STATE FISCAL YEAR 2008 EVALUATION OF THE NRS 702

ENERGY ASSISTANCE PROGRAM
&
WEATHERIZATION ASSISTANCE PROGRAM

January 2009

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EXECUTIVE SUMMARY

This document is the State Fiscal Year 2008 evaluation report for the Energy Assistance Program (NRS 702.260) and of the Weatherization Assistance Program (NRS 702.270).[1] The report describes the objectives of each program, analyzes the effectiveness and efficiency of each program in meeting its objectives, reports on the distribution of money from the Universal Energy Charge (UEC) and the Fund for Energy Assistance and Conservation (FEAC), reports on the coordination between the Housing Division and the Welfare Division in the conduct of the programs, and looks at planned program changes.

Because of the success of the Nevada model, this report will have a wide readership outside of Nevada as well as among leaders, staff, and advocates within the state. In developing the Housing and Welfare Division programs, Nevada has produced a "best practice" model for Western states to study and copy. Certain features of the Nevada approach may also prove useful in the rest of the country.

In SFY 2008 both the Energy Assistance Program and the Weatherization Assistance Program performed well. Problems for the Energy Assistance Program and the Weatherization Assistance Program during SFY 2008 were not in the areas of program administration or accomplishments, nor were they located in any variables under state control. The major problem is a deteriorating economic context.

In 2007 the national economy had shown signs of slowing down, and this effect was strongest in the fastest growing states.[2] Also in 2007, the Center on Budget and Policy Priorities reported on a new Congressional Budget Office study showing the continuing tendency towards increasingly extreme income inequality in the United States.[3] Extreme income inequality creates more difficult conditions for low-income

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[1] The evaluation is conducted pursuant to NRS 702.280(2-3).

[2] According to an article in the *New York Times*, Jeff Hardcastle, Nevada's State Demographer, noted that no new major hotel-casinos had opened. The article also noted higher cost of housing in Nevada, slowing of moves from high-cost states like California, and higher foreclosure rates due to the subprime mortgage crisis. Roberts, Sam, "Fastest-Growing States Show Slower Expansion," *New York Times*, December 27, 2007.

[3] Since approximately 1970, the income situation in the United States has retrogressed to an extreme inequality similar to that of the late 1900's. In 1965 a standard manufacturing job would support a family's daily needs and provide both family health coverage and a moderate but adequate pension for life. Today, it generally takes at least two workers in a family to attain the same (or slightly more) official real income, in jobs that may or may not come with health benefits or a defined benefit pension even if they may be classed as white collar professional, such as beginning engineer. According to a recent Congressional Budget Office (CBO) study, a household in the lowest fifth of the national income distribution enjoyed an increase in income of $800 from 1979 to 2004 (6%), while a typical household in the top fifth of the income distribution enjoyed an increase of $63,100, and a typical household in the top one percent of the income distribution enjoyed an increase of $553,800 (all dollar amounts converted to 2004 dollars). "New CBO Data Show Income Inequality Continues to Widen," Center on Budget and Policy Priorities, January 23, 2007. None of the groups, even the

households because pricing for products and services of reasonable quality tends to follow the incomes of upper income households.[4] Also, as upper income groups segregate into premium levels of goods and services, the quality of goods and services for middle, moderate, and low-income households tends to deteriorate.[5]

In Calendar Year 2007, the United States entered an economic recession, though the public was not informed of this until after the presidential elections in 2008. It subsequently became clear that the world economy was failing, stemming from the United States housing bubble and the widespread reliance on novel financial instruments called derivatives which banks claim they are unable to value. As the new national administration assumes office in early 2009, we are told that the economy will get worse before it gets better, and that this will be the most severe economic contraction since the Great Depression.

Effects are showing up in an influx of households seeking to enter the Energy Assistance Program and a change in the economic backgrounds of the members of households in need. In SFY 2008, there are more households who are new to poverty and were previously able to pay their energy utility bills. Comments on some of the surveys returned tell about families having had good and regular employment and now being unable to find jobs as employment in the housing sector has radically contracted. Though the layoffs began in housing, since the close of SFY 2008, layoffs are occurring across many other job sectors.

Also during SFY 2008, until the economy broke, there was an extreme run up in the price of energy which increased pricing throughout the economy, particularly in goods

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uppermost income groups, actually received these dollar values because official statistics track only a fraction of actual devaluation of the dollar.

[4] See Elizabeth Warren & Amelia Warren Tyagi, The Two-Income Trap, Why Middle-Class Mothers and Fathers are Going Broke, New York: Basic Books, 2003; also Frank, Robert H., Falling Behind, How Rising Inequality Harms the Middle Class. Berkeley, Los Angeles & London: University of California Press, 2007.

[5] This is a classic response to economic hard times. The history of socioeconomic formations textbook example is the addition of all kinds of extenders (such as sawdust) to bread, a substitution which has occurred throughout history during economic contractions. The parallel right now is that products are shorted but sold at the previous price. Looking closely, and comparing to memory of three years ago, soap bars contain less soap, the half gallon size of ice cream for many brands now contains less than a half gallon, the ninety-six ounce size of orange juice now contains eighty-nine ounces, some restaurants are selling sixteen ounce beer in fourteen ounce glasses, bags of dog food are being shorted by about ten percent, rolls of paper towels are now shorted by several sheets, toilet paper is being sold with larger diameter cardboard rolls and fewer sheets, candy and chips come in smaller bags, etc. In this hidden way, all kinds of goods "don't go as far" and the ordinary expenses of living are rising. For a current list, search "grocery shrink ray" on the Internet. A different kind of example is the deterioration of the quality of airplane travel as the market for private jets and timesharing of private jet travel became preferred for those who can afford it. Services that are no longer relevant to the economic elite will frequently deteriorate as a result of losing their business (as happened much earlier to bus and train transportation).

and services dependent on energy. The price of gasoline doubled and both natural gas and electric utilities began to project large increases in the cost of gas and electricity in the immediate future, with no apparent end to price increases in sight.

So, while the UEC programs worked well in SFY 2008 and all of the program variables under state control were being handled well and responsibly, the wider social and economic environment of the program effort was becoming increasingly difficult. This program has demonstrated that it can work well in assisting low-income households in meeting their energy needs, but when prices are constantly increasing for households on fixed budgets (such as senior citizen households), and particularly when (for other households) a family income earner is thrown out of work, the program cannot perform at the planned level for many households. Performance for SFY 2007 was characterized as similar to a competent and efficient athlete swimming against an increasing current. During SFY 2008, the focus of this report, the opposing currents became much stronger.

ESTIMATES OF NEED

This section of the report uses the "energy burden" concept to illustrate fairness in program assistance, estimates numbers of eligible households under the current eligibility criterion of a household income at or below one-hundred and fifty percent (150%) of poverty, and at higher levels to better address need.

A. *Energy Burden*

"Energy Burden" is the key concept for understanding both the cost of energy for Nevada households and Nevada's programs.

1. Federal Definition of Energy Burden

As defined by US Department of Energy, energy burden is *the percentage of income* spent on energy (Figure 1).[6,7] A household's energy burden for a year is the

[6] Figure 1 is from http://www.energy.gov/weatherization/reducing.html, a web page of the US Department of Energy Weatherization Assistance Program.

[7] The term "energy burden" means the expenditures of the household for home energy divided by the income of the household." [Section 2603(2), Low-income Home Energy Assistance Act (46 U.S.C. 8622)]. According to the LIHEAP Clearinghouse, Congressional committee notes further provide the recommendation to use actual bills: "...In addition, the committee urges states to use actual energy bills in determining energy burdens and designing their benefit structures" (House Report 103-483 on H. R. 4250, Committee on Education and Labor). The committee notes are cited in "State Strategies Based on Household Income, Energy Burden and Heating Costs," Compiled by the LIHEAP Clearinghouse, February 2002 (http://www.ncat.org/liheap/pubs/510targ.htm).

percentage of household income that is needed to cover the cost of energy for the year. As the federal example shows, the average US family has a mean group energy burden under 2.7% (Figure 1).

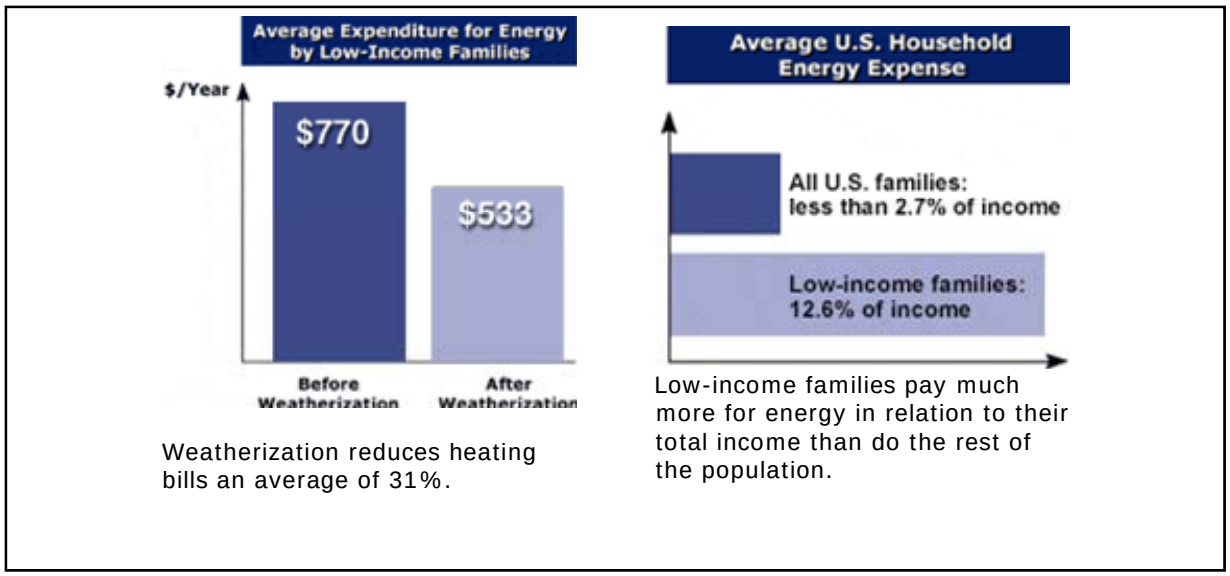


Figure 1: Energy Burden in the US (USDOE).

2) *Nevada Definition of Energy Burden*

The Nevada energy burden for a home that has electricity service and natural gas service is the cost of energy calculated as the sum of the number kilowatt-hours used times the applicable electric rate plus the number of therms used times the applicable gas rate.

The energy burden computed for all households for use in the SFY 2008 Energy Assistance Program is 3.53% (Table 1).

For SFY 2008, Nevada has set the required yearly household direct energy payment for Energy Assistance Program participants equal (as a percentage of their household income) to the median household energy burden (3.53%) for the state (NRS 702.260.6.a). This approach is inherently fair on its face -- the Energy Assistance Program is not to pay for the full cost of household energy use but is planned to cover the amount that will bring the household direct payment for the year to the same percentage of household income as the median of all Nevada households.

Median HH Energy Burden	
NEVP - Electric	$1,225.07
SW Gas - South	458.04
Subtotal Southern Nevada	$1,683.11
Average % Energy Burden	3.48%
($1,673.28 / by $48,314)	
SPPC - Electric	$889.99
SPPC - Gas	835.00
Subtotal SPPC-Northern Nevada	$1,724.99
Average % Energy Burden	3.57%
($1,716.51 / by $48,314)	
SPPC -Electric	$889.99
SW Gas - North	$813.36
Subtotal Northern Nevada	$1,703.36
Average % Energy Burden	3.53%
($1,694.87 / by $48,314)	
Statewide Median HH Energy Burden for Electricity and Natural Gas	
3.53%	

Table 1: Calculation of SFY 2008 Nevada Household Energy Burden.

The Nevada median household energy burden is updated each year by the Division of Welfare and Supportive Services with the assistance of the State Demographer, using numerical information supplied by the major Nevada electric and gas utilities.[8]

3) Household Definition of Energy Burden

From a household perspective the relevant feature of the bill is the “Please Pay” amount.[9] This is different from the Nevada definition, which is limited to commodity cost (number of kWh multiplied by the cost per kWh and number of therms multiplied by the cost per therm). The federal definition can be interpreted either way. However, from a household’s perspective the "Please Pay" amount takes priority. This includes the monthly fixed charge and any interest, fees, and penalties in addition to the volumetric commodity charge.

[8] Table 1 is the final table in a series of tables developed for the SFY 2008 update.

[9] Internal policies on construction of bills vary across utilities. Within a utility Rate Department, the allocation of cost recovery to the fixed and variable portions of the household energy bill is a matter of ongoing policy discussion. When households are cutting back energy use, thereby lowering the variable portion of the bill, the tendency is to raise the fixed charge. Also, utility policies differ on amounts charged as penalties (if any) for late payments.

B. The Nature of Income Problems

If incomes were somewhat more equal, for example, if we had an a pattern of income allocation similar to that of the United States in the middle 1960's, then paying energy bills would be much easier all around and the program would operate much more smoothly. In the post Civil War 1800's and early 1900's there was a strongly skewed income distribution in the United States that grew in part out of profiteering during the Civil War. That era of conspicuous consumption by powerful “Robber Barons” began to disappear beginning in 1929.

Following the 1929 stock market crash and the subsequent wave of bank failures, the national state intervened to weaken the power and legitimacy of the financial and business autocrats, tighten financial regulations, provide regulatory oversight, and get the country working again. Following the travails of the Great Depression, from the end of World War II through approximately 1965-1970 the United States economy expanded. This brought greater and greater income equality and economic freedom to the United States. After 1970, the pattern reversed, creating greater and greater income inequality.

The income donut for Nevada is shown in Figure 2. Each part of the income donut represents twenty-percent (a quintile) of Nevada households. For the upper and upper middle quintiles, utility bills are not a problem. However, households in the bottom quintiles by income cannot be expected to pay cost-based bills without a transfer mechanism such as the Nevada payment assistance program. Presenting bills that households cannot pay does not pass a simple ‘straight face’ test. The money is no longer in these households; it has been moved to households at the very top of the income scale.

The policy implication of this reality is that utility cost of service pricing remains a useful concept for the top two quintiles of households, but cannot work for the lower quintiles in the absence of a transfer mechanism. When jobs pay less and less real income for the same amount of work, households are unable to cover the cost of necessities such as utility bills.

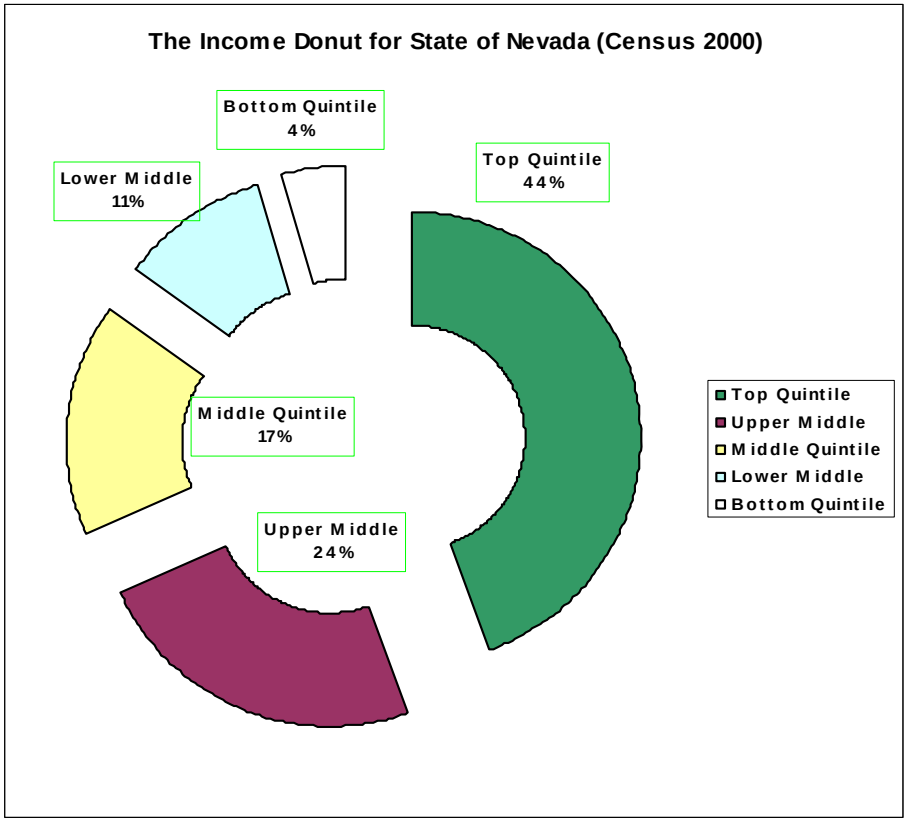


Figure 2: Income Donut – The Unequal Distribution of Income.

For most Americans, household income is derived entirely or almost entirely as payment for work (wages, salaries). Some kinds of income also derive from government policies that provide for services such as the post office, the police department, and public parks.

If the job structure of a state does not provide incomes necessary for large numbers of households to meet the necessary and ordinary costs of living, there is no alternative but to provide transfer income. Transfer income can take many forms, including direct assistance such as the Energy Assistance Program. Indirect assistance includes discounted utility rates and publicly funded services which operate without regard to household income such as post offices, parks, law enforcement, and fire departments.

C. Federal Funding to Assist with Energy Utility Bills

The level of federal Low-income Home Energy Assistance (LIHEA) funding varies from year to year. It has never been remotely sufficient to meet more than a very small fraction of need in the country. Also, the federal legislation for LIHEA is

oriented primarily to the needs of Northeastern states. Western and Southern states receive relatively little LIHEA support.

Table 2 shows real 2007 dollar amounts for this federal program using the official Bureau of Labor Statistics (BLS) inflation calculator. The BLS calculator incorporates the part of currency devaluation acknowledged by the federal government. Official inflation is only a portion of the actual devaluation of currency experienced by American households. Table 3 shows actual 2008 dollar amounts. Actual devaluation is computed by using the Shadow Government Statistics (SGS) time series. The SGS method is the BLS method used in the 1960s, with results extended to the present, providing a mathematically consistent series.[10]

LIHEA National Funding History (Official)

Col. 1	Col. 2	Col. 3	Col. 4
Year	**Unadjusted Dollars**	**2008 Dollars (BLS)**	**Percentage of 1985**
1985	2,335	4,610	100.0%
1990	2,554	4,151	90.0%
1995	2,305	3,213	70.7%
2000	2,666	3,289	71.3%
2005	4,432	4,821	104.6%
2007	4,970	5,092	110.5%
2008	2,818	2,818	61.1%
2009	5,577	5,577	121.0%

Low-Income Energy Programs Funding History from National Clearinghouse on Appropriate Technology (NCAT), "Low-Income Energy Programs Funding History 1977-2009" (http:/liheap.ncat.org/Funding/lhhist.htm). Dollars adjusted using official Bureau of Labor Statistics Inflation Calculator (http://data.bls.gov/cgi-bin/cpicalc.pl).

Table 2: Official Change in Decline in LIHEA Funding since the mid-1980's

[10] See John Williams, Shadow Government Statistics, Analysis Behind and Beyond Government Economic Reporting (http://www.shadowstats.com). Shadow Government Statistics provides alternative data series which are more accurate than federal economic series. For better estimates of need than given by the federal poverty numbers, see the series of income insufficiency studies using the Wider Opportunities for Women/Ford Foundation methodology. For example, see Chandler, Susan, *Working Hard, Living Poor, Parts I & II.* Reno, Carson City & Las Vegas: Progressive Leadership Alliance of Nevada.

National Funding History (Actual)			
Col. 1	Col. 2	Col. 3	Col. 4
Year	**Unadjusted Dollars**	**2008 Dollars (SGS)**	**Percentage of 1985**
1985	2,335	12,904	100.0%
1990	2,554	10,800	83.7%
1995	2,305	7,253	58.3%
2000	2,666	5,621	43.6%
2005	4,432	6,111	47.4%
2007	4,970	5,595	43.4%
2008	2,818	2,818	21.8%
2009	5,577	5,577	43.2%
Low-Income Energy Programs Funding History from National Clearinghouse on Appropriate Technology (NCAT), "Low-Income Energy Programs Funding History 1977-2008" (http:/liheap.ncat.org/Funding/lhhist.htm). Dollars adjusted using Shadow Government Statistics Inflation Calculator (http://www.shadowstats.com/inflation_calculator).			

Table 3: Actual Decline in LIHEA Funding.

In the introduction to this study, the program was characterized as similar to an athlete swimming against an increasing current. Table 3 illustrates part of the basis for this characterization of a rising current working against the program in the weak federal commitment to parallel funding. The general tendency has been for the federal government to appear to fund LIHEA at or slightly better than the level of the initial funding years (Table 2, Column 3), while actually funding at less than half of the initial funding (Table 3, Column 4).

The unevenness of LIHEA funding engenders difficulties for states in running the program (compare SFY 2008 with SFY 2007 or SFY 1985). Funding in recent years has been under one-half of original funding. And, as already noted, the original federal funding level was far from meeting actual need.

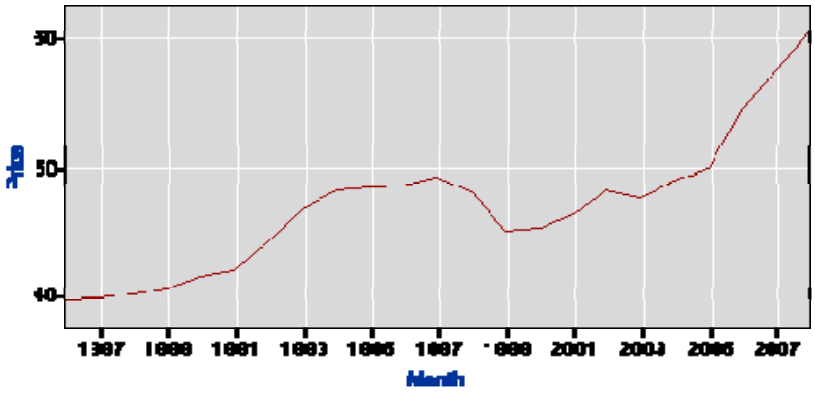
D. Energy Prices Trending Upwards

According to the US Bureau of Labor Statistics, electricity prices have been increasing. Figure 3 shows the index of electricity cost for 500 kWh plotted for December of each year from 1985 through 2007.[11] Here, the general upward shape of the curve is the important feature. Natural gas prices have also been increasing. Figure 4 shows the index of gas cost for forty therms plotted for December of each year from 1985 through 2007.[12]

[11] US Bureau of Labor Statistics, Series ID APU000072621, US City Average, Electricity per 500 kWh. US BLS, Databases, Tables, and Calculators by Subject (http://www.bls.gov/data/).

[12] US Bureau of Labor Statistics, Series ID APU000072601, US City Average, Utility (Piped) Gas - 40 Therms. See US BLS, Databases, Tables, and Calculators by Subject (http://www.bls.gov/data/).

Figure 3: General Movement of Electricity Prices (1985-2007).



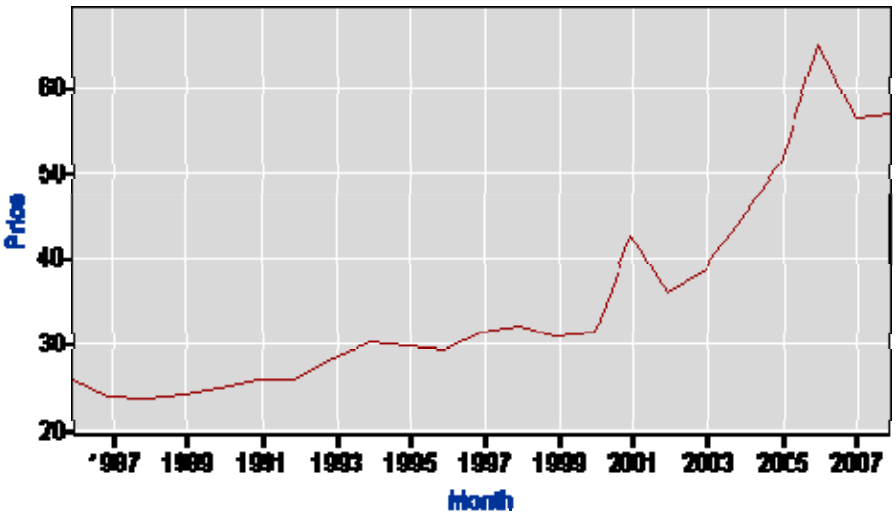


Figure 4: General Movement of Gas Prices (1985-2007).

Taken together, the income allocations shown in the income donut (Figure 2) and the price trends (Figures 3 & 4) show why the theory of cost-based rates for energy services is no longer compatible (absent transfers) for service to low-income and many middle income households.[13]

[13] The distribution of income in the United States is moving increased income towards very high income groups in the upper one-percent of households and above and removing income from the bottom income groups, especially from low-income families with children.

In Nevada, the relevant charts, courtesy of the Public Utility Commission of Nevada (PUCN) are shown for electricity in Figures 5 & 6 and for natural gas in Figures 7 & 8.[14] The important feature in these graphs is that in each case the typical bill is increasing.

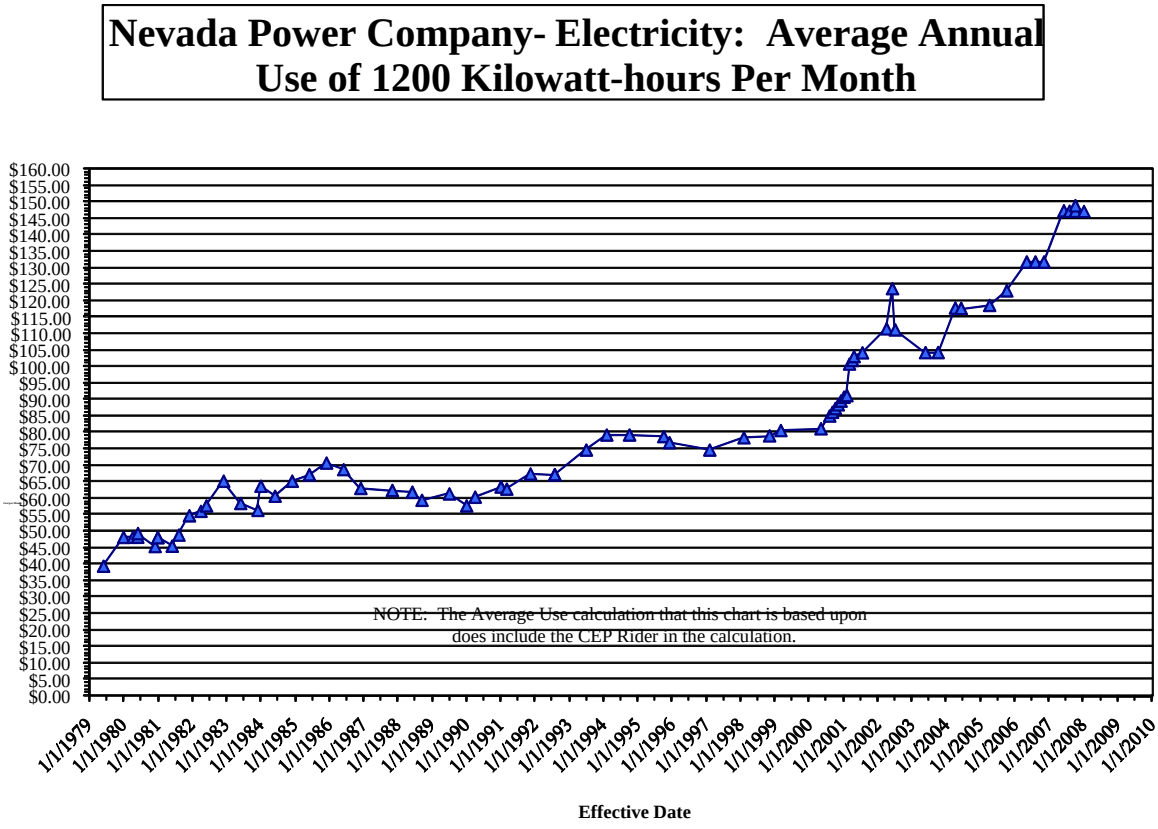


Figure 5: Typical Electric Bill (Nevada Power).

[14] These charts do not include the CEP rider in the calculation of average use. Charts courtesy of Nevada Public Service Commission.

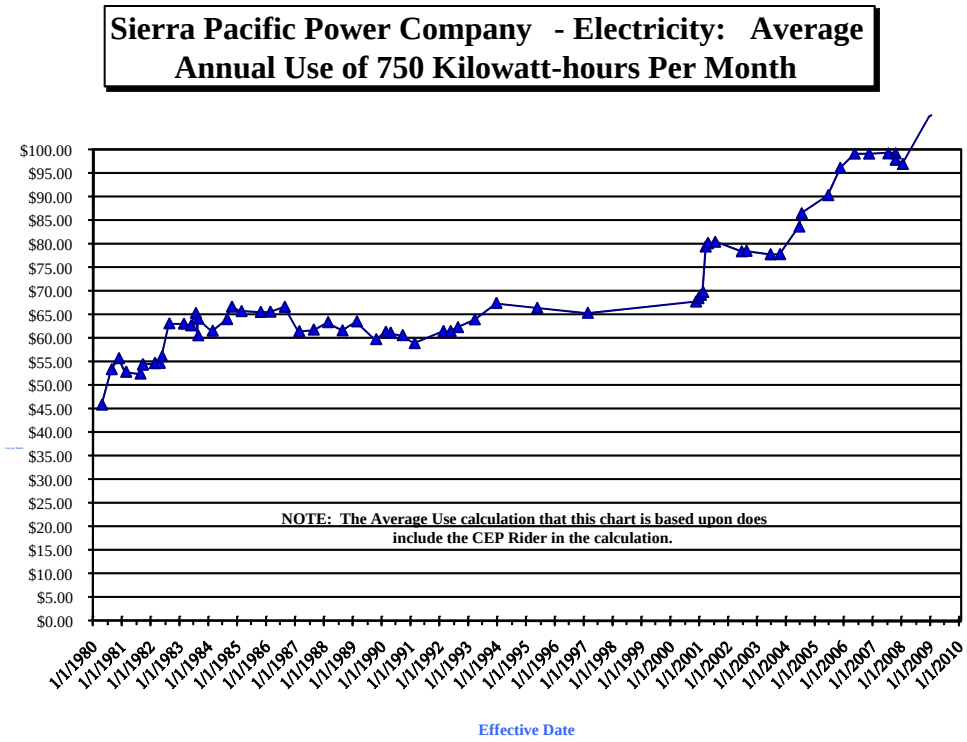


Figure 6: Typical Electric Bill (Sierra Pacific Power).

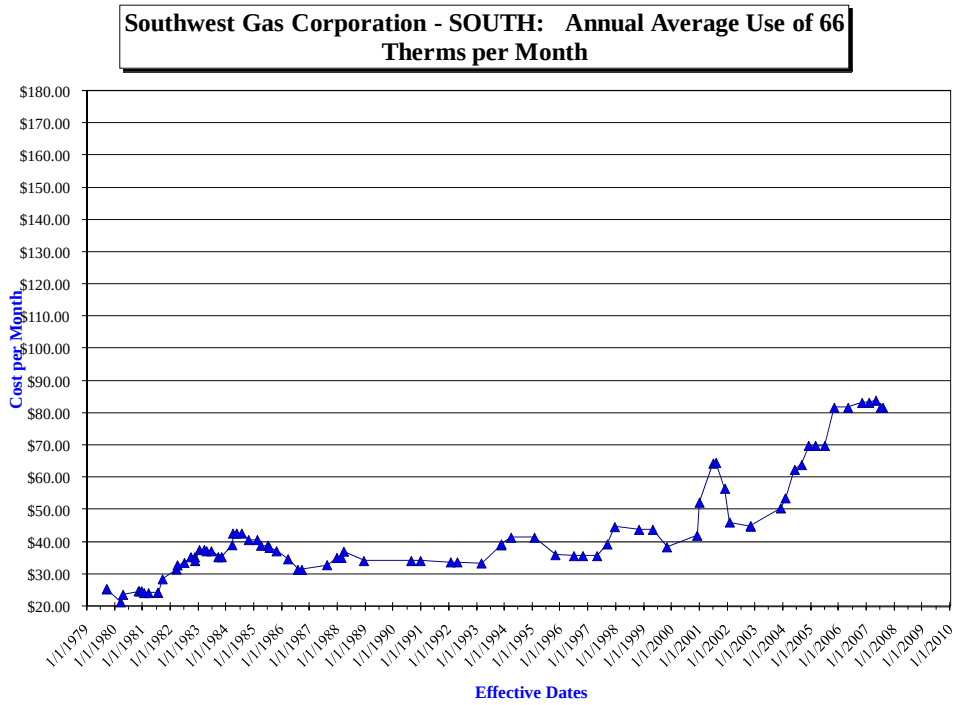


Figure 7: Typical Bill (Southwest Gas - South).

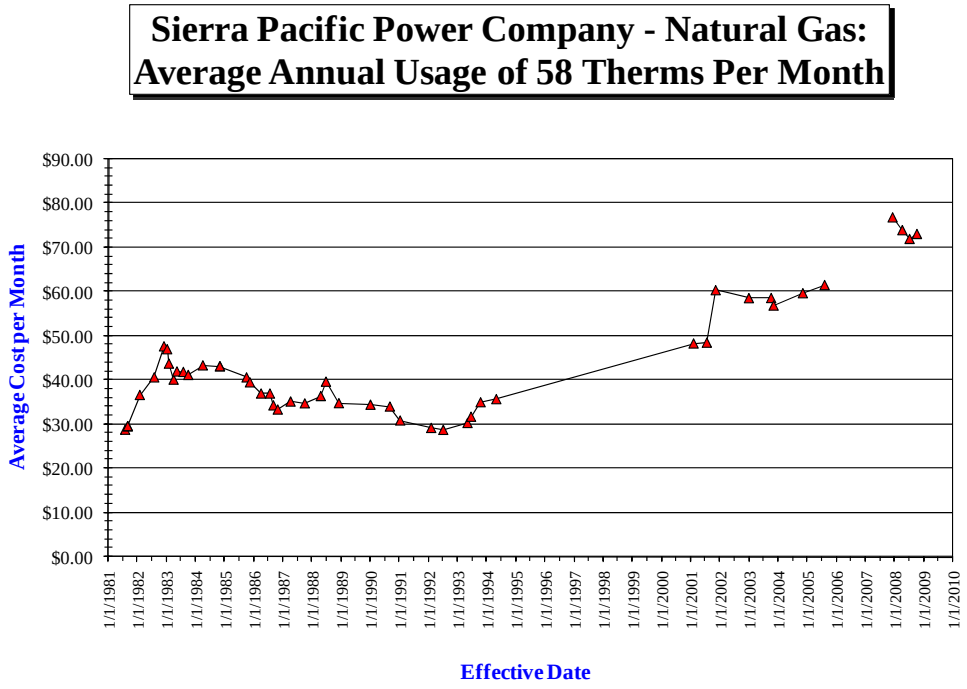


Figure 8: Typical Bill (Sierra Pacific Power).

E. Eligibility Rules and Number of Eligible Households

There are approximately 158,000 households meeting the current income criteria for the programs (Table 4). The programs serve a small fraction of this need each year.

If the income level for eligibility were raised to 175% of poverty, approximately 196,000 households would meet the income criteria; if eligibility were raised to 200% of poverty, 234,000 households would meet the income criteria. If the US Department of Housing and Urban Development (HUD) ceiling of 80% of area median income were used, the number eligible would be higher.[15] As an approximation, the evaluation team estimates that about forty percent (40%) of

[15] This is a special definition that does not imply a direct use of area median income because the calculation of eligibility is referenced to a family size of four then adjusted downwards for families of smaller size or upwards for families of larger size. Also, the HUD definition is referenced to families (generally considered related individuals) rather than to households (which may be made up of unrelated individuals such as college students renting a house). HUD calculates and releases eligibility using its definitions each year. According to HUD, "[t]he term 'low-income families' means those families whose incomes do not exceed 80 per centum of the median income for the area, as determined by the Secretary with adjustments for smaller and larger families, except that the Secretary may establish income ceiling higher or lower than 80 per centum of the median for the area on the basis of the Secretary's findings that such variations are necessary because of prevailing levels of construction costs or unusually high or low family incomes." Fiscal Year 2008 HUD Income Limits Briefing Material, Attachment 1 [U.S. Housing Act of 1937 Provisions Related to Income Limits (As Amended through 1999)], Section 3, Point 2.

Nevada households would be eligible using the HUD definition as a guide. The HUD 80% of median income criterion corresponds to about 731,794 households.

Ratio-of-Income to Poverty Level, State of Nevada, by County - Estimated Households										
	Churchill	Clark	Douglas	Elko	Esmeralda	Eureka	Humboldt	Lander	Lincoln	Lyon
Total	9,910	651,150	18,146	17,651	446	563	6,336	2,034	1,451	16,948
Under .50	339	30,281	625	581	39	43	195	136	95	673
50 to .74	210	13,733	399	348	27	31	155	20	57	427
75 to .99	342	18,664	389	425	28	16	209	80	134	657
1.00 to 1.24	386	22,455	516	649	23	26	200	69	82	651
1.25 to 1.49	485	25,806	596	713	30	23	214	76	116	731
1.50 to 1.74	597	26,258	624	732	40	37	267	77	98	939
1.75 to 1.84	308	11,242	206	272	3	15	152	10	32	439
1.85 to 1.99	220	14,786	301	394	10	24	122	63	28	458
2.00 and over	7,023	487,925	14,492	13,537	248	348	4,823	1,502	809	11,973
Under 150%	1,763	110,939	2,524	2,716	147	139	973	381	483	3,139
Under 175%	2,360	137,197	3,147	3,448	186	176	1,240	458	581	4,078
Under 200%	2,887	163,225	3,655	4,115	199	216	1,513	531	642	4,975
	Mineral	Nye	Pershing	Storey	Washoe	White Pine	Carson City		Totals	
Total	1,774	14,494	2,517	1,441	145,561	3,404	20,962		914,788	
Under .50	169	688	168	65	6,265	172	947		41,480	
50 to .74	63	452	56	11	3,572	151	610		20,321	
75 to .99	85	562	60	30	4,211	141	638		26,671	
1.00 to 1.24	96	917	206	57	5,395	210	812		32,749	
1.25 to 1.49	145	871	95	71	5,596	163	972		36,702	
1.50 to 1.74	105	991	123	70	6,172	173	960		38,264	
1.75 to 1.84	33	459	65	34	2,396	52	564		16,282	
1.85 to 1.99	65	466	57	5	3,521	255	451		21,225	
2.00 and over	1,013	9,088	1,688	1,099	108,434	2,087	15,006		681,094	
Under 150%	559	3,490	584	233	25,038	836	3,980		157,923	<
Under 175%	663	4,481	708	303	31,210	1,009	4,940		196,187	
Under 200%	761	5,405	829	342	37,126	1,317	5,956		233,694	
Source: 2000 Census, Summary File 3, Tables P88, P93; 2004 Population Estimates, Nevada State Demographer. See Calculations Worksheet										

Table 4: Number of Income-Eligible Households.

These estimates are based on 2000 Census data, adjusted using 2004 population estimates from the State of Nevada Demographer.[16]

[16] Census data obtained from http://www.census.gov. State of Nevada Demographer data obtained from http://www.nsbdc.org/demographer/pubs/pop_increase.html. The Census data comes from tables P88 and P93 of Summary File 3. Individual ratio-of-income to poverty data taken from table P88 is divided by the average household size. This table is then normalized to the number of households at 150% poverty taken from table P93 to give a household estimate of ratio-of-income to poverty level.

F. *The Self-Sufficiency Calculation of Need*

The self-sufficiency standard is relatively new and is not yet reflected in law, though many states and cities are reviewing income insufficiency in order to bypass the misleading appearances created by the excessively and inappropriately optimistic indicators of the federal statistical system in order to deal with actual need. This metric comes much closer to representing the actual needs of households than the old federal poverty metric.

The development of the self-sufficiency standard was required to take into account the many critical problems in the calculation of the Federal Poverty Level (FPL). The FPL is based on the concept that food is one third of the income expenditure of American people. This was not a bad estimate in the mid-1960's when the metric was created using data from the late 1950's.[17] Since that time, although the poverty level is updated each year to take into account the change in the real value of the dollar, it has gone out of calibration with the reality of need that it is required to indicate.[18] Federal poverty numbers *severely under-represent* actual poverty.

The existence of federal program guidelines based on 150%, 175%, 185%, 200%, or 250% of the FPL indicate practical adjustments to a defective metric, and constitute an admission by federal and state governments that the old poverty indicators have a poor attachment the reality of need. For example, the federal standard for LIHEAP is 150% of poverty or 60% of state median income, rather than the poverty level.[19] These adjustments attempt to take into account the failure of the FPL as a metric of need, but they do so only in part.

In Nevada LIHEA eligibility is currently set at 150% of poverty. Similarly, state mandated weatherization is set at 200% of poverty in Pennsylvania. California went

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[17] See Fisher, Gordon M., "Mollie Orshansky: Author of the Poverty Thresholds," Amstat News, September 2008, Pp. 15-18.

[18] This is due to the yearly quantitative adjustments in the conceptually incorrect Federal Poverty Level being made according to changes in the Consumer Price Index, one of the corrupted federal statistical series.

[19] Because evaluations are generally more useful if they recommend conservative steps in most recommendation areas and due to the large problems that would be involved in moving away from some level of the federal metric, a recommendation in the SFY 2003 evaluation was to move from 150% of poverty to 60% of the Nevada median income, an option that is provided for in the federal LIHEA program. This recommendation was repeated for the SFY 2004 and SFY 2005 evaluations. As the evaluation team accumulated more knowledge of the actual situation, in the SFY 2006 evaluation we moved the recommendation to 200% of the Federal Poverty Level (or as close as might be pragmatically negotiated). In the SFY 2007 evaluation, we recommend moving higher, to 80% of state median income (the upper limit of eligibility for public housing, as defined by the Department of Housing and Urban Development). At the same time, we want to indicate that direction of change over a number of years should be towards the self-sufficiency standard as it is inherently a better measure.

to 250% of poverty for eligibility for its low-income rate program beginning in 2004. In November of 2004, Pennsylvania extended protections against utility shutoffs to households up to 250% of poverty, replacing the previous 150% of poverty standard that had been established in 1992. In the fall of 2006, Pennsylvania raised eligibility for energy assistance (payment assistance) to 175% of poverty. One component of the low-income weatherization program in Massachusetts, the Good Neighbor Program, goes to 275% of poverty to be able to provide services to households in which at least one persons is working full time at less than a living wage.

As a rough "rule of thumb," 100% of poverty as defined in 1965 is about the same as 150% of poverty in 1992 or 200-250% of poverty today.[20] The states are beginning to cut loose from the misleading federal statistical system. Several states are developing their own guidance to fit actual conditions.[21]

Although it takes more work to calculate, the family budget approach used by the Self-Sufficiency Project is more accurate than the federal poverty level metric.

The 150% metric was a good fit in about 1992. The 200%-250% level is more accurate today. About 250%-350% of the Federal Poverty Level is the range above which a minimal but decent level of family living over the full lifespan is supported for most households.[22] The bottom line is that the federal statistical system for poverty and the economy severely masks the level of need; eligibility must be increased.

G. Recommendation

Recommendation 1: In the current (SFY 2008) evaluation, we recommend moving eligibility higher. In addition, fast tracking should apply in cases in which a family has lost jobs for one or more income earners, in cases in which there is a recent divorce, and in cases with medical problems due to illness or accident. Particularly in the context of a major national recession, more and more households need help.

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[20] These estimates are approximate. We actually find families in need at 350% or 400% of poverty, depending on family structure, size, and situation.

[21] A recent discussion of these eligibility issues occurred around the State Children's Health Insurance Program, where states and cities have proposed eligibility at 300%, 350% or 400% of poverty depending on family structure, size, and situation. This is part of the population that also needs energy assistance and weatherization services. The high percentage of poverty (FPL) levels recommended by cities and states represents the problem of meeting material needs, when expressed through a corrupt federal statistical metric. An honest analysis would show thirty to forty percent of households to be in significant need. This is masked by the federal statistics.

[22] The Self-Sufficiency calculation of 200-250% of the Federal Poverty Level does not allow for purchase of a car or other major items, provision for retirement, or the ability to deal with family emergencies.

THE LOGIC OF NEVADA'S APPROACH

The Nevada Universal Energy Charge (UEC) is one of several state energy assistance funds established over the past twelve years. It remedies a severe problem of many Nevada households – inability to pay for the energy necessary to meet basic household needs such as moderating natural temperature extremes though home cooling and home heating. In the Northern Nevada winter or Southern Nevada summer, ability to secure adequate heating and cooling can be a matter of life and death. As discussed in the previous section of this report, Federal LIHEA funds, also used for these purposes, are *always* far short of need in Nevada, are unreliable in amount, and are "locked in" by an allocation formula that sends these funds primarily to the winter weather states of the Northeast. The Nevada UEC provides a means for the state to respond to the underlying tension between rising energy costs and declining real income.

A. Programs of Energy Assistance: Six Characteristics

Six features define the careful and conservative character of the Nevada UEC:

(1) **Requirement to Pay In.** *It is necessary to pay into the UEC to be eligible for UEC assistance.* In the legislation, "paying in" is determined primarily by utility service territory. The "paying in" provision is a link to the tradition of balance that combines self-reliance with the community pulling together when necessary.[23]

(2) **Inability to Pay.** Nevada households that encounter problems paying basic energy bills are *not* refusing to pay for service. They have, instead, become either temporarily or (increasingly) permanently *unable* to pay for necessary energy on a "cost of service" basis. The new generation of UEC programs adopted in a number of states represents attempts by legislatures to deal with the reality that energy affordability is a temporary problem for some households but is largely a chronic problem for others afflicted by a pattern of insufficient wages for full time work, as well as by accidents, illnesses, and other causes.

(3) **Realistic and Fair.** By setting the UEC payment assistance at the level of the Nevada median household energy burden, the Nevada UEC establishes a realistic and on its face a fair level of payment assistance. The level is inherently rooted in a principle of fairness – energy assistance is provided at the level of the median percentage of household income for the state. The portion below that level remains the household's responsibility. The portion above that level is covered by the UEC fund.

[23] Federal funds and some other state funds are used to the extent available to help households not paying in to the Nevada UEC.

(4) **Starting with a Conservative Eligibility Level.** The eligibility level for SFY 2003 was set at 150% of the federal poverty level. Our calculations indicate that the current actual breakpoint for income insufficiency in the US is 250-350% of the poverty level for most families (a point of increasing consensus arrived at in different studies around the US), and some of the newest program changes in other states are employing levels of sixty or eighty percent of state median income, 175% of poverty, 200% of poverty, or 250% of poverty. But 150% was a reasonable level to start the program, though now eligibility should be adjusted upwards to fit actual need (see discussion in the previous section of this report).

(5) **Understanding of Long-Term Energy Affordability Problem.** Unless a dramatic turnaround occurs in the provision of "living wage" jobs (jobs that can support a family, including some provision for meeting medical, transportation, and retirement needs), increasingly large numbers of American households, including households with full time workers and a good history of bill payment and work discipline, will be unable to pay for their basic energy needs.

As globalization advances, there is nothing on the horizon that offers to restore opportunities for "living wage" jobs for households, either for existing households or for newer households as they are formed. For low and moderate to upper middle income households, real income is likely to continue to decline. The Nevada UEC payment assistance is therefore essential – picking up the part of the energy burden that is higher than that of the median Nevada household.

(6) **Investment and Cost-Effective Approach to Weatherization.** Weatherization fixes a home so that it can require substantially less energy to achieve the same (or sometimes better) levels of cooling, heating, and other energy services. The one-time investment of weatherization, combined with occasional minor maintenance is designed to provide an economically cost-effective return on investment over many years. The investment nature and the cost-effective return for the "weatherization package" as a whole define the essential characteristics of the Housing Division portion of the Nevada UEC fund.

The program logic model for Nevada's Universal Energy Charge programs is shown in Figure 9. In this figure, there are three main sets of program activities. The Public Utility Commission of Nevada (PUCN) collects funds, enforces utility provisions of NRS 270, and transfers funds to the Division of Welfare and Supportive Services. The Division of Welfare and Supportive Services administers the Energy Assistance Program (the payment assistance program) and maintains the Fund for Energy Assistance and Conservation, transferring a portion of funding to the Nevada Housing Division. The Nevada Housing Division administers the UEC Weatherization Assistance Program through its subgrantee agencies.

Program Logic Model - FY 2008

ACTIVITIES	ASSUMPTIONS	OBJECTIVES	INDICATORS	VERIFICATION
Insure Collections and Appropriate Refunds - Public Utility Commission (PUC)				
Administration	The Public Utility Commission of Nevada (PUCN) is the collector, since it is granted full authority to regulate, audit, and investigate, and enforce utility compliance	Collect and Transmit UEC Funds to Division of Welfare and Supportive Services	Funds collected, appropriate refunds made on request, funds transmitted to Division of Welfare and Supportive Services	Match of PUCN and Division of Welfare & Supportive Services records
Low income Energy Assistance Program - Welfare Division (NWD)				
Administration	The percentage of the UEC assigned to program administration is workable for adminstration	Implement, Administer	Implementation in compliance with regulatory intent (NRS 702)	Interviews, Compliance Review, Analysis of Effectiveness
	Welfare Accounting Division carries out transfers to Housing Division	Regular funding transfers, as funds are received from the Public Utiity Commission of Nevada	Regular transfers	Match of Housing Division and Division of Welfare & Supportive Services Records
Direct Assistance	Assistance will permit continued service and help with economic viability of households.	Provide Payment Assistance in accordance with NRS 702 & Division Procedures	Assistance program components in operation. Internal support systems in place.	Interviews, Document Review, Audit Observation of Operations
		Provide Arrearage Assistance in accordance with NRS 702 & Division Procedures	Assistance program components in operation. Internal support systems in place.	Interviews, Document Review, Audit Observation of Operations
Outreach/Communications Campaign	Outreach and contact is a function that requires special effort	Enroll households	Targets met or approached in SFY 2007	Interviews, Program Records, Document Review
	Re-certification requires special effort at timely communication	Re-Certify households, efficiently and as appropriate	Percentage Recertified, Customer Surveys	Interviews, Program Records, Document Review, Customer Mini-Survey Responses
Program Design	Program improvement is a continuing function.	Construct annual Plan	Annual plan completed.	Interviews, Review of Plan
Coordination	Welfare Division should stay in continuing contact with stakeholders to insure continuing input of perspectives and ideasfor improvement.	Communicate with and listen to stakeholders	Open Coordinating Meetings	Observe meetings, Interviews with Stakeholders
Annual Evaluation	Annual evaluation will provide useful assessment and feedback for improvement	Complete annual Evaluation	Evaluation for SFY 2007 completed	Completion of Evaluation
Weatherization Assistance Program - Housing Division (NHD)				
Administration	The percentage of the UEC assigned to program administration is workable for adminstration	Implement, Administer	Implementation in compliance with regulatory intent (NRS 702)	Interviews, Compliance Review, Analysis of Effectiveness
Energy Conservation/Efficiency Services	The means to implement the program must be developed and maintained	Arrange services, including contracts with subgrantees, training, inspection, BWR database and reporting	Subgrantees engaged, training maintained. Inspection, database and reporting continue	Interviews, review of Documents
Improvements for Energy Conservation/Efficiency	Physical improvements will lower energy bills	Arrange installations	Improvements installed in homes, Reporting system functional, Inspections completed, Customer Surveys	Interviews, Review of Program records, systems, and documents. Analysis of Energy Savings, Customer Mini-Survey
Outreach/Communications Campaign	Outreach and contact is a function that requires special effort	Enroll households	Enrollment target met or approached for SFY 2007	Interviews, Program Records, Document Review
Program Design	Program improvement is a continuing function	Construct annual Plan	Annual plan submitted.	Interviews, Review of Plan
Coordination	Housing Division should stay in continuing contact with stakeholders to insure continuing input of perspectives and ideas for improvement	Communicate with and listen to stakeholders	Open Coordinating Meetings	Observe meetings, Interviews with Stakeholders
	Housing Division coordinates with Utilities to support utility DSM coordinated funding, when available	Facilitate utility coordination of low-income DSM funding, when available	Mutual cooperation in utility DSM proposals to PUCN, Maintain PUCN approved program additions	Interviews, observation, program development, program performance
Annual Evaluation	Annual evaluation will provide useful assessment and feedback for improvement	Complete annual Evaluation	Evaluation for SFY 2007 completed.	Completion of Evaluation

Note 1: Energy Assistance Authorization: Nevada Revised Statute (NRS) 702.
Note 2: The three logic models included in this table show the interlocking logic of the Nevada Fund for Energy Assistance and Conservation.

Figure 9: Program Logic Model - Universal Energy Charge Programs.

B. The Logic of Physics -- Increasing Resource Scarcity

The heart of the physical problem is that each year it takes more energy per unit of energy extracted to develop the remaining gas supply. During the brief encounter with energy deregulation in the United States, regulatory oversight in states neighboring Nevada was relaxed and new electricity plants were designed to capitalize on the advantages of natural gas. This creates a situation, nationally, in which households and electric generation stations are in competition for gas supply.

In the past few years as gas costs have risen and remained high, a secondary effect has been an increase in use of electricity when households cannot pay their gas bills. This creates an increase in electric bills. The net effect at the household level is that both gas and electricity bills become difficult and for many households impossible to pay.[24] Both gas and electric utilities in much of the US are experiencing payment problems unprecedented since the 1930s, a sign that the national economic system is deeply troubled.

At the same time current climate research is reporting a decline in Sierra Nevada and Cascade snow pack. Loss of free water storage in the form of snow pack will require greatly increased attention to problems of water supply in neighboring regions of California and the Northwest.[25] The primary effect on electricity is in the projected depletion of hydro-generation resources in regions connected to Nevada over transmission lines (system interties), leading to scarcity and up-pricing in neighboring jurisdictions.[26]

C. The Logic of "Cost of Service" Pricing

With the exception of the deregulation experiments in some states in which pricing was envisioned to become a purely market function, in the US, utility rates are

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[24] There is a possibility that the shortage could be remedied through the development of Liquefied Natural Gas (LNG) stations along the California coast. However, new LNG tankers and stations raise problems of security and it is unlikely that any coastal community would permit new stations if included in planning consultations and permitted to choose whether they would like a new LNG terminal next door.

[25] Welch, Craig, "Global Warming Hitting Northwest Hard, Researchers Warn," *Seattle Times*, Saturday, February 14, 2004; Luers, Amy Lind, "A Tale of Two Futures, California Feels the Heat," Pp. 8-9, *Catalyst*, Fall 2004.

[26] This is the classic problem of physical limits. Climate studies show the problem is occurring on the electric side due to global warming as it also occurs on the gas side with depleting gas supply. Limits situations require strong state regulatory protections, strong state and utility planning capabilities, and enforcement. For economic theory for dealing with realities of physical limits, see: Georgesçu-Roegen, *The Entropy Law and the Economic Process*. Cambridge, Massachusetts & London: Harvard University Press, 1971. Also see: Odum, Howard T. & Elisabeth C. Odum, *A Prosperous Way Down, Principles & Policies*. Boulder, Colorado: University Press of Colorado, 2001.

traditionally regulated to reflect actual cost of utility service. The “cost of service” principle is retained today for electricity and gas distribution charges. The “commodity cost” of gas is generally a “pass through” under contractual arrangements though which gas utilities try to minimize price, but price is determined by market conditions of supply and demand. The “generation cost” of electricity is determined by both market forces and regulations as to which customers will share in the cost of integrated utility generation and which will be free to purchase the “generation part” of electric service from other kinds of non-regulated merchant entities. Merchant entities do not follow a cost of service principle; they look for value in deals.

Neither market (deregulated) rates nor regulated cost of service rates work for low-income and moderate-income households. For many households, changes in jobs, the recession, housing cost, and decreased real incomes are causing a loss of ability to consistently pay energy utility bills. Even if full traditional regulation is used, the logic of allocating rates based on cost of service only works if incomes are generally adequate and if the distribution of income does not show substantial extremes. [27]

But we happen to live in a time in which the very rich are radically richer and the poor and middle class are losing their economic foundations. This change is illustrated in Figure 10. The "Matthew Effect" evident in this figure ("to those who have more will be given; to those who have less, even that will taken away") is a reversal of the seventy years of growing income equality that began around 1900 and ended in about 1970. If we are to maintain even a rough economic democracy, this radical shift of income away from most households will have to be reversed until we can achieve the approximate balance exemplified by the middle 1960s. This will require significant income transfers since the US has lost most of its manufacturing jobs; the poorly paid service jobs that have taken their place cannot support a family on one income and are often without comprehensive health benefits or a reliable pension.

[27] It is important to note that there is nothing wrong, in principle, with markets if all members of the community have the income necessary to participate in the markets and meet their energy needs. Also, basing rates on cost of service is technically rational. It is only that as households increasingly lack ability to pay cost of service prices, and real household income continues to decline from year-to-year, cost based rates and traditional payment policies will not permit essential electricity and gas service for an increasingly large number of low-income and middle income households.

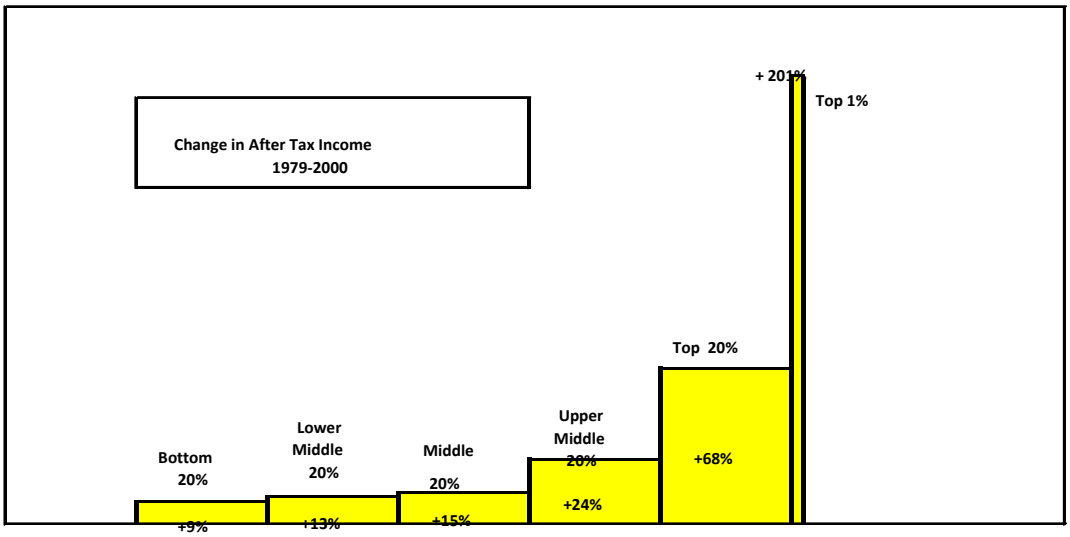

Figure 10: The Official Picture: Decreasing Poverty and Radically Increasing Inequality.

Figure 10 is based on official statistics,[28] which correctly indicate radically increasing income inequality but mask the serious deterioration of real income for poor to lower-upper income households. If we again turn away from the misleading Panglossian federal statistics towards reality, we find a bleak picture.

Corruption of the federal statistical system in the areas of poverty and the economy is exemplified in unemployment statistics. Consider that official unemployment statistics systematically understate unemployment, as is taught in every advanced economics class and in graduate economics courses.[29] As a rule of thumb, economists know to double whatever the Bureau of Labor Statistics says is the unemployment rate. If the government says unemployment is running at ten percent in a state (10%) it is actually at least twenty percent (20%). However, under President Clinton a further adjustment was made to the unemployment counts, making the economy seem rosier than it is.[30] Now if the federal government says

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[28] Frank, Robert H., *Falling Behind, How Rising Inequality Harms the Middle Class*. Berkeley, Los Angeles, London: University of California Press, 2007, Pp. 9-10. This figure taken from Greenstein, Robert & Isaac Shapiro, "The New, Definitive CBO Data on Income and Tax Trends," Center on Budget and Policy Priorities, September 23, 2003. Posted online as Figure 1 at www.cbpp.org/9-23-03tax.htm.

[29] The corruption consists in maintaining a series that is gradually defined away from its commonsense meaning to ordinary people, but continuing to use the commonsense term ("unemployment") originally used when the system was initially defined. The Bureau of Labor statistics has the integrity to keep the pieces of the original unemployment series under other names, but reports "unemployment" in a way that misleads public perception, making things seem better than they are. That professors and specialists know where to find the pieces, or that the pieces are maintained does not mitigate the deceptive twists of federal unemployment statistics.

[30] According to Williams, " ...the Clinton administration had found in its public polling that if the government inflated economic reporting, enough people would believe it to swing a close election.

unemployment is about ten percent (10%), it is at least twenty-two percent (22%); see Figure 11.[31]

Similarly, consider how official employment statistics register employment in a way that lacks in the basic integrity of making sense to working families.[32] The government numbers do not track employment that offers a living wage, has decent medical benefits, and a defined benefit pension.[33]

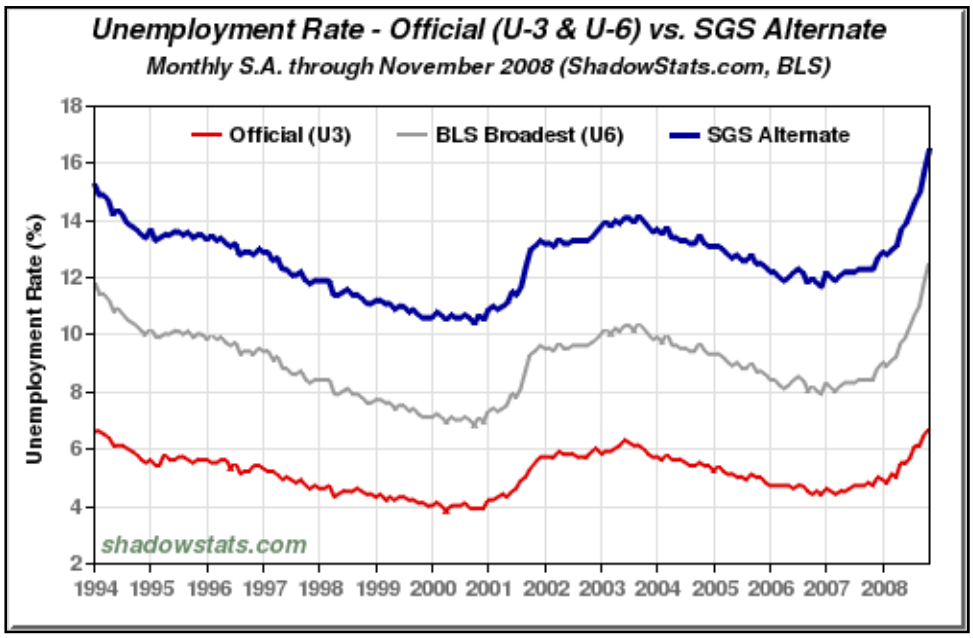

Figure 11: Official vs. Actual Unemployment.

Accordingly...[u]nemployment was redefined to eliminate five million discouraged workers and to lower the unemployment rate; methodologies were changed to reduce poverty reporting, to reduce reported CPI inflation, to inflate reported GDP growth, among others." See http://shadowstats.com, and select the "Series Master" Primer. "Government Economic Reports: Things You've Suspected but were Afraid to Ask," by Walter J. "John" Williams, August 24, 2004.

[31] See http://www.shadowstats.com and select the "alternate data" tab; go to the Employment Data Series (Courtesy of ShadowStats.com). The SGS Alternate Unemployment Rate reflects current unemployment reporting methodology "adjusted for SGS-estimated 'discouraged workers' defined away during the Clinton Administration" added to the existing BLS estimates of level U-6 unemployment. The BLS broadest measure of unemployment contains additional discouraged workers who were defined out of the measure during the Kennedy administration.

[32] The official definition is sometimes treated as a technical definition.

[33] If employment were tracked that way, the numbers would show the US is in a severe job-shortage emergency. That is, the jobs available are not remotely equivalent to the commonsense idea of real jobs with real pay and real benefits similar to the job structure of the middle 1960s.

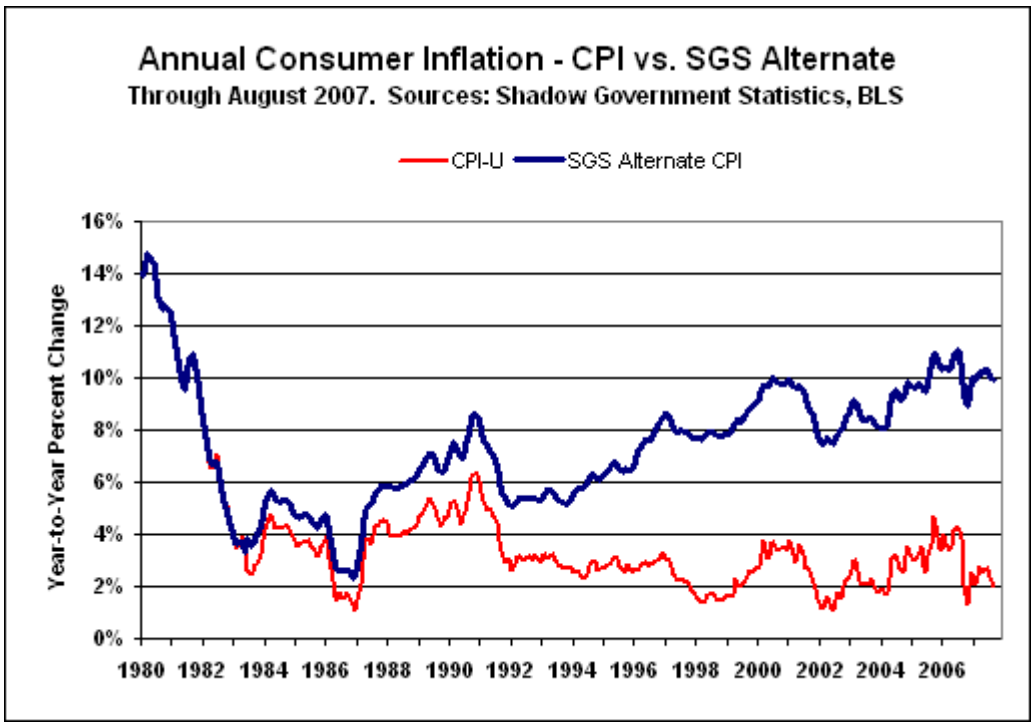

Figure 12: Divergence of Consumer Price Index from Original Method.

Given the lack of reality in these two examples having to do with unemployment and employment, it is unsurprising that the Consumer Price Index (CPI) today is now highly divergent from the original CPI. Figure 12 shows the divergence of the official consumer price index (CPI-U) from the same index calculated according to the rules and conventions for the index in effect through 1983 (SGS Alternative CPI). In Figure 12, the upper curve is the alternative CPI and the bottom curve is the official CPI.

Note that the two curves are the same from 1980 through 1983 and diverge as an increasing number of technical adjustments are introduced.[34,35] If the SGS Alternate

[34] A standard problem with any kind of price index is that over time some goods are no longer available in the market and are replaced by other goods (black and white TV sets are replaced by color sets; ordinary TVs are replaced by high definition TVs). Because such replacements tend to have more features or to be of higher quality than the original item, the standard theory is that without corrections a price index would tend to have an upward bias because the additional qualities or component capabilities will cost more. The technical adjustment is that if the new good may in theory produce more pleasure that the old market basket item for which it is substituted, the price index is corrected by disregarding the part of the price related to the increased pleasure. These hedonic adjustments are estimated using regression analysis. They can produce situations in which an actual price increase is represented by a price decrease for an item in the basket. They also do not take into account the forced nature of some of the "choices" (for example, one may not care to pay for a new high definition TV set – one makes this "choice" by order of the federal government). There are several other problems with the CPI, in particular the way it leaves out actual costs faced by families. For example, it deals with housing costs as equivalent rental value, causing the index to miss the problems in the housing markets of the last several years, even though these have been major realities in household budgets. Then, too, the government and news programs that follow government

CPI (the CPI as calculated by the government through 1983, but extended to the present using the same method) is true, then everything adjusted by the CPI is now off (as a result of the accumulation of adjustments) by a factor of two. That is, for example, every Social Security check is written for about one-half of the value it would have been written for without the series of changes in the method of calculation. This fact, in itself, explains much of the problem of inability to pay energy bills while balancing other necessary services like medical care, prescriptions, food and housing.

The "factor of two" pattern cuts through many economic relationships; for example the better wage contracts negotiated by unions are generally tied to the CPI, and these set the precedent for other wage relationships. If wages were raised to near doubling for the first three quintiles of households (including near doubling of every social security payment) we would return to the capital/labor relationships of approximately 1965 and most energy payment problems would automatically disappear.

The reality of the "factor of 2" is confirmed in two other national economic realities:

- **Labor hours:** For example, for low- and moderate-income families, attaining the same level of living as in 1965 takes about twice the labor hours by family members.

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scripting for release of government statistics ask us to disregard the CPI and focus on the "core CPI" which leaves out energy costs (because energy costs are volatile). This may be a good recommendation for some types of analysis; it makes no sense as a recommendation to a public that must pay for the upward swings in energy costs. While adjustments to the CPI can be argued on academic grounds one way or the other, the overall envelope (general shape of the curve of these changes) is captured in Figure 12, developed by John Williams (Courtesy of ShadowStats.com). For the standard theory and methods for adjusting price indices, see ILO/IMF/OECD/UNECE/Eurostat/The World Bank, *Consumer Price Index Manual: Theory and Practice*. Geneva: International Labor Office, 2004.

[35] For additional contrasts between official and actual statistics, see John Williams' website, Shadow Government Statistics, Analysis Behind and Beyond Government Economic Reporting (http://www.shadowstats.com/cgi-bin/sgs/data). For a pro-BLS rebuttal of critiques of the Consumer Price Index by experts outside the index community silo, see: Greenlees, John S & Robert B. MacClelland, "Addressing Misconceptions about the Consumer Price Index," Pp. 3-19 in *Monthly Labor Review*, August 2008. Greenlees and McClelland are research economists in the Division of Price and Index Number Research of the Bureau of Labor Statistics. We adopt the critique rather than the official perspective because (1) first, the official perspective does not pass a simple 'straight face' test, (2) second, the alternative perspective (critique) fits with the realties encountered in two decades of evaluation research into low- and moderate-income programs including the economic situations of client households, (3) third, the assessment of actual need as determined by the self-sufficiency (Wider Opportunities for Women and Ford Foundation) method contrasts directly with the official CPI results, and (4) fourth, the "factor of 2" realities as discussed above (P. 31) also contrast directly with the official CPI results. The official perspective is the outlier: it does match with information from many other sources. It is possible to provide an academic defense for the official perspective; however, the official results do not square with material reality.

- **Two income families:** Also, for middle income families, two incomes per family are frequently required to attain approximately the same level of living that was provided by one income in 1965.

American workers are working very hard, and with long hours and at least two persons per household employed, a situation which is essentially equivalent to wartime labor mobilization. Taken together, these changes represent a major transformation of the economy against the interests of families since about 1970. Most of these changes are masked through the income illusion caused by building serious inflation into the economy dating back to the loss of direct exchange of dollars for gold in 1971.[36]

Two further examples illustrate how far the federal poverty metric is corrupted and suggest that when institutions fully come to grips with material affordability problems a very different scale must be used, which puts need at a multiple of the federal metric.

- As discussed in the prior section of this evaluation, the situation income eligibility for utility payment assistance and for weatherization is identical to the situation for income eligibility in the area of public health. In the recent debate over extension of the State Child Health Insurance Program (SCHIP), the proposal sent to President George W. Bush requested an extension that would fold in state choice to increase eligibility for child health insurance by multiples of the poverty level at the initiative of individual states. Many states already operate the program at above two-hundred percent (200%) of poverty. California operates the program at two-hundred fifty percent (250%) of poverty and planned to move to three-hundred percent (300%). New York, operating at two-hundred fifty percent (250%) of the federal poverty level wanted to move to four-hundred percent (400%). New Jersey has been operating at three hundred fifty percent (350%) for several years. Pennsylvania runs the program at three hundred percent (300%) of the federal poverty level. These are generally the same households that need utility payment assistance and residential weatherization services.[37]

- Leading private universities have recently announced tuition waivers for qualified undergraduates from what most of us would think of as middle income families. Harvard has announced waiver of tuition for students from

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[36] Removing the gold exchange removed a tie with material reality. While there can be temporary advantages of moving money away from the gold standard to a fiat basis, it tends to degrade the value of the currency over time. To get a sense of what inflation does to the value of a dollar, one-hundred dollars in mid-2007 represents the value of $19.49 in 1971 (official BLS calculator) or, more accurately, $7.46 in 1971 (SGS calculator). That is why $100 does not go far in meeting social service needs. See http://www.shadowstats.com/inflation_calculator for the Shadow Government Statistics inflation calculator.

[37] SCHIP information from: Pear, Robert, "Rules May Limit Health Program Aiding Children," *New York Times*, August 21, 2007.

families earning $60,000 per year or less. At Stanford, tuition is waived for families earning $100,000 per year or less, and most room and board fees will be waived for families earning $60,000 per year or under.[38] This means that to get a true picture of need in our current economy, our framework has to shift away from the official government framework for representing need. The official statistics are far from realistic and the official statistical system is far out of calibration.

These examples illustrate attempts of states, cities, and private institutions to break away from the corrupt federal poverty metric and re-center our scale of need based on actual material need. In other words, these are approaches to dealing with actual income insufficiency as experienced by households.

In the area of utilities, transfers will have to be through programs like the Universal Energy Charge, or more direct transfers through significant utility rate discounts.

The Nevada UEC payment assistance program is a realistic solution to this ongoing and growing problem. It meets increasing cost based rates with payment assistance set at the median household energy burden. As rates increase and bills change, the Nevada UEC will likewise adjust.

SFY 2008 PROGRAM STORIES

The Universal Energy Charge (UEC) through the Fund for Energy Assistance and Conservation (FEAC) provides two primary programs: the Energy Assistance Program (EAP), administered by the Division of Welfare and Supportive Services, which provides payment assistance; and the Weatherization Assistance Program, administered the Housing Division, which provides weatherization and related assistance.

To document how these programs appear from the perspectives of individual Nevada households assisted by the programs, a small number of interviews were conducted with households in the Energy Assistance Program and with households weatherized in the Weatherization Assistance Program.[39]

[38] Glater, Jonathan D., “Stanford Set to Raise Aid for Students in Middle," *New York Times,* February 21, 2008.

[39] Several hundred surveys were also completed. These are reported separately.

A. Energy Assistance Program Participants

GW of Reno is a low-income senior citizen. His home has gas heat and central air conditioning. He receives $180 per year, which he described as "$15 per month."[40] He says he "definitely appreciates the energy assistance because with a fixed income coming in, it does not cover bills. The energy assistance really helps." He anticipates needing further help with utility bills, although his home does not use more energy than it should.

CB of Fernley relies on a wood stove for heat in the winter and has a swamp cooler for the summer but does not use it. In February, her electric company sent her an unusually large bill (about $300). She told the electric company there had to be something wrong with the electric meter. But when they checked, they said the meter was OK. She did not have the money to pay the bill and still did not believe the bill to be correct. She says she has lived in the same home for twenty-one years and has never had a bill that large. Eventually, the electric company turned off her electricity. She says that the person who then helped her from the Energy Assistance Program "was fantastic. She helped me as best she could and as fast as she could and the electricity was restored." This was "a blessing, after being overwhelmed by the experience with the electric company" (she had never experienced a problem like this before in twenty-one years of relationship with the electric company). She notes that when the electric company turned the service back on they installed a new meter and everything has been OK since then with the billing as her bills returned to normal. She will always believe the electric company had a meter problem they would not acknowledge, and feels the state should have investigated and brought the electric company to justice rather than assisting with paying the bill. However, the Energy Assistance Program helped when she was overwhelmed trying to deal with the electric company, got her past that point of conflict, and her bills have been normal and within her ability to pay ever since.

JB in Las Vegas was very ill and could not come to the phone; however, a neighbor who was helping provide care said that JB has a gas furnace in her mobile home. She also said that the Energy Assistance Program was helpful because JB was experiencing "bills so high that it doesn't matter what you do, there is no way to make available income cover them."

KR in Las Vegas lives in an apartment complex with electric heat and central air conditioning. She has seasonal trouble paying her utility bills. This is her third year receiving assistance through the program. She received the most help (a larger dollar amount of assistance) the first year. In the second year [Program Year 2008] the amount of assistance was lower. She is waiting for a response for this (third)

[40] This is the perspective the program attempts to develop. Although the payment is a one-time payment each year, the program tries to help households see this as a monthly amount so that households will make the remainder of the payment each month and not fall short before the end of the year.

year [Note: since she most recently applied in July 2008, this lack of response is for Program Year 2009]. [Part of this problem involved a request for additional information.] By November, she still had not received a response. In her situation, the large bills that are difficult to pay occur in the summer. She has a medical condition that requires the AC and it is only in the summer that she has payment problems. She says the program is a definite help.

B. Weatherization Assistance

DD in Henderson has gas heat and uses a swamp cooler in the summer. She says that weatherization lowered household energy use, and bills went down a little (probably about $10 a month). Her home feels better after being weatherized and she really appreciates the effect of the solar screens. She says the crew did a "great job – very thorough and fast."

JA in Las Vegas found out about the program in a book of services put out for senior citizens. She found the program in the book, and called to ask for help. She has gas heat and central air conditioning. She says that following weatherization household energy use "went down for sure." Her energy bills are less but the difference is not great. On this job, the crew replaced her old gas furnace, which was defective. She says that after the work was completed it seemed like the oxygen was better in the house – she knew that something was wrong but had not understood that it was a problem with the furnace. "The weatherization program literally saved my life." She says she wishes more people knew about the program. She is on SSI and "no way could have afforded the work without the program."

JA in rural Nevada heats with gas and has a swamp cooler. He says he has just taken over payment of utilities; previously someone else paid them, so he is not sure yet about how the weatherization has affected energy use or energy bills. However, the home is warmer in the winter than it used to be, the windows are nicer, and the home is more comfortable to live in.

LB lives in rural Nevada. She and her husband (they are both disabled and take care of seven children) have an all-electric home with a wood burning fireplace and central air conditioning. Weatherization lowered energy use – a hot water leak was found under the floor. Also, the roof was leaking and because the family was on a fixed income they could not qualify for a loan to fix the roof. She said she "was in tears, as the ceiling leaked and a small portion of the ceiling fell in." Her son found the Energy Assistance program on the Internet. Summer energy bills have decreased from about seven-hundred and fifty dollars per month to about five-hundred and fifty dollars a month. Winter energy bills have dropped from about five hundred and twenty dollars a month to about four-hundred sixty-four dollars a month. She is very appreciative of the work that was done and the fact that it was done so quickly after she applied. She said the crew was clean, neat, nice, and they explained everything so as to make it understandable. She really hopes the state will continue funding the

program as it is really needed, and it makes such a big difference in her and her husband's lives and in the lives of the children.

AC of Henderson says her home feels "much better" after the weatherization. She suffers from skin cancer and is wary of too much heat or sun. She had a summer heat problem in her kitchen; before weatherization the kitchen would not cool off. She says with her medical condition, the intense sun in summer had created a "treacherous" condition in her kitchen, which is now fixed. The AC unit replaced in her home was sixteen years old. She notices that her bills are much better, and expects an even better lowering of bills in the fall and winter (her weatherization work was completed this past summer).

LB of rural Nevada lives in an all-electric home with central AC. She says that household energy use has gone down after weatherization. The household electric bill varies, but is down by fifty dollars to seventy-five dollars per month. Her home "definitely!" feels better after weatherization – the new windows stopped air leaks and also keep out the dust.

MS of rural Nevada heats with gas and has a swamp cooler. He participated in both the Energy Assistance and the Weatherization Assistance programs. He said he received an unusually high bill for $190 and could not pay it. His service was disconnected but Energy Assistance paid the bill and he is back on service and paying his regular bill. His home was then weatherized and since then he has not had high bills. He says there is a big difference in how the home feels. Before, air was leaking in at the windows, blowing the drapes and curtains, "You could see it." Now, "no drafts and it has helped with insulating the home from outside noise also." MS had lung cancer and has had a lung removed and is on oxygen twenty-four hours a day. The work on the home was done quickly. He says the crew couldn't have been a nicer group of people, from start to finish. They did good work, and the workers were "terrific." He greatly appreciates the help and says he wishes more people would know about the programs.

C. Summary

The interviews show that from the perspective of households directly affected the Energy Assistance Program and the Weatherization Assistance Program are programs that make a real difference for Nevada households.

THE WEATHERIZATION ASSISTANCE PROGRAM

The Weatherization Assistance Program (WAP) assists low-income households in reducing their utility costs by providing for energy conservation. It also provides

necessary health and safety improvements to low-income homes as part of the weatherization service.[41]

WAP is administered by the Housing Division of the Nevada Department of Business and Industry. Funding is primarily from Nevada's Universal Energy Charge (UEC) as provided by NRS 702.

The Housing Division coordinates Nevada's funding from the Fund for Energy Assistance and Conservation (FEAC) with a smaller amount of federal funding received from the US Department of Energy (USDOE). In addition, the Housing Division can sometimes assist with Housing Trust Fund monies or other limited funding.[42] In SFY 2008, the Housing Division also received $200,000 of LIHEA funds.

A. Subgrantees and Service Territories

For Program Year 2008, the Housing Division administered the Weatherization Assistance Program through four Subgrantee agencies. Each covers a specific area of the state. Subgrantees are the community based organizations (CBOs) or county or municipal public entities that determine eligibility for programs and perform the weatherization work.

1) HELP of Southern Nevada

HELP of Southern Nevada
1640 E. Flamingo #100
Las Vegas, Nevada 89119
(702) 795-0575

HELP (not an acronym) of Southern Nevada serves the Las Vegas area (all of Clark County except the City of Henderson). HELP has been an active community outreach agency since 1970 and assists about 60,000 people each year. HELP is an umbrella organization that links individuals to support services and operates a number of programs. These programs include energy resource services,

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[41] Although utilities may "red tag" a dangerous furnace leaking carbon monoxide to render it inoperable, the Housing Division is the only agency in the State of Nevada that provides emergency replacement of failed heating and cooling equipment to the resident. Other agencies would require the resident take out a loan to replace equipment, and *could not act in time to insure health and safety*. Also, equipment replacement loans, are typically not available to, nor repayable by low-income households because of the resident's financial situation.

[42] In the spring of Calendar 2009, the legislature re-designated Housing Trust Fund monies to the general fund due to the economic crisis. This occurred after the close of SFY 2008 and did not affect the program during the SFY 2008 period.

weatherization, rental assistance, utility assistance, food, referrals to senior programs, legal guardians of grandchildren, and youth summer food program. A displaced homemaker program assists men or women of spouses or significant others about to lose assistance. Assistance is provided with job seeking, resumes, and stabilizing families experiencing domestic violence. The common theme among programs is to promote self-sufficiency and to provide short-term assistance.

HELP's weatherization program provides services to qualifying low-income households at no cost, to help lower household utility bills. Applications are processed on a 'first come, first serve' basis, but with priority given to households that are high energy users (typically single family homes), are occupied by individuals who are over the age of sixty, handicapped, or families with children age six or under.

2) City of Henderson Neighborhood Services

City of Henderson
Neighborhood Services
240 Water Street
Henderson, Nevada 89009
(702) 267-2014

Neighborhood Services provides low-income weatherization for the City of Henderson in Clark County. The City of Henderson operates the Neighborhood Services Division (NS) under the City Manager's office. The Neighborhood Services Division offers outreach services and has four Divisions in addition to Affordable Housing Programs. These are the Neighborhood Programs, Neighborhood Enhancement, Grants (such as Community Development Block Grants), and Rebuild America.

The Weatherization Assistance Program is available to Henderson low-income homeowners and renters and allows low-income households to have their homes weatherized at no cost to them. Applications continue to be completed at the participant's home, where required documentation is copied[43], client education is delivered in person, and the home is visually assessed.

3) Rural Nevada Development Corporation (RNDC)

Rural Nevada Development Corporation
1320 E. Aultman Street

[43] The home visit includes taking a lightweight copier to the client's home so that no income eligibility documentation leaves the home. Clients appreciate this, a technical innovation that would not have been possible in prior weatherization programs, and they also feel more comfortable with the face-to-face contact.

Ely, Nevada 89301
(775) 289-8519

For SFY 2008, the Rural Nevada Development Corporation (RNDC) provided services to the largest geographic area with the sparsest population. Its purpose is "to provide economic development assistance and financing opportunities to small businesses and healthy, safe, and affordable housing to people in Nevada." The RNDC office is located in Ely in White Pine County.

Applications are necessarily taken over the phone rather than through home visits due to the large and sparsely populated territory RNDC serves. RNDC has no difficulty identifying potential installation sites, but the problem is in making it possible to do the necessary work for rural homes. The challenge is finding the right mix of funds to leverage since repairs many be necessary before installations can be made and installations are expensive in rural areas due to logistics and transportation costs. Since not all utilities serving rural areas participate in the Universal Energy Charge, in many cases only DOE funding is available. The Low-income Weatherization Assistance Program is provided free of charge to qualifying families and households, and no liens or financial obligations are placed on individuals receiving assistance.

4) Nevada Rural Housing Authority

Nevada Rural Housing Authority
3695 Desatoya Drive
Carson City, Nevada 89701
(775) 887-1795

Nevada Rural Housing Authority (NRHA) was created in 1972 and works with a consortium of public and private partners, including state and federal housing agencies and local community service groups in the area of affordable housing. Its primary role is to administer affordable housing programs across the state -- NRHA works in fifteen of Nevada's seventeen counties. NRHA is the Housing Division's Weatherization Assistance Program subgrantee covering the Reno/Carson City area, replacing Citizens for Affordable Homes, Inc. (CAHI) and the Community Services Agency (CSA).

B. Installation Summary

The following two tables summarize the SFY 2007 installations by Weatherization Provider (Housing Division Subgrantee).

Number of Homes Weatherized by Weatherization Provider (FEAC Funds) SFY 2008				
NRHA	**HELP**	**NS**	**RNDC**	**Total**
274	726	152	52	1,204
22.8%	60.3%	12.6%	4.3%	100%
Note: NRHA total includes CAHI jobs.				

Table 5: Homes Weatherized (by Subgrantee).

Number of Homes Weatherized by Weatherization Provider and Housing Type (FEAC Funds) SFY 2008								
Housing Type	**NRHA**		**HELP**		**NS**		**RNDC**	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Single Family	85	31.0%	184	25.3%	32	21.1%	21	40.4%
Mobile Home	127	46.4%	201	27.8%	13	8.5%	31	59.6%
2-4 Family	13	4.7%	53	7.3%	4	2.6%	0	0%
5+ Family	49	17.9%	288	39.6%	103	67.8%	0	0%
Total	274	100%	726	100%	152	100%	52	100%
NRHA total includes CAHI jobs.								

Table 6: Types of Homes Weatherized (by Subgrantee).

Table 5 shows the number of installations and Table 6 shows installations by housing type. Table 7 shows installations by county.

SFY 2008 Weatherized Homes by County (FEAC Funds)		
County	**Number**	**Percentage**
CLARK	878	73.0%
WASHOE	142	11.8%
LYON	85	7.1%
CARSON CITY	29	2.4%
CHURCHILL	14	1.2%
DOUGLAS	15	1.2%
MINERAL	9	.7%
ELKO	8	.7%
PERSHING	6	.5%
HUMBOLDT	5	.4%
LANDER	4	.3%
ESMERALDA	2	.2%
NYE	3	.2%
STOREY	3	.2%
LINCOLN	1	.1%
Total	1204	100.0%

Table 7: SFY 2008 Homes by County.

C. Inspections

Ten percent (10%) of all installations are inspected in the field and the files are reviewed for completion and accuracy. In SFY 2008, Housing Division staff conducted the field monitoring of 10% of the installations.

D. Training

Since 2005, with the addition of a technical position to the Housing Division weatherization program, training has been shifted from California (outsourced) to Nevada and is now conducted at lower cost by the Housing Division.

E. Utility Help

NVEnergy (formerly Sierra Pacific Power Company and Nevada Power) provides DSM weatherization funding for customers above 150% of poverty but below 80% of state median income. The utilities are mandated to support program effectiveness and efficiency by the Public Utility Commission, but did not provide assistance in training or with educational materials this year. Cooperation is less than in past years.

F. Cost Caps & Coordinated Funding

During Program Year 2008 as in earlier State Fiscal Years, there was a $4,000 cap on Fund for Energy Assistance and Conservation (FEAC) funds and no federal cap on the amount of DOE funds that could be expended per home to complete weatherization work.[44] The Nevada Housing Division applied a $7,000 cap for the small set of home that received both FEAC and federal funds.

G. Health & Safety

The weatherization work carried out under the state program complies with federal requirements for the federal program. In the federal legislative authorization, health and safety concerns are co-equal with weatherization goals.[45] This is not always emphasized, perhaps since the federal Weatherization Assistance Program is run out of the US Department of Energy rather than the US Department of Health and Human Services. "Health and Safety" means the health and safety of a household's occupants. It is a practical and essential focus when working in housing, and especially so when working in low-income and moderate-income housing. Typical health and safety measures may include (but are not limited to) heating and cooling system repairs/replacement, and mechanical measures as approved by the Housing Division, testing for carbon monoxide, adherence to minimum ventilation requirements, and installation of carbon monoxide detectors.

The Housing Division is the only agency in Nevada that provides emergency replacement of failed heating and cooling equipment to the resident. Other agencies would require the resident to take out a loan to replace equipment and could not act

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[44] The Nevada Housing Division set a $4,000 cap on use of federal funds when federal funds were the only source of funding for weatherizing a home.

[45] The purpose and scope of the program (10CFR 440) is "to increase the energy efficiency of dwellings owned by or occupied by low-income persons, reduce their total residential expenditures, and improve their health and safety, especially low-income persons who are particularly vulnerable such as the elderly, persons with disabilities, families with children, high residential energy users, an households with high energy burden."

in time to insure health and safety. Also, low-income households are typically unable to obtain or repay equipment replacement loans.

H. Formal and Informal Compliance

Finding: The UEC Weatherization Assistance Program (UEC WAP) program is in compliance with subsections 3[46] and 6[47] NRS 702.270, and other sections relevant to formal compliance.

The Housing Division is mandated to comply with provisions of the weatherization program as stated in NRS 702. Below are the relevant specifications in NRS 702.270 and NRS 702.280 and a description of how Housing implemented these requirements or did not when it was unfeasible.

1) Specific Provisions

(1) Twenty-five percent of the money in the Fund must be distributed to the Housing Division; limit of six percent for administration[48]

This provision has been carried out each year, consistent with provisions of NRS 702.270 (1). For documentation for SFY 2008, please see the "Fiscal" section of the evaluation.[49]

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[46] NRS 702.270 (3): Except as otherwise provided in subsection 4, to be eligible to receive assistance from the Housing Division pursuant to this section, a household must have a household income that is not more than 150 percent of the federally designated level signifying poverty, as determined by the Housing Division.

[47] NRS 702.270 (6): In carrying out the provisions of this section, the Housing Division shall: (a) Solicit advice from the Welfare Division and from other knowledgeable persons; (b) Identify and implement appropriate delivery systems to distribute money from the Fund and to provide other assistance pursuant to this section; (c) Coordinate with other federal, state and local agencies that provide energy assistance or conservation services to low-income persons and, to the extent allowed by federal law and to the extent practicable, use the same simplified application forms as those other agencies; (d) Encourage other persons to provide resources and services, including, to the extent practicable, schools and programs that provide training in the building trades and apprenticeship programs; (e) Establish a process for evaluating the programs conducted pursuant to this section; (f) Develop a process for making changes to such programs; and (g) Engage in annual planning and evaluation processes with the Welfare Division as required by NRS 702.280. (Added to NRS by 2001, 3235)

[48] NRS 702.270 (1): Twenty-five percent of the money in the Fund must be distributed to the Housing Division for programs of energy conservation, weatherization and energy efficiency for eligible households. The Housing division may not use more than 6 percent of the money distributed to it pursuant to this section for its administrative expenses.

[49] Beginning in SFY 2005, the Division of Welfare and Supportive Service interpreted this provision not to apply to interest generated on rollover funds from the prior fiscal year. Prior to SFY 2005 the

(2) Funds to be used only for specified purposes[50]

Funds have been applied only for purposes specified in NRS 702.270 (2). For documentation, please see the "Fiscal" section of the evaluation.

(3) Income eligibility limitation for program participants[51]

The Housing Division has successfully implemented the income requirements for the program as specified in NRS 702.270, § (3) and (4).

(4) Solicit advice from Welfare and other knowledgeable persons

Consistent with NRS 702.270 (6) (a), ongoing outreach was conducted in SFY 2008, in cooperation with the Division of Welfare and Supportive Services. In addition, Housing Division staff worked with the utilities to coordinate and strengthen program services. There were a number of formal and informal meetings with stakeholders/advocates to discuss aspects of the program and how the program could be improved. The Housing Division participated with the Welfare Division in the statewide open planning meeting, held in the spring, and worked jointly to implement the SFY 2008 program plan and to develop the SFY 2009 program plan.

Division of Welfare and Supportive Services partitioned accrued interest on a 75% Welfare, 25% Housing Division basis. Beginning in SFY 2006, and continuing through SFY 2008, the Division of Welfare and Supportive Services allocated interest income 100% to Welfare and 0% to the Housing Division.

[50] NRS 702.270 (2): Except as otherwise provided in NRS 702.150, after deduction of its administrative expenses, the Housing Division may use the money distributed to it pursuant to this section only to: (a) Provide an eligible household with services of basic home energy conservation and home energy efficiency or to assist an eligible household to acquire such services, including, without limitation services of load management. (b) Pay for appropriate improvements associated with energy conservation, weatherization and energy efficiency. (c) Carry out activities related to consumer outreach. (d) Pay for program design. (e) Pay for the annual evaluations conducted pursuant to NRS 702.280.

[51] NRS 702.270 (3): Except as otherwise provided in subsection 4, to be eligible to receive assistance from the Housing Division pursuant to this section, a household must have a household income that is not more than 150 percent of the federally designated level signifying poverty, as determined by the Housing Division. NRS 702.270 (4): The Housing Division is authorized to render emergency assistance to a household if the health or safety of one or more of the members of the household is threatened because of the structural, mechanical or other failure of: (a) The unit of housing in which the household dwells; or (b) A component or system of the unit of housing in which the household dwells. Such emergency assistance may be rendered upon the good faith belief that the household is otherwise eligible to receive assistance pursuant to this section.

(5) Implement the program

From the first program year, the Housing Division has successfully implemented the Fund for Energy Assistance and Conservation Weatherization Assistance Program. The program is based on a further development of the federal Weatherization Assistance Program administered by the state.

(6) Use the same simplified application form

No application forms are used in common by the Housing Division and the Division of Welfare and Supportive Services. As reported in the SFY 2003 evaluation, a working group consisting of both Housing and Welfare management tried to streamline the application so that both agencies could use a common form. However, the two agencies have different data collection needs and the joint form became too long. The agencies decided to continue using their own forms.[52]

(7) Coordinate with other agencies that provide energy assistance

Consistent with NRS 702.270 (6)(c), the Housing Division Weatherization Assistance Program coordinated Nevada Fund for Energy Assistance and Conservation funding with Department of Energy weatherization assistance funding. Also in 2008, approximately $200,000 was received from the Division of Welfare and Supportive Services as a transfer of Low-income Home Energy Assistance Program (LIHEA) to support weatherization.[53] Some Housing Trust Fund dollars are also coordinated with the weatherization program.

The Housing Division coordinates with the Division of Welfare and Supportive Services, which downloads records for all recipients receiving energy payment assistance to the Housing Division. Housing can prioritize the list to customize postcards sent to recruit clients, with the intent to capture leads for the

[52] Housing has identified a software program called "DirectApps" that could be used by Welfare and Housing for common applications. This would require an initial investment of $80-100,000 to purchase and modify the application for use, plus the cost to incorporate the application into both Welfare and Housing systems. The initial application would be taken at any point of contact and this system would forward income qualified applications to both agencies. At the current weatherization funding levels Housing can serve roughly 1200 clients. With 15,000 income qualified LIHEA clients, Housing could be overwhelmed with applications. A joint application system of this type would require careful scrutiny of costs and benefits.

[53] Department of Health & Human Services LIHEA dollars are relatively unrestricted in comparison with Department of Energy Weatherization Assistance Program dollars. This LIHEA funding, may, for example, be used for repairs necessary to permit weatherization work to proceed.

subgrantees.[54] The Division of Welfare and Supportive Services sends daily emails of clients with FAC $2000 to Housing for immediate follow-up.[55]

The Housing Division continues to attend Nevada Energy DSM planning meetings and to discuss the possibility of joint efforts. Nevada Energy provides "GAP" funding to treat homes up to 80% of area median income, (equivalent to about 250% of Federal Poverty Level). The GAP funding provides a 'safety net' and is available to weatherize homes which would otherwise go untreated. This work is carried out by Honeywell as a direct contactor to Nevada Power.

In 2008, the joint Low-Income Air Conditioner Replacement Project approved by the Public Utility Commission of Nevada (PUCN) was unilaterally withdrawn by Nevada Energy due to cost-effectiveness concerns.

No other local agencies are providing financial assistance to the Housing weatherization program.

(8) Establish a process for evaluating the program

In the first program year, the Housing Division and Division of Welfare and Supportive Services implemented the evaluation provisions of NRS 702. The current evaluation for SFY 2008 is the sixth State Fiscal Year evaluation in this series.[56]

(9) Develop a process for making program changes

The Housing Division and the Division of Welfare and Supportive Services have each year improved the program. Some of the improvements reflect recommendations from the evaluations and others improvements generated by management and staff, contributions of ideas from the Subgrantee agencies, and by the Advisory Group. The formal structure for these changes is in the annual planning process, though a number of small improvements have progressively been implemented by management and staff below the level of the formal planning process, and on an ongoing basis. Some proposed changes have been above the scope of an operating agency, and in those cases have been transmitted to the governor and legislature for consideration. Progressive modifications in NRS 702, documented by date, mark this process.

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[54] Cards are not sent to counties for which there is a substantial backlog.

[55] This is a change from $2500 (in SFY 2003, 2004, and 2005) to $2000, beginning in SFY 2006 and continuing for SFY 2007 and SFY 2008.

[56] The evaluation consultant is selected by the Housing Division and the Division of Welfare and Supportive Services using two-year evaluation contracts. At the end of each two year contract, the next evaluation contract is opened for bidding through the State Purchasing Division.

(10) Engage in annual planning and evaluation with Housing Division

As enacted in NRS 702, there is an annual planning and evaluation process conducted jointly with the Housing Division, which has been implemented following the provisions of NRS 702.280.[57] Each State Fiscal Year can be viewed as an annual program cycle. For each cycle an evaluation is conducted and there is a structured planning process resulting in the Program Plan for the following year.

2) Review of Client Files

The Weatherization Assistance Program is administered by the Housing Division and is implemented through four Subgrantee agencies, responsible for different service areas. The total of homes treated in SFY 2008 was 1,360. Of these, the total with Fund for Energy Assistance and Conservation funding was 1,204.

For SFY 2008, files were randomly selected by the agencies at the request of the evaluator from the full SFY 2008 BWR file. For HELP, Neighborhood Services, and Nevada Rural Housing Authority (NRHA) the evaluation team reviewed case records at the agencies. For RNDC, records were sent in to the Housing Division and reviewed at the Housing Division offices in Carson City. SFY 2008 jobs completed

[57] NRS 702.280: Coordination and evaluation of programs; duties of Division of Welfare and Supportive Services and Housing Division; submission of report to Governor, Legislative Commission and Interim Finance Committee. 1. The Division of Welfare and Supportive Services and the Housing Division jointly shall establish an annual plan to coordinate their activities and programs pursuant to this chapter. In preparing the annual plan, the Divisions shall solicit advice from knowledgeable persons. The annual plan must include, without limitation, a description of: (a) The resources and services being used by each program and the efforts that will be undertaken to increase or improve those resources and services; (b) The efforts that will be undertaken to improve administrative efficiency; (c) The efforts that will be undertaken to coordinate with other federal, state and local agencies, nonprofit organizations and any private business or trade organizations that provide energy assistance or conservation services to low-income persons; (d) The measures concerning program design that will be undertaken to improve program effectiveness; and (e) The efforts that will be taken to address issues identified during the most recently completed annual evaluation conducted pursuant to subsection 2. 2. The Division of Welfare and Supportive Services and the Housing Division jointly shall: (a) Conduct an annual evaluation of the programs that each Division carries out pursuant to NRS 702.260 and 702.270; (b) Solicit advice from the Commission as part of the annual evaluation; and (c) Prepare a report concerning the annual evaluation and submit the report to the Governor, the Legislative Commission and the Interim Finance Committee. 3. The report prepared pursuant to subsection 2 must include, without limitation: (a) A description of the objectives of each program; (b) An analysis of the effectiveness and efficiency of each program in meeting the objectives of the program; (c) The amount of money distributed from the Fund for each program and a detailed description of the use of that money for each program; (d) An analysis of the coordination between the Divisions concerning each program; and (e) Any changes planned for each program. (Added to NRS by 2001, 3236)

and the sample by agency are shown in Table 8. The overall sample target was 176 files.[58]

Homes Weatherized and Sample Size
Fund for Energy Assistance & Conservation Weatherized Homes
(SFY 2008, by Subgrantee)

Subgrantee Agency	Homes Weatherized	Planned Review Sample	Final Review Sample
HELP of Southern Nevada (HELP)	726	60	79
Rural Nevada Development Corporation (RNDC)	52	26	26
City of Henderson Neighborhood Services (NS)	152	30	30
Nevada Rural Housing Authority (NHRA)	257	60	60
Total	1,204	176	195

Note: Nevada Rural Housing Association is the successor in the program to CAHI, and 105 CAHI homes are included in the NHRA total of 257.

Table 8: Weatherized Homes and Sample Size by Subgrantee Agency.

Based on this review, the evaluation team finds that virtually all required documentation is included in the case files. This is an excellent result. We looked for the:

(a) BWR or WIF or Inspection form – a one to two page form – the full copy should be in the file. All but one were present (about one-half of one percent).

(b) Combustion Appliance Safety Inspection Form (CAS) – a six page form completed in the field during the Combustion Appliance Safety assessment – this should be in certain files. The CAS was in all files for which it was required.

[58] For Program Year 2008, each subgrantee agency was given a target number of cases and asked to carry out a random selection. The targets are listed in the "Planned Review Sample" column in Table 8. The sample sizes were planned for a 90% confidence level for each file element tested for each subgrantee, using a one-sided interval, and expected proportion of 0.95 correct, with a precision of 0.05. Required sample sizes are small because results are calculated as proportions or percentages, the expected proportion correct is 0.95 (or better), and the tests are all one-sided tests. Overall, for all homes completed (N=1,024) and assuming p=q=0.50, the required overall sample size would be sixty-four (64), about one-third of the actual sample used (n=195). All of the tests were tests of proportions, with tested files scored zero if the element was absent and one if present. Samples were designed with N-Query Advisor™ sampling software.

Compliance of Client Records Fund for Energy Assistance & Conservation Weatherized Homes (SFY 2008)		
Document or Record	**Exact Results for Review Sample**	
	Number Missing	**Percent Missing**
BWR or WIF or Inspection Form	1	0.51%
Combustion Appliance Safety Inspection Form (where appropriate)	0	0.00%
Blower Door Weatherization Data Sheet (where appropriate)	0	0.00%
Customer Signoff Forms	0	0.00%
Copy of Utility Bill(s) or Account Number in File	1	0.51%
Income Requirements Met (Documentation in Case File)	0	0.00%
Weatherization Inspection Report (or equivalent)	0	0.00%
Classification Information	0	0.00%
Note: Total number of case record files reviewed was 195.		

Table 9: Documentation Compliance for Weatherized Homes.

(c) Blower Door Weatherization Data Sheet (a two-page document that records initial and final blower door assessments). This form was present in all cases where required.

(d) Customer signoff form(s). All were present.

(e) Copy of a utility bill from each utility that pays the UEC or the utility account number for each utility recorded in the file – documenting that the residence qualifies for UEC funded weatherization, and allowing any follow-up that requires knowledge of the utility account number. Or, utility account numbers listed in the file. One of the 195 case records did not contain this information for either one or both utilities serving the home (about one-half of one percent).

(f) Income documentation. All files were consistent with program income eligibility requirements, with documentation in each file.

(g) Weatherization Inspection Report or another form showing the precise items installed at the residence. The report was present in all files.[59]

[59] In cases that were "walk-aways" or deferred or where the customer could not be contacted or refused the final inspection, this was noted in the files. A completed inspection report was present for each case, except in cases with these types of special circumstances.

(i) Classification information (Job Number, date completed, client first and last names). All of this information was present in all of the files inspected.

The Weatherization Assistance Program files are well organized at each subgrantee agency. Some of the subgrantees use internal checklists to be sure all the necessary elements of each case file are present. *All of the required forms are being properly and consistently maintained by the program's Subgrantees.*

3) Informal Compliance

With regard to informal compliance, which has to do with meeting expectations in addition to formal requirements, the Housing Division has no problems and also, no appearance of any problem.

- The costs for weatherization by housing type are realistic. There is a strong strategic and technical effort to maximize energy savings while minimizing cost, given that a "whole house" approach is most cost-effective in the long-run.

- In SFY 2008 the Housing Division continued to achieve full implementation of housing units completed in relation to budget.

4) Summary

In summary, as in all prior evaluations, the Housing Division continued to meet both formal compliance requirements and informal expectations for the conduct of its Universal Energy Charge/Fund for Energy Assistance and Conservation Weatherization Assistance Program work in SFY 2008.

I. Effectiveness and Efficiency

Program effectiveness is assessed in relation to federal/state requirements for weatherization programs. According to these requirements and guidelines, the program has three primary and co-equal goals: energy savings, service to vulnerable populations, and insuring health and safety.

Efficiency is assessed by reviewing workload in relationship to staffing.

1) Effectiveness

Overall, the Housing Division reported 3,244,764 kilowatt-hours and 290,611 therms of energy savings resulting from a total of 1,204 homes weatherized in the Universal

Energy Charge/Fund for Energy Assistance and Conservation Weatherization Assistance Program for State Fiscal Year 2008.[60] Electricity savings for the year was approximately 164% of goal and savings of natural gas was approximately 259% of the goal for the year. About ten percent of jobs were inspected, an appropriate percentage when there is an absence of major problems detected in the inspections. The program substantially exceeded its energy savings targets.

The program performed well in terms of meeting the goals for service to vulnerable populations. Approximately fifty-five percent (55%) of households were the homes of senior citizens over the age of sixty. Forty-two percent (42%) had a household member with a disability. About nine percent (9%) of homes had a child under the age of six. About five and one-half percent (5.5%) of homes were Native American. The program fully meets its service goals.

Health and safety goals were also met. The program conducted 613 combustion appliance safety inspections.[61] These checks are essential to insure that combustion appliances are not creating an unsafe condition in the home. Some cases of carbon monoxide were found, leading directly to the saving of lives. In addition, the program replaced 158 air conditions (and repaired 27), and replaced 23 evaporative coolers (and repaired 5). Replacement or repair of cooling equipment is essential to health and life in southern Nevada. The program replaced 288 furnaces (and repaired 22) and replaced 41 heat pumps (and repaired 5). Replacement or repair of heating equipment is essential to health and life in northern Nevada. These replacements and repairs also contribute to social stability since they permit families to remain living in their homes. The health and safety activities of the Weatherization Assistance Program are substantial, and the program makes a major difference to the health and safety of households served.

2) Efficiency

The Housing Division staff for the Weatherization Assistance Program is small but efficient with all necessary skill sets and all necessary tasks covered. This requires carrying out of multiple responsibilities per staff member, which in a larger

[60] Energy savings were computed using the REM/Design™ software package approved by the United States Department of Energy. REM/Design™ is approved for Weatherization Assistance Programs in all states. The primary value of REM/Design™ in the Weatherization Assistance Program is in indicating the types of energy saving measures that should be installed in each home. The software analyzes energy and economic performance of different insulation improvements, duct leakage control, heating and cooling equipment, and a series of other weatherization measures. Along with recommended measures for different kinds of homes, the program develops energy savings for each home based on the measures installed. For a description of REM/Design™, see http://archenergy.com/products/rem/rem_design//.

[61] This is a rigorous check of combustion appliances in a home. It is only required for homes with gas or propane; it is not applicable to homes served only by electricity.

organization might logically have been designed into separate jobs, requiring additional staff. The current staff reaches a level of excellence because they are willing to pitch in and make everything work all the time. The workload per person is high but the work is interesting because, in part, the lean staffing requires each person to cover many areas and deal with creatively with new situations. The unit is highly efficient.

J. Improvements and Plans

Housing Repair Fund: A significant problem encountered in the field installation efforts by all Subgrantees is the older or rural home that does not meet current building codes or requires some kind of extensive repair. For example, when trying to do meaningful weatherization retrofit work, there can be a barrier of about $1,000 per home (or somewhat over $1,000) because old knob and tube wiring needs to be replaced. Proceeding to weatherize without bringing the wiring to code creates a fire hazard. Other homes might need significant roof repair or repair of holes in the flooring before they can be weatherized. These older or rural homes have the potential for significant energy savings but have to be skipped over for weatherization. Yet, these are often the homes that require treatment.

Each of the Subgrantees expressed a clear need for a designated repair fund outside the UEC guidelines and spending cap per home that currently cannot sustain the cost overhead of this type of repair work. Realistically, the UEC program has to overcome this repair barrier one way or another. Currently, the Subgrantees often try to leverage funds with other agency rehab dollars, but this doesn't solve the problem, because the problem is larger than the funds available.

Recommendation 2: We recommend designation of a repair fund outside other cost-effectiveness considerations or tests to meet this real need in rural and older homes. It could also cover some similar, but smaller, costs for non-rural Nevada homes. The basic need is to establish a separate fund for these real needs that is governed by different rules than the weatherization program itself. This could be addressed by proposal to the legislative committees.

DSM Funds: Justification of additional funds from utilities under the framework of Integrated Resource Planning where the Least-Cost alternative to utilities may be an addition to the ongoing residential weatherization work. Essentially, this is a "coordinated program" recommendation in which, for Demand-Side Management (DSM) purposes the work carried out already under the federally funded and state UEC residential weatherization effort would be looked at by the utilities as an off-budget cost contribution for purposes of developing a DSM addition to the current program.[62]

[62] Technique for design of "Coordinated Programs" is developed by Lawrence J. Hill and Marilyn A. Brown in "Estimating the Cost-Effectiveness of Coordinated DSM Programs," *Evaluation Review*, 19(2):181-196, 1995.

Crews are already in the homes and carrying out the UEC work. Since that is a "sunk cost," could the utilities use that effort as leverage to fund additional measures that are not covered under the current program? It should be noted that Sierra Pacific Power Company and Nevada Power do provide DSM assistance that is used, for example, by Henderson Neighborhood Services to extend residential weatherization beyond the UEC income limit of 150% of the federal poverty level ("gap funding"), so that a coordinated program approach does exist in that sense.

Nevada electric utilities have also tried direct funding both through the Housing Division Subgrantees and through a private sector contractor for low-income weatherization assistance. These projects have been designed to increase the numbers of homes served. The proposal here, however, follows a proposal by Ernest Nielsen[63] for the utilities to fund a high energy savings subset of measures guaranteed to pass the "Total Resource Cost" test they are mandated by the Pubilic Utility Commission of Nevada to follow.

The Housing Division would pay for low savings measures plus health and safety improvements. The Universal Energy Charge/Fund for Energy Assistance and Conservation Weatherization Assistance Program is unlikely to pass a utility Total Resource Cost (TRC) test since the state is obligated to focus on health and safety equally with energy savings. However, if the Public Utility Commission of Nevada approves a modified TRC test, the utilities could claim cost effectiveness for high energy saving measures installed.

Recommendation 3: The Housing Division, PCUN Commissioners, and the utilities should jointly explore the development of a low-income program variant of the "Total Resource Cost" test that would permit the utilities to leverage on the value of the state's weatherization program without the separate state costs being included in the test. This would follow the proposal of Ernest Nielsen and a cost allocation model developed at Oak Ridge National Laboratory.

K. Staffing Analysis

The Housing Division program is adequately staffed for the current annual level of funding and level of effort. If the level of effort and funding per year were to substantially increase (for example, double or triple), additional staff would be required.

L. Weatherization Assistance Survey Results

This section of the evaluation looks at changes after weatherization and at problems with the weatherization work as perceived from client perspectives. The mini-survey

[63] Ernest K. Nielsen, Attorney, Senior Law Project, Washoe County Senior Services.

approach employs a very short survey form that is designed to be easy to complete in a very short amount of time.[64] Surveys were sent to all single family (322) and mobile homes (372) weatherized during Program Year 2008. We received back one-hundred twenty-four (124) surveys for a return of about eighteen percent (18%).[65] About fifty-one percent (51%) of those responding said they had replaced a furnace or heat pump. This corresponds well with the forty-five percent of this set of households recorded as receiving a furnace or heat pump in the program's Building Weatherization Report (BWR) database. Thirty-nine percent (39%) said they were heating more of the house in winter and thirty-five percent (35%) said they were cooling more of the house in summer. Seventy-nine percent (79%) said that weatherization helped lower their energy use. A slightly lower percentage (72%) said that some of their energy bills went down following weatherization. Even so, however, forty-four percent (44%) said that energy bills were generally going up. This split (72% on a personal basis and 44% on a general basis) captures the complexity of the current situation in which energy rates are increasing. Eighty-three percent (83%) reported that their homes felt better following weatherization. About fifteen percent (15%) of households responding to the survey simply answered the survey but did not include any comments. Another fifteen percent (15%) said they could not tell much difference in their homes (for example, regarding energy bills, energy use, or how the home felt) following weatherization. About half of these noted that although energy use was down, bills were not because energy rates were increasing. Forty-four percent (44%) provided completely positive comments regarding the program while twenty-three percent (23%) reported specific problems or requests.[66] Three percent of responses were negative.

1) Completely Positive

The most frequent type of response was completely positive. Some of these were simple "thank you" responses. Following are representative responses of this kind:

- My family and I appreciate all that you have done…our home feels so cozy as never before, you have helped me so much as our power and gas bills have never been so low, and me being on a fixed income and my sons out of work….

[64] Mini-surveys are targeted to develop simple proportions, rather than complex multivariate analysis. See Finsterbusch, Kurt, "Demonstrating the Value of Mini-Surveys in Social Research," Pp. 117-136, *Sociological Methods and Research*, Vol. 5, No. 1, August 1976.

[65] One of the returns was discarded from the analysis because the family had moved from their weatherized mobile home to a parent's home when the surviving parent moved out of state.

[66] These surveys have been sent to the Housing Division for review.

- The work was done with care and knowledge. I appreciate all that was done. The men were mostly well informed and did the work with care, just one little problem during the fridge installation but that was reported and taken care of.

- Weatherization from solar screens to light bulbs has made a world of difference. My utility bills have gone down dramatically.

- I appreciate the hard work and good job they did.

- My power bills are cheaper – also the company who did the work was very kind and respectful.

- My most recent power bill was $38.92, and I had been paying $132 per month. Needless to say, I am thrilled.
- Previously I was forced to keep my home at 55 degrees to 60 degrees in the winter, and even then my heating bill was $400 a month or more. I got pneumonia three years in a row! Now, with the insulation, my home stays at 65 degrees and the heater barely runs. Last year my bill for this heating month was $320 – now it is only $163!

- The program caused a considerable reduction in my electric bill.

- The old furnace was putting off a gas that could hurt me. I am on oxygen, so they saved my life.

- This really helped me a lot, being disabled and on a limited income.

- After weatherizing my home, I can really tell the difference. It takes less heat, using propane and oil. Installing the double pane windows was a big part in making my house warmer.

- Our old windows were so bad that when the wind blew, our curtains would blow too. The new windows make it so our wood stove can heat the whole house and we no longer have to also use the heater.

- We are so pleased with the weatherization assistance program. We have four children under the age of three. Now we don't have to worry about them being uncomfortable in the winter or summer.

- It has made a huge difference in my ability to stay in my home and afford the utility bills. The application process was handled very well.

- The weatherization that was done on my home made a dramatic difference in my comfort – there are no drafts and the house feels warmer in winter and cooler in summer. My energy costs have gone down this year.

- Our bills are going up due to rate increases, but they are still under what they were *before the weatherization work.*

2) Same or Not Much Difference – Mixed Results

About fifteen percent of households responding to the survey said that results after weatherization were about the same as before – they could not tell the difference. Most of these clients are not sure of results because energy prices are increasing. Here are representative responses:

- It is hard to tell because the utilities keep going up. Overall the work was fabulous and the people great.

- It is hard to tell if I've saved money because of the price increases.

- With all the rate increases, energy does not go down.

- Prices on everything are going up, so it is difficult to determine if or how much it helped.

- The energy bills have decreased but it is difficult to tell because of fluctuating energy rates.

3) Negative Comments

There were four negative comments. One home was not weatherized.[67] One client feels worse off due to needing to use more therms and kilowatt-hours than before weatherization, one just said the program is a farce (with no other comment), and

[67] This can happen when a safety condition is encountered in a home that cannot be fixed; a small number of homes have severe problems such as mold and under program rules must be treated as "walk-aways."

another refused to comment “because no one really cares.”[68] The existence of a small percentage (3%) of negative responses is not surprising because energy use in homes is influenced by so many variables, including changes in the ages and number of persons in the home, and situations of the individual households are highly variable. Such changes are sometimes of the same impact size as the results of weatherization and can offset weatherization savings.

4) Specific Requests

Of the twenty-three percent (23%) of responses that contained specific requests, the following responses are representative. Some requests fall outside the authorizations for the program and are not included.[69] The first is typical of a number of responses in which people become aware that a relative or neighbor received more energy saving improvements. This is unsurprising as each home is separately diagnosed and not all homes can receive the same measures. The measures authorized for installation have to be appropriate for the individual home and within the cost guidelines. The second through fourth bullets represent one item missed in full-scale weatherization.

- They only replaced the windows. What I really needed was a new furnace and hot water tank. My mom went through the same program and she got a furnace.

- The baseboard heaters weren’t screwed into the studs and easily fell off. I have since fixed them myself, so it is all good, thanks.

- I am quite sure that the weatherization helped quite a bit. It is just that the cost of things go up anyhow. They should make sure the windows are sealed somehow. But mostly they did a fine job.

- The back door was not properly done; the bottom has a draft.

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[68] This last client said that people are not feeling better due to the program, but marked the survey to show reduced energy use was down and a better-feeling home post weatherization although energy bills were going up instead of down.

[69] Such requests, very important to the household but not within the scope of the Weatherization Assistance Program, would require a different type of program. In Sweden, all senior citizens are supposed to have access to "helpers," who are funded through Social Services to serve particular geographic areas (in the cities, certain blocks). Any senior citizen can call on a helper for assistance getting groceries in, fixing a yard, repairing a fence, etc. This provides employment for younger persons through state sponsored social work and provides the kinds of support to senior citizens that in early generations would have been provided by relatives in large multi-generational families. With small families today and high mobility, senior citizens often have no family near them to rely on for these kinds of everyday assistance.

The next request refers to a problem that cannot be addressed within the scope of this program, though it is weatherization related.

- Electric and gas rates are going up-up-up and even if you don't use your heater or AC it seems bills are high. The program replaced my furnace (heater) and discovered a lot of our duct work was collapsing. Unfortunately, they could not do anything about it.

The next request suggests that better quality thermostats should be incorporated into the program.

- The thermostat they installed is difficult to set accurately as there is no divisional marking, for example it goes from 70 degrees to 80 degrees with no markings between. All else is excellent. Thanks.

The last example request listed here is representative of situations in which a home may need both full scale weatherization and also a new furnace. In some situations, budget limitations require an "either /or" choice.

- My home was not winterized because my heater went out and was replaced.

5) Summary

The UEC weatherization mini-survey responses for Program Year 2008 were much the same as for earlier program years. There is more mention of rising energy costs, reflecting the actual experience of the year. As always, the biggest group of responses is completely positive. There are more "hard to tell one way or the other" responses than in the past, again responsive to situations in which energy use may decrease yet bills rise. The evaluation team has sent direct requests to the Housing Division. However, it is likely that only a small number can be acted on because some are simply outside the program scope, and a number reflect actual budget limitations and/or what is appropriate for a particular home. Most of those with specific requests also were generally positive about the program.

ENERGY ASSISTANCE PROGRAM

The Energy Assistance Program helps eligible households pay utility bills. The program is not designed to pay the total cost of energy. Each household is responsible for paying the balance.

Eligible households receive an annual benefit, which is paid directly to their energy providers.[70] The program year begins each July 1st and is the same as the State Fiscal Year. Applications are accepted through June 30th, or until funds are exhausted, whichever comes first. Prior year recipients may not reapply until approximately eleven months after they received their last benefit.[71]

Payments from the Fund for Energy Assistance and Conservation are keyed to the state median household energy burden, that is, the percentage of household income that the median income Nevada household pays for their energy bills. The median is updated yearly.

Although more steps are involved, the three primary steps in calculating the Fixed Annual Credit for a household are:

- **Identify household's annual gross income.** The Welfare Division identifies the household gross annual income. The Welfare Division then applies the median energy burden percentage to determine the amount the household is expected to pay.

- **Identify household's annual usage in dollars for all energy sources.** During the application, the Welfare Division determines total annual cost of energy use for the household (including, for example, natural gas, electricity, wood, oil, propane, and kerosene), and generally requests the client to show bills or may receive copies of bills directly from energy supply companies. The applicants are expected to help the Welfare Division obtain billing records where necessary.

- **Determine the Fixed Annual Credit.** For SFY 2007, if the household's annual dollar usage is greater than the state median percentage of household income, the difference (in dollars) is the FAC. If the result of the calculation is less than $180, the result is set equal to $180, the minimum payment for eligible households.[72]

[70] UEC funds are used first for payments to utilities in UEC. Federal LIHEA and/or other funds are used for payments to non-UEC utilities, such as propane dealers.

[71] Application packets are mailed to prior year recipients when it is time for them to apply.

[72] Eligible subsidized housing residents, who receive a Utility Fuel Allowance (UFA) that is used in computing the household's portion of the rent, receive a payment of $180. If all utilities are in the landlord's name and are included in the rent, and the household does not receive a separate bill that Includes

Only customers of utilities that require customers to pay the Universal Energy Charge (UEC) adder on their monthly bills are eligible to receive help from the Nevada Fund for Energy Assistance and Conservation (FEAC). However, the state UEC program is coordinated with the federal program so that all eligible Nevada households receive equal treatment.[73]

Income eligibility guidelines for SFY 2008 are shown below (Table 10).[74]

SFY 2008 – Income Eligibility Guidelines		
Household Size	**Maximum Annual Gross Income**	**Maximum Monthly Gross Income**
	150% of Federal Poverty Level	
1	15,315	1,276.25
2	20,535	1,711.25
3	25,755	2,146.25
4	30,975	2,581.25
5	36,195	3,016.25
6	41,415	3,451.25
7	46,635	3,886.25
8	51,855	4,321.25

Table 10: Income Guidelines.

consumption & dollar usage, the household will receive $180. If all utilities are in the landlord's name but the household receives a separate bill which includes consumption and dollar usage, the household receives a FAC and the benefit is paid to the household. If one of the utilities is in landlord's name and one is in household's name, the household will receive a FAC based on the utility in the household's name payable to the utility, unless the household receives a separate bill from the landlord that includes consumption & dollar usage, in which case the household receives a FAC based on both utilities that is payable to the household's utility not to exceed the annual usage and the remainder is paid to the household.

[73] This coordination implements NRS 702.250(3): "The Welfare Division shall, to the extent practicable, ensure that the money in the Fund is administered in a manner which is coordinated with all other sources of money that are available for energy assistance and conservation, including, without limitation, money contributed from private sources, money obtained from the Federal Government and money obtained from any agency or instrumentality of this state or political subdivision of this state."

[74] US Department of Energy, Weatherization Program Notice 06-5, effective February 1, 2006, based on Federal Register/Volume 71, Number 15/Tuesday, January 24, 2006, Pp. 3848-3849.

A. Fast-Track Component

The Welfare Division attempts to fast-track households that have been disconnected from service or that have received a 48-hour disconnect notice, or are nearly out of heating fuel. This is not an emergency program, but will jump an application to first position in processing. Normally, applications are processed in the order received.[75]

B. Crisis-Intervention Component

The Crisis Intervention Program assists households experiencing a special circumstance or crisis and whose gross annual income exceeds 150 percent of poverty except for allowably qualifying expenses that reduce the annual income to 150% of poverty.[76]

C. Year-Around Service

The Welfare Division provides help year-around, a good fit to Nevada's diverse climates and weather.[77]

D. Arrearage Component

When an eligible household receives a Fixed Annual Credit (FAC), the credit is sent to the utility (or divided and sent to two utilities) to serve as one-time payment. The FAC is designed to permit a household to pay utility bills (for example, gas and electric) at the percentage of its household income equivalent to the Nevada median household energy burden. If the household takes responsibility for this payment amount each month, the FAC will cover close to the rest of the total energy bill for the year. This works if the household will make its appropriate monthly payment each

[75] There are additional conditions that must be met to be placed in the Fast-Track component. The additional requirements are designed to insure that a household designated for priority service is doing what it can to meet its energy bills. Both Fast-Track and Crisis Intervention components will be continued in SFY 2009.

[76] Qualifying expenses must be supported by valid and verifiable documentation and must create a financial hardship of no less than three months, and may include un-reimbursed medical expenses for medical emergencies or long-term, chronic medical conditions; un-reimbursed compulsory and necessary home repairs; and automobile repairs only if transportation is needed for ongoing medical care, the repairs are critical to the operation of the vehicle, and it is the only registered vehicle in the household. Regular maintenance is excluded, including tire purchases.

[77] This is a program feature that fits the climates of the Western states and which other states should consider adopting. States that do not have a UEC but rely on federal LIHEA funding typically have narrow service windows that change from year to year depending on when federal budgets are passed and on variable funding.

month, and if the household is not in arrearage with one or both utilities when the FAC is received.

If the household is in arrearage, the utility applies amounts received to the oldest bills first. This can, in some cases, absorb a sizable portion of the FAC. The Arrearage Payment program component is designed to counter this problem by fully covering current arrearage separate from the FAC payment.

A Universal Energy Charge household may receive the arrearage help only once.[78] As with the FAC, to be eligible for arrearage assistance, household income must be at or below 150% of the federal poverty level. Application for arrearage assistance can only be made along with or following application for the FAC, since it is designed to supplement the FAC. In addition, to be eligible for arrearage assistance, the household must have paid to the utilities a fixed percentage of current income over the last twelve months in which the arrearage occurred.[79]

E. Energy Assistance Program (Formal Compliance)

Finding: The Energy Assistance Program (EAP) program is in compliance with subsections 3 and 8[80] of NRS 702.260, the relevant sections related to formal compliance.

The Division of Welfare and Supportive Services is mandated to implement the Energy Assistance Program according to the applicable provisions of NRS 702. Below are the specifications in NRS 702 relevant to the evaluation, and a description of how the Division of Welfare and Supportive Services implemented these requirements.

[78] There is an exception for households with chronic, long-term medical conditions that create a financial hardship and/or cause a necessary increase in energy consumption.

[79] See Nevada Fund for Energy Assistance and Conservation State Plan, SFY 2008. It is possible to request a hardship exemption to this provision by written petition to the Administrator of the Division of Welfare and Supportive Services.

80 NRS 702.260 (8): In carrying out the provisions of this section, the Division shall: (a) Solicit advice from the Housing Division and from other knowledgeable persons; (b) Identify and implement appropriate delivery systems to distribute money from the Fund and to provide other assistance pursuant to this section; (c) Coordinate with other federal, state and local agencies that provide energy assistance or conservation services to low-income persons and, to the extent allowed by federal law and to the extent practicable, use the same simplified application forms as those other agencies; (d) Establish a process for evaluating the programs conducted pursuant to this section; (e) Develop a process for making changes to such programs; and (f) Engage in annual planning and evaluation processes with the Housing Division as required by NRS 702.280. (Added to NRS by 2001, 3234; A 2005, 22nd Special Session, 78)

1) Specific Provisions

(1) 702.260 (3) Eligibility[81]

Division of Welfare and Supportive Services staff have developed and established a set of functional procedures that fully implement the income eligibility requirements of NRS 702. Based on review of systematic samples of cases, this implementation is correct in approximately 100% of cases.[82]

(2) 6(a) Solicit advice from Welfare and other knowledgeable persons

Division of Welfare and Supportive Services staff worked with the major utilities to coordinate and strengthen program services. There were a number of meetings with stakeholders/advocates to discuss aspects of the program and how the program could be improved. The Welfare Division participated with the Housing Division in the statewide open planning meeting, held in the spring, and worked jointly to implement the SFY 2008 program plan and to develop the SFY 2009 program plan.[83]

The Weatherization Assistance Program in the SFY 2009 Plan reflects the consensus of Housing Division staff and the Advisory Committee. The Energy Assistance Program in the SFY 2009 Plan reflects internal Department of Welfare and Supportive Services perspectives at the end of June 2008, rather than those of the Advisory Committee at that point in time. However, DWSS internal proposals had been fully discussed with the Advisory Committee over the spring, and came to reflect Advisory Committee input to a certain extent through that consultative process.

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[81] NRS 702.260 (3): Except as otherwise provided in subsection 4, to be eligible to receive assistance from the Division pursuant to this section, a household must have a household income that is not more than 150 percent of the federally designated level signifying poverty, as determined by the Division. (4) The Division is authorized to render emergency assistance to a household if an emergency related to the cost or availability of natural gas or electricity threatens the health or safety of one or more members of a household. Such emergency assistance may be rendered upon the good faith belief that the household is otherwise eligible to receive assistance pursuant to this section.

[82] This result is based on review of systematic random samples. See "Determination of Eligibility," which follows.

[83] A number of new provisions became operative on July 1, 2008, at the beginning of SFY 2009. These SFY 2009 Plan provisions were primarily new control tools designed to modify the Energy Assistance Program to adjust it to an anticipated budget constraint in SFY 2009 and beyond. These include a new benefit cap and several provisions that prioritize the more vulnerable among the clients (and, as a consequence de-prioritize processing of the less vulnerable clients). All of these changes were fully discussed with the Low-Income Advisory Group in a series of meetings through the spring of Calendar 2008. Some initially proposed provisions were modified as a result of discussions with the parties in these meetings. In June 2008, the Advisory Group was in agreement with some, but not with all of the proposed modifications, and sent a formal letter requesting some proposed modifications not be adopted. However, all modifications were adopted by the Division of Welfare and Supportive Services for the SFY 2009 Plan. Since these modifications apply to the SFY 2009 fiscal year they will be reviewed in the SFY 2009 Evaluation.

(3) 6(b). Implement delivery systems and provide other assistance

Over the first years of the program, the Division of Welfare and Supportive Services implemented an effective delivery system. The Division continues to work on improving work unit efficiency, and in SFY 2007 and in SFY 2008 ran trials of a number of small work process improvements.

In both SFY 2007 and SFY 2008 there were a number of trial modifications of case processing to test ability to improve efficiency with the goal of shortening processing time from application to certification. This effort included internal review of work processes and a shift from responsibility of an individual staff member for cases from beginning to end to a system in which an experienced staff member is assigned to initially classify cases as they come in. The classification divides cases into those which have full information and those which require one or more further requests for information (RFI's") from the client.[84] At the end of SFY 2008, the program was back to the original case management system.

In the spring of SFY 2008 the duties of the Program Manager were formally divided so that the overall Program Manager is responsible for policy, budget, and reporting and a Supervisor is responsible for staff and client service. In a sense, this is a formal return to the less formal arrangement operative in the first few program years in which the Program Manager and an Assistant (with responsibility for the Las Vegas office) were based in Carson City. In the new arrangement, the overall Program Manager is in Carson City, and the Supervisor (with responsibility for Las Vegas and for Carson City staff and client services) is located in Las Vegas.

(4) 6(c). To the extent practicable, use the same simplified application form

A common simplified application form has not been implemented. The prospect of a common and simplified application form for the Welfare Division and the Housing Division was investigated during the first program year. As reported in the SFY 2003 evaluation, a working group consisting of both Housing and Welfare management tried to streamline the application so that both agencies could use a common simplified form. However, the two agencies have different data collection needs and the joint form became too long. Based on this practical reality, the agencies decided to continue using their own forms.[85]

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[84] Cases that require one or more additional requests for information can add substantial additional time in processing applications.

[85] Housing Division has identified a software program called “DirectApps” that could be used by Welfare and Housing for common applications. This would require an initial investment of $80-100,000 to purchase and modify the application for use, plus the cost to incorporate the application into both Welfare and Housing systems. The initial application would be taken at any point of contact and this system would forward income qualified applications to both agencies. At the current weatherization funding levels Housing can serve roughly 1,500 clients. With 15,000 income qualified LIHEA clients, Housing could be overwhelmed with applications. A joint application system of this type would require careful scrutiny of costs and benefits.

At the same time, a part of this goal has been successfully implemented in that the Housing Division uses a single application form for weatherization services, across funding sources. Weatherization services administered through the Housing Division draw primarily on Universal Energy Charge (UEC) funding, but also on federal Weatherization Assistance Program funds, and other state funding, when available, and as appropriate. In the same way, the Welfare and Supportive Services Division uses a single application form for energy assistance (utility payment) services that draws upon UEC funding, federal LIHEA funding, and other sources when available, and as appropriate.

(5) 6(c). Coordinate with other agencies that provide energy assistance

The Welfare and Supportive Services Division carefully coordinated Nevada Fund for Energy Assistance and Conservation (FEAC) funding for the Energy Assistance Program with federal LIHEA payment assistance funding throughout SFY 2008. This creative coordination of funding permitted equal provision of services to UEC and non-UEC homes for utility bill assistance in SFY 2008, while following the requirement that UEC funds may be used to assist only households served by at least one utility which implements the Universal Energy Charge.
In coordination with the Housing Division, [86] the Division of Welfare and Supportive Services downloads records for all recipients receiving energy payment assistance to the Housing Division. Daily e-mails of clients with a Fixed Annual Credit (FAC) of $2,000 or greater[87] are sent to the Housing Division for immediate follow-up.

(6) 6(d). Establish a process for evaluating the program

In the first program year, the Division of Welfare and Supportive Services and the Housing Division implemented the evaluation provisions of NRS 702. The current evaluation for SFY 2008 is the sixth State Fiscal Year evaluation in this series.

(7) 6(e). Develop a process for making program changes

The Division of Welfare and Supportive Services and the Housing Division have improved the program each year. Some of the improvements reflect recommendations from the evaluations, while others reflect improvements generated by management, staff, and the Advisory Group. The formal structure for these changes is in the annual planning process, though management and staff have implemented a number of small improvements below the level of the formal planning process. Some proposed changes have been above the scope of an operating agency, and in those cases have been transmitted to the governor and legislature for

[86] In parallel to the Division of Welfare and Supportive Services effort through the Fund for Energy Assistance and Conservation, DWSS has agreed to provide up to five percent of federal LIHEA funds to the Housing Division for the weatherization effort each year. This provision became effective in SFY 2008.

[87] This is a change from $2,500 (in early program years) to $2,000.

consideration. Progressive modifications in NRS 702, documented by date, mark this process. A workable process for making program changes is in place.

(8) 6(f). Engage in annual planning and evaluation with Housing Division

As enacted in NRS 702, there is an annual planning and evaluation process conducted jointly with the Housing Division, which has been implemented following the provisions of NRS 702.280.[88] Each State Fiscal Year can be viewed as an annual program cycle. For each cycle an evaluation is conducted and there is a structured planning process resulting in the Program Plan for the following year.

2) *Review of Client Files*

The Energy Assistance Program is administered from two Division of Welfare and Supportive Services offices. The Carson City office serves Northern Nevada. The Las Vegas office serves Southern Nevada. Records were checked by drawing two systematic random samples of cases, one for the Carson City office and the other for the Las Vegas office.[89] In a careful examination of these client records, we found no problems with procedures used to carry out the Energy Assistance Program or in the calculations of appropriate assistance amounts. In Carson City, the time to process applications increased somewhat (see below); in Las Vegas the processing time was

[88] NRS 702.280 Coordination and evaluation of programs; duties of Division of Welfare and Supportive Services and Housing Division; submission of report to Governor, Legislative Commission and Interim Finance Committee. 1. The Division of Welfare and Supportive Services and the Housing Division jointly shall establish an annual plan to coordinate their activities and programs pursuant to this chapter. In preparing the annual plan, the Divisions shall solicit advice from knowledgeable persons. The annual plan must include, without limitation, a description of: (a) The resources and services being used by each program and the efforts that will be undertaken to increase or improve those resources and services; (b) The efforts that will be undertaken to improve administrative efficiency; (c) The efforts that will be undertaken to coordinate with other federal, state and local agencies, nonprofit organizations and any private business or trade organizations that provide energy assistance or conservation services to low-income persons; (d) The measures concerning program design that will be undertaken to improve program effectiveness; and (e) The efforts that will be taken to address issues identified during the most recently completed annual evaluation conducted pursuant to subsection 2. 2. The Division of Welfare and Supportive Services and the Housing Division jointly shall: (a) Conduct an annual evaluation of the programs that each Division carries out pursuant to NRS 702.260 and 702.270; (b) Solicit advice from the Commission as part of the annual evaluation; and (c) Prepare a report concerning the annual evaluation and submit the report to the Governor, the Legislative Commission and the Interim Finance Committee. 3. The report prepared pursuant to subsection 2 must include, without limitation: (a) A description of the objectives of each program; (b) An analysis of the effectiveness and efficiency of each program in meeting the objectives of the program; (c) The amount of money distributed from the Fund for each program and a detailed description of the use of that money for each program; (d) An analysis of the coordination between the Divisions concerning each program; and (e) Any changes planned for each program. (Added to NRS by 2001, 3236)

[89] For this analysis, the evaluation team requested that the Division of Welfare and Supportive Services pull the cases from the files according to a random assignment. All files, including those with approved application and those with denied applications were included in the samples.

longer than in Carson City but stayed essentially the same in SFY 2008 as in SFY 2007.

Determination of Eligibility: All cases reviewed are in full compliance with subsection 3 of NRS 702.260 (eligibility). There are no errors in determining eligibility in the one hundred and eighty two cases reviewed. All approved cases were under 150% Federal Poverty Level.

Over income cases (over 150% of the Federal Poverty Level) were properly denied, as were those cases in which clients re-applied too early. The other denials were also appropriate under program rules. One client was denied for willfully concealing information. One client was denied for failure to reply to a request for information (RFI) by the required deadline (usually ten business days), and several were denied for not sending required information in response to a RFI. The percentages of cases approved and not approved are shown in Table 11.

Fund for Energy Assistance & Conservation
Energy Assistance Program
(SFY 2008)

Office	Client Applications			
	Initial Review Sample	Final Review Sample	Approved Cases in Sample	Cases Not Approved (%)
Carson City	90	92	69 (75%)	23 (25%)
Las Vegas	90	90	66 (73%)	24 (27%)
Total	180	182	135 (74%)	47 (26%)

Note: Applications are shown for the office where processed. Cases are a systematic random sample of all cases for each office. Percentages are rounded to the nearest whole percent.

Table 11: Review Sample: Energy Assistance Program.

Case Documentation (Carson City): Of the ninety-two cases for Carson City, sixty-nine (75%) cases were approved. Of the twenty-three (25%) not approved, the reasons were:

- Failure to respond to information request (eighteen cases or 78.3% of all Northern Nevada cases not approved);

- Over income (four cases or 17.4% of all Northern Nevada cases not approved);
- Information not sent by deadline (one case or 4.3% of all Northern Nevada cases not approved).

Of those approved, for the clients who did not require a Request for Information (RFI) and subsequent return of response documentation, the mean time to approval by the Carson City office was forty-eight calendar days for SFY 2008 (this compares with forty-two calendar days for SFY 2007). [90] The goal for cases without a RFI is 30 calendar days. For approved clients who required a RFI, the mean time to approval was fifty-nine calendar days (this compares with forty-six calendar days in SFY 2007).

Case Documentation (Las Vegas): Of the ninety cases for Las Vegas, sixty-six (73%) were approved. Of the twenty-four (27%) not approved, the reasons were:

- Failure to respond to information request (fourteen cases or 58.3% of Southern Nevada cases not approved);
- Over income (five cases or 20.8% of Southern Nevada cases not approved);
- Submitted too early (two cases or 8.3% of Southern Nevada cases not approved);
- Lost contact (two or 8.3% of Southern Nevada cases not approved;
- Willful concealment (1 or 4.2% of Southern Nevada cases not approved).

Of those approved, for the clients whose applications were complete and did not require a Request for Information (RFI) and subsequent return of response documentation, the mean time to approval for the Las Vegas office was fifty-four calendar days for SFY 2008 (this is identical to the fifty-four calendar days result for SFY 2007). The goal for cases that do not require a RFI is 30 calendar days. For approved clients who required a RFI, the mean time to approval was sixty-seven calendar days (this compares with sixty-six calendar days in SFY 2007).

Uniform Application: In the judgment of the evaluators, all cases exhibited a sufficient amount of consistency to be considered uniform.

Advice & Planning: The Welfare Division and the Housing Division carefully coordinated activities and shared data to provide services during SFY 2008. Planning activity was jointly coordinated, as envisioned in the legislation for the program. There was also an active Advisory Committee, and consultation.

[90] All “number of day” calculations are calendar days, not business days.

3) *Informal Compliance*

In general, based on participation in planning meetings and discussions with active advocates, the Division of Welfare and Supportive Services is meeting the informal expectations of the representatives of groups within the state that are actively concerned with program operation and the quality of service.

Although the Low-income Advisory Group's June formal request not to proceed with some modifications to the SFY 2009 program was not accepted by the Division of Welfare and Supportive Services, DWSS did make some modifications to its proposals in the course of interactive discussions with the parties during Spring 2008. In general, DWSS demonstrated a willingness to present evolving internal perspectives, to interact and listen, and a cooperative orientation in the relationships with concerned organizations and individual advocates.

F. Effectiveness & Efficiency

The Program Year 2008 (SFY 200) effort is summarized in Table 12, which shows Energy Assistance Program funding and participation for SFY 2008.

The Energy Assistance Program has been providing services with Universal Energy Charge funding since 2003, and the program is effective in delivering services.

Within this general effectiveness, however, a continuing concern is the time it takes to process applications, an area in which management and staff are working to improve. An evident part of the “time to process” problem stems from the high number of applications that are not complete. There are generally more of these in the Las Vegas office. These cases require staff to send a request for information (RFI) for one or more items. Client turnaround of the requests to provide additional information often adds several days or weeks to the processing time of these cases, affecting the overall average processing time for all cases.

Also, responses are to be received within ten days. If the material arrives after the cutoff, the case may not be processed. There are exceptions made in cases in which the client documents inability to comply with the time window due to an external constraint (for example, if Social Security information must be added, the processing time at Social Security is generally longer than ten days). However, the client must take the initiative to communicate the situation to Division of Welfare and Supportive Services for additional time to be granted.

The evaluation team recommends that applications be processed if RFI responses are received within three months. It is not clear how a client would come to understand the ins and outs of the rules surrounding RFIs, and it is not obvious that a client would think to ask for an extension as well as to be engaged in seeking the required information. If the DWSS sometimes takes three months to process an

application with all of the resources of a state organization, why would a client who may not have access to a copying machine or fax, may not have adequate transportation to secure documents, may not have good negotiating skills in trying to secure cooperation of a landlord (who controls some pieces of required information for some households), may not receive a response from an out-of-state landlord, and who is dependent on processing by other organizations be given a penalty of being dropped from the process and being required to restart to application from the beginning or drop out, for not turning around a RFI in ten days?

The evaluation team would like to see quicker turnaround of qualification results and as much time as necessary allowed to the client so long as the results to a RFI inquiry are received within three months. The Energy Assistance Program deals with a payment and termination process conducted by the utilities in which time is of the essence.

There is a legitimate concern at DWSS that waiting too long for results will cause other material in the application to become stale. Yet ten days seems a much too short time limit for citizen response to DWSS. DWSS is not a private sector operation, but is owned by the citizens of the state, so it should grant more time for citizen response as a private business is responsive to its owners. In general, a file missing one piece of information has already been worked on by staff, and if the client finally submits the missing piece, processing should be completed. This is recommended on grounds of practicality and efficiency.

Recommendation 4: Process late cases. In the future, process cases in which responses to the Request for Information arrives until three months following the mailing date of the request.[91] While processing these cases would result in denial of a small number, for the most part the missing piece of information required for certification is provided (though provided late). Specifically, change the actual response limit from ten days to three months.

Recommendation 5: Modify statistical accounting of staff performance.
The statistics kept to show performance in processing time should be split into cases that do not require a subsequent Request for Information (RFI), and cases that

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[91] As specified in Section 2.17, Pending Information, of the Division of Welfare and Supportive Services *2008 Energy Assistance Program Manual*, "If all required proof or information necessary to determine program eligibility is not furnished with the application, a Request for Information (Form 2833-EL) is sent to the applicant clearly listing the outstanding information/verification needed and the due date for the information to be returned. The household is allowed a minimum of ten (10) working days to provide the verification. The applicant is required to postmark or fax the requested information by the deadline specified on the Request for Information form. If the due date falls on a weekend or holiday, the due date is extended to the next working day. If the information is not provided, postmarked or faxed within the specified time given, the application is denied. There are extenuating circumstances which can be taken into consideration for failure to provide requested information. They include, but are not limited to: hospitalization of a household member, family illness, being out of town, postal delivery problem, etc., and must be supported by bona fide documentation. Exceptions for non-compliance must be approved by the worker's supervisor and noted in the EAP narrative."

DIVISION OF WELFARE AND SUPPORTIVE SERVICES
2008 ENERGY ASSISTANCE PROGRAM YEAR STATISTICS
July 1, 2007 through June 30, 2008

CATEGORIES	STATEWIDE TOTAL	STATEWIDE PERCENT	By County: Clark	Clark Percent	All Others	All Others Percent
# HOUSEHOLDS APPLIED	**29,444**		***17,691***	*60.1%*	***11,753***	*39.9%*
# HOUSEHOLDS SERVED	**16,545**	56.2%	***9,092***	*55.0%*	***7,453***	*63.4%*
*Households with Elderly	6,194	37.4%	*3,457*	*55.8%*	*2,737*	*36.7%*
*Households with Disabled	6,900	41.7%	*3,905*	*56.6%*	*2,995*	*40.2%*
*Households with Children 6 and Under	3,851	23.3%	*2,447*	*63.5%*	*1,404*	*18.8%*
Households with None of the Above	8,110	49.0%	*4,866*	*60.0%*	*3,244*	*43.5%*
*Social Security Recipients	9,463	57.2%	*5,287*	*55.9%*	*4,176*	*56.0%*
*SSI Recipients	4,412	26.7%	*2,861*	*64.8%*	*1,551*	*20.8%*
*Earned Income	4,095	24.8%	*2,287*	*55.8%*	*1,808*	*24.3%*
*Other	7,689	46.5%	*4,463*	*58.0%*	*3,226*	*43.3%*
Households that Rent	12,439	75.2%	*7,736*	*62.2%*	*4,703*	*63.1%*
Households that Buy/Own	3,327	20.1%	*1,356*	*40.8%*	*1,971*	*26.4%*
House	4,450	26.9%	*2,623*	*58.9%*	*1,827*	*24.5%*
Mobile	2,193	13.3%	*620*	*28.3%*	*1,573*	*21.1%*
Duplex	495	3.0%	*148*	*29.9%*	*347*	*4.7%*
Apartment/Studio	7,567	45.7%	*4,904*	*64.8%*	*2,663*	*35.7%*
Condo	891	5.4%	*732*	*82.2%*	*159*	*2.1%*
Travel Trailer/Motor Home	97	0.6%	*22*	*22.7%*	*75*	*1.0%*
Rent A Room	25	0.2%	*22*	*88.0%*	*3*	*0.0%*
Other	48	0.3%	*21*	*43.8%*	*27*	*0.4%*
1-2 Person Households	10,277	62.1%	*5,640*	*54.9%*	*4,637*	*62.2%*
3+ Person Households	5,489	33.2%	*3,452*	*62.9%*	*2,037*	*27.3%*
0% - 75% Poverty	5,238	31.7%	*3,059*	*58.4%*	*2,179*	*29.2%*
76% - 100% Poverty	4,378	26.5%	*2,503*	*57.2%*	*1,875*	*25.2%*
101% - 125% Poverty	3,457	20.9%	*1,974*	*57.1%*	*1,483*	*19.9%*
126% - 150% Poverty	2,693	16.3%	*1,556*	*57.8%*	*1,137*	*15.3%*
*Households w/Electric Vendor	15,405	93.1%	*9,073*	*58.9%*	*6,332*	*85.0%*
*Households w/Natural Gas Vendor	7,967	48.2%	*4,020*	*50.5%*	*3,947*	*53.0%*
*Households w/Propane Vendor	874	5.3%	*15*	*1.7%*	*859*	*11.5%*
*Households w/Heating Oil Vendor	65	0.4%	*0*	*0.0%*	*65*	*0.9%*
*Households w/other sources of Energy	10	0.1%	*0*	*0.0%*	*10*	*0.1%*
TOTAL FAC PAYMENTS	**$13,145,847**		*Data Not Available*			
Average FAC Payment	$795		*Data Not Available*			
****TOTAL ARREARAGE PAYMENTS**	**$1,280,150**		*Data Not Available*			
*# of Recipients	3,702		*Data Not Available*			
Average Arrearage Payment	$346		*Data Not Available*			
TOTAL ALL RECIPIENT PAYMENTS	**$14,425,998**		*$8,113,227*	*56.2%*	*$6,312,771*	*43.8%*
***UEC Recipient Expenditures	$10,124,861		*$6,479,233*	*64.0%*	*$3,645,628*	*36.0%*
***LIHEA Recipient Expenditures	$4,301,137		*$1,633,994*	*38.0%*	*$2,667,142*	*62.0%*
# APPLICATIONS DENIED	**8,351**	28.36%	*Data Not Available*			
#APPLICATIONS PENDING ***(includes RFIs)***	**4,064**	13.80%	*Data Not Available*			
			LV Office		***CC Office***	
CASE PROCESSING TIME IN WEEKS	**7.5**		***8.0***		***7.0***	

NOTE: Effective 4/2/07, the Las Vegas office serves Clark county, while the Carson City office serves all other counties. However, due to the large amount of applications that are received in the Las Vegas office, some Clark county cases will be processed in the Carson City office. Effective 10-1-07 the Las Vegas office serves Las Vegas & North Las Vegas; Carson City office serves all other areas statewide. A correction to the report was made in the category of 1-2 Person Households for Clark County for the period ending 9-30-07. The correct figure should be 701 not 7011.

* These characteristics may include duplicate counts when appropriate (i.e., if a household member is elderly and disabled they are counted in both categories).

** The Arrearage Statistics Report is unavailable due to system modifications. Subsequently, we are unable to provide any statistics by county. The statewide arrearage statistics are extracted manually, by vendor, from the EAP system and hand calculated. This results in a duplicated recipient count. In addition, the average arrears payment is based upon the average payment not average payment per household.

***The UEC and LIHEA Recipient Expenditure figures do not include any administration costs. They are direct service expenditures only. In addition, these figures do not include any funds returned by the energy vendors.

Prepared by A. Fountain 7-15-08

Table 12: Program Statistics for SFY 2008.

require a RFI. Only the first class of cases is a direct indication of the efficiency of staff since processing time from date of application is fully within staff control. The second class of cases consists of cases in which client response time is the major factor in processing time. Performance for this class should be accounted separately.

Recommendation 6: Change the operative time for citizens to return information in response to RFIs from ten days to three months.

G. Staffing

Prior to the UEC, the Welfare Division operated the federally funded statewide program from Carson City with a staff of five state employees. The UEC brought a very substantial increase in caseload. Due to the need for a Las Vegas office to service the increased caseload for UEC, a Las Vegas office was opened.

For Program Year 2008, in addition to the Program Manager and a Program Officer, there were six Caseworkers plus two Clerical workers in Carson City. The Las Vegas office was staffed by a Supervising Caseworker, eight Caseworkers, and four Clerical staff. This number of positions and the mix of skill sets is appropriate to meet the caseload, though as noted elsewhere in this evaluation there is a continuing concern with the rapidity with which cases are processed. When the program was starting up in SFY 2003 and SFY 2004, many of the staff positions were established as contract positions rather than full civil service positions. During Program Year 2007 there was some progress in converting positions gradually to civil service rather than contract positions, though a number of contract positions remain.

Recommendation No. 7: Continue to propose moving contract positions to full civil service status.

H. Payment Behavior

Since there was not payment analysis in the first evaluation of this program, the SFY 2008 evaluation contains the fifth analysis of payments. We begin with a review of what has been learned to date:

- For the Program Year 2003 evaluation utility payment data was not yet available.
- In the Program Year 2004 evaluation, Nevada Power (n=175) and Sierra Pacific Power (n=138) households that received a fixed annual credit during Program Year 2003 were shown to have a meaningfully better percentage of bills paid in Program Year 2003 over the prior twelve-month period. For

Nevada Power customers, fifty-three percent (53%) of the annual bill was paid prior to participation in the Energy Assistance Program and seventy-three (73%) percent during the year of program participation. For Sierra Pacific customers, fifty-nine percent (59%) was paid in the year prior to participation and 79% in the participation year. The weighted average of these results for both companies was fifty-six percent (56%) in the year prior to participation and seventy-four percent in the participation year. That payment is better in the participation year is not surprising because the participation year includes the Energy Assistance Program payment.

- In the Program Year 2005 evaluation (n=2,364), Nevada Power customers and Sierra Pacific customers together paid fifty-seven percent (57%) of their billed amount in the quarter-year prior to program participation. The Fixed Annual Credit (FAC) then created a positive balance in customer accounts that, on average, lasted through the next half-year following the FAC. After this positive balance ran out, in the third quarter only eight-seven percent (87%) of bills were paid. A few clients made regular payments during the months in which their account showed a positive balance. For these clients, the Fixed Annual Credit was enough, along with their regular self-payments, to take them successfully through the year, paying their utility bills. The average or "typical" client, however, skipped utility payment in months in which their bills showed a credit from the Fixed Annual Credit amount. However, the typical client did make up the difference and brought the household account to payment in full by the end of the year.

  Also in Program Year 2005, clients receiving the minimum FAC payment of $180 showed a different pattern. These clients paid an average of fifty-five (55%) percent of billed amount in the quarter prior to the program and fifty-six (56%) percent of billed amount in the quarter following the FAC payment. We can conclude from this that the minimum FAC payment does not have much effect on proportion of current bill paid.

- In Program Year 2006, this payment pattern continued. Again, the typical client did not pay the planned equal portion of their utility bill in months that their bills showed a positive balance. However, they generally paid once the positive balance ran out and by the end of the year following the FAC payment were still connected for utility service. As noted in the program logic, a program goal is to encourage clients to make regular monthly utility payments. However, unless clients are put on special bills that ask for equal payment as a "please pay" amount each month, it is likely that client dollars, which are short in relation to a multitude of needs, will go for other bills when the utility bill shows a credit.

- In Program Year 2007, this pattern continued as shown in the three examples below.

Example 1	
Feb 2007	4,160.01
Mar	0
Apr	0
May	0
Jun	0
Jul	0
Aug	0
Sep	0
Oct 2007	204.36

Example 2	
Apr 2007	3921.04
May	0
Jun	0
Jul	0
Aug	0
Sep	0
Oct	0
Nov	0
Dec 2007	356.16
Jan 2008	510.62

Example 3	
Mar 2007	4,704.42
Apr	0
May	0
Jun	0
Jul	0
Aug	0
Sep	588.39
Sep 2007	-588.39

The utilities continue to offer Energy Assistance Program customers an equal payment per month plan. However, failure to make regular payments once in the plan results in termination of the plan, a one-year penalty freeze out from participation in the plan, and bills which include full charges and are not pro-rated.

Some customers are successful in the equal payment plans; however, the new analysis for this SFY 2008 evaluation suggests that equal payment is not a likely option for most households in the Energy Assistance Program.

SFY 2008: The theory of the Energy Assistance Program is logical, clean, and crisp. The Energy Assistance payment will cover up to the median Nevada household income energy burden. The customer is responsible for the rest of the payment, and (in the logic of the program) will make small but constant payments each month.[92] A household that follows the program logic will either join the energy provider's Equal Payment Plan or make equivalent monthly payments over the year. In that way program funds help defray the total payment required each month. In theory, the addition of the customer portion each month to the once-a-year Energy Assistance Program payment makes possible stable utility service with full payment to the utilities. It is a good and logical theory, but the reality is different.

While some households will follow a regular payment pattern, most do not. The reality faced by participating households is that they are beleaguered by costs and bills due to insufficient household income. Many Nevada households are currently under the severe pressure of necessary costs across the dimensions of their economic existence. This follows necessarily from the degradation of real income for work in the US since approximately 1970. This transfer of real income from working people has been accompanied by withdrawal of normal community social support in the form of traditionally socialized amenities. (For example, the proliferation of many new bank changes for what were common banking services, the introduction of direct billing for participation of children in school activities that had traditionally been covered by the school, etc.).[93]

As discussed elsewhere in this report it generally takes two full time workers in a family to obtain approximately the same real income as was earned by one full time worker in 1965. With great effort, with considerably less time for raising a family than was available in the 1960s, and typically with consistent sleep deprivation, it is possible for a moderate-income family with two full time workers to do well. However, anything that breaks this pattern, such as a divorce, illness, an accident, or

[92] This is the core program design. Additions outside this design include a small payment of $180 to certain households that fall into certain payment subcategories, crisis and fast track program elements, and a one-time arrearage payment for qualifying households.

[93] This privatization of traditional common costs shared throughout society requires new direct cash payments from low and middle income households for, for example, their children's participation in school activities. This shift removes the social obligations to co-fund these social amenities from the richest households. Fifty years ago, the cost of a high school sports team was seen as a community cost (essentially a civic responsibility); now a part it is often levied directly on households with children participating on the teams and the well-to-do are largely free of common costs, though they must pay for their own children. The new bank charges are not simply a breaking out of prior general banking costs and their assignment to lower and middle income households. The new fees are a large new profit center for banks.

a job loss throws a household into a severe situation in which the current economic arrangements within the US become oppressive to the household.

Although we did not know it at the time, we now know that a few months following the beginning of SFY 2008, the US entered into a major economic recession. With the collapse of the housing bubble, the fear created within the banking world of being unable to assess the value of derivatives and the consequent refusal of banks and finance institutions to carry out their social functions, and in the resulting credit collapse households now face a radical contraction of employment opportunities. In addition, both businesses and households face the largely irrational contraction of consumer credit.

While the Energy Assistance Program is well designed from within a utility bill perspective and the world of energy utilities to make household planning for regular payments to energy utilities possible, its logic stays within the utility bill "silo." It was not designed to deal with more that the utility bill piece of household payment problems. While the logic of the program works well within the utility bill perspective, most households in the program have to deal with a much more oppressive and much more complex reality. The wider picture is one of constant tension between inadequate income and a multitude of necessary bills across all sectors of household economic life. To have a payment to the utility equal to about six or nine months of bills is typically viewed with great appreciation by Nevada citizens who participate in the Energy Assistance Program, but the advice from the program to make small payments every month is not typically followed by participating households.[94]

Instead, the household's economic situation is most often such that having the utility bill paid ahead is perceived as an opportunity to make some small headway with other, often postponed, needs. These needs include purchase of proper food, filling prescriptions for required medicines, completing a postponed doctor visit, school clothing for children, activities to maintain social balance in a household, or insuring the rent is paid each month. The exception (from survey information) is that households composed of senior citizens on fixed social security income, and some other households do make regular monthly payments. For senior citizens, though the income is typically smaller that necessary, fixed monthly income (if large enough) permits planning and systematic allocation of utility payments to supplement the Energy Assistance amount. Some households understand the logic of the program, have the ability due to size of household income in relation to costs and bills, and make these regular monthly payments.

For Southwest Gas, the pattern of payment envisioned by the theory of the program is illustrated in SFY 2008 data by the Energy Assistance Program payment being followed by customer payment the same month (or the following month) and then

[94] The fact that energy bills contain conflicting information -- they show the size of the credit, although a payment is expected -- does not help. When the utility bill shows a sizable credit and there are other pressing needs for a family it would be very hard to prioritize a monthly payment to the utility.

regularly across the year. This is illustrated by the following payment sequences for two Southwest Gas customers:

SW Gas - Customer No. 1	
22-Jan-2008	622.69
24-Jan-2008	162.41
25-Feb-2008	98.75
25-Mar-2008	69.24
23-Apr-2008	31.49

SW Gas - Customer No. 2	
08-Jul-2008	2902.50
22-Jul-2008	36.77
20-Aug-2008	33.85
19-Sep-2008	34.88
20-Oct-2008	33.87

Both customer payment sequences continue on for a year in this fashion, with regular monthly payments.

We cannot quantitatively analyze the payment patterns for Southwest Gas because we do not have a SFY 2008 file of Southwest Gas Energy Assistance Program payments and payment dates. However, we do have these files for Nevada Power Company and Sierra Pacific Power Company. Since the problem of payment has to do with the economic realities of low-income households and not with whether the energy source is gas or electricity, analysis of the Nevada Power and Sierra Pacific Power data will serve to define payment patterns.[95]

Nevada Power Company recorded Energy Assistance Program payments from the Department of Welfare and Supportive Services (DWSS) for 5,806 households to Nevada Power Company for SFY 2008 for a total of $4,962,994. As shown in Table 13, one-half of these payments were for under $670 and only the top quarter were for approximately $1,171 or more. The minimum payment was $53 and the maximum payment was $6,557. As shown in Figure 13, most payments are small to medium sized, clustering to the left side of the graph.

[95] A goal for the SFY 2009 Evaluation should be to obtain an electronic Energy Assistance Program payment file with approved payment amounts and date deposited to Southwest Gas.

No. of Cases		5,806
Mean		855
Median		670
Mode		180
Minimum		53
Maximum		6,557
Sum		4,962,994
Percentiles	**25**	340
	50	670
	75	1,171

Table 13: EAP Payments to Nevada Power.

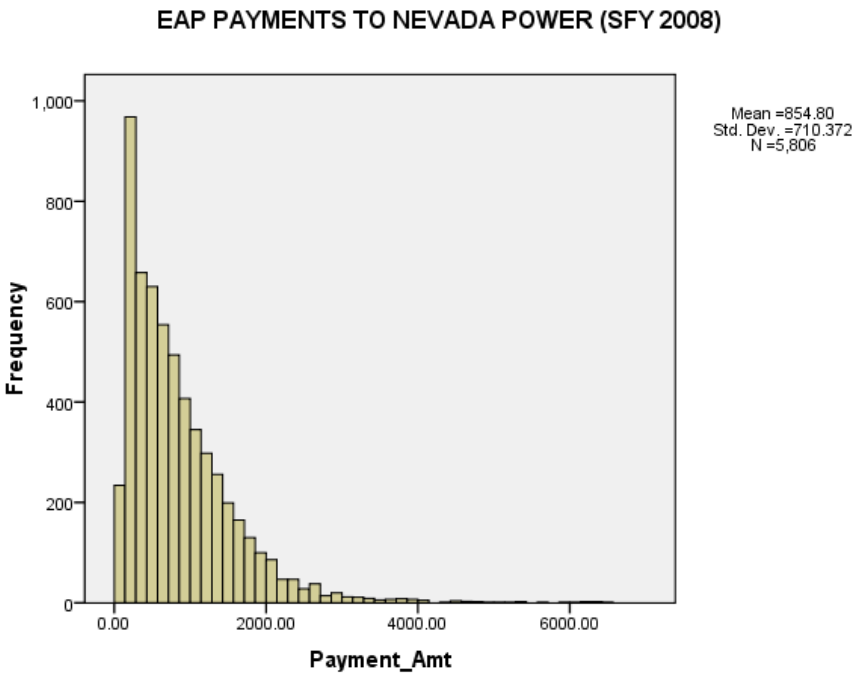

Figure 13: Histogram of EAP Payments to Nevada Power.

In an analysis of the number of months to next customer payment following deposit of the Energy Assistance Program amount in a customer account, the size of the Energy Assistance Program payment was found to correlate with number of months until next customer payment ($r = 0.41$). This is a meaningful level of correlation and the statistical significance of the result is high ($\alpha = 0.002$). In words, the larger the

Energy Assistance amount , typically the more months until the next regular customer payment (Table 14).

Correlations

		Payment_Amt	NEXT
Payment_Amt	Pearson Correlation	1	.410**
	Sig. (2-tailed)		.002
	N	60	55
NEXT	Pearson Correlation	.410**	1
	Sig. (2-tailed)	.002	
	N	55	55

**. Correlation is significant at the 0.01 level (2-tailed).

Table 14: Correlation of Size of EAP Payment with Months to Next Payment (NPC).

That the correlation is not higher is an indication that this pattern is not uniform. For Nevada Power customers, approximately twenty-two percent (22%) of those receiving Energy Assistance follow the logic of the program by making regular payments beginning in the month or in the month following deposit of the Energy Assistance Program amount to the customer's utility account (Table 15).[96] This means that eighty-eight percent (88%) do not.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PLAN	55	0	1	.22	.417
Valid N (listwise)	55				

Table 15: Proportion of Households following Recommended Regular Payment Pattern (NPC).

A scatter diagram of next payments for fifty-five Nevada Power customers is shown in Figure 14. Note the wide scatter of the "point cloud" of customer payments which indicates households following different payment patterns. The regression line shows the underlying dominant pattern with number of months to next payment

[96] Table 3 is constructed by assigning a value of one to each client in a random sample of Nevada Power customers who makes the next payment in the same month or the month following deposit of the Energy Assistance Program payment to their utility account, and who show a subsequent pattern of regular monthly payments. A value of zero is assigned to all other cases. The mean of this series is the proportion following the recommended pattern of regular payment. A random sample of SFY 2008 Energy Assistance Program payments was generated (n = 60). Of these cases, five were not analyzed because they disappeared from the payment stream immediately after crediting of the household account.

(shown on the y-axis) increasing in rough correspondence to the size of the Energy Assistance Program payment amount (shown on the x-axis). The amount of variation explained by the regression of months to next payment on payment amount is about fifteen percent (R^2 = 0.152; α = 0.002).

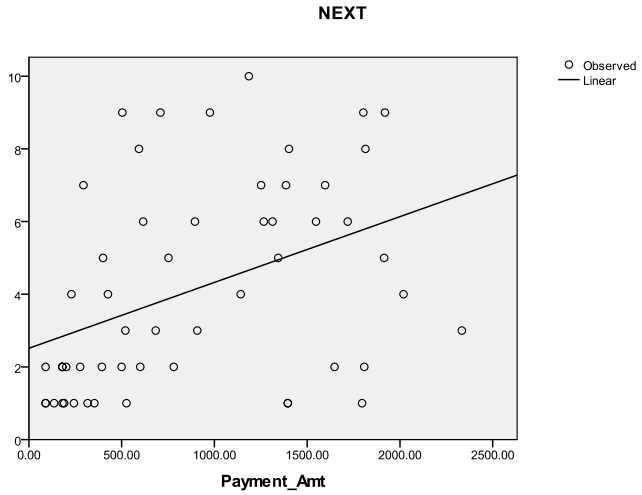

Figure 14: Scatter Diagram and Regression Line for Nevada Power.

Sierra Pacific Power recorded payments from the Department of Welfare and Supportive Services (DWSS) for 5,310 households for SFY 2008 for a total of $3,477,642. As shown in Table 16, one-half of these payments were for under $506 and only the top quarter were for approximately $900 or more. The minimum payment was $10.56 and the maximum payment was $5,178. As shown in Figure 15, most payments are small to medium sized, clustering to the left side of the graph.

No. of Cases		5,310
Mean		654.92
Median		505.57
Mode		180.00
Minimum		10.56
Maximum		5,178.06
Sum		3,477,641.94
Percentiles	**25**	198.54
	50	505.57
	75	889.55

Table 16: EAP Payments to Sierra Pacific Power

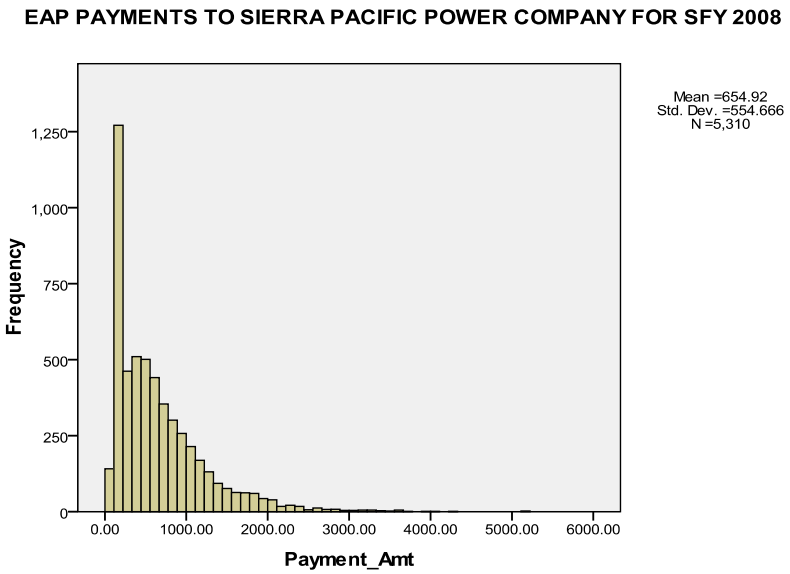

Figure 15: Histogram of EAP Payments to Sierra Pacific.

The correlation of month of next payment following month of deposit of the Energy Assistance amount with the size of the Energy Assistance amount is r = 0.42 (Table 17). This is essentially the same numerical correlation result as obtained separately for Nevada Power (above), and the statistical significance of the correlation is high (α=0.004). That the correlation is not higher is an indication of more than one pattern being present in the data.

Correlations

		Payment_Amt	NEXT
Payment_Amt	Pearson Correlation	1	.418**
	Sig. (2-tailed)		.004
	N	60	45
NEXT	Pearson Correlation	.418**	1
	Sig. (2-tailed)	.004	
	N	45	45

**. Correlation is significant at the 0.01 level (2-tailed).

Table 17: Correlation of Size of EAP Payment with Months to Next Payment (SPPC).

For Sierra Pacific Power Company, approximately one-third of Energy Assistance Program participants follow the program logic by making regular payments, beginning

either in the month that the Energy Assistance amount is credited to their utility account or in the following month (Table 18).[97]

PLAN

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	30	50.0	66.7	66.7
	1	15	25.0	33.3	100.0
	Total	45	75.0	100.0	
Missing	System	15	25.0		
Total		60	100.0		

Table 18: Proportion of Households following Regular Payment Pattern (SPPC).

The general pattern is that the larger the payment amount, the longer until the customer makes the next regular payment.

Note that this applies to about two-thirds of Sierra Pacific Power customers who receive Energy Assistance Program payments. The other one-third of clients consistently makes regular payments. The dominant pattern is shown in Figure 16 and in the scatter diagram with regression line (Figure 17). About sixteen percent of variation is explained by the regression (adjusted $R^2 = 0.156$; $\alpha = 0.004$).

[97] Table 6 is constructed by assigning a value of one to each client in a random sample of Sierra Pacific Power customers who makes the next payment in the same month or the month following deposit of the Energy Assistance Program payment to their utility account, and who show a subsequent pattern of regular monthly payments. A value of zero is assigned to all other cases. The mean of this series is the proportion following the recommended pattern of regular payment. A random sample of SFY 2008 Energy Assistance Program payments was generated (n = 60). Of these cases, fifteen were not analyzed because they disappeared from the payment stream immediately after crediting of the household account, or because the Energy Assistance Program payment was credited back to the Division of Welfare and Support Services.

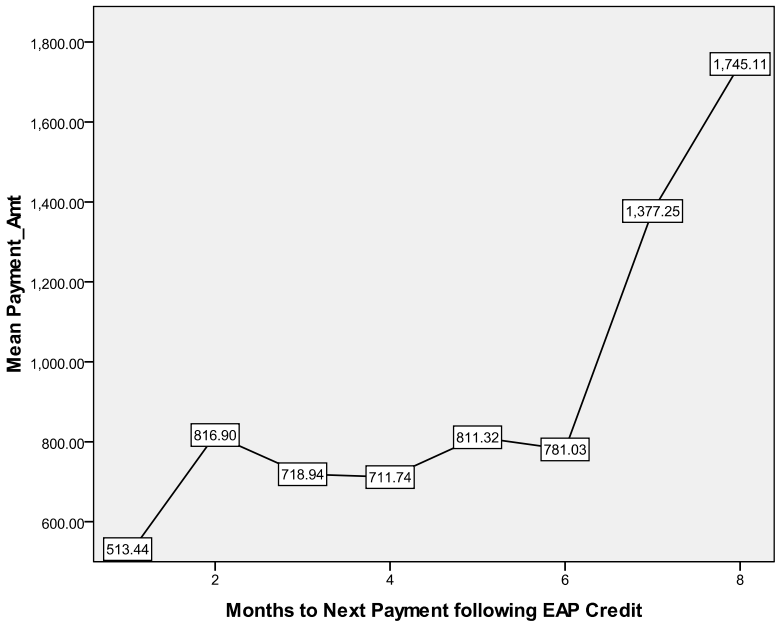

Figure 16: General Pattern -- Payment Amount and Months to Next Payment (SPPC).

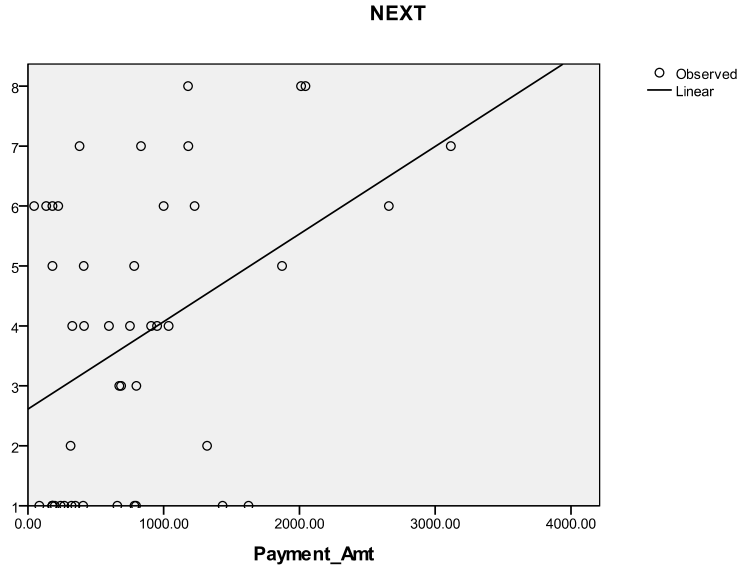

Figure 17: Scatter Diagram and Regression Line for Sierra Pacific Power.

Since this analysis provides good numbers for Nevada Power and Sierra Pacific Power program households that follow the program recommendation for regular payment, but not for Southwest Gas, we can combine these results to develop a best estimate for the Energy Assistance Program (Figure 18), until Southwest Gas information can be added in a subsequent evaluation.

Weighted Average Calculation

{[(55 * (0.22)] + [(45) * (0.33)]}/100
= [(12.1) + (14.9)]/100
= 0.27

Figure 18: Weighted Average Calculation.

For SFY 2008, twenty-seven percent of Energy Assistance Program participants were making regular payments, in the pattern anticipated in the program logic of the Energy Assistance Program design.

The following points summarize the highlights of the payment analysis:[98]

- The payment analysis shows that seventy-three percent (73%) of Energy Assistance Program households do not respond to the core logic of the Energy Assistance program design. For these non-conforming households, the larger the assistance payment, the more months until the next household payment to the utility company. At the same time, in SFY 2008 twenty-seven percent (27%) of households showed the pattern of regular payment anticipated in the logic of the program design. This finding raises a basic question as to whether the core program design should be modified to better fit the current experience of low-income households and, given that the next set of years are expected to be more difficult for households, the question of whether broader thinking about provision of socioeconomic supports may be required.

- There is no large problem in figuring out the kinds of supports that would allow the program to work as planned[99] -- if households had more income, we would expect the proportion of households with the resources and socioeconomic status necessary to make regular utility payments to rise. The problem is how

[98] Note on method in this section of the evaluation: For both Nevada Power and Sierra Pacific Power, the utilities provided lists of households receiving Energy Action Program payments with the date of deposit in household utility accounts. The lists of all households supplied by both utilities were trimmed to match the dates of SFY 2008 -- from July 1, 2007 through June 30, 2008. For each, a random sample of sixty cases was generated using SPSS software. These cases and their Energy Assistance payment amounts were then found, using Excel, in columns of household monthly utility payments and each was visually inspected to determine the next regular household utility payment. A pattern of regular payment was coded into a zero-one variable with one representing payment in the same month or the month following the Energy Assistance deposit. Months until first regular payment following receipt of the Energy Assistance Program deposit to the utility account were also recorded in the data tables, and results were analyzed.

[99] The Wider Opportunities for Women/Ford Foundation income sufficiency family budget studies provide clear answers as to the level of household income needed and the family budget categories that need to be covered.

this income could be generated and allocated to low- and moderate-income households when jobs pay about half the real wage they paid in 1965 and this part of community income is being assigned, instead, to extremely rich households.

- With the economic recession expected to continue and intensify, more and more households will face the problem of just trying to hold families together with reasonable food, clothing, shelter, and medical care when jobs are lost and new jobs are not available, so the projected percentage of households able to plan regular utility payments will decrease. National adjustments such as provision of universal health care, extension of unemployment benefits, moving the current poverty line up by a factor of three-and-one-half to four times the current level, and liberalization and radical expansion of the federal food stamp program are the kinds of simple and realistic programs that could meet some of the backlog of growing socioeconomic need. Given that such adjustments are both necessary and likely at the national level, the question remains of how the Nevada Universal Energy Charge program should be redesigned.

- Seventeen percent (17%) of households receiving an Energy Assistance payment disappeared from their utility's monthly billing and payment stream immediately after the Energy Assistance payment was deposited to their utility account and/or had their assistance payment reversed. In the next (SFY 2009) evaluation, these disappearing and/or payment reversed households should be studied more closely to determine if they represent a form of program failure or simply reflect normal turnover of population through both normal death rates and moves out of Nevada.

- Although there were some large Energy Assistance payments to households during SFY 2008, most payments were small or moderate. This is an important point in understanding the program. The typical program experience is a small or moderate Energy Assistance payment.

I. Energy Assistance Survey Results

Since the Department of Welfare and Supportive Services operates the Energy Assistance Program from two offices, one in Carson City and the other in Las Vegas, the mini-survey was carried out separately for each office. Results are very much the same for both offices, though for Program Year 2008 the Carson City office remains somewhat faster than the Las Vegas office in processing applications. The issue that surfaced from the survey results is an increase in processing time in comparison with prior program years.

1) Results for Las Vegas & Southern Nevada

Mini-surveys were sent to a random sample of three hundred (300) clients who received help from the Energy Assistance Program during State Fiscal Year 2008. Ninety-two (92) were returned, for a return rate of thirty-one percent (31%). Of those who returned surveys, eighty-nine percent (89%) are in the same home, while eleven percent moved. Ninety-three percent (93%) said they were having problems paying utility bills when they were provided Energy Assistance, while seven percent said they were not.

Nearly all (98%) said the program was helpful with paying energy bills while two percent said the program was not helpful to them. Processing time for applications ran from less than thirty days to longer than four months. The average processing time for clients who returned surveys was just under two and one-half months. Seventy-nine percent (79%) say they are still having trouble with their energy bills, while twenty-one percent say they are not. However, a number said they were not having trouble now because they were receiving Energy Assistance.
Nearly all clients who returned the survey either returned the completed survey without comments (24%) or completed the survey and expressed thanks for the program (52%). About fourteen percent (14%) of those who returned surveys were concerned about the amount of time that it takes to process applications. The remaining nine percent (9%) provided other comments or asked specific questions about the program.

a) Thanks for the Program

Expressions of gratitude for the program were typical responses. The following examples provide a representative picture of how the program is helping Nevada households:

- The Energy Assistance Program means the difference between getting up in the morning to a frigid apartment or one with the chill off. Being able to come home and turn up the furnace to get warm. In summer the heat can be life threatening without the air conditioner. The program enables the low-income elderly to enjoy a little better quality of life. Help with the energy bills leaves a bit more for groceries. It is no fun having to dress like an Eskimo at home or barely clothed in the summer. Thank you for the program.

- The Energy Assistance program has been a great help to me. Trying to live on limited funds is very hard. to the extent of making a decision to eat, buy food, pay bills. Sometimes the choices are not ones that anyone should have to make. So, not having to pay utilities for a few months is a God send.

- My counselor was excellent; helped me with all the forms. I am so very grateful for the assistance. The breadwinner of the family had heart attacks and is unable to work. The rest of the family did their best, but we are unable to cover his income. I am over seventy. We are so glad the assistance is there, this was the first we had needed help. Thank you. (Please don't allow energy costs to escalate, we really can't pay, and I believe we are not the only ones.)

- I would like to thank everyone from the Nevada Division of Welfare and Social Services. I lost my job and my car, and things are hard all year and especially around the holidays. Thank to the program, my bills are paid and I can provide a little more for my kids.

- The program helped me during a really tough time.

- It is wonderful for low-income disabled people like myself who cannot work anymore. I have worked all my life, and am alone.

- Without the program I would have to go without medication. Some months I have to pick paying my co-pay for medicine or paying on my power bill.

b) Time to Process

In Program Year 2008, concerns about the amount of time it takes to process applications were more frequent than in prior years with about fourteen percent (14%) of those returning the survey raising this concern. The following statements are representative of this concern:

- I submitted my application on September 12, 2008 but have not been notified to date (December 9, 2008) as to outcome. However, when I applied on August 13, 2007 I was approved within two months.

- I applied on September 8, 2008 and have heard no response. My income is $857 per month and my rent is $525. I will have no heat this winter if they do not provide assistance soon.

- I realize that there are a lot more people asking for help now, but it is very hard to call on the telephone and get our questions answered. I know some people in my apartment complex have been waiting longer than usual to get energy assistance. Maybe a letter could be sent to put peoples' minds at rest, as they are all seniors in the complex.

- It is taking at least six months to get the assistance. Sometimes when you call, they are very rude on the phone. Also, they do not mail out the application to customers when it is time for them to receive assistance. I always have to call them instead of them automatically sending the application.

c) Other Comments

There were also other comments and specific questions regarding the program. The following are examples of concerns raised by these other comments:

- If your landlord or owner of the home stays out of state, why would you deny myself Energy Assistance if you are unable to get in contact with him or her? I understand it is my responsibility (to try go get a response from the landlord) but there should be another alternative.

- Don't let the program get budget cut as others such as senior and low-income programs seem to be.

- I am capable and looking for work. Wish there were a program for hiring people who are over seventy. Lots of us could work and be an asset.

- I am on 24/7 oxygen and (energy bills) make me stop using my oxygen due to the high electric bills.
-
- When notifying clients of eligibility, why not send the application along. This would speed up the client return of the application.

2) Results for Reno and Northern Nevada

Mini-surveys were sent to a random sample of three hundred (300) clients in Northern Nevada who received help from the Energy Assistance Program during State Fiscal Year 2008. Ninety-five (95) were returned, for a return rate of thirty-two percent (32%). Of those who returned surveys in Northern Nevada, ninety-six percent (96%) are in the same home, while four percent moved. Ninety-three percent (93%) said they were having problems paying utility bills when they were provided Energy Assistance, while seven percent said they were not.
Nearly all (99%) said the program was helpful with paying energy bills while one percent said the program was not helpful to them. Processing time for applications ran from less than thirty days to longer than four months. The average processing time for clients who returned surveys was just under two and one-third months, slightly faster than for the Las Vegas office. Sixty-three percent (63%) say they are

still having trouble with their energy bills, while thirty-seven percent say they are not. However, most of those saying they were not currently having trouble likely said so because they were receiving Energy Assistance.

Nearly all clients who returned the survey either returned the completed survey without comments (19%) or completed the survey and expressed thanks for the program (54%). About sixteen percent (16%) of those who returned surveys were concerned about the amount of time that it takes to process applications. The remaining twelve percent (12%) provided other comments or asked specific questions about the program.

a) Thanks for the Program

The primary client response was to express gratitude for the program. The following examples provide a representative picture of how the program is helping Nevada households:

- I appreciate all the help through Energy Assistance. Every time I call customer service, they have always returned my calls when needed and were nice and courteous.

- I want to thank you very much for the help with my energy bills. I got hurt really bad and have never been the same since, and costs keep going up. Thanks

- We are on such a low-income that we don't know what we would have done to keep cool in summer and keep warm in winter. We are seniors and have been very ill. We want to thank you very much.

- It helps with the electric. Oxygen 24/7 costs a lot.

- It was a life saver. Our electric was getting ready to be turned off. We are seniors and sometimes in the winter it is very hard to meet the expense of heat.
- It sure is a big help, being on fixed income. I am 80 years old and would not have made it without help from Energy Assistance.

- I really don't know how I could continue to live on my own on just Social Security without this help. Thank you!

- Thank you very much for this program. It is really helpful to have help paying the energy bills because then I am able to pay other bills and find some funds to be able to eat. The Energy Assistance Program is a lifesaver.

b) Time to Process

In Program Year 2008, concerns about the amount of time it takes to process applications were more frequent than in prior years with about sixteen percent (16%) of those returning the survey raising this concern. The following statements are representative of this concern:

- People such as myself should not have to wait three months to be approved when the office has all of the information that the Energy Assistance Program requires. These applications should be top priority cases. My application has moved up three months for the last three years. I strongly suggest that you tend to this matter because if you are behind on these Washoe County applications, remember that Nevada Energy (SPPC) doesn't give anyone a chance -- they come out and turn you off! That is insane! Nevada legislators need to put a stop to Nevada Energy's policy and Governor Gibbons needs to have a separate staff work on the applications to give them priority.

- The program needs to have a shorter wait for assistance.

- The program does not notify clients on a timely basis on re-certification and applications take too long to process.

- We have not received the papers to sign up to renew the assistance. There is no response.

- Last year, it was thirty days from when we got the application in to approval. This year, they say three months; so when you consider they sent me the application in October and they got it back in October. That means with luck I might get it in January 2009. So I get to spend December (as in November) freezing. Seems to me if it is going to take three months they should send out the applications in July.

- Due to the economic situation, Energy Assistance should promote their programs and make it easier to be accepted for all Nevadans. If (people) need help, give it to them right away!

- I do wish the process was faster - the day I am able to apply should be two months before the existing participation expires (ten months into it).

- I am freezing and they say I can't put my application in early.

- The approval time can be improved; it took an extremely long time to hear back.

- It takes three months to receive the credit on one's account.

c) Other Comments

There were also other comments and specific questions regarding the program. The following are examples of concerns raised by these other comments:

- It seems my bill is too high. I haven't turned on my heat or used my dishwasher. I guess my gross income is over the limit for assistance, but it is still difficult due to the energy costs.

- Can we help put out information about the Energy Assistance?

- The Energy Assistance benefits have been cut. Please don't cut them anymore because utility costs have increased.

- The program is very helpful, but can be very rude to you when you apply.

- Please keep this program available during these hard times.

3) Summary

The pictures painted by the survey results are similar for Northern Nevada and for Southern Nevada. The most frequent response is one of thanks for the program.

However, for SFY 2008, the issue that surfaces from the survey responses is a perception that it is taking too long (and longer than in prior years) to process applications. Some who have received Energy Assistance in prior years make this statement; others simply express concern that the processing takes too long.

This problem of processing time probably reflects changes in management that took place during the year as well as problems staffing the Las Vegas office. Also, there were attempts to improve processing time by structuring the work process in different ways during the year. Originally, caseworkers took a case all the way through. For a while, a separate screening team reviewed applications and separated them into cases with complete information (ready to process), and cases for which a Request for Information would need to be issued. In June 2008, at the end of the program year, the process was back to the original method.

The 2008 Program Year was exceptional in that as the year ended, energy cost projections were ramping radically. Cost ramping started during 2007-2008 (as reflected in survey results about higher energy costs), but did not carry though in subsequent steps in the fall of 2008 due to the combination of the national economic recession and the sudden failure of capital markets. After initial increases, the expected series of large and rapid rate increases did not occur due to the economic collapse.

The year was also exceptional in that new rules were put into place having to do with case eligibility and case processing, to take effect in Program Year 2009. These changes (discussed elsewhere in this report) were engineered to deal with the problem of increasing numbers of eligible clients due to changes in the economy, the success of the program in achieving participation relative to program budget, and the associated budgetary constraint. By the end of June 2008, the program was changing. One consequence of these changes is that clients were told to expect three month processing of applications.

Exactly how the change from the thirty-day processing target to a three month standard processing fits with the material realities of weather, health, and utility shutoff procedures has been partially articulated through already developed "fast-track" and "crisis" designations. However, for the average client, the processing time is on the order of somewhat under two and a half months.

Finally, note that clients have suggested a few other ideas that may be useful:

- Send the application materials early (if it takes three months to process applications, then that amount of time should be built-in to the application process). This may be very important to clients during hot summers or cold winters. Ideally, the qualified client should move from one program year to the next without a break.

- Providing an alternative for the client when the landlord is an out of state entity and cannot be reached by the client or DWSS. There is clearly an unfairness in restricting client access to a program which they pay into through their energy bills due to irresponsibility on the part of a small number of out of state landlords who do not respond to requests for information. Clients should only be responsible for activities which are within their control and not for activities which are within the control of other parties.

- A few clients were direct in asking for work to protect or expand the program budget. Some would be willing to work on letting others know about the program given the current failure of the national economy. There is a potential here for recruiting client self-advocacy and assisting self-organization. The survey responses demonstrate that there is a capable core of articulate and aware clients within an aggregate of participants that are in many instances declining in capability due to disability, aging, illness, and loss of income. This articulate core is likely to increase as the economy declines.

Recommendation 8: Return to the goal of 30 day processing. Survey results indicate that longer processing times are causing problems for clients.

FISCAL ANALYSIS

The Universal Energy Charge (UEC) was established by the 2001 Nevada State Legislature, and became effective during State Fiscal Year 2002.[100] The first full program year was SFY 2003. The fiscal analysis for this evaluation is focused in the evaluation window for the report, State Fiscal Year 2008.[101]. This section of the report relies on information provided by the Nevada Public Utilities Commission, the Division of Welfare and Supportive Services and the Housing Division.

A. The Charge (UEC) and the Fund (FEAC)

There are two high-level fund categories:

- **UEC**: The Universal Energy Charge (UEC) represents total collections of the Universal Energy Charge.[102] Collection is an operation completely separated from program administration. It is separately administered by the Public Utilities Commission of Nevada (PUCN). The Public Utilities Commission began to receive Universal Energy Charge payments in the fall of 2001 (early in SFY 2002). Amounts collected are periodically reconciled and then transmitted to the Accounting section of the Welfare Division.

- **FEAC**: The Fund for Energy Assistance and Conservation (FEAC) is maintained by the Accounting section of the Welfare Division. The FEAC is the UEC minus the administrative expense for the Commission. In addition, it includes any carry over funds from a prior fiscal year and any interest accrued. It is reduced by the amount of any refunds directed by the Commission.[103]

B. The Sixth Program Year (SFY 2008)

Since Nevada Revised Statutes 702 anticipated that the Welfare Division program would go into effect beginning with State Fiscal Year 2003, the perspective in this

[100] Collection for the UEC was fully functional in SFY 2002, but the programs were not yet functioning under the new designs and were only starting up. The legislation specified that the new program designs would become effective at the start of SFY 2003.

[101] Beginning July 1, 2003 and ending June 30, 2004.

[102] Officially (NRS 702.100), "Universal Energy Charge" means the charge imposed pursuant to NRS 702.170.

[103] Officially (NRS 702.040), "Fund" means the Fund for Energy Assistance and Conservation created by NRS 702.250.

evaluation is that SFY 2008 is the sixth program year. SFY 2003 was the first full program year.

C. Collections (Public Utilities Commission of Nevada)

The Public Utilities Commission of Nevada (PUCN) is the locus of oversight responsibilities for regulated Nevada utilities. The agency has both investigative and enforcement powers. Commission responsibilities for the UEC include collection, refunds in accordance with legislative provisions, and investigation of collections matters and enforcement of collections matters to the extent necessary. Collections have proceeded smoothly. There has been no occasion for exercise of the Commission's investigative or enforcement powers through the close of SFY 2008.

The Commission transfers funds to the Fund for Energy Assistance and Conservation (FEAC) which is administered by the Welfare Division. The Welfare Division accounting function then transfers funds to the Housing Division. The top-level perspective is shown in Tabl 19.

PCUN Universal Energy Charge (UEC)

Line	Item	SFY 2003 ($)	SFY 2004 ($)	SFY 2005 ($)	SFY 2006 ($)	SFY 2007 ($)	SFY 2008 ($)
1	**UEC Receipts**	10,653,628	11,219,024	11,630,353	12,043,756	12,387,853	12,520,859
2	**PUCN Administration**	(105,704)	(102,883)	(106,824)	(42,203)	(42,377)	(53,610)
3	**Net to Welfare Division**	10,547,924	11,116,141	11,523,529	12,001,553	12,345,476	12,467,249

Note: Information provided by PUCN.

Table 19: Top-Level Fiscal Perspective – Universal Energy Charge.

Line 1: UEC Receipts. This is the total collected by the Commission for each fiscal year.

Line 2: Cost of Administration (Public Utility Commission). The cost of Public Utilities Commission administration of the UEC is capped at 3% of UEC receipts. Monies within this authorization that are not spent for PUCN Administration flow through to the FEAC.

Line 3: Net UEC for Transfer to Welfare Division. This is the yearly net amount transferred to the Fund for Energy Assistance and Conservation (not adjusted to account for UEC Refunds).[104]
PUCN also projects future revenue from the UEC; this projection has been lowered somewhat due to the problems in the national economy as they affect Nevada.

D. The Programs (DWSS & Housing Division)

Overall program funding is shown in Table 20.

Fund for Energy Assistance and Conservation							
Line	**Item**	**SFY 2003**	**SFY 2004**	**SFY 2005**	**SFY 2006**	**SFY 2007**	**SFY 2008**
		($)	**($)**	**($)**	**($)**	**($)**	**($)**
4	**Net from UEC (see note)**	10,547,924	11,116,141	11,523,529	12,001,553	12,345,447	12,467,249
5	**Interest Distribution**	159,130	218,826	291,462	327,597	438,920	299,431
6	**Refunds (Directed by PCUN)**	0	(2,556)	0	(122,566)	(28,515)	(45,967)
7	**Total UEC Revenue**	10,707,054	11,332,411	11,814,991	12,206,584	12,755,852	12,720,713
Note: Information provided by DWSS. There is a $29 difference between Line 3 (PCUN) and Line 4 (DWSS). This is negligible from an evaluation perspective.							

Table 20: Fund for Energy Assistance and Conservation (FEAC).

Line 4: Net from UEC. This is the yearly net amount received by DWSS from PCUN. Once transferred to DWSS, the UEC funds become the Fund for Energy Assistance and Conservation (FEAC).

Line 5: Interest Distribution. This is the interest accrued on unspent FEAC funds.

Line 6: Refunds. Refunds are implemented by DWSS at the direction of PCUN.

Line 7: Revenue. This is the total new revenue for the FEAC programs administered by DWSS and Housing Division.

[104] Refunds, as directed by the Commission and carried out by the Accounting section of the Welfare Division.

Welfare Division expenditure for the Energy Assistance Program is summarized in Table 21.

DWSS Energy Payment Assistance - Expended							
Line	Item	SFY 2003	SFY 2004	SFY 2005	SFY 2006	SFY 2007	SFY 2008
		($)	($)	($)	($)	($)	($)
8	DWSS FEAC New Revenue (line 7)	8,030,291	8,499,307	8,861,243	8,503,892	9,649,968	9,602,720
9	Reserve (from Prior Year)	4,785,180	9,423,147	14,224,098	10,379,148	9,667,728	7,459,488
10	Total FEAC Funding Available	12,815,471	17,922,454	23,085,341	18,883,040	19,317,696	17,062,208
11	Expenditures	3,392,324	3,698,365	13,357,064	9,215,312	11,858,208	12,750,350
12	Percent New Revenue Expended	42.2%	43.5%	150.7%	108.4%	122.9%	132.8%
13	Percent Total FEAC Available Expended	26.5%	20.6%	57.9%	48.8%	61.4%	74.7%
14	Carry Forward (to Next Fiscal Year)	9,423,147	14,224,089	9,728,277	9,667,728	7,459,488	4,311,859
Note: Information in this table provided by DWSS. The carry forward from SFY 2005 to SFY 2006 does not match the carry forward in SFY 2006 from SFY 2005 due to an excess draw of $650,880 of UEC funds in SFY 2005.							

Table 21 Amount & Rate of Expenditure (DWSS).

Line 8: DWSS FEAC New Revenue. This is the amount from Line 7, less the amount transferred to the Housing Division. For example, in SFY 2007 $3,105,883 was transferred from DWSS to the Housing Division.

Line 9: Reserve. These are the funds carried over from the prior fiscal year.

Line 10: Total FEAC Available. This is the sum of FEAC New Revenue (Line 8) plus the Reserve (Line 9).

Line 11: Expenditures. This is the FEAC amount expended, for the DWSS Energy Assistance Program.

Line 12: Percent New Revenue Expended. This is the DWSS FEAC expenditure for the year expressed as a percentage of the FEAC New Revenue for the year (Line 11 divided by Line 8).

Line 13: Percent Total FEAC Available Expended. This is the DWSS FEAC expenditure for the year expressed as a percentage of the total FEAC funding available for the year (Line 11 divided by Line 10). Note that the percentage is increasing.

Line 14: Carry Forward. This is the amount carried forward to the next fiscal year.

Expenditure by DWSS by major budget category for the Energy Assistance Program is shown in Table 22. The major line item budget categories are those established in NRS 702.

DWSS Energy Payment Assistance - Major Line Items							
Line	Item	SFY 2003	SFY 2004	SFY 2005	SFY 2006	SFY 2007	SFY 2008
		($)	($)	($)	($)	($)	($)
15	Administration	101,475	152,033	400,711	460,500	590,575	620,604
16	Client Payments	2,967,640	3,350,212	12,533,566	8,373,617	10,967,510	11,869,528
17	Outreach	65,018	154,110	31,636	42,601	87,151	63,065
18	Program Design (including computer re-programming)	242,156	0	233,054	217,240	134,025	116,880
19	Evaluation	16,035	42,010	138,098	121,354	78,947	80,273
20	Total	3,392,324	3,698,365	13,337,065	9,215,312	11,858,208	12,750,350
Note: Information in this table provided by DWSS.							

Table 22: DWSS Expenditure for the Energy Assistance Program by Major Line Item.

Information parallel to that provided for the DWSS Energy Assistance Program in Tables 21 & 22 is shown in Tables 23 & 24 for the Housing Division Weatherization Assistance Program.

Housing Division Weatherization Assistance Program - Expended							
Line	Item	SFY 2003	SFY 2004	SFY 2005	SFY 2006	SFY 2007	SFY 2008
		($)	($)	($)	($)	($)	($)
21	Housing Division New Revenue from FEAC	2,676,764	2,833,102	2,953,748	3,027,075	3,105,883	3,117,993
22	Reserve (from Prior Year)	1,709,947	1,456,464	935,748	1,267,951	288,531	739,070
23	Used Vehicle Sales	0	0	0	40,520	0	0
24	Total FEAC Revenue Available for Weatherization Assistance Program	4,386,711	4,289,566	3,889,496	4,335,546	3,394,414	3,857,063
25	Expenditures	2,930,247	3,352,637	2,621,272	2,803,420	3,109,149	3,537,090
26	Percent New FEAC Revenue Expended	109.5%	118.3%	88.7%	92.6%	100.1%	113.40%
27	Percent Total Available FEAC Funds Expended	66.8%	78.2%	67.4%	64.7%	91.6%	91.70%
28	Carry Forward (to Next Fiscal Year)	1,456,464	936,929	1,268,224	1,532,126	285,265	319,973
Note: Information in this table provided by Housing Division.							

Table 23: Amount & Rate of Expenditure (Housing Division).

Line 21: Housing Division New Revenue from FEAC. This is the amount from transferred by DWSS from FEAC to the Housing Division for the Weatherization Assistance Program. For Example, in SFY 2007 $3,105,883 was transferred from DWSS to the Housing Division for the Energy Assistance Program.

Line 22: Reserve. These are the funds carried over from the prior fiscal year.

Line 23: Used Vehicle Sales. This was a one-time sale of older vehicles used in the Weatherization Assistance Program.

Line 24: Total FEAC Available for the Weatherization Assistance Program.. This is the sum of Line 21 through Line 23.

Line 25: Expenditures. This is the FEAC amount expended for the Housing Division Weatherization Assistance Program.

Line 26: Percent New FEAC Revenue Expended. This is the FEAC expenditure by the Housing Division for the Weatherization Assistance Program expressed as a percentage of the FEAC New Revenue for the year (Line 25 divided by Line 21).

Line 27: Percent Total FEAC Available Expended. This is the FEAC expenditure for the year expressed as a percentage of the total FEAC funding available for the year (Line 25 divided by Line 24). Note that the percentage is increasing.

Line 28: Carry Forward. This is the amount carried forward to the next fiscal year.

Major line items for the Housing Division Weatherization Assistance Program are shown in Table 24. These major budget categories were established in NRS 702.

Housing Division Weatherization Assistance Program - Major Line Items

Line	Item	SFY 2003 ($)	SFY 2004 ($)	SFY 2005 ($)	SFY 2006 ($)	SFY 2007 ($)	SFY 2008 ($)
28	Administration	106,941	112,338	123,996	153,178	177,442	183,225
29	Housing Improvements, Weatherization, Energy Efficiency (Subgrantees)	2,772,464	3,072,121	2,400,138	2,546,387	2,846,957	3,320,559
30	Outreach	1,112	34,621	4,566	0	307	34
31	Program Design (including computer re-programming)	27,456	73,653	20,206	8,612	27,795	7,320
32	Evaluation	22,274	58,904	62,367	95,243	56,648	25,952
33	Total	2,930,247	3,351,637	2,611,273	2,803,420	3,109,149	3,537,090

Note: Information in this table provided by Housing Division. The Administration total of $183,225 contains $55,002 for Training and Technical Assistance for SFY 2007.

Table 24: Housing Division Weatherization Assistance - Major Line Items.

E. Summary

In SFY 2008, the collection process continued to run smoothly. The PCUN projection for revenue for future years is somewhat lowered due to problems in the US economy.

Twenty-five percent of new funds each year continue to be allocated to the Housing Division Weatherization Assistance Program and seventy-five percent continue to be allocated to the WDSS Energy Assistance program in accordance with NRS 702.

Carry over funds continue to decrease for both the Energy Assistance Program and the Weatherization Assistance Program. Looking across the years, and given that program UEC funding came into place approximately one year before the programs were basically operational, the overall picture is one of progressive effectiveness and efficiency. The Housing Division Weatherization Assistance Program stabilized first, in part because most of its delivery structure was already in place in SFY 2003. The Housing Division Weatherization Assistance Program residual reserve carried over to the next fiscal year has reached a size that is approximately optimized given the year to year uncertainties in the funding of the parallel federal Weatherization Assistance Program.

BEST PRACTICES COMPARISON

Recommendation 3 (Page 52) is that the Housing Division, the Nevada Public Utility Commission (PUCN), and the utilities should jointly explore the development of a low-income program variant of the "Total Resource Cost" test that would permit the utilities to leverage on the value of the state's weatherization program without the separate state costs being included in the test. Approval of a modified low-income test would be necessary to facilitate the proposal of Ernest Nielsen for a pilot using joint funding and for the utilization of a cost allocation technique developed at Oak Ridge National Laboratory for use in jointly funded ("coordinated") programs. This goal is the subject of the best practices comparison.

The context for which the Total Resource Cost (TRC) test was developed is the choice of energy conservation (for example through home weatherization) and the consequent production of saved energy as against the choice of building a new generating plant and the production of kilowatt-hours of energy. The TRC was developed in California in the 1980s to serve as a Demand Side Management (DSM) benefit-cost test and does not take the nature of low-income programs into account. In this test, costs and benefits of a proposed energy conservation program are computed. Both costs and benefits are discounted across future years to bring them back to a present value. The total (present valued) benefit is divided by the total (present valued) cost of the program. The result of the TRC test is called the TRC

value. It is formed as a ratio and expressed as a single number. Generally, if the result is equal to or greater than one we say that the Demand-Side Management program passes the TRC. Programs that pass the TRC are generally approved by state utility commissions. Programs that fail the TRC are generally not approved by state utility commissions, though exceptions are often made for low-income programs.

Total Resource Cost Test

The Total Resource Cost (TRC) test measures the net costs of a demand-side management program as a resource option based on the total costs of the program, including both the participants' and the utility's costs. It is a measure of the total net resources expenditure of a Demand-Side Management program from the point of view of the utility and its ratepayers as a whole. Of all the tests, the TRC is the broadest measure of program cost effectiveness from the standpoint of energy acquisition. This makes the TRC Test useful for comparing supply and demand side resources.

The primary benefit in the TRC Test is the avoided cost of energy. Loads used in the avoided cost calculation are net of free riders. Tax credits and reductions in annual O&M costs, if applicable, are also treated as a program benefit (or a reduction in costs). Costs used in the TRC calculations include all energy efficiency measure installation costs, program related costs and any increased operations and maintenance costs no matter who pays them. Incentive payments (if any) and changes to utility revenues (if any) are viewed as transfers between participants and ratepayers and are excluded from the TRC Test. The Total Resource Cost test is also called the All Ratepayers Test.

Benefits Recognized in the TRC

Avoided supply costs (For example, the number of killowatt-hours saved times the utility's marginal cost per generated killowatt-hour)

Costs avoided by participant households (net)

Tax credits, if any, that come from an outside source and are paid to a participant household

Costs Recognized in the TRC

Increased supply costs (if any; there are generally none)

Costs to the participant household (for low-income programs there are generally none)

Costs to the utility (usually the cost to install energy saving improvments and to administer the program)

Since the benefits of a program may last the life a building, the stream of benefits over future years is brought back to a present value and the same is done with the stream of costs. For a low-income weatherization assistance program, typically all

costs occur in the first year and so are not discounted, while benefits may occur each year for fifteen, twenty, thirty, or fifty or more years.

A. Defects of the Total Resource Cost Test for Low-Income Programs

- **Discounting of Benefits.** One of the defects of this test for a low-income program is that it incorporates the discounting of benefits. Discounting is not normally questioned since it is a standard business approach, yet there are areas in which different economic approaches are more productive (in the sense of producing more net value) than a method that uses discounting.

  In practice, the costs of a low-income weatherization assistance program (since they occur in the first year) are not discounted. Benefits are discounted, usually by using the utility's cost of capital. The effect of discounting of benefits is that the method artificially required that yearly benefits be treated as essentially zero beyond approximately year twenty. This is because the discounting method forces the apparent dollar value of energy savings radically downward to essentially zero over approximately twenty years. Yet major work done on a low-income household may easily last the life of the structure, that is, fifty or more years.

  From the perspective of serving low-income households, with income insufficient to cover energy bills and the other necessaries of life, the concept of discounting the value of yearly energy savings to zero is not sensible. The low-income segments of the housing stock remain that part of the housing stock to which low-income households have access. For society, for the utility, and for a low-income family saving perhaps fifteen or eighteen percent of the total "please pay" energy bill each year is *just as important in year twenty* as it is in year one. Given the tendency for utility bills to increase and workers' wages to decrease the importance of living in a house that uses less energy actually increases year by year. It does not decrease. The movement of value to zero is an artifact of the discounting method, not of the reality experienced. This defect could be addressed by not discounting the future.]

- **Realities of Housing Stock.** A second defect is that the TRC test does not adjust for the nature of the segments of the housing stock occupied by low-income households. In contrast to upper middle and upper income housing, low- and moderate-income housing is generally in need of better upkeep and repair and may very well present serious health and safety problems. The condition of the low-income housing stock is a reflection of the fact that income has been transferred away from working people since about 1970 and concentrated at the very top of the income distribution. For this reason, low and moderate-income households simply do not have the dollars necessary to

do the upkeep they would like to do on their homes. (Upkeep is often a stretch for middle income households.) Serving low-income households in a policy objective, and the physical and health and safety conditions in the housing stock are part of the physical facts that must be taken into account. If a low-income weatherization program replaces a furnace or a heat pump, and/or an air conditioner or evaporative cooler the weatherization dollars will have been largely spent for health and safety and DSM energy savings will be low or even negative. The TRC test does not take these realities into account. More generally, the TRC test thereby "damages and reduces value available in the 'future' we all have to live in."[105] This defect could be addressed by incorporating a realistic health and safety allowance in the test.

- **Policy Goals.** A third defect is that low-income programs are purposely designed to serve vulnerable social groups such as families with young children, senior citizens, and persons with disabilities including chronic illnesses that make it difficult or impossible to work at waged or salaried employments. This is a social policy objective and the TRC test does not take this social objective into account. This defect could be addressed by either not using the TRC for low-income programs, or by setting a value of 0.4, 0.6, 0.8, or a similar value as the test criterion if a program serves vulnerable social groups.

B. Defects of the Total Resource Cost Test for Global Warming

Added to these specific low-income problems with the TRC test, the test is also not adequate in terms of what is now known about global warming. Scientific leaders in the area of climate change and global warming are projecting changes of biblical proportions; these changes contain considerable inertia and are already far ahead of human response. Due to the nature of the carbon cycle,[106] it will likely take a thousand years of large scale and catastrophic human suffering before effects of carbon loading of the atmosphere can be reversed, even with the greatest of human effort applied too late.

- **Discounting the Future.** Residential buildings consume about three times the energy that they need to consume. The current “Go Deep” research

[105] Bender, Tom, "Foreclosing Our Future, Truth and Consequences in Economics," see www.tombender.org/factor10economics/foreclosingthefuture.html. Bender's observation goes to the problem of discounting the future, not specifically the TRC test, however the TRC test is included within this general concern.

[106] For an introduction to carbon cycles, see Volk, Tyler, CO2 Rising, The World's Greatest Environmental Challenge. Cambridge, Massachusetts & London, England: MIT Press, 2008.

based on the German/Swedish passivhaus home designs can achieve seventy percent energy savings in the residential sector, not through conventional weatherization but by changing out building systems. Technology is not the problem, and for new construction, zero net energy homes can cost less than standard homes of same size. For retrofits, cost is the problem. The TRC does not take climate change into account. Yet the viability of the people, and the economic and social systems of the United States require that climate change be directly and vigorously addressed now. It is a matter of bringing everyone through or having a failed solution that works for no one well. Mitigating global warming is a policy goal. It cannot be discounted in the TRC test because that would mean radically discounting the viability of the US population, economy, political, and social systems. This defect of the TRC could be addressed by replacing the TRC with positive social planning directly linked to achievement of carbon goals. The model for this type of approach is in the legislated renewable energy goals. Renewable energy typically costs much more that saving energy and is not subject to the TRC test.

- **Realistic Carbon Cost.** Damage estimates per ton of carbon are about $300 per ton. These are not included in the TRC. When states do modify the TRC for carbon, they tend to use the current market value of avoiding a ton of carbon, which ranges from $2 to $30. To fully recognize the actual carbon impacts, a figure in the neighborhood of $300 per ton would need to be used. This defect in the TRC test can be addressed by including carbon in the TRC test, and by valuing carbon at the value of the destruction that it causes rather than at the value markets would currently set.

- **Contradiction of Carbon Source as Marginal Cost.** Currently, the TRC uses the avoided cost of the next (marginal cost per kWh and marginal cost per kW) generation plant as the hurdle that an energy conservation program must pass to be approved. The conservation program must be less expensive per unit of energy saved than the cost of the next plant in terms of the per unit energy produced. This is a logical contradiction because the generation alternative is generally a huge source of carbon pollution. Using the next coal plant as the marginal cost in the TRC formula requires keeping cost of effort to mitigate carbon damage less than the cost of building new carbon sources. In relation to global warming, this restriction is self-defeating. This defect in the TRC test can be corrected by setting the marginal cost at the cost of marginal renewable energy rather than at the marginal cost of energy from coal.

There are other problems with the TRC test, but three of those listed above serve to indicate why the TRC test has been modified in several states for application to low-

and moderate-income programs. The other three indicate why states are now looking at modifications to the TRC to address global warming. If the Public Utility Commission of Nevada considers the TRC test, it is essential that any modifications be spelled out clearly and unambiguously so that regulated utilities will be assured that they are operating within the proper rules for the test, because they are required to follow commission direction.

C. Building Flexibility into the TRC Test

Vermont – Vermont modifies the TRC test for all DSM programs by building in environmental benefits. The TRC is used for program assessment and the Utility test is used to determine maximum incentive levels. The energy efficiency measures are given a ten percent advantage over the marginal cost of new generation to account for risk mitigation benefits between supply and energy efficiency. All resource benefits are included in the test, so a test for an electric utility would also include gas, propane, and oil benefits. The value of water benefits is also included.

District of Columbia – The All-Ratepayers Test is used and low-income programs with a cost/benefit ratio of 0.8 are reviewed by inclusion of other than direct energy benefits, such as long-term savings, market transformation, peak savings, and societal benefits. The result is to set the test criterion at 0.8 rather than at one.

Colorado -- The 2004 Xcel settlement required the TRC test. HB 1037, passed in 2007, amends statute 40-1-102 to require the use of a cost-benefit test that includes avoided costs and non-energy benefits. Non-energy benefits (NEBS) are a way of including some societal benefits in a modified TRC test (Societal test variation).

Pacific Northwest – States in the Pacific Northwest use the TRC but include a ten percent reduction of costs as an estimate of environmental benefits due to energy conservation. The next energy plan for the Pacific Northwest is expected to ramp effort to two-hundred to five hundred percent of current effort.

Illinois – All energy efficiency measures except low-income measures must satisfy the total resource cost test. Low-income measures are exempt from the TRC test.

Ohio & Kentucky -- In Ohio and Kentucky, the Duke Energy low-income programs are coordinated with the state Weatherization Assistance Program. This example is the case in several other states also. In this model, the utility provides certain high-savings measures to the state Weatherization Assistance Program for homes in the utility's service territory. The Weatherization Assistance Program then pays for all of the health and safety work (for example, furnace replacement) and the energy conservation measures that have lower savings returns. In this way, the utility satisfies the TRC test for the state utility commission and the state satisfies the requirements of the federal legislation authorizing the Weatherization Assistance

Program plus receives a small extra federal payment for leveraging resources from the utility. This type of arrangement is called a “coordinated weatherization program.”

References

For a general perspective on the Total Resource Cost (TRC) test as originally constructed, see Chapter 10, "Cost-Effectiveness Analysis," Pp. 257-283 in Gellings, Clark W. & John H. Chamberlin, *Demand-Side Management Planning.* Lilburn, Georgia, The Fairmont Press, 1993.

For a treatment of cost benefit analysis in the general business context, and particularly in the context of development of new products, see Kaplan, Robert S. and Robin Cooper, *Cost & Effect, Using Integrated Cost Systems to Drive Profitability and Performance*. Boston, Massachusetts: The Harvard Business School Press, 1998.

For a full critique of the Total Resource Cost (TRC) test, see Hall, Nick, Richard Ridge, H. Gil Peach, M. Sami Khawaja, Jim Mapp, Barbara Smith, Rick Morgan, Paul Horowitz, George Edgar, Jay Luboff, "Reaching our Energy Efficiency Potential and Our Greenhouse Gas Objectives - Are Changes to our Policies and Cost Effectiveness Tests Needed?" San Diego, California: Association for Energy Services Professionals, 19thNational Energy Services Conference & Expo, January 26-29, 2009. This review has been included with this report as Appendix 2, by permission of Nick Hall and the Association for Energy Service Professionals.

For the costing techniques for development of “Coordinated Programs,” see Lawrence J. Hill and Marilyn A. Brown in “Estimating the Cost-Effectiveness of Coordinated DSM Programs,” *Evaluation Review*, 19(2):181-196, 1995

For a current overview of approaches to the TRC and similar tests, see: National Action Plan for Energy Efficiency (2008). *Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers*. Energy and Environmental Economics, Inc. and Regulatory Assistance Project. <www.epa.gov/eeactionplan>

APPENDIX 1. SFY 2008 (PROGRAM YEAR 6) RECOMMENDATIONS

General

Recommendation 1: In the current (SFY 2008) evaluation, we recommend moving eligibility higher. In addition, fast tracking should apply in cases in which a family has lost jobs for one or more income earners, in cases in which there is a recent divorce, and in cases with medical problems due to illness or accident. Particularly in the context of a major national recession, more and more households need help. (See Page 21)

Housing Division

Recommendation 2: We recommend designation of a repair fund outside other cost-effectiveness considerations or tests to meet this real need in rural and older homes. It could also cover some similar, but smaller, costs for non-rural Nevada homes. The basic need is to establish a separate fund for these real needs that is governed by different rules than the weatherization program itself. This could be addressed by proposal to the legislative committees. (Page 51)

Recommendation 3: The Housing Division, PCUN Commissioners, and the utilities should jointly explore the development of a low-income program variant of the "Total Resource Cost" test that would permit the utilities to leverage on the value of the state's weatherization program without the separate state costs being included in the test. This would follow the proposal of Ernest Nielsen and a cost allocation model developed at Oak Ridge National Laboratory. (Page 52)

Division of Welfare and Supportive Services

Recommendation 4: Process late cases. In the future, process cases in which responses to the Request for Information arrives until three months following the mailing date of the request.[107] While processing these cases would result in denial of

[107] As specified in Section 2.17, Pending Information, of the Division of Welfare and Supportive Services *2008 Energy Assistance Program Manual*, "If all required proof or information necessary to determine program eligibility is not furnished with the application, a Request for Information (Form 2833-EL) is sent to the applicant clearly listing the outstanding information/verification needed and the due date for the information to be returned. The household is allowed a minimum of ten (10) working days to provide the verification. The applicant is required to postmark or fax the requested information by the deadline specified on the Request for Information form. If the due date falls on a weekend or holiday, the due date is extended to the next working day. If the information is not provided, postmarked or faxed within the specified time given, the application is denied. There are extenuating circumstances which can be taken into consideration for failure to provide requested information. They include, but are not limited to: hospitalization of a household member, family illness, being out of town,

a small number, for the most part the missing piece of information required for certification is provided (though provided late). Specifically, change the actual response limit from ten days to three months. (Page 69)

Recommendation 5: Modify statistical accounting of staff performance.
The statistics kept to show performance in processing time should be split into cases that do not require a subsequent Request for Information (RFI), and cases that require a RFI. Only the first class of cases is a direct indication of the efficiency of staff since processing time from date of application is fully within staff control. The second class of cases consists of cases in which client response time is the major factor in processing time. Performance for this class should be accounted separately. (Page 69)

Recommendation 6: Change the operative time for citizens to return information in response to RFIs from ten days to three months. (Page 71)

Recommendation. 7: Continue to propose moving contract positions to full civil service status. (Page 72)

Recommendation 8: Return to the goal of 30 day processing. Survey results indicate that longer processing times are causing problems for clients. (Page 92)

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postal delivery problem, etc., and must be supported by bona fide documentation. Exceptions for non-compliance must be approved by the worker's supervisor and noted in the EAP narrative."

APPENDIX 2. NICK HALL'S REVIEW OF TOTAL RESOURCE COST (TRC)

Reaching our Energy Efficiency Potential and Our Greenhouse Gas Objectives - Are Changes to our Policies and Cost Effectiveness Tests Needed?

Nick Hall, TecMarket Works
Dr. Richard Ridge, Richard Ridge & Associates
Dr. H. Gil Peach, ScanAmerica
Dr. M. Sami Khawaja, The Cadmus Group
Dr. Jim Mapp, Barbara Smith, Wisconsin Division of Energy
Rick Morgan, Morgan Marketing Partners
Paul Horowitz, PAH Associates
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Jay Luboff, Navigant Consulting Inc.
With modeling support by Brian Evans, TecMarket Works

ABSTRACT

The objectives of many energy efficiency programs are being expanded beyond capturing short-term "least-cost" energy resources, to achieving long-term climate change objectives. In some circles energy efficiency programs are seen as the primary way in which climate change objectives will be achieved over the short-term (next 15 to 30 years). However, our field's current approaches for assessing program benefits and costs limits realization of the majority of the potential for both energy efficiency and carbon reduction. In addition, these same approaches practically assure that carbon based energy supplies will remain the fuel of choice, even when efficiency can meet energy needs more inexpensively. New cost effectiveness tests are needed that allow policy makers to set choice guidelines for when programs need to accomplish multiple and often competing objectives (least-cost vs. carbon reduction). What should these tests look like? This paper does not attempt to answer this question, although each of the authors have their ideas for what that test should look like and how it should perform. Instead, this paper examines four aspects of the way we currently compare the benefits and costs of energy efficiency programs. This paper is provided to help policy makers consider how they might adjust and apply future cost effectiveness tests. It should be noted that the authors of this paper do not always agree on how these four changes should be configured or how they should be structured to influence the results of the applied tests. But the authors do agree that the aspects discussed in this paper need to be carefully considered within our new policy environments that focus on using energy efficiency as an approach for carbon emission reductions.

Another purpose of this paper is to challenge the reader to think about energy efficiency and the way in which we compare the costs and benefits of carbon and non-carbon-based energy supplies. The paper asks the reader to consider current approaches, in which our benefit cost tests represent simple investment choices similar to how an individual would choose between personal investment opportunities or a business compares their corporate investment options. Alternatively, policy makers may structure their benefit cost assessments differently to better recognize the full value of energy efficiency relative to traditional energy supply choices, and to achieve overriding public climate change objectives. Enabling investment in all cost effective energy efficiency is important because it can achieve both least-cost short-term and long-term energy supplies and provide significant climate change benefits.

Introduction

Recently, two key publications[108] (the Stern Report and the Plan B Report cited below) authored by well established and respected economists and peer reviewed by literally hundreds of respected confirming scientists and scientific organizations, have indicated that the long-term costs of climate change will be a far greater cost to society than the purchase price of energy supplied via traditional carbon-based supplies.

As a result of these publications and many like them, states and countries are searching for policies to guide future energy investments toward supplies that do not adversely impact the climate. In both the Stern and the Plan B reports, energy efficiency is seen as one of the few viable methods for slowing climate change in the next 20 to 30 years. Yet energy efficiency program policy decision markers continue to use benefit cost approaches that, in the opinion of the authors, not only limit the amount of energy that can be saved, but also assure that the least first-cost carbon-based supply choices remain the dominate resource of choice.

Even in states that have legislatively set sustainable energy supplies as the energy supply of choice, benefit cost tests continue to work against that objective. These conditions prompt the question; Are our future energy supply choice policies consistent with the tests we currently use to decide which energy paths to take? If they are not, what changes are needed? Do we need to maintain our least supply cost policies and agree that carbon-based emissions are acceptable and conclude that climate change is not a significant concern until the time that energy efficiency or renewable energy become cheaper to generate than traditional supplies? Or do we change the tests to capture the full value and allow more resources from carbon free

[108] Brown, Lester R., Plan B 3.0, Mobilizing To Save Civilization, The Earth Policy Institute, W. W. Norton & Company, 2008.

Stern, Lord Nicholas, The Economics of Climate Change - The Stern Review, Cambridge University Press, January 2007

supplies? Are we holding energy efficiency to a different standard than renewable energy? Have we required renewable energy to be generated at a lower cost than carbon based generation before construction costs can be incurred or facilities approved in rate cases? If not, why not? Why must policy require that energy efficiency supplies be less expensive to generate than burning carbon?

All benefit cost tests for energy efficiency programs are, at their foundation, the same. That is, forecasted benefits are divided by projected costs to give a benefit cost ratio. For example, if the benefits from an energy efficiency program total $4.00, and the costs to achieve that benefit total $1.00, then the benefit cost ratio is 4:1. This ratio is typically abbreviated by dropping the second half of the ratio (cost part) and expressing the ratio as a number (4.0). If the ratio is 1.0 or more, the present value of the benefits exceeds the present value of the cost. If the ratio is less than 1.0 the costs exceed the benefits. Policy makers have typically required implementers to offer efficiency programs (or portfolios) that have benefit cost ratios greater than 1.0. Typically this means that the program costs to achieve the efficiency are less than the costs to generate and distribute that same amount of energy from conventional power plants. Thus, efficiency is implemented only if it is less expensive than projected future traditional energy supplies.

This is an interesting approach for achieving a national policy. It essentially means that pursuing more energy efficiency is fine as long as it is less expensive than our current supply choice. However, these tests are almost always structured in ways that do not count all benefits (economic, societal and non economic) and typically require comparisons to be based on the cost of existing carbon-based energy resources rather than new renewable energy resources. In essence, energy efficiency has to compete with pre-existing carbon based supplies that do not include environmental costs to society, such as climate change and mercury deposition. The current approach in most states requires energy efficiency to be cheaper than carbon-based resources before they can be approved, thus moving energy efficiency to a minor position in the supply mix.

Put another way, the current approach for our benefit cost tests blocks energy efficiency programs from becoming effective climate change mechanisms. According to the Stern Report and Plan B (cited above), this approach substantially increases future costs. It is a self-defeating approach that we will be handing off to our children to repair. However, with policy-based changes to the way in which benefit cost tests are applied, energy efficiency can not only achieve far greater energy supply impacts than current programs, efficiency can also substantially reduce carbon emissions.

According to both the Stern report and the Plan B report we must rely on energy efficiency to capture from about 40 to 80 percent of the carbon reduction needed in the next 40 years. To achieve this goal we essentially have to make every building in the United States consume about from 60 to 75 percent less energy. Technically it is achievable. We have the technology to capture most of this savings today, with only minor adjustments to our current energy technologies and marketing

approaches needed to achieve the rest. However, the current approach for calculating the benefits and costs of measures, programs and portfolios will block this achievement. In the opinions of the authors, under current policies, we are leaving about 60 to 80 percent of the available building-associated savings un-touched *after* our energy efficiency programs have completed their work. The remaining potential does not fit within the current benefit cost calculation approach regardless of the program's energy or climate change benefits.

This condition reigns not because the savings are not achievable, not because the technologies to capture it do not exist, but because most policy makers have set program approval approaches so high that new energy resources must be "cheaper" than the fossil fuels our climate change policies want to avoid. Our benefit cost decision approach is essentially helping to guarantee our climate change failure.

Over the last few years, some policy makers have incorporated minor changes in how to count costs and value energy impacts. Some jurisdictions have also included adjustments to reflect the value of one or more non-energy benefits achieved by a program. But this paper is not about the accuracy or reliability of our previous assessments. While this in itself would be a worthwhile objective, that water has already passed under the bridge. Instead, this paper looks forward and examines four key concepts on which our current benefit cost assessments rest.

The authors make no recommendation about these concepts, nor do we suggest that any specific approach is better than another. For this paper we wish to remain neutral in this regard and present only potential change concepts for consideration and debate. While we each certainly have our opinions as to which approach is best, these opinions are not consistent within the authors, and for the sake of objectivity we leave this decision to the reader. Only through reasoned discussion, debate and peer review can we come to an agreement on the right approach or reach reasoned compromises. This paper is not the forum for that debate, but is a forum for bringing initial concepts to our peers in order to push that debate forward.

The four concepts addressed in this paper include the following:

1. The way avoided energy supply costs are valued in our tests,
2. The way discounting is applied,
3. The way carbon values are assessed, and
4. The way effective useful life is used in these tests,

The remaining sections of this paper will discuss the four changes to be considered. Within each of these sections we present the change to consider and provide illustrations of how each change will impact a benefit cost calculation. This allows the reader to see the implications of each change.

Avoided Costs

Most current cost benefit tests set the value of the cost that is avoided through energy efficiency at the cost of the current energy delivery system. In most cases avoided costs are carbon based costs (fossil fueled generated electricity or natural gas supplies). Avoided costs are often set to be equivalent to an energy mix grounded in a coal fired generation system or a system that is coal-fired supplemented with natural gas facilities to meet demand above a base load condition, or based on the current market based sales and supply mix for a given area. Some states include other fuel types in this mix to some degree, such as nuclear energy. There are several different approaches used to set the avoided cost within a specific supply system. Some of these systems try to balance the avoided costs over both carbon and non-carbon supplies. However, in general, almost all avoided cost approaches continue to be focused largely on carbon based supplies. If climate change is a national objective, why are avoided costs premised on a future energy scenario with extensive use of carbon based fuels? Renewable energy supplies appear to be a more likely policy option for new energy generation. As a result, should renewable supplies form the basis for avoided cost calculations in an environment where carbon-based options are moving off the table?

Currently, in most states, carbon based supplies drive the avoided cost value, and therefore carbon burning becomes the supply of choice unless energy efficiency is less expensive. Policy makers appear to be setting climate change objectives, and then selecting an avoided cost approach that cannot achieve that objective. Should the avoided cost be set at the cost of the carbon free supply system of the future so that our supply choices move forward instead of being tied to the current generation mix? If a coal based plant can generate energy at $0.06 cents per kWh and a renewable energy facility to be constructed to supply future energy will cost $0.18 per kWh, under a climate change objective, what is the cost that is avoided, the coal plant's generation costs or the cost not needed for the carbon free renewable energy facility and the energy it would have provided? Should we be looking backwards or forwards in how we set avoided costs for energy efficiency programs?

The difference between these two approaches is striking (Table 1.). If a CFL costing $7.00 per bulb to install via a direct install energy efficiency program has an effective useful life of 7 years, saving 75 kWh per year at a real discount rate of 4 percent per year, the difference in the benefit cost ratio between a carbon based avoided cost at $0.06 and a renewable based avoided cost at $0.18 is a 300% difference. That is, the benefit cost ratio of the CFL at $.06 cents is 3.9 while the ratio at $0.18 is 11.6. The change from a coal based avoided cost to a renewable energy avoided cost, in this example, makes the energy efficiency choice much more desirable. The CFL is 3.9 times more cost effective than supplying that energy from a coal based resource, but is 11.6 times more cost effective than providing that energy from a renewable facility.

Table 1. Avoided Cost Comparison: Direct Install CFL

	Carbon Based	Renewable Based
Real discount rate (%)	4	4
Effective useful life (years)	7	7
Avoided cost ($)	$0.06	$0.18
Value of carbon per ton ($)	0	0
First cost of measure	$7.00	$7.00
Annual kWh savings (kWh)	75	75
Cost effectiveness ratio	3.9	11.6

In several states utilities are already required to spend in order to increase their energy efficiency and renewable energy portfolio. In Wisconsin for example, energy efficiency is to be used as the first choice supply option, followed by renewables, and fossil fuel alternatives. However, for the energy efficiency component of this priority loading mix traditional cost effectiveness tests are used to determine what should be supplied. This policy essentially places efficiency to be a preferred choice only when it is cheaper than coal, the state's primary generation approach.

If utilities have to install more capacity to meet needs, energy efficiency may be more cost effective than renewable energy, however, it does not get the chance to be selected because of the benefit cost approach for energy efficiency. Yet, for the renewables currently being installed under Wisconsin's Portfolio Standard there is no policy or state law requiring renewable energy to be cheaper than coal. Further, in most states, even the avoided cost of electricity is underestimated because it is based on the cost to generate electricity in the state rather than the normally higher cost for market purchased electricity often required to meet both peak and non-peak demand.

Discounting

The purpose of discounting is to bring all costs and returns at different points in time to a net present value, so that different investment choices with different costs and returns can be compared. This type of comparison allows for more informed, and frequently (but not always) better investment decisions. This makes perfect sense when considering two different approaches for determining which investment strategy provides the highest financial return. But does it make sense for all decisions, especially when environmental goals are not adequately considered in investment calculations?

Following a presentation on benefit cost tests at the 2008 National Association of Regulatory Commissioners (NARUC) in Washington D.C., a utility commissioner asked one of the authors the following question; "*In a global climate, in which climate*

change impacts will increase each year causing a ton of carbon released in the future to be more destructive than a ton of carbon released today, why is a ton of carbon saved in year 25 not worth more than a ton of carbon saved today?" This commissioner continued and asked: "*If we are really serious about carbon reduction and our climate future, should the discount rate be a negative number so that its financial importance increases over time rather than decreases?*" These two questions reflect a deep sense of thinking not about economic modeling of discount rates, but about the impact of the choices associated with the way in which we discount, and the consequences that occur as a result. If climate change is a national policy objective, does it make sense to discount the future worth of the anticipated impacts as if they were a simple alternative financial investment decision? What function does discounting serve in a national policy environment if the discounting effect is to neutralize national policy? Are we making policy that is only to be achieved if the right discount rate allows that policy to be achieved? Are we to resign ourselves to the concept that we cannot stop climate change because our discounting approach does not support it? Using the current approach we end up discounting the value of future savings to be essentially worthless after the 25th year? Are we building an environmental house of cards under the guise of appearing to make sound limited-focus short-term economic decisions?

As noted by the question (above) from the Commissioner, discounting is especially problematic when the discount rate is not being applied to the value of increasingly severe projected global impacts or applied to all costs and all future benefits. Some of the authors have heard suggestions that the discount rate for climate change purposes should be negative, resulting in a higher value allocated to future energy savings. A point made by the Commissioner's question. Economists are advising that using discounting in half an inaccurate equation may be better than not discounting at all. However, historically, discounting is not applied to national policy objectives that have a magnitude similar to the climate change challenge. What was the discount rate for other national policy decisions, such as the decisions to go to war (1775, 1917, 1941, 1950, 1961, 1991, and 2003)? What was the discount rate for the decision to go to the moon? What was the discount rate used to determine if it was cost effective to help people after Katrina? Are there any key national policy objectives in which discounting has been used to determine the approach for obtaining important national policy objectives similar to the way we now use discounting for energy efficiency program effects that reduce carbon emissions?

Every deferral of an energy efficiency measure means that the corresponding carbon emissions will linger in the atmosphere for years or until we spend additional money to remove it with technologies yet to be developed. The damage will affect the current population somewhat, but it is projected to affect future generations even more. These impacts are not only excluded from our discounting approach, they are excluded from our benefit cost tests, even though research presented in the Stern

and the Plan B Reports show that it is far less expensive to do more sooner. [109] Even if these costs were included in the decision calculation, the discounting function would set their value in that decision to be worthless because the severity of the impacts occur after the 25th year.

If energy efficiency is simply a net present value supply choice equation to allow the least expensive energy resource to be provided in an environment in which costs and benefits are well understood, most professionals agree that discounting makes perfect sense. But what is the role of discounting future energy efficiency supplies when it becomes a national objective in order to reduce greenhouse gas emissions under conditions in which the future impacts are not even recognized by some of the bodies setting benefit cost calculation policy? That question is yet to be answered.

What can be answered now is how much discounting affects our program choice decisions. Taking the CFL example above, using the $7.00 installation cost, 75 kWh per year savings for 7 years, avoided cost of $0.06 per kWh with a 4% real discount rate provides a benefit cost ratio of 3.9. That ratio moves to 4.5 if the future benefits are not discounted. If the discount rate moves to a negative -.4% the benefit cost rate moves to 5.3.

Similarly, discounting has a strong effect on how "cost effective" and HVAC replacement appears (Table 2). If we were to replace a HVAC system with an incremental cost of $800 and annual energy savings of 3,000 kWh over a 20 year life at 4% real discount rate and $0.06 avoided costs, the benefit cost ratio is 3.1. If we move the discount rate to zero the ratio becomes 4.5. If we use a negative discount rate of -.04% the rate becomes 7.1. Between a discount rate of 4% and -4% there is a 230% difference in the benefit cost ratio.

Table 2. Discounting Effects Comparison: HVAC System

	+4% Discount	0% Discount	-4% Discount
Real discount rate (%)	4	0	-4
Effective useful life (years)	20	20	20
Avoided cost ($)	$0.06	$0.06	$0.06
Value of carbon per ton ($)	0	0	0
First cost of measure	$800	$800	$800
Annual kWh savings (kWh)	3,000	3,000	3,000
Cost effectiveness ratio	3.1	4.5	7.1

[109] Carbon Dioxide Information Analysis Center of the U.S. Department of Energy. "Recent Greenhouse Gas Concentrations" by T.J. Blasing. Updated September 2008. http://cdiac.ornl.gov/pns/current_ghg.html

Value of Carbon Saved

Several states have already begun to include or consider including carbon values in their benefit cost tests. However, no state is setting carbon values at the projected value of the benefit over the predictable future (partly because these are highly uncertain). Instead these states are using policy based assignments of value. In some cases these value assignments are tied to a traded value of carbon or an expected traded value. Others are based on an agreed value after regulatory discussions focusing on what that value should be with a compromise reaching negotiation. This approach in itself indicates that the results of the benefit cost calculation are less about estimation accuracy and more about policy advances in a political world. If policy makers are setting the value of carbon, and their policy is not tied to the expected cost of the environmental impacts, then the benefit cost calculation is a policy grounded calculation rather than a real benefit and real cost grounded calculation. This means that the outputs of the calculation are already a policy metric rather than a benefit cost metric.

The authors of this paper have participated in carbon value discussions that have tried to place a value on saved carbon. These discussions typically end up concluding that the projected value in reports such as the Stern Report or the Plan B report are too high to be politically or economically acceptable. Essentially, the value of avoided carbon would be greater than the cost of the energy provided. Yet in none of these discussions has the foundations of the estimated value of the avoided carbon in the Stern Report or the Plan B Report been seriously questioned. While policy makers might believe that the value of the carbon saved is greater than the cost of the energy provided, this conclusion cannot be drawn for reasons beyond the need for accuracy within the benefit cost calculation.

More often than not, because of the uncertainty of the real costs of carbon induced climate change, policy makers try to find a different approach to estimating the value of carbon reduction. In some cases the value of carbon is pegged to a traded value of carbon or a proxy to represent an expected traded value or an expected average traded value within a cap and trade system, or a value that is a derivative of a traded or expected traded value. Because there is no national cap-and-trade system, these estimates are somewhat subjective. In addition, because cap-and-trade values are more a function of a political cap decision linked to a rate of demand, they do not represent the actual avoided future cost of emitting that carbon. They are in themselves a proxy for an unknown real value that is typically estimated at from 2 to 50 times the traded value or the proxy value. We essentially do not know the real value of avoided carbon emissions. The Stern Report and the Plan B report suggest that the real value may be as high as $100 to $300 per ton. Traded values or proxy values are far less than these estimates. However, regardless of the approach used to set a value for carbon reductions, if climate change objectives are to be met with energy efficiency programs, the benefit cost calculation will need to include a value for the carbon not released. This value will need to be as accurate as politically and scientifically possible. A political compromise that lowers the value will allow

fewer efforts to go forward, increasing future costs to recover from that error. A decision that increases the value will allow more climate change progress to be made. At the end of the day, consumers are going to have to pay for the costs, regardless of what they are or when they come. Cost projections in the Stern and Plan B Reports indicate that it is most likely less expensive to do it sooner via energy efficiency than later via atmospheric scrubbing. But to exclude a value for carbon reductions from the benefit cost test certainly reflects poor public policy. The more accurate the number is, the better we will be able to respond to the climate change challenge.

In the example of the HVAC system above (Table 2), if we were to keep a real discount rate of 4% with the same cost and energy savings, the benefit cost ratio with carbon values of $10.00 a ton, $50.00 a ton and $200 dollars a ton provide a benefit cost rate of 3.7, 6.2 and 15.8 respectively, instead of 3.1 by not adding a carbon credit. At $50 a ton for saved carbon, the benefit cost ratio of the measure doubles from 3.1 to 6.2.

Table 3. Carbon Value Effects Comparison: HVAC System

	No Carbon Value	$10 Per Ton	$50 Per Ton	$200 Per Ton
Real discount rate (%)	4	4	4	4
Effective useful life (years)	20	20	20	20
Avoided cost ($)	$0.06	$0.06	$0.06	$0.06
Value of carbon per ton ($)	$0	$10	$50	$200
First cost of measure	$800	$800	$800	$800
Annual kWh savings (kWh)	3,000	3,000	3,000	3,000
Cost effectiveness ratio	3.1	3.7	6.2	15.8

Effective Useful Life

The effective useful life (EUL) of a measure is the period of time that the measure is expected to perform its intended function in a typical installation. Put another way, the effective useful life is the period over which 50% of the measures installed have either failed or been removed. A CFL in a residential installation might be expected to last somewhere between 5 to 10 years depending on application. An HVAC system is typically expected to last from 20 to 30 years. Windows are expected to last from 30 to over 75 years. Building insulation is expected to last from 75 to 100+ years. However, in all states actual EUL are not used in the benefit cost tests. Instead most all tests cap the EUL at between 18 to 22 years regardless of the period of time the measure is expected to perform. This use of a reduced period EUL is a function of several conditions.

First, there is the perceived need by some policy makers to be conservative in the estimation process. This consideration tends to drive decision makers to use EUL that are underestimates of the actual lifetime of measures.

Second, customers will sometimes change their energy technologies before they have reached the end of their expected life. For example this happens when owners remodel or change appliances to meet appearance or functionality requirements.

Third, the mean cost of failure, or the hassles associated with a repair are often high enough that customers will elect to have a unit replaced rather than have it repaired.

Fourth and most important, most discount rates tend to make savings past year 25 essentially worthless regardless of the amount of energy that is actually saved. Thus policy makers say there is not much benefit in using actual EUL for long-lived measures when there is no significant value to the savings after the discount rate has run the savings to zero net present value.

The fourth point illustrates the linkage between various issues discussed in this paper. The linkage introduces a non linear effect since a lower or negative discount rate increases in importance as the EUL is increased. Thus, for many long-life measures our benefit cost policy forces programs to not count the value of the majority of the savings achieved. Vast amounts of savings potential in the United States essentially become worthless in our benefit cost tests when savings occurring past the policy based effective useful life period are not valued as a future energy resource.

In a climate change environment (rather than a least-cost supply environment), these four conditions may no longer make sense. In any benefit cost analysis the focus should not be on setting effective useful lives at a period that is less than their actual expected life. Accuracy should be the over-riding objective. Likewise when the interaction between our effective useful life value and our discounting policy results in the majority of energy efficiency induced climate change impacts being pegged as having no value, it is time to take a serious look at the effects of that approach on our ability to reach our climate change objectives. Essentially our current approach moves many of the market's long-life measures off the table for consideration in our energy efficiency programs. For measures such as windows, insulation, and new building envelopes that have a large climate change potential, the majority of the value from the savings are not even recognized in our benefit cost calculations. We are essentially tossing out some of our longest life and most effective measures and making our programs less effective, not because of what can be saved, but because of our benefit cost calculation approach. For many measures the savings are great and the carbon reductions are large, but they occur too far in the future to be recognized or valued.

An example of this condition can be found in windows. If the cost of a replacement window is $350, saving 300 kWh per year for 20 years at a discount rate of 4% and an avoided cost of $0.06 per kWh, the benefit cost ratio is 0.7. A benefit cost result too low to be included in an energy efficiency program. If the discount rate is excluded, the ratio moves to 1.0. However if the full effective life of the savings are counted by eliminating the discount rate and crediting 75 years of savings, the resulting benefit cost is 3.9.

To show the implications of this change let's examine an example that is currently beyond consideration by any energy efficiency program in the country: a mass-scale program retrofitting large single family homes with new building envelopes to move them to super energy efficient status. In this example the cost is $30,000 to make the home super energy efficient using a modular retrofit approach; the savings are 20,000 kWh per year for this large all electric home. Using a discount rate of 4 percent the benefit cost ratio is 0.54 in 20 years, 0.86 in 50 years, 0.95 in 75 years and 1.0 in 100 years. If we move to a 0% discount rate the 20 year ratio is 1.3, the 50 year ratio is 3.3, the 75 year ratio is 5.0 and the 100 year ratio is 6.7.

As noted in table 4 below, by moving to a full EUL the measure becomes cost effective, however, by not discounting the future energy benefits the measure is cost effective at all EUL periods presented in this example, moving from a ratio of 1.3 at 20 years to 6.7 at 100 years. Yet today, this approach for reducing carbon impacts is not even considered because of our energy efficiency program EUL policy caps and the effects of discounting future benefits; the very opposite of the objectives of our climate change programs (to achieve long term climate stability).

Table 4. Effective Useful Life Value Effects Comparison: Single Family Envelope Retrofit

	EUL=20 $.06/kWh 4% Discount	EUL=50 $.06/kWh 4% Discount	EUL=75 $.06/kWh 4% Discount	EUL=100 $.06/kWh 4% Discount	EUL=20 $.10/kWh 0% Discount	EUL=50 $.10/kWh 0% Discount	EUL=75 $.10/kWh 0% Discount	EUL=100 $.10/kWh 0% Discount
Real discount rate (%)	4	4	4	4	0	0	0	0
Effective useful life (years)	20	50	75	100	20	50	75	100
Avoided cost ($)	$0.06	$0.06	$0.06	$0.06	$0.10	$0.10	$0.10	$0.10
Value of carbon per ton ($)	$0	$0	$0	$0	$0	$0	$0	$0
First cost of measure	$30000	$30000	$30000	$30000	$30000	$30000	$30000	$30000
Annual kWh savings (kWh)	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Cost effectiveness ratio	0.54	0.86	0.95	1.0	1.3	3.3	5.0	6.7

A New Life For Energy Service Providers

If a national policy is established that allows energy programs to move beyond the current approved methodology for identifying what is cost effective, and a national funding mechanism is established to capture that potential, the energy efficiency climate change objectives identified in the Stern Report and the Plan B report can be captured. At the same time millions of new jobs would be added to the economy, and new businesses, deployment systems and technical innovations would be developed to accomplish the task. The organizations that can most rapidly establish and deploy these systems would have a clear advantage in the market. Fast acting energy companies (or other organizations) teamed with appropriate funding sources and future thinking policy and regulatory organizations could lead this economic opportunity reaping the associated rewards and helping to solve both the energy and the climate change problems. This initiative could amount to the largest reconstruction initiative ever accomplished in the United States and move our country forward, toward a more energy efficient, reduced carbon future.

With climate change objectives being added to our energy efficiency and energy supply choice decisions, energy efficiency program providers find themselves sitting on a potential economic development gold mine. If only part of the changes to the benefit cost test summarized above can be incorporated into a national financing system which allows programs to capture the savings available from most every building in the United States, current program approaches and current technologies can capture the available efficiency to meet the climate change challenge needed from energy efficiency.

The changes noted above reflect a need to focus on the climate change benefits as well as the energy efficiency benefits. By adding the value of carbon at $50 per ton for carbon based supplies; by eliminating the discount function for future savings so all savings can be valued; by using an EUL of 75 years, using electric energy costing $0.06 per kWh for the building envelope example provided above, the benefit cost ratio of placing a new super high efficiency building envelope on a typical single family home is 6.1 to one. That is, for every dollar put into the change, $6.10 dollars of energy and climate change benefits are returned. By valuing energy at the cost of renewable energy ($0.18) the ratio rises further to 12.1.

For this return on the energy efficiency investment, it is possible to make almost every building in the United States a super efficient structure, reducing energy use by about 60 to 75 percent. In the 1980s the energy efficiency industry constructed super efficient double envelope demonstration homes that were predominantly heated from appliance waste heat and by the use of minimal passive solar energy brought in through windows. These homes needed very little cooling and proved their energy efficiency value time after time. Under a national program scenario it is possible to make every home and small commercial building super energy efficient. But this cannot occur under the current funding approach or the current approach for determining cost effectiveness. Our discounting and valuing

approach is blocking the technologically available potential for energy efficiency and carbon reduction. While we note that there are many other barriers to this objective, including customer attitudes, lack of effective marketing, industry infrastructures, available capital, etc., all of these barriers are manageable and can be effectively reduced with well designed programs and national funding priorities. If we do not overcome these barriers, energy efficiency cannot substantially help reach the climate change objectives required from the efficiency industry, and the building stock in the United States will remain energy inefficient when compared to its potential.

Summary and Conclusion

The above text provides some perspectives on the approach we use for conducting benefit cost tests, along with some examples of the impacts of the current approach and the impacts of changes to that approach. Not all people, including the authors, agree with all of the concepts expressed above. However, this paper is provided to generate discussion and a healthy exchange over our current approach and changes to that approach. What we as an industry must examine is how our policy framework, including our benefit cost approaches, are influencing the contributions that efficiency can make for our world, our country, our states, and our communities. Our industry already has the talent, the tools and the techniques. We see it in many locations, from California to New York and many states in between. The past 30 years of energy conservation, demand-side management, and energy efficiency programs have built this foundation. If we fail to build a policy focused benefit cost approach now, we may well pay substantially more for that decision later.

Regardless of the opinions and perspectives presented in this paper, we trust that this discussion has, at the very least, been thought provoking, and in some way will help lead to more effective programs that are capturing more savings and at the same time helping to reduce the climate impacts of our energy choices.

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Note: Nick Hall's study on the Total Resource Cost (TRC) test was presented at San Diego, California: Association for Energy Services Professionals, 19thNational Energy Services Conference & Expo, January 26-29, 2009. The study is included in

this evaluation report by permission of Nick Hall and of the Association for Energy Service Professionals.

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