A First-Rate Solution

Energy Structures Can Work for Low-Income Iowans and Promote Conservation

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By Christine Ralston

Introduction

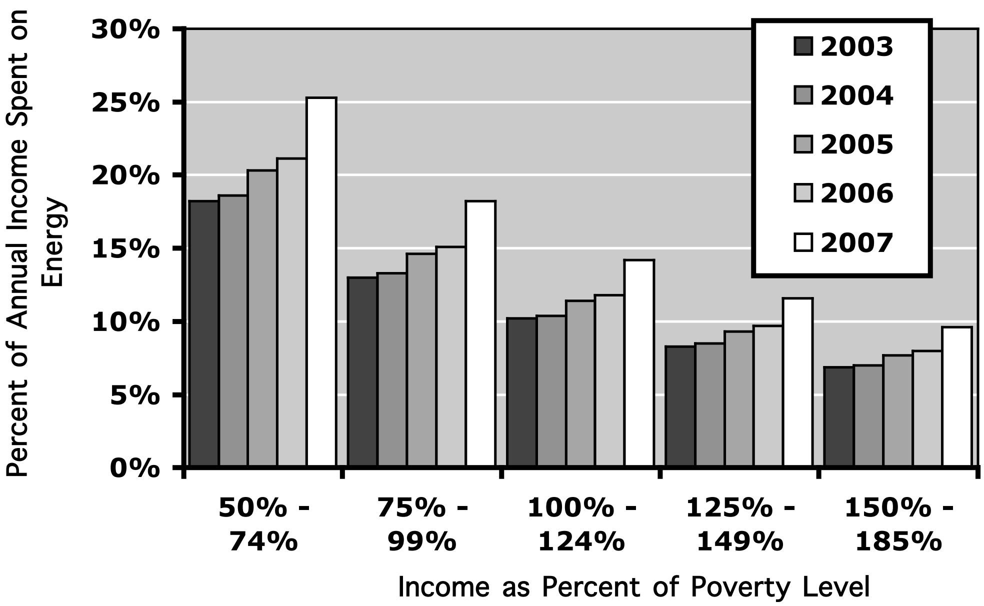
Iowa's extreme temperatures — from below-zero winter days to 100-degree summer days — can cause very high energy bills more than half of the year. For some, the higher cost of home energy may simply be an inconvenience but for low-income Iowans, these costs are devastating. Of course, home energy bills are a function not only of the cost of energy, but also of how much energy is consumed. In 2007, Iowans averaged 886 kilowatt hours (kWh) electricity use per month in the residential sector, compared to 806 kWh per month in 2000.[1] Moreover, climate-change policies are likely to increase energy costs in the near future, so this intersection between conservation and low-income affordability is more important than ever.

This report looks at just one component of home energy use: electricity.[2] To reduce Iowans' electricity use and encourage conservation, increasing electric rates seems to be an easy answer: Make it expensive so that people think about how they are using electricity and cut back where possible. At first look, this appears to be in sharp contrast to providing bill relief for low-income Iowans — the obvious answer for helping them would be to *lower* prices, making them more affordable.

Affordability assistance is highly important to those in need yet falls short of reaching all eligible households. The Campaign for Home Energy Assistance reports that roughly 218,000 Iowa households were eligible for Low Income Home Energy Assistance Program (LIHEAP) subsidies to help with their home energy costs in 2008; however, only 39.9 percent (about 87,000) of eligible households received assistance.[3] The average annual LIHEAP heating payment was only $320 in 2004.[4] This compares to LIHEAP-recipient households' annual energy bills averaging$1,492 in 2003.[5] Likewise, federal weatherization assistance grants helped around 2,240 Iowa homes in 2008.[6] Additional assistance is imperative to help meet low-income Iowans' energy needs.

Home energy is becoming less affordable. In 2007, the average Iowan's monthly residential home electricity bill was $83.65, compared to $67.50 in 2000 (nominal dollars).[7] Additionally, over the past several years, Iowans have been using a steadily increasing portion of their income to pay for home energy, which means that bills have been increasing more quickly than have incomes.[8] Figure 1 (page 2) illustrates the increase in home energy prices as a percent of income as it relates to the poverty level. As the chart shows, the portion of annual income spent on energy in Iowa increased at every earning level from 2003 through 2007. In 2003, Iowans earning incomes between 50 percent and 185 percent of the federal poverty level spent between 6.9 percent and 18.2 percent of their income on home energy, but by 2007 these costs accounted for between 9.6 percent and 25.3 percent of these Iowans' incomes — and 6 percent of income is considered an affordable energy bill.[9]

Figure 1. Home Energy Is Becoming More Unaffordable



Source: Fisher, Sheehan & Colton. Iowa, On the Brink: 2003, 2004, 2005, 2006, 2007

It is possible to structure electricity rates that encourage conservation while at the same time helping low-income Iowans to more easily afford their energy bills. Electric utilities can promote conservation by strategically constructing electric rates. Those same utilities can help make electricity more affordable for low-income consumers using a variety of discounts or modified rate structures. The inverted block rate structure is the best way to meet these twin goals via a single mechanism.

Rate Structure Options

These seemingly irreconcilable interests of encouraging conservation and making electricity more affordable for low-income consumers are compatible precisely because of the way consumers pay for electricity. Residential consumers' monthly electricity bills consist of several different elements. First, there is the monthly charge, which is a flat fee charged to all consumers for the service. Next, there is a price per kWh of electricity used. Utilities often charge different fees for different amounts of electricity used and for use at different times. According to the Department of Energy's Energy Information Administration, Iowa's average price per kWh was 9.45 cents in 2007.[10] In addition, taxes and fees are charged, such as sales tax, any applicable local-option sales tax, franchise fees, energy efficiency cost recovery, alternate energy producer charges and, occasionally, cost recovery adjustments. Figure 2 below provides an example of the basic rate structure for one Iowa investor-owned utility (IOU) and one consumer-owned utility (COU).[11]

Table 1. Current Example: Price Decreases as Use Increases

	MidAmerican (East System)			Linn County REC		
Service Charge			$6.00			$10.50
Energy Charge/kWh	Winter	First 800 kWh/mo	$0.08301	Year-Round	First 400 kWh/mo	$0.10440
	Winter	Over 800 kWh/mo	$0.04122			
	Summer	all kWh	$0.08551		Over 400 kWh/mo	$0.08280

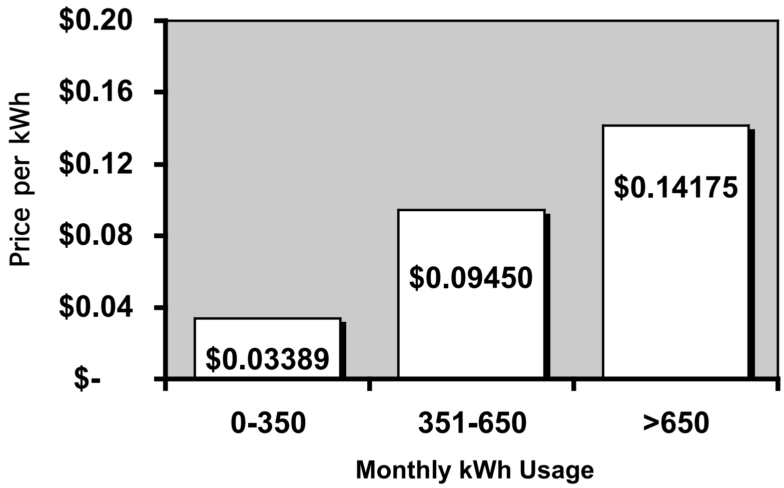
Source: MidAmerican Energy Iowa Electric Tariffs;[12] Linn County REC Tariffs.[13]

The IOU and COU rate structures illustrated above follow a basic block rate: that is, electricity is priced by blocks and prices decrease as electricity use increases. This block rate structure is common in the industry. Note that, in the MidAmerican East System example, the block rate applies only in winter when home heating bills often soar. This rate structure helps Iowans of all income levels by decreasing prices on the additional electricity needed to directly heat homes or force air through furnaces in the winter; however, because energy actually gets cheaper as more of it is consumed, this structure does not encourage conservation — if anything, it rewards consumption through lower prices.

Inverted Block Rates Based on Present Costs

The inverted block rate is a common rate structure used to promote conservation. This rate structure sets an initial block of a set number of kilowatt hours at a low price, and subsequent blocks get progressively more expensive. The pure inverted block rate promotes conservation through its pricing structure and treats all consumers the same. Though the degree varies according to amount of use and type of rate change implemented, studies suggest that electricity is somewhat price elastic.[14] In other words, as prices increase, electricity usage decreases. This means that implementing inverted rate structures causes a decrease in electricity use, with the strength of the relationship between price increase and usage decrease increasing in the long run.[15] Because the pure inverted block rate structure treats all consumers the same, it does not specifically address the concerns of low-income consumers, though all consumers can benefit from this structure if they decrease their monthly electricity use. Figure 2 shows how an inverted block rate structure could price electricity.

Figure 2. Inverted Block Rate Structure: Price Promotes Conservation



Note: IPP sample inverted block rate structure. Middle block represents statewide average price per kWh. Source: U.S. Department of Energy.

Table 2 below is a hypothetical example that illustrates the price changes that could occur under a straight inverted block rate structure. In this example, the cost of average consumption is kept constant in order to simulate a revenue-neutral proposal. The initial block in the inverted block rate below is 350 kWh, which represents basic monthly electricity use in Iowa's Census division.[16]

Table 2. Monthly Electricity Costs: Current Rate Structure vs. Inverted Block Rate

	Average Consumption	*Change*	Conservation Consumption	*Change*	High Consumption	*Change*
Current Structure	$ 79.66		$ 37.80		$ 89.78	
Inverted Block Rate	$ 79.66	0.00%	$ 22.59	-40.25%	$ 110.00	22.53%

Source: IPP calculations.

Notes:
1) Current Structure based on MidAmerican Energy's East System winter residential rate structure, which has a $6 monthly service charge, but substitutes the statewide average per kWh charge of $0.09450 for the first 800 kWh and $0.04725 for each additional kWh in order to make a more accurate comparison reflecting statewide average prices.
2) For Inverted Block Rate, there is a $6 monthly service charge, 0-350 kWh first block at $0.03389, 351-650 kWh at $0.09450 (Iowa average price per kWh), and greater than 650 kWh at $0.14175. The pricing for the initial block must be quite low in order to equalize the bill for average consumers.
3) In this example, 886 kWh/month is average consumption,[17] 400 kWh/month is conservation consumption and 1100 kWh/month is high consumption.

Inverted Block Rates Based on Future Costs

Another option is to create an inverted block rate that accounts for the future costs of building new plants that will cost more than the present depreciated plants now in use. This would lead to more expensive prices and, by extension, should lead to lower use and delay the need for expensive new infrastructure.

Creating an inverted block rate structure that approximates economic theory prices the final (highest-use) block based on the long-run marginal cost (LRMC) of the last kWh used in the system. Marginal cost pricing differs from average cost pricing: Where marginal cost pricing looks at the discrete cost of producing each additional unit, average cost pricing considers the total cost of producing all units divided by the total quantity of units produced.

Rates are higher when based on LRMC than when based on average cost. This is because the cost of building additional capacity, i.e. adding on to the generation facility in order to produce additional electricity, is built into the per unit cost of electricity. In other words, a fraction of the cost to build a new plant is included in each kWh of use in that final block. Rates built on LRMC pricing would produce higher revenues for utilities.

An important caveat to this pricing method is the fact that Iowa's regulated utilities are statutorily prohibited from earning excessive profits.[18] Any rate structure proposed must yield only the approved return. This means that if changes to the structure — like basing rates on LRMC pricing — would lead to substantially increased profits, there must be a corresponding decrease elsewhere in the rate structure to balance out the utility's bottom line and adhere to state statute.

There are several ways to achieve this revenue balance. First, utilities could simply cut rates for the initial blocks of electricity use for all consumers. This is justified by economic theory because the size of the initial block is based on minimal, basic energy consumption. Because consumers more or less need to consume this quantity of electricity, there is no need for a price signal in this block; in fact, having high prices in this block would be an unjustifiable financial hardship for most consumers.

Second, the excess revenues that would be generated from implementing LRMC-based pricing could actually be used to make electricity more affordable for low-income consumers. Setting cheaper rates for a portion of the electricity consumed by low-income households would decrease the revenue generated by basing the final block on LRMC pricing and balance out the utility's bottom line so that it does not violate state statute. As such, when rates in the last block are based on the long-run marginal cost, the rate design must work backwards from there to ensure returns are not too high. Part of this balance could include items that make energy more affordable for low-income consumers.

Revenue Balancing to Assist Low-Income Consumers

In the event that a rate structure based on LRMC would yield excess revenue, then utilities could balance revenues with price assistance for low-income consumers in a number of different ways. First, a parallel rate structure with a larger initial block for qualifying low-income consumers could be established. This would allow those consumers to pay the cheapest rate for a larger quantity of their electricity consumption. Although this does make energy cheaper for low-income consumers, it also removes or decreases at least some portion of the conservation incentive for low-income consumers.

Applying a percentage discount to the total electricity bill or creating a parallel rate track for qualifying low-income consumers are other options. The percentage discount would take a specific discount rate and apply it to the total monthly bill, whereas creating a parallel rate track would have blocks of the same size for all consumers (in the above example, Block 1 is 0-350 kWh, Block 2 is 351-650 kWh and

Block 3 is anything beyond 650 kWh), but the prices for low-income consumers would be lower throughout the structure. The effect is virtually the same: The primary difference between a parallel inverted block rate track for low-income consumers and simply applying a percentage discount to the entire bill is that having a cheaper parallel rate track does not discount the monthly service charge. Both of these options preserve the conservation incentive for consumers at all income levels while increasing the affordability of electricity for low-income consumers.

Waiving the fixed charges associated with electricity use, such as the monthly service charge, for qualifying low-income consumers is yet another option. This would decrease low-income consumers' monthly bills while eliminating the regressive portion of the bill which is a greater burden on low-income than middle- and upper-income consumers. This option also preserves the conservation incentive for consumers at all income levels.

It is essential to note that none of these options are mutually exclusive. Any or all of them can be taken in combination to lift the home energy burden for low-income consumers. The following table illustrates the effects of different combinations that would reduce monthly bills for electricity-conserving low-income consumers.

Table 3. Combining Inverted Block Rates with Other Measures Encourages Conservation and Increases Affordability

	Average Consumption (Low-Income)	*Change*	Conservation Consumption (Low-Income)	*Change*	High Consumption (Low-Income)	*Change*
Current Structure	$ 79.66		$ 37.80		$ 89.78	
Inverted Block Rate	$ 79.66	0.00%	$ 22.59	-40.25%	$ 110.00	22.53%
Inverted Block Rate with 20% L-I Discount on Total Bill	$ 63.73	-20.00%	$ 18.07	-52.20%	$ 88.00	-1.98%
Parallel Inverted Block Rates	$ 64.93	-18.49%	$ 19.27	-49.03%	$ 89.20	-0.64%
Parallel Inverted Block Rates with No L-I Monthly Charge	$ 58.93	-26.03%	$ 13.27	-64.90%	$ 83.20	-7.33%

Source: IPP calculations.

Notes:

1) Current Structure based on MidAmerican Energy's East System winter residential rate structure, which has a $6 monthly service charge, but substitutes the statewide average per kWh charge of $0.09450 for the first 800 kWh and $0.04725 for each additional kWh in order to make a more accurate comparison reflecting statewide averages.
2) For Inverted Block Rate, there is a $6 monthly service charge, 0-350 kWh first block at $0.03389, 351-650 kWh at $0.09450 (Iowa average price per kWh), and greater than 650 kWh at $0.14175. The pricing for the initial block must be quite low in order to equalize the bill for average consumers.
3) Parallel inverted block Rates discount per kWh consumption by 20% for L-I consumers.
4) 886 kWh/month average consumption,[19] 400 kWh/month conservation consumption, 1100 kWh/month high consumption.

* Both the Current Structure and the Inverted Block Rate bills shown do not differ based on income.

The final scenario — parallel inverted block rates with waiver of monthly charge for low-income consumers — is the best rate structure to achieve the twin goals of promoting conservation while making residential electricity prices more affordable for conserving low-income consumers. Having parallel rate structures, rather than one inverted block rate, has other advantages. The use of a separate track for low-income consumers removes the potential punitive impact that could occur if higher energy use by low-income households is a result of inefficient dwelling spaces, rather than over-consumption. Further, waiving the monthly service charge decreases low-income consumers' bills without removing the conservation incentive. It also removes the flat-fee portion of the bill, which is regressive and harms low-income consumers more than consumers with higher income levels.

State Examples

States and individual utilities have tried several options to achieve the goals of assisting low-income consumers or encouraging conservation through the design of rate structures. The following paragraphs provide examples from New Mexico, California, Minnesota and Iowa.

New Mexico

A New Mexico utility proposed an inverted rate structure in 2008 for the purpose of encouraging conservation among residential consumers. Public Service Company of New Mexico (PNM) proposed an initial block of 200 kWh, a second block from 201-700 kWh, and a final block for any consumption above 700 kWh.[20] These blocks were approved in the final residential rate structure.[21] The PNM rate has separate schedules for summer and winter months. Both schedules utilize the inverted block rate, though rates for higher use increase more dramatically in the summer months than in winter.[22]

While a rate structure such as this does assist all low-use customers, including the poor, it still causes financial strain for all high-use customers, including the poor. In other words, while the rate structure distinguishes between customers based on usage, it is still blind to differences in income. Low-income consumers can fall into the category of high-use customers when they over-consume, but also when their homes and appliances are older or not energy efficient. Reflecting this concern, a response filed to the New Mexico proposal by finance and economics consultant Roger Colton recommended that any inverted block rate in New Mexico should have a larger initial block. Specifically, Colton recommended that the initial block be 500 kWh.[23] Colton showed that this amount would provide for the minimum quantity of electricity consumed by a three-person household in New Mexico and considers amounts used for refrigeration, cooking, lighting and basic household electric appliances (i.e. clocks, vacuum cleaners, cordless telephones).

Based on the most recent data available for the West North Central Census Division, of which Iowa is a part, the quantity for Iowa that would provide for the equivalent minimum of electricity for a three-person household is just less than 350 kWh.[24] This is the initial block size modeled in the examples above.

California

Southern California Edison (SCE) has a five-tiered inverted block rate structure in place. The blocks, or tiers, are based on each residential customer's baseline allocation, which considers location, season and the combination of gas and electric use in the home.[25] Tier 1 is the cheapest and represents baseline usage, continuing up to Tier 5, which is the most expensive and represents usage of more than 201 percent over the baseline allocation.[26] Peter Reiss and Matthew White of Stanford estimated in 2002 that this rate structure would decrease consumption in all households by 10 percent.[27]

In addition to the inverted block rate structure, SCE implements two low-income programs: Schedule D California Alternate Rates for Energy (D-CARE) and Family Electric Rate Assistance (FERA). D-CARE provides an approximately 20 percent discount for income-qualified consumers. FERA provides a discount for families of three or more that consume energy representing more than 30 percent over their established baseline.[28]

Minnesota

In Minnesota, Xcel Energy targets price assistance to low-income consumers by offering its LIHEAP-participating consumers a 50 percent discount on the first 10 kWh of electricity consumed each day.[29]

This discount assists low-income consumers with their monthly electricity bills at the same time it promotes conservation by encouraging low-income consumers to use less than the approximately 300 kWh/month that will be discounted. This discount does not encourage conservation for all of Xcel Energy's electricity consumers.

Iowa

Here in Iowa, Waverly Light and Power (WLP) uses an inverted rate structure in order to "encourage energy efficiency for [its] residential customers."[30] Like PNM in New Mexico, the WLP rate has separate schedules for the summer and winter months.[31] Unlike PNM, however, the winter rate is a flat rate where all kWhs of use are charged the same price per kWh. Only during the summer months does WLP use the inverted block rate structure to encourage energy conservation.

Additional Considerations

No rate structure alone can fully meet the needs of low-income consumers whose homes are not energy-efficient. As such, it is prudent to combine any revised rate structure with additional weatherization assistance for low-income households. As noted above, LIHEAP assisted only 39.9 percent of eligible low-income Iowa households last year. The remaining households were literally left in the cold — or heat, as it may be — for lack of funding. Making weatherization assistance more widely available assures that low-income consumers in older, unweatherized homes are not penalized via the rate structure because their homes are inefficient.

Any separate program administered by the utilities to income-qualified consumers has the potential for a "cliff effect." The cliff effect describes a situation in which consumers qualify for subsidies based on income and those who are even one dollar over that income are ineligible for assistance. In a rate structure based on LRMC, where prices are increasing and the revenue balance is a benefit to income-qualified consumers, missing this cutoff point could create a financial hardship for those affected.

Another potential limitation of utility-administered programs for low-income consumers is that it can be difficult to reach certain renters. Those renters who do not have an attachment to the utilities for even such basic reasons as having utilities included in their monthly rent could potentially miss the rate assistance. A carefully drafted proposal could minimize the risks discussed here.

Conclusion

The interests of all in a healthy environment and affordability of basic needs can be reconciled. A carefully constructed inverted block rate can keep prices down for low-income consumers while encouraging conservation for high users through gradually increasing per kWh prices.

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[1] United States Department of Energy. Energy Information Administration. Electric Sales, Revenue, and Average Price 2007. Table 5 U.S. Average Monthly Bill by Sector, Census Division, and State 2007, available at http://www.eia.doe.gov/cneaf/electricity/esr/backissues.html; United States Department of Energy. Energy Information Administration. Electric Sales, Revenue, and Average Price 2000. Table 1 U.S. Average Monthly Bill by Sector, Census Division and State, 2000, available at http://tonto.eia.doe.gov/FTPROOT/electricity/054000.pdf.
[2] The inverted block rate structure proposed in this paper could work for other utilities as well.
[3] Campaign for Home Energy Assistance. Iowa LIHEAP Facts 2008.
[4] Ibid.

[5] Campaign for Home Energy Assistance. The LIHEAP Databook: A State-by-State Analysis of Home Energy Assistance in FY 2003. Pg. 28. October 2006.
[6] Ibid.
[7] United States Department of Energy. Energy Information Administration. Electric Sales, Revenue, and Average Price 2007. Table 5 U.S. Average Monthly Bill by Sector, Census Division, and State 2007, available at http://www.eia.doe.gov/cneaf/electricity/esr/backissues.html; United States Department of Energy. Energy Information Administration. Electric Sales, Revenue, and Average Price 2000. Table 1 U.S. Average Monthly Bill by Sector, Census Division and State, 2000, available at http://tonto.eia.doe.gov/FTPROOT/electricity/054000.pdf.
[8] Fisher, Sheehan & Colton. On the Brink: 2002 – 2007. The Home Energy Affordability Gap. Iowa. Available at http://www.homeenergyaffordabilitygap.com/.
[9] Colton, Roger. Fisher, Sheehan & Colton. Controlling Payment Troubles Affordable Energy for Low-Income Customers. October 2006. Available at www.fsconline.com/downloads/Presentations/2006-E-source-Forum.ppt.
[10] United States Department of Energy. Energy Information Administration. Electric Sales, Revenue, and Average Price 2007. Table 5 U.S. Average Monthly Bill by Sector, Census Division, and State 2007, available at http://www.eia.doe.gov/cneaf/electricity/esr/backissues.html.
[11] Taxes are omitted from this table.
[12] Available at http://www.midamericanenergy.com/pdf/rates/elecrates/iaelectric/ia-elec.pdf.
[13] Available at http://www.linncountyrec.com/files/tariff/Sheet1.htm.
[14] Faruqui, Ahmad. Inclining Toward Efficiency. Public Utilities Fortnightly. Arlington: Aug 2008. Vol. 146, Iss. 8, p. 22-27. *Citing* Price Elasticity of Demand for Electricity: A Primer and Synthesis. EPRI, Palo Alto, CA: 2007, 1016264.
[15] Ibid.
[16] An important element of any inverted block rate structure is the size of the initial block. For this paper, the initial block is set at 350 kWh, which represents energy consumed by a refrigerator, range, oven, microwave, home lighting, one color television, a computer and printer, stereo, one cordless telephone and clothes washer. U.S. Department of Energy's Energy Information Administration's Regional Energy Profile, West North Central Household Electricity Report, Table D4-1 (2001).
[17] United States Department of Energy. Energy Information Administration. Electric Sales, Revenue, and Average Price 2007. Table 5 U.S. Average Monthly Bill by Sector, Census Division, and State 2007, available at http://www.eia.doe.gov/cneaf/electricity/esr/backissues.html.
[18] I.C.A. § 476.8, " … The charge made by any public utility for any heat, light, gas, energy efficiency and renewable energy programs, water or power produced, transmitted, delivered or furnished … shall be reasonable and just …. The burden of proof shall be on the public utility to prove that no unreasonable profit is made."
[19] United States Department of Energy. Energy Information Administration. Electric Sales, Revenue, and Average Price 2007. Table 5 U.S. Average Monthly Bill by Sector, Census Division, and State 2007, available at http://www.eia.doe.gov/cneaf/electricity/esr/backissues.html.
[20] FSC's Law & Economics Insights. Issue 07-5. September/October 2007.
[21] During summer, the first 200 kWh are priced at 6.7607 cents per kWh, the next 500 kWh are 9.0671 cents/kWh, and all additional kWhs are 11.1899 cents. In all other months, the first 200 kWh are 6.7607 cents, the next 500 are 8.2037 cents and all additional kWhs are 8.5517 cents. The customer charge is $3.10 year round. Public Service Company of New Mexico. Electric Services. 16th Revised Rate No. 1A. Available at http://www.pnm.com/regulatory/pdf_electricity/schedule_1_a.pdf.
[22] Ibid. PNM classifies summer as June, July and August while winter rates are applicable all other months.
[23] FSC's Law & Economics Insights. Issue 07-5. September/October 2007.
[24] U.S. Department of Energy's Energy Information Administration's Regional Energy Profile, West North Central Household Electricity Report, Table D4-1 (2001).
[25] Southern California Edison. Rate Schedule D. Available at http://www.sce.com/NR/rdonlyres/1892805A-B555-4E81-9DB9-93D0B6D70429/0/579SchedD0806Final.pdf.
[26] Ibid.
[27] Reiss, Peter C. and Matthew W. White. Household Electricity Demand, Revisited. June 2002. Available at http://www.stanford.edu/~preiss/demand.pdf.
[28] Southern California Edison website. Income Qualified Programs-CARE/FERA Rate Programs. Available at http://www.sce.com/residential/income-qualified/CAREFERA/care-fera-rate-programs.htm.
[29] Available to customers receiving LIHEAP funds during the federal fiscal year with an Xcel Energy account in their name. Minnesota Electric Rate Book-MPUC No. 2. Low Income Energy Discount Rider Section No. 5. Effective date February 2007. Available at http://www.xcelenergy.com/SiteCollectionDocuments/docs/Me_Section_5.pdf.
[30] Waverly Light & Power website. Available at http://wlp.waverlyia.com/rate_design.asp.
[31] For Waverly Light & Power, summer is June through September and winter is all other months. Waverly Light & Power website. Available at http://wlp.waverlyia.com/docs/attachments.pdf.