for and choose a power supplier, and how to read their bills and associate their bill results with the choices they've made.

Notwithstanding the universally accepted need for consumer education, there is a need to consider a range of consumer education issues unique to low-income households. The problems with consumer education that are unique to low-income consumers are three-fold:

Effective Knowledge

First, low-income consumers need to be told not only what to do, but how to do it. In 1988, Drew Hyman, from Penn State University, considered this issue within the context of low-income fuel assistance.\116\ The Penn State report made several findings significant for the Advisory Panel's consideration of a low-income consumer education program:

- Consumer knowledge of the existence of energy assistance and conservation programs "is not very extensive... Most consumers do not have *effective knowledge* about those programs which exist." (emphasis added).

- The low level of knowledge about the various options available to consumers raises a question as to whether some consumers are being denied access to the assistance network because their knowledge is incomplete.

- Consumer education can fill in the missing gaps in consumer knowledge and *teach consumers to use the information* available to them in an effective manner. (emphasis added).

The concept of advancing "effective knowledge" on the part of consumers is one contribution the Penn State research has made to developing appropriate consumer education in the energy context. "Effective knowledge" involves not only conveying information, but teaching consumers how to use that information as well. According to the Penn State work, consumers must know how to act upon the information they are given. Colorado could substitute the term "competitive market" for "assistance program" and the Penn State lessons would be directly transferable.

Institutions Providing Consumer Education

Second, consumer education research repeatedly emphasizes the diversity amongst consumers. Programs that fail to account for these differences between consumers will fail their basic education function.

An education program must recognize, for example, that low-income consumers have levels of "trust" in different institutions that differ from those of the average consumer. A consumer education program that fails to take this fact into account will simply fail to reach substantial

\116\ Drew Hyman, ***Consumer Budget Priorities and Utility Payment Problems in Pennsylvania***, prepared by Consumer Services Information System Project (Penn State University) for the Pennsylvania Public Utility Commission (1988).

portions of the population. Consider again the lessons from fuel assistance outreach. A national study by the Center on Budget and Policy Priorities (CBPP) examined specifically why elderly households did not participate in the LIHEAP program.\117\ This report noted substantial barriers to participation, including a lack of program trust. A study of methods for marketing energy conservation programs to the elderly, this report noted, found that "many of the elderly did not *trust* the programs."\118\ (emphasis added). The report found that in designing outreach efforts, "the specific informational techniques used were less important than the amount of trust [that] potential participants had in the sponsoring organization."

Similarly, research in Philadelphia found that trust in the media is directly correlated with income and socio-economic status. An April 1997 report by the Pew Charitable Trusts found that education and age are important factors.\119\ Older, more educated and more affluent respondents are more trusting than the less schooled and poorer. Poorly educated young whites and young blacks are extremely distrustful. The Pew study found that few Philadelphia residents trusted the news media (either print or broadcast). Distrust of the various institutions was as likely to be grounded in fear of exploitation or dishonesty as in crime. Conversely, the most trusted institutions are ones that involve personal contact. Four of the five most trusted institutions in the city included family members (#1), people at church (#3), your boss (#4), and co-workers (#5).

Sources of Information

Finally, low-income consumers tend to gather their information from different mechanisms than consumers as a whole. Low-income consumers rely, in particular, more heavily on social institutions, on friends and neighbors, and on word of mouth. Excessive reliance upon a media campaign as a mechanism for consumer education is not likely to be successful. Professor Brenda Dervin\120\ states that one "well-established premise of public communication/education campaign design [is] that mass mediated messages are rarely effective."\121\ According to Professor Dervin, media-based campaigns tend to have low

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\117\ Kathryn Porter (December 1989). ***Participation by the Elderly in the Low Income Home Energy Assistance Program***, Center on Budget and Policy Priorities: Washington D.C.

\118\ ***Participation by the Elderly***, *supra*, at 26, *citing*, Linda Berry, *et al.* (Feb. 1988). ***Marketing and Design of Residential Conservation Programs for the Elderly***, Oak Ridge National Laboratory: Oak Ridge (TN).

\119\ Andrew Kohut. (April 1997). ***Trust and Citizen Engagement in Metropolitan Philadelphia: A Case Study***, Pew Research Center for People and the Press: Washington D.C.

\120\ Communications Department, Ohio State University, Columbus (OH).

\121\ Brenda Dervin (1995). ***Evaluation of the Pacific Bell Customer Notification and Education Plan on***

penetration levels, with a typical public service announcement campaign producing awareness rates as low as 5 - 10%. Similarly, media advertising was found to generate low consumer awareness of a low-income energy assistance program in New York state. "[T]he CSA weatherization program. . .had relatively low visibility despite extensive advertising and outreach campaigns."\122\

There is a diversity of consumers both in what media they rely upon in obtaining information and in what media they trust to impart appropriate information. An electric restructuring consumer education program should recognize this diversity. In sum, a one-size fits all consumer education program won•t work. Specific efforts must be made to address issues that are unique to low-income consumers.

Proposal #10: Consumer Education

PROPOSAL #10 LANGUAGE

1. *Not later than January 1, _____ (insert date as appropriate), the state public utilities commission shall develop a comprehensive public education outreach program to educate customers about the implementation of retail competition among electric suppliers. The goals of the program shall be to maximize public information, minimize customer confusion and equip all customers to participate in a restructured generation market. The program shall include, but not be limited to: (1) the dissemination of information through mass media, interactive approaches and written materials with the goal of reaching every electric customer; (2) the conduct of public forums in different geographical areas of the state to foster public input and provide opportunities for an exchange of questions and answers; (3) the utilization of community-based organizations in developing messages and in devising, delivering and implementing education strategies; (4) targeted efforts to reach rural, low income, elderly, foreign language, disabled, ethnic minority and other traditionally underserved populations; and (5) periodic evaluations of the effectiveness of educational efforts. The commission shall assign one individual within the commission to coordinate the outreach program and oversee the education process. The commission shall begin to implement the outreach program not later than January 1, _____ (insert date as appropriate).*

(..continued)

CPN Delivery, California PUC: Sacramento (CA).

\122\ Charles Unseld (January 1978). ***The Impact of Rising Energy Costs on the Elderly Poor in New York State***, at 61, New York State Energy Office: Albany (NY).

2. *There shall be established a Consumer Education Advisory Council which shall advise the outreach program coordinator on the development and implementation of the outreach program until the termination of the standard offer under this act. Membership of the advisory council shall be established by the commission not later than June 1, _____ (insert date as appropriate), and shall include, but not be limited to, representatives of the commission, the Office of Consumer Counsel, the Department of Social Services, the Division of Housing, the Department of Aging, the Department of Agriculture and Consumer Services, the Department of Environmental Protection, community and business organizations, consumer groups, including, but not limited to, a group that represents low-income customers, electric distribution companies and electric suppliers. The advisory council shall determine the information to be distributed to customers as part of the education effort such as customers' rights and obligations in a restructured environment, how customers can exercise their right to participate in retail access, the types of electric suppliers expected to be licensed including the possibility of load aggregation, electric generation services options that will be available, the environmental characteristics of different types of generation facilities and other information determined by the advisory council to be necessary for customers. The advisory council shall advise the outreach program coordinator on the methods of distributing information in accordance with subsection (1) of this section and the timing of such distribution. The advisory council shall meet on a regular basis and report to the outreach program coordinator as it deems appropriate until termination of the advisory council's role upon the termination of the standard offer under this act.*

3. *Not later than January 1, _____ (insert date as appropriate), the commission shall submit a report to the committees of the General Assembly having cognizance of matters relating to energy, outlining the scope of the education outreach program developed by the commission and identifying the individual acting as outreach program coordinator and the membership of the advisory council.*

4. *The commission may retain a consultant to assist in developing and implementing the public education outreach program, provided the authorization to retain such consultant shall expire December 31, _____ (insert date as appropriate). The reasonable and proper expenses for retaining the consultant and implementing the outreach program shall be reimbursed through the commission.*

Discussion

Clearly, it is not up to the legislature to design a consumer education program. A consumer

education bill akin to Connecticut's, however, will help to ensure that whatever consumer education program *is* developed is appropriate for low-income consumers as well as for all consumers generally. The language proposed above requires:

- A representative consumer education advisory panel to help oversee the development and implementation of the education program;

- The mandatory use of community based organizations, at least in part, to deliver the consumer education;

- Messages and mechanisms that are specifically designed to be targeted to diverse populations; and

- Periodic evaluations of program effectiveness and needed revisions, if any.

FUNDING RESPONSES TO LOW-INCOME CONCERNS

The final policy response to low-income concerns about electric restructuring is to create a universal service fund through a distribution fee. The recommendations of Governor Romer's energy assistance task force\123\ have merit in this regard:

The creation of a $55 million fund;

Financed through a utility distribution fee; and

Used to fund cash assistance and energy efficiency.\124\

A number of reasons support funding low-income assistance as part of electric restructuring. This report has previously documented the probable lack of competitive choice for low-income consumers. The potential for higher electric bills has previously been discussed, as has the fact that electric bills are a disproportionately large share of total low-income home energy bills. The potential for service degradation, particularly as service affects the maintenance of service in nonpayment situations, has been discussed. Overall, beyond these discussions, the basis for the Romer Task Force conclusions as to the need for the creation of

\123\ Mary Boesen, *et al.* (1998). ***Final Report: Energy Assistance Reform Task Force***, Colorado Governor's Energy Assistance Reform Task Force: Denver (CO).

\124\ While the Romer Task Force report speaks of "weatherization," which in some places implies space heating efficiency, the Task Force intended the term "weatherization" to include base load electric efficiency along with space heating.

a $55 million low-income assistance fund will not be revisited. The discussion below will assume that the legislative goal is to implement this Task Force recommendation.[125] To implement such a wires charge as part of restructuring legislation is consistent with the decisions reached by other states as summarized in Appendix A.

Proposal #11: System Benefits Charge

PROPOSAL #11 LANGUAGE

1. Low-Income Rate Affordability and Energy Efficiency Funding.

A low-income rate affordability program and a low-income energy efficiency program shall be created and shall be administered by the Colorado Energy Assistance Foundation. The purpose of the rate affordability program is to reduce the cost of electricity for low-income Colorado consumers to a predetermined percentage of total household income. The purpose of the energy efficiency program is to reduce the consumption of electricity by low-income Colorado consumers through energy efficiency improvements.

a. Definitions. For purposes of this subsection,

(i) Commercial customer includes any business establishment not engaged in transportation or manufacturing or other types of industrial activity, but including school dormitories, hospitals and military barracks and other non-industrial and non-residential customers.

(ii) Consumer means low-income, end-use consumer.

(iii) Industrial customer includes manufacturing industries along with mining, construction, agriculture, fisheries and forestry.

(iv) Residential customer includes all private residences, whether occupied or vacant, owned or rented, including single-family homes, multifamily housing units and mobile homes, but not including school dormitories, hospitals and military barracks.

b. Eligibility. Consumers living with a household income at or below one hundred fifty percent of the federal poverty level, as determined annually by the United States department of health and human services, shall be eligible to receive assistance under this section.

[125] The Task Force report has been reviewed above.

c. Program Benefits.

(1) Rate Affordability Program. Agencies currently distributing federal low-income fuel assistance or federal low-income weatherization assistance, shall qualify each consumer for participation in the rate affordability program and shall notify the utility providing distribution service of the consumer•s monthly fixed credit and the duration for which the fixed credit is authorized. The fixed credit shall be that amount necessary to reduce the consumer•s total electric bill, based upon the prior year•s billing amount, to an affordable percentage of income in accordance with program rules adopted by the Colorado Energy Assistance Foundation. The affordable percentage of income shall be tiered to reflect the ratio of the consumer•s household income to the federal poverty level, with greater assistance provided to those at lower poverty levels. A reasonable proportion of rate affordability benefits may be reserved for crisis intervention assistance.

Program benefits shall be distributed as a monthly fixed credit applied toward a consumer•s distribution bill for provision of electricity.

(2) Energy Efficiency Program. Energy efficiency funding eligibility shall be prioritized based on largest kilowatt hours of annual use. Moneys allocated to the low-income energy efficiency program may be used for any of the following:

(a) Space heating as allowed pursuant to the federal weatherization assistance program.
(b) Non-space heating as determined by the Colorado weatherization assistance program as necessary and appropriate to provide maximum comprehensive cost-effective energy efficiency treatment to low-income households.
(c) Emergency repairs to space heating systems as determined appropriate by the Colorado weatherization assistance program.

d. For the first three years the low-income affordability programs are in effect, moneys shall be collected from all end-use consumers by the distribution utility on a monthly basis in accordance with the following:
(1) Ninety-five cents for residential accounts.
(2) Eight dollars for commercial accounts.

(3) Two hundred seventy dollars for industrial accounts.

A distribution utility shall remit all moneys to the treasurer of state. The treasurer shall make disbursements from this fund as appropriate. The unencumbered or unobligated moneys remaining at the end of any fiscal year from the appropriations made in subsection ___ shall not revert but shall be available for expenditure during subsequent fiscal years until expended for the purposes for which originally appropriated.

After the third year of the program, the commission shall set the per account charge annually based on the total program budget developed by the Colorado Energy Assistance Foundation. When determining the per account charge, the commission shall not substantially deviate from the customer class rate allocation proportion as set forth in this paragraph.

e. Program Allocations, Administration and Budgets.

(1) Amounts allocated to the rate affordability program shall be based on participation rates from prior years and the level of credits necessary to maintain affordable energy burdens. Energy efficiency program allocations shall be based on the level of funding necessary to deliver adequate energy efficiency to participating households, as determined by the Colorado weatherization assistance program. The level of funding allocated for the energy efficiency program shall not exceed twenty-five percent of total low-income affordability funding as determined by the Colorado Energy Assistance Foundation. The level of funding allocated for administration shall not exceed ten percent of the amounts allocated for the total low-income affordability funding.

(2) The Colorado Energy Assistance Foundation shall administer the program. This administration shall include enrolling low-income participants in the program, providing outreach and customer education, notifying consumers and answering consumer inquiries, and keeping records relating to the numbers of program participants and program expenditures.

(3) The Colorado Energy Assistance Foundation shall develop a budget for the programs created in this subsection on an annual basis and shall determine the allocation of total funding between rate affordability assistance and energy efficiency assistance.

f. Each distribution utility shall report to the commission annually, the number of end-use accounts in its distribution service territory for the immediately

preceding year.

g. Low-income affordability assistance shall be distributed statewide without consideration of the source of revenues funding the rate affordability assistance program.

h. Every other year, the Colorado Energy Assistance Foundation shall do the following:

(1) evaluate the performance and effectiveness of the low-income affordability assistance program through use of an independent third party. Upon completion, the evaluation shall be submitted to the general assembly.

(2) develop a low-income needs and resources plan for the state which shall include the following:

(a) a statewide assessment of the need for low-income rate affordability assistance and energy efficiency assistance;

(b) an identification of the public and private resources available to meet the identified needs; and

(c) recommendations on how to coordinate the available resources to most effectively address the identified needs, taking into account the difference between short- and long-term effectiveness.

Upon completion, the plan shall be submitted to the general assembly.

DISCUSSION

The above language sets forth a model rate affordability proposal. It imposes a meters charge that will fund both energy efficiency and rate discounts for low-income consumers. Four major decisions face the Colorado legislature when considering the implementation of a system benefits charge in electric restructuring legislation:

- How funds should be collected;
- From whom funds should be collected;
- How funds should be distributed; and
- Who should administer the distribution of funds.

Structuring the Collection of Funds

On What Basis Should Funds be Collected

Two basic approaches can be used to collect funds through a System Benefits Charge in Colorado:

- Collection on a volumetric basis; or
- Collection on a fixed fee basis.

The difference between the two approaches is easy to conceptualize. A volumetric approach imposes a charge that varies for each customer based upon the magnitude of the customer's consumption and bill. There can be variations within this volumetric approach: a per kilowatthour (kWh) charge and a percent of revenue charge are the two most common. At their heart, however, these charges are the same. They begin with the amount of funds needed to be collected --$55 million according to the Romer Task Force-- and allocate that amount amongst customers based upon the amount of energy consumed. A residential customer using 20,000 kWh a year pays *more* than a residential customer using 10,000 kWh a year.

In contrast to the volumetric approach is a fixed fee structure. This approach imposes a fixed charge on customers varying by customer class. The fee within any given class, however, does not vary between customers. A residential customer using 20,000 kWh annually pays the same fee that a residential customer using 10,000 kWh annually pays. The class responsibility is based on volumetric considerations, however.

Colorado's electric customer classes and their respective consumption were as follows for 1997 (for all utilities, including investor-owned companies, publicly-owned companies, and rural electric cooperatives):

1997 Electric Customers and Consumption by Customer Class			
Customer Class	No. Customers	kWh Usage	Source
Residential	1,623,211	12,260,908,000	Table 14, page 32
Commercial	224,144	14,600,180,000	Table 15, page 82
Industrial	4,740	10,297,368,000	Table 16, page 130
SOURCE: U.S. Department of Energy, Energy Information Administration (October 1998). ***Electric Sales and Revenue: 1997***, Energy Information Administration: Washington D.C.			

Allocating the Romer Task Force $55 million recommendation by class usage results in the following class allocation:

Allocation of Class Responsibility			
Customer Class	Pct of Total kWh	Amount of $55 Million /a/	Cost per kWh /b/
Residential	33.0%	$18,150,000	$0.00148
Commercial	39.3%	$21,615,000	$0.00148
Industrial	27.7%	$15,235,000	$0.00148
NOTES: /a/ $55 million x percent of total kWh. /b/ Amount of $55 million / customer class consumption (kWh)			

Applying this volumetric charge against average consumption by class would result in the following annual and monthly costs per customer:

Annual and Monthly Costs per Average Customer				
Customer Class	Average Use	Cost per kWh	Annual Cost	Monthly Cost
Residential	7,563	$0.00148	$11	$1
Commercial	65,138	$0.00148	$91	$8
Industrial	2,172,441	$0.00148	$3,041	$253

While the average cost is as presented in this table, however, the actual cost per customer within any given customer class will vary based on the consumption unique to that customer.

This would have a particular impact on large industrial customers that rely heavily on electricity in their production processes.

The way to address that intra-class burden is to collect the class customer contributions through a fixed monthly meters charge rather than on a volumetric basis.\126\ In Colorado, the use of a meters charge would result in the following fixed fees:

Table 14
Monthly Meters Charge in Colorado
To Raise $55 Million System Benefits Revenue

Customer Class	No. Customers	Monthly Charge	Total Revenue
Residential	1,623,211	$0.95	$18,504,605
Commercial	224,144	$8.00	$21,517,824
Industrial	4,740	$270.00	$15,357,600

As can be seen, the meters charge and the volumetric charge can be structured to allow the same customer class contributions to be achieved, while at the same time protecting high use customers within any given class from bearing a disproportionate burden of the SBC payments.

From Whom Should Funds be Collected

Before leaving the finances of cost allocation, it is necessary to review the policy basis for collecting funds from all classes. As a public service corporation, electric utilities have certain powers and rights not extended generally to private corporations. Amongst these perquisites are the right to exercise the power of eminent domain and the right to permanently occupy public streets and other public ways with physical facilities such as wires and poles.\127\

The law has made clear, however, that the acceptance and exercise of these public perquisites had, as an attached *quid pro quo,* the implicit (if not explicit) condition that the private commercial endeavors granted such quasi-governmental powers be operated to serve the

\126\ Calling such a charge a "meters" charge is perhaps a misnomer. The intent is to collect on a fixed fee basis per customer. If one customer has several meters at a single facility, a single charge is imposed.

\127\ *See generally*, "Progress of Regulation, Trends and Topics, Electric Utilities and Eminent Domain Laws," 106 ***Pub. Util. Fort.*** 49-51 (July 28, 1980).

entire public.\128\ More specifically, the obligation to support universal service was one such condition. As has been recognized in the cable television context:

> Local governments are realizing the unique value of public rights-of-way for which they act as trustee. Public rights-of-way are acquired and paid for through government action, usually the exercise of a jurisdiction's eminent domain powers. Thus, the public rights of way are the most valuable property rights in the hands of government. . .Local governments must receive fair compensation for granting use of the rights-of-way. Otherwise, government is merely subsidizing the businesses of private rights-of-way users. . .Traditional users of the public rights-of-way were deemed to provide public compensation in the form of universal service and regulated rates. . .With traditional users of public rights-of-way, compensation for use of the public rights-of-way was passed onto the end consumer through rate regulation and other public benefits like universal service, rather than being paid directly by the governments, the actual owner of the public rights-of-way.\129\

The obligation to support programs such as universal service is a type of "payment" for the grant of these powers. The mere fact that the electric industry may become competitive does not eliminate either the need for, or the justification for, obtaining this compensation.

This analysis is relevant to the allocation of responsibility for wires charge payments in the following way. As this author's research for the U.S. Department of Energy found:

> all end users should help fund this wires charge as part of the obligation to serve. Four factors go into this determination:
>
> ⊄ . . .utilities are unique in that they are granted the right to use city streets as well as the right to exercise the power of eminent domain.
>
> ⊄ Those public benefits have a distinct value, which is positive. That value

\128\ This "exchange" is much the same as has occurred in the health care field, where the nonprofit tax exempt status granted to 85%+ of all health care facilities has been exchanged for the obligation of such facilities to provide care to indigent consumers. *See generally*, Roger Colton (1997). ***The "Obligation to Serve" and a Competitive Electric Industry***, Oak Ridge National Laboratory, U.S. Department of Energy: Washington D.C.

\129\ Nicholas Miller and Kristen Nven (1996). "What is the Emerging Role of Local Governments in This New World of Telecommunications," in ***Cable Television Law 1996: Competition in Video and Telephony***, at 12 - 13, Practicing Law Institute: New York (NY).

inures to the benefit of all ratepayers. If a utility could not use eminent domain, in other words, the increased costs that would arise as a result would be borne by all ratepayers. All end users gain the benefit.

- A commitment to universal service is simply the compensation to the public for having provided these public benefits. . .[T]here has been an exchange of consideration. On the one hand, electric utilities are provided the right to use public streets and to exercise eminent domain. On the other hand, the utilities "pay" for these grants through a commitment to universal service.

- . . .offering unaffordable service is the functional equivalent of denying service altogether. Accordingly, a commitment to universal service implies a commitment to affordable service.

In short, having obtained the benefits of the bargain, all service providers and all end users should be required to help fulfill the responsibility part of the bargain. To allow otherwise would be to grant the benefit while forgiving the costs.[\130\]

The allocation of wires charge responsibility to all customer classes is supported by both law and policy.

Structuring the Distribution of the Funds

How Should Funds be Distributed

The Romer Task Force report recommends that $55 million be collected through a System Benefits Charge to be used to provide cash assistance and energy efficiency to low-income households. In addition to these direct consumer benefits, a reasonable legislative action would be to limit administrative expenditures to no more than 10% of the total fund. Federal program requirements place a 10% limit on administrative expenditures for the federal LIHEAP program (known as LEAP in Colorado).

Aside from mandating the uses of funds (*e.g.*, efficiency, cash assistance), the most appropriate legislative action is to delegate the precise design of a low-income rate affordability program to administrative determination. One appropriate policy decision to be legislatively made, however, is to direct that cash assistance benefits be distributed on a

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[\130\] ***Obligation to Serve***, *supra*, at 71 - 72.

percentage of income basis.[131] The "appropriate" percentage of income to be used for any given customer under this approach is budget-constrained. A percentage of income figure cannot be adopted, in other words, that spends more money than the SBC collects.

Using a percentage of income approach to targeting provides a more efficient use of scarce rate affordability resources. This can be demonstrated by looking at the Colorado LEAP customers discussed above. The income ranges which LEAP uses for reporting purposes are as follows:

Table 15
Comparison of Percent of Income-Based Program and Straight Discount SBC Distribution

Income Range	Mid-Point	Percent of Income-Based				Straight Discount	
		Affordable Pct	Affordable Bill	Actual Bill	Subsidy	Pct Discount	Subsidy
$0 - $1,999	$1,000	8%	$80	$1,120	$1,040	30%	$336
$2,000 - $3,999	$3,000	8%	$240	$1,120	$880	30%	$336
$4,000 - $5,999	$5,000	8%	$400	$1,120	$720	30%	$336
$6,000 - $7,999	$7,000	8%	$560	$1,120	$560	30%	$336
$8,000 - $9,999	$9,000	8%	$720	$1,120	$400	30%	$336
$10,000 - $11,999	$11,000	8%	$880	$1,120	$240	30%	$336
$12,000 - $14,999	$13,500	8%	$1,080	$1,120	$40	30%	$336
$15,000+	$15,000	8%	$1,200	$1,120	$0	30%	$336

This Colorado-based table compares the distribution of SBC funds using an eight percent of income figure for targeting purposes to the distribution of SBC funds using a 30% across-the-board discount.[132], As this table shows, only when a customer has an income in the range of $8,000 to $10,000 will an across-the-board discount come close to equalling the funds necessary to bring low-income bills into an affordable range. For customers with incomes

[131] Even within that construct, innumerable "percentage of income-based" options exist: an income-based fixed credit (such as used in Maine); an income-based percentage of bill (such as used in Pennsylvania); an income-based discount (such as used in Washington D.C.). *See generally*, Roger Colton (1995). ***Models of Low-Income Utility Rates***, Fisher, Sheehan and Colton, Public Finance and General Economics: Belmont, MA.

[132] Again, there is no magic to an eight percent figure. The Romer Task Force recommends 10 percent. Whether this figure is set at eight percent, or ten percent, or six percent is largely driven by the available budget. The same is true for the across-the-board discount.

above $10,000, the across-the-board discount pays them *more* than is necessary to bring bills into an affordable range. For customers with incomes below $8,000, the across-the-board discount pays them *less* than is necessary to bring bills into an affordable range.

Accordingly, it would be appropriate for the legislature to direct that SBC funds be distributed using a percentage of income targeting mechanism while leaving the precise design of the income-based approach for an administrative determination.

Through Whom Should Funds be Distributed

The second subsidiary fund distribution issue for legislative consideration involves a determination of the geographic area which should be used as the basis for distributing funds. The basic issue here is whether funds should be distributed on a statewide basis irrespective of the source of those funds or whether funds should be devoted exclusively to assisting ratepayers of the company from whom the funds were collected. If, in other words, Public Service ratepayers pay $40 million of the SBC funds, should $40 million of benefits be earmarked exclusively for Public Service low-income customers?

The primary reason to operate a low-income fuel assistance program on a statewide basis involves the disparity in need between regions of the state.[133] Those disparities create a mismatch between the need for affordability assistance and the ability of a particular region to generate sufficient funds from within the region to meet that need. A statewide program, in contrast, allows funding to be distributed on the basis of need.

On a geographic basis, "need" has two aspects to it: intensity and depth. The "intensity" of need involves measuring the number of consumers who are "low-income" in a particular geographic region. The "depth" of need involves measuring the number of consumers who live at the lowest levels of poverty in the state. Given the statewide distribution of poverty discussed above, it is apparent that there will be a mismatch between the intensity and depth of need for affordability assistance on a regional level and the amount of SBC revenue generated by that region. As a result, the appropriate form of administration of SBC revenues in Colorado is on a statewide basis.

[133] A second related reason is administrative. Earmarking the revenues collected by any given utility exclusively for the low-income consumers of that utility will necessarily result in a multiplicity of low-income programs. Each utility service territory will need to have a program designed to fit the budget for that service territory.

SUMMARY

Virtually every electric restructuring decision that has been reached to date, as well as virtually every piece of electric restructuring legislation, has included a System Benefits Charge to fund low-income energy assistance. A review of state decisions, regulatory reports, and legislation is presented in Appendix A.

As has been recommended by the Romer Energy Assistance Reform Task Force, a System Benefits Charge to generate $55 million in low-income assistance would be appropriate for Colorado. The recommendations above are:

- To collect these funds from all customer classes;
- To collect these funds on a meters charge basis;
- To distribute use these funds for cash assistance, energy efficiency, and crisis intervention purposes;
- To target cash assistance on a percentage of income basis; and
- To distribute funds on a statewide basis without regard to the original source of the funds.

APPENDIX A: TABLE OF LOW-INCOME ASSISTANCE DECISIONS

STATUS OF STATE ELECTRIC RESTRUCTURING ACTIVITIES ON LOW-INCOME ASSISTANCE

TABLE 1:
Low-Income Protections in Electric Restructuring
(Legislation / Final PUC Decision)

System Benefits Charge	
California	Statute provides that "programs provided to low-income electricity customers, including but not limited to targeted energy efficiency services and the California [rate discount] shall be funded at not less than 1996 authorized levels based on an assessment of customer need." This funding will be collected as a nonbypassable rate component of local distribution service collected on the basis of usage. Favors moving *away* from having low-income assistance administered at utility-level. Low-income energy efficiency services and the rate discount should be administered separately, but in close coordination with each other. Once transition period complete, gas and electric utilities will be treated consistently with each other. Will consider implementation of nonbypassable gas surcharge. No specific cap on rate discount funding. Recognize that past assistance levels may be insufficient to meet current needs.
Connecticut	"The Department of Public Utility Control shall establish a system benefits charge to be imposed against all end-use customers of an electric distribution company. . .The system benefits charge shall be used to fund. . .the cost of hardship protection measures. . .[and]low-income conservation programs approved by the Department of Public Utility Control. . ." (amongst other things--ms).
Delaware	Creates "low-income program fund" which "shall be used to fund low-income fuel assistance and weatherization" funded by a per kWh surcharge on transmission and distribution.
Illinois	". . .each public utility, electric cooperative. . .and municipal utility. . .that is engaged in the delivery of electricity or the distribution of natural gas within the State of Illinois shall. . .assess each of its customer accounts a monthly Energy Assistance Charge for the Supplemental Low-Income Energy Assistance Fund. . .The Energy Assistance Charge assessed by electric and gas public utilities shall be considered a charge for public utility service."
Maine	Retail competition should not itself reduce the availability of low income assistance. Restructuring should not diminish low-income assistance. Continue existing funding (0.5%). "If the Legislature does not fund low income assistance, the Commission would investigate whether ratepayer funded low income programs should exist in all service territories, and whether the means by which utilities distribute such funds should be amended.
Massachusetts	Restructuring must assure continuation of universal service, providing a level of protection for low-income customers equivalent to that provided within the current industry structure. Continue to require each distribution company to offer a low-income tariff with the same eligibility criteria as are currently in place. The low-income discount will apply o the distribution charge, and during the transition period, the discount will also apply to the stranded cost charge. Applied to distribution portion of the bill such that the total dollar discount identical to what is offered without restructuring.

TABLE 1:
Low-Income Protections in Electric Restructuring
(Legislation / Final PUC Decision)

System Benefits Charge	
Montana	Statute declares that "the public interest requires the continued protection of consumers through:. . .continued funding for public purpose programs for:. . .low-income weatherization [and] low-income energy assistance." Provides for a "universal system benefits charge" which means a nonbypassable rate or charge to be imposed on a customer to pay the customer's share of universal system benefits program costs. Universal system benefits programs include "public purpose programs" for, amongst other things: low-income customer weatherization and low-income energy assistance. Universal system benefits programs are established for the state of Montana to ensure continued funding of and new expenditures for energy conservation, renewable resource projects and applications, and low-income energy assistance during the transition period and into the future. Beginning January 1, 1999, 2.4% of each utility's annual retail sales revenue in Montana for the calendar year ending December 31, 1995, is established as the annual funding level for universal system benefits programs. Unless modified as provided in subsection (7), this funding level remains in effect until July 1, 2003. The recovery of all universal system benefits programs costs imposed pursuant to this section is authorized through the imposition of a universal system benefits charge assessed at the meter for each local utility system customer. Utilities must receive credit toward annual funding requirements for a utility's internal programs or activities that qualify as universal system benefits programs, including those portions of expenditures for the purchase of power that are for the acquisition or support of renewable energy, conservation-related activities, or low-income energy assistance. A utility's minimum annual funding requirement for low-income energy and weatherization assistance is established at 17% of the utility's annual universal system benefits funding level and is inclusive within the overall universal system benefits funding level. A utility must receive credit toward the utility's low-income energy assistance annual funding requirement for the utility's internal low-income energy assistance programs or activities. If a utility's credit for internal activities does not satisfy its annual funding requirement, then the utility shall make a payment for any difference to the universal energy assistance fund.
New Hampshire	Authorize "system benefits charge" to accomplish three goals: (1) to bring electric bills into the "range of affordability"; (2) to encourage conservation and the use of energy efficiency mechanisms to make electric bills manageable; and (3) to make the most effective use of limited funding. Cost of "no more than $13.2 million" (as proposed by various parties). Not limited to residential customers, but to all. Not limited to distribution rates. Flat per kWh charge.
New Jersey	Establishes "non-lapsing" "Universal Service Fund" in Board of Public Utilities. Board shall determine, amongst other things, the level of funding and the appropriate administration of the fund; the purposes and programs to be funded with monies from the fund; and whether new charges should be imposed to fund new or expanded social programs.
New York	Responsibilities of the provider of last resort include to "provide any programs to assist low-income customers that the Commission determines are appropriate." Funding of SBC should be set equal to one mil per kWh for all SBC programs, including energy efficiency, research and development, low-income programs, and other programs not expected to be provided by a competitive market.
Oklahoma	Commission "shall consider the establishment of a distribution access fee to be assessed on all consumers in the State of Oklahoma connected to electric distribution systems regulated by the Commission. This fee shall be charged to cover social costs. . ." "Minimum residential consumer service safeguards and protections shall be ensured including programs and mechanisms that enable residential customers with limited incomes to obtain affordable essential electric service."
Pennsylvania	Commonwealth must, at a minimum, continue the protections, policies and services that now assist customers who are low-income to afford electric service. "There are certain public purpose costs, including programs for low-income assistance, energy conservation and others, which have been implemented and supported by public utilities' bundled rates. The public purpose is to be promoted by continuing universal service and energy conservation policies, protections and services, and full recovery of such costs is to be permitted through a nonbypassable rate mechanism."

TABLE 1: Low-Income Protections in Electric Restructuring (Legislation / Final PUC Decision)	
System Benefits Charge	

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System Benefits Charge	

Rhode Island	In a restructured electrical industry, the same protections currently afforded to low income customers shall continue. ". . .recognition that electricity is an essential service. . ." Exempt low-income consumers from rate increases due to performance based ratemaking incentives.All fixed contributions and any reasonable costs incurred in arranging a last resort power supply shall be included in the distribution rates charged to all other customers.
Virginia	Does not address universal service issues.

TABLE 2:
Low-Income Protections in Electric Restructuring
Commission Decisions Preceding Legislation
and
Statements by Regulatory Staff and Working Groups

State	Comment	Source
Delaware	"Low-income customers should have an equal opportunity to participate in competitive generation markets, and their participation in such markets should not in any way interfere with their ability to have access to low-income assistance programs. In general, the major tools available for assisting low-income consumers in securing competitive generation services under reasonable terms and conditions are: (a) low-income usage reduction programs. . .; (b) low-income bill assistance / percentage of income payment plans; (c) a standard offer during the transition period and a reliable default provider after the transition period; (d) strong customer service protections. . .; and (e) effective consumer education."	Delaware Public Service Commission, "Restructuring the Electric Utility Industry in Delaware: A Report to the House of Representatives of the 139th General Assembly from the Delaware Public Service Commission," PSC Docket No. 97-229 (January 27, 1998).
Georgia	"Virtually every person has electric power in Georgia. . .Universal Service must be maintained so that electric service is available to all customers. . .To the extent that the state mandates programs designed to accomplish public policy objectives, such as low-income assistance,. . .a system of financing should be used whereby all providers and users of electricity contribute equitably."	Staff Report on Electric Industry Restructuring, Docket No. 7313-U (Jan. 23, 1998).
Louisiana	"Universal service refers o the ability of all Louisiana citizens to obtain essential electricity, which is a necessity of modern life. . .Provisions for universal service should be an integral part of a retail electric choice scheme, at least until it can be determined that competitive retailers will voluntarily achieve acceptable levels of universal service. Accordingly, any restructured electric utility industry should provide adequate safeguards to assure universal service. . .Programs and mechanisms that enable residential customers with low incomes to manage and afford essential electricity requirements should be included as a part of industry restructuring."	PSC Staff Report on Electric Restructuring in Louisiana, Docket No. U-21453 (December 17, 1997).
Michigan	"Historically, public policy makers in Michigan have adopted programs designed to assure access to affordable electric service for all customers, including low-income and senior citizens. . .However, the Commission or the Legislature may wish to consider whether more needs to be done in this area. Low-income advocates commenting in response to the Staff's customer focus inquiry have suggested that low-income consumers may be more vulnerable in a restructured utility environment than they were under traditional utility regulation. . .California, Pennsylvania, New Hampshire, Rhode Island, Vermont, Massachusetts, New York, Maine and Montana have all adopted and/or implemented electric restructuring legislation, Commission orders, or both. Each has maintained or enhanced low-income energy assistance programs or low-income energy management programs. . .Nearly every state is proposing to collect the revenues and operate the programs through distribution companies. . .Staff believes that the continued availability of affordable electric service to low-income customers should be assured."	Michigan PSC Staff, "Customer Focus Issues and Recommendations," Case No. U-11290 (October 13, 1997).
Missouri	". . .the Public Interest Working Group supports the implementation of a cost effective low-income program and we recommend that the PSC have authority to implement a percentage of income plan coupled with an arrearage forgiveness program and weatherization plan to be funded by a non-bypassable distribution charge."	Public Interest Working Group, "Consumer Protection for Retail Electric Competition: A Report to the Missouri Public Service Commission's Task Force on Retail Electric Competition," (March 1998).

TABLE 2:
Low-Income Protections in Electric Restructuring
Commission Decisions Preceding Legislation
and
Statements by Regulatory Staff and Working Groups

State	Comment	Source
New Jersey	Transition to competition "should not result in the elimination or diminution of [social] programs. "While we propose protecting existing programs. . .any new social program initiatives identified should be considered and adopted, where deemed necessary and appropriate, through separate legislative or Board action."	*Restructuring the Electric Power Industry in New Jersey: Findings and Recommendations*, New Jersey Bd. of Public Utilities, Docket EX94120585Y (April 30, 1997).
Ohio	". . .the five assistance programs currently available to low-income electric consumers--the Percentage of Income Payment Plan (PIPP), Home Energy Assistance Program (HEAP), Home Weatherization Assistance Program (HWAP), Emergency Assistance Program (EAP), and Energy Credits Program (ECP)-- should be fully maintained during and after Ohio's transition to a competitive generation market as to funding and customer eligibility."	Joint Committee on Electric Utility Deregulation, "Competition--Ohio's Choice" (Draft: January 6, 1998).
Vermont	Public Service Board supports "all fuels, broad-based" funding mechanism for support the energy needs of low-income consumers. "All fuels"means to assure assistance in a manner that does not discriminate among low-income consumers according to their principal home-fuel types. "Broad based" means a program that is funded through the state's broad general taxes or, at a minimum, through a competitively neutral charge on all major fuel types. In the absence of a broad-based low-income assistance program, Legislature should target assistance for some portion of the electric bills of low-income households through a sustainable, non-discriminatory charge on all electric customers. Should be administered independent of utilities or other energy service providers. Should be structured to encourage efficient use of energy resources. Should be administered through centralized and statewide means.	Vermont Public Service Board, *The Power to Choose: A Plan to Provide Customer Choice of Electricity Suppliers*, Docket No. 5854, Report and Order (Dec. 30, 1996).
Wisconsin	"These Public Benefits have been important parts of electric and natural gas utility operations and regulation. As these industries are restructured and deregulated, these Public Benefits are at risk if an effort is not made to preserve or enhance them within the new industry and regulatory structures. The Commission recognizes these Public Benefits as an integral part of public utility regulation. It has now made a special commitment to preserve these benefits as utility regulation undergoes dramatic changes. . .The Commission finds that the most appropriate approach to preserve or enhance the levels of the four Public Benefit programs in the transition to new energy industry structures is to create a funding proposal that treats all energy suppliers equitably and that ensures continued support of these Public Benefits. . .[T]he two efforts would administer $212 million in programming and services, of which $166 would need to come from state Public Benefits funding."	Wisconsin PSC, Docket No. 05-BU-100, I/M/O Appropriate Measures to Maintain or Enhance Existing Levels of energy Efficiency, Services to Low-Income Customers, Renewable Resources, and Research and Development ("Public Benefits") in Restructured Electric and Natural Gas Industries. Enunciation of Policy and Principles (December 18, 1997).