Energy Affordability and Energy Service Choices: Three Perspectives

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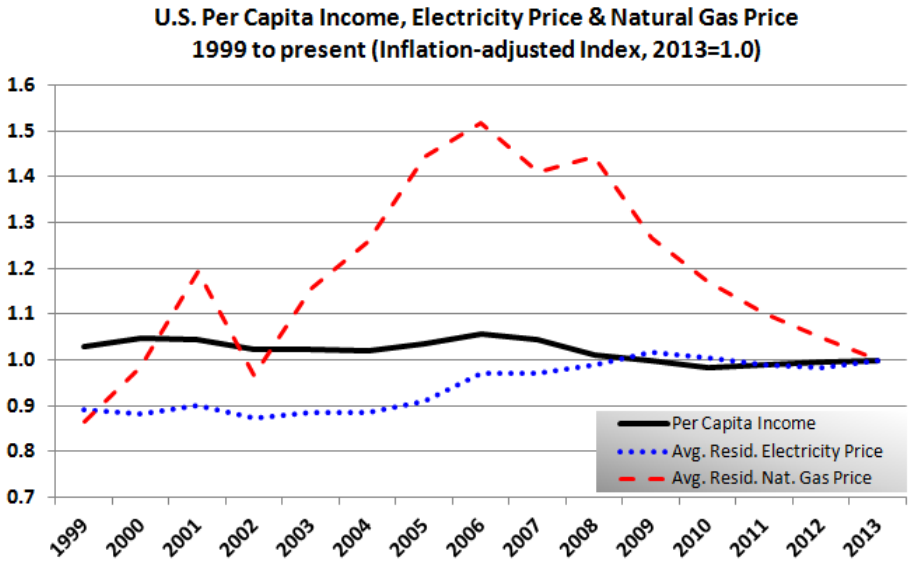
Introduction

Many households find it challenging to afford basic needs, including energy, and recent macroeconomic trends have exacerbated the challenges they face. The average electricity price (revenues divided by sales) in the U.S. has been relatively stable recently, but it increased about 10% on an inflation-adjusted basis from 1999 to 2013. Natural gas prices have been much more volatile, and recently the average price has fallen from historic highs. However, the average price of natural gas to residential consumers in the U.S. has also risen by about 10% on an inflation-adjusted basis over that period. While these averages ignore regional variations in price, we can observe that for the nation as a whole, the cost of utility service has risen relative to the general level of inflation over the past 14 years.

Compounding the problem of affordability is a decrease in per capita income in the U.S. since 1999. The following chart tracks these three items—per capita income, average electric prices and average natural gas prices—in 15 annual snapshots. We know that the great recession reduced employment opportunities and wages for many families. This, coupled with reduced energy assistance funding, has made the affordability of energy a significant issue for low-income households.



Technical measures and average economic data do not provide a complete or satisfying story. There are great variations from state to state, and from one utility service territory to another. It is also important to discuss the qualitative aspects of energy affordability and the social and policy conditions that cause or perpetuate the problems. We want to improve our understanding of why low-income consumers cannot afford to pay their energy bills, what causes utility service to become less affordable, and what can be done to reverse these trends.

DEFG's Low Income Energy Issues Forum is focused on innovative and integrated policies and approaches that help close the widening gap between what vulnerable energy consumers can pay and their current utility bills. A diverse group of members has been meeting since early 2013. A recurring issue has been how to best meet the needs of individual customers and address the challenges of unique households. People find themselves in "situations" from time to time, and these situations are difficult to cope with. Some situations are temporary; the needs are short-lived; the problems are manageable with a small amount of bill assistance. Other people find themselves in deep holes with seemingly few exits. Government agencies, not-for-profit organizations and utilities cannot be all things to all people, but there may be new approaches that can help make energy more affordable to a greater number of people. The Low Income Energy Issues Forum is trying to identify these policies and approaches.

This white paper on energy affordability includes the perspectives of three experts: a low-income customer expert at an energy utility in Maryland, an executive at a not-for-profit energy assistance agency in Pennsylvania, and a former state utility commissioner from California.[1] Each author addresses several questions relating to energy affordability. This white paper is intended to supplement technical measures of energy affordability with some historical perspectives, a reflection on significant social and regulatory issues, and various points of view.

The following seven questions were posed to the authors:

1. What do you mean by "energy affordability"? How (if at all) is this term misused or misunderstood?
2. What is the current state of energy affordability in North America? Where can you note extremes (good or bad) related to energy affordability in North America (or the region you work in)? What conditions have played a role in the current state?
3. Consider the various segments of the population who have trouble paying their energy bills. Is it worthwhile identifying each of these segments and the conditions that led to their predicament?
4. Do you expect energy affordability to be an even more significant issue in five years? What factors are most important in determining the future state of energy affordability?
5. Given that different low-income consumers exhibit different preferences with regard to many aspects of utility service and uses of energy—for example, bill payment methods or channels of payment; patterns of appliance ownership and energy usage; preferences for more or less volatility in monthly bills and/or rates; frequency of contact with a utility call center, etc.—to what extent is a regulatory or utility "one-size-fits-all" tariff approach working for programs, services and rates? (For example, should utilities offer residential customers several different rate design options? Should more energy efficiency programs allow individual customization? Should service options be expanded to recognize the different ways that people choose to communicate or transact with the utility?)
6. What can or should utilities and regulatory agencies do to increase the choices (programs, services, rate options) available to each low-income energy consumer?
7. Can you provide examples of U.S. states and Canadian provinces which have replaced punitive policies and regulations (e.g., those which impose fees and penalties on low-income customers who do not behave like middle- and upper-income customers) with policies and/or regulations that encourage better payment performance by low-income consumers?

Question 1

What do you mean by "energy affordability"? How (if at all) is this term misused or misunderstood?

David Conn, Energy Assistance Program Manager, Baltimore Gas and Electric Company (BGE)

I would define "affordable" as a cost low enough to allow a household to pay for other basic needs, such as food, shelter, clothing and medical care. That's the easy part. But how much should any given household have to spend on those basic needs?

Fisher, Sheehan & Colton have defined energy affordability as home energy that costs no more than 6% of a household's gross income,[2] which is based on the U.S. Department of Housing and Urban Development's standard that housing is unaffordable when it costs more than 30% of household income, and that home energy costs typically represent about 20% of shelter costs. However, APPRISE has argued in one study that home energy costs pose a high burden on low-

[1] Short author biographies appear in the appendix.

[2] In 2003, Fisher, Sheehan & Colton introduced a model to calculate the dollar amount by which actual home energy bills exceed affordable home energy bills on a county-by-county basis. See: http://www.homeenergyaffordabilitygap.com/

income households when they exceed 4.3% of income,[3] and in another when they reach 11% of income.[4] Those are averages, of course, and as a wise veteran legislator once warned me, you can drown in a swimming pool that's an *average* of one inch deep.

Obviously, there is no agreed upon figure that represents an exact affordable home energy cost, though most would agree that it must be defined relative to total household income. That's how most energy assistance programs determine eligibility and grant amounts—by comparing total energy costs to the household's total income, adjusted for the number of individuals in the household as a basic proxy for expenses.

Where I have concerns about this approach is that it ignores wide variations in household expenses. At BGE, and doubtless at utilities and social service agencies around the nation, we constantly try to address the needs of households who meet the assistance eligibility standards, but find the grants are often too small to resolve many customers' bill payment crises because they face substantial medical or other unavoidable costs that are not accounted for in eligibility formulas. Add in the higher costs of transportation, food and other vital needs for those living in low-income neighborhoods, and it's obvious why current assistance amounts leave so many families still in crisis.

As the National Regulatory Research Institute[5] points out, without knowing the details of each customer's financial life, we can't know the hardships any customer faces in paying their utility bills, we can only know when they fail to do so.

Lastly, as the utility representative on this panel, I must point out that the price paid for energy does have to reflect the actual costs to produce and distribute it safely and reliably, along with a reasonable profit incentive for investors, to maintain and improve the system. A focus on affordability that ignores these basic economic facts is doomed to fail not only limited income households, but everyone who relies on energy—which, of course, is everyone.

Chad Quinn, Chief Executive Officer, Dollar Energy Fund, Pittsburgh

I believe that "energy affordability" is defined by the measure of expense, most often a percentage of a median income, which households can manage to maintain an adequate supply of home energy. This measure is created by assuming that households have everyday living expenses in line with others in their demographic segment. Typically, the percentage of ordinary monthly household income that can be used for energy is 6%.

Energy affordability is oftentimes misunderstood because it should not be a one size fits all approach. Many households, including those living slightly above the level typically referred to as low income, have a difficult time making ends meet. A safety net needs to be created to be provide varying levels of assistance to "working poor" households experiencing financial hardships.

Timothy Alan Simon, Esq., Counsel and Consultant, TAS Strategies (former commissioner, California PUC)

From my perspective, energy affordability is the combined price of gas and electricity as a percentage of consumers spending within the context of the regional consumer price index. In electric markets, this should be differentiated between regulated cost-of-service, rate-of-return utilities, competitive electric marketers, government aggregators and municipal utilities.

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[3] "LIHEAP Energy Burden Evaluation Study: Final Report," Applied Public Policy Research Institute for Study and Evaluation (APPRISE), July 2005, p. iv. Available: http://www.appriseinc.org/reports/LIHEAP%20BURDEN.pdf

[4] "Ratepayer-Funded Low-Income Energy Programs: Performance and Possibilities: Final Report," APPRISE and Fisher, Sheehan, and Colton, July 2007, p. iv. Available: http://www.appriseinc.org/reports/NLIEC%20Multi-Sponsor%20Study.pdf

[5] "How to Determine the Effectiveness of Energy Assistance, and Why It's Important," Costello, NRRI, December 2009. Available: http://www.nrri.org/web/guest/home (search for "energy assistance")

Question 2

What is the current state of energy affordability in North America? Where can you note extremes (good or bad) related to energy affordability in North America (or the region you work in)? What conditions have played a role in the current state?

David Conn

As an advocate who travels to Washington, D.C., each year to urge more funding for LIHEAP, I can attest that it continues to be a challenge to ensure that all households who need assistance paying for energy can receive it. The amount of LIHEAP funding allocated by Congress has dropped steadily from a recent peak of $5.1 billion in FY 2010 to $3.42 billion in FY2014; and President Obama proposed a further decrease to $2.8 billion in his FY2015 budget plan.

The National Energy and Utility Affordability Coalition (NEUAC) distributed state fact sheets[6] that show how many eligible households are *not* served by LIHEAP. The numbers for FY2011 (the latest year available) ranged from 50.6% unserved in New York to a whopping 96.2% in Florida. My own relatively wealthy state of Maryland left close to 80% of eligible recipients without assistance that year. Marylanders have it somewhat better off than many states because we provide further help in state-only (ratepayer-funded) grant programs. Still, the state's plan for FY2015 forecasts that even those at the lowest income levels (75% of the federal poverty level or less) will receive help paying no more than 50% of their annual electric bills with the combination of federal and state assistance.

We recently took a closer look at our service territory. By mapping the energy assistance participation levels against U.S. Census poverty rates, we saw that there is great variability in how successful we are in addressing affordability where our customers live. Even within lower income jurisdictions, such as Baltimore City where I live, there is great variability among neighborhoods where residents are getting at least some of the help they need, and those where they are not.

The conditions that have led to these disparities are too numerous to explore here. But I believe they center on a combination of national politics and the increasing focus on reducing the federal budget, especially for discretionary programs, and often deteriorating conditions "on the ground" where utilities, government agencies and nonprofits work to find and help those most in need.

Chad Quinn

Over time, the cost of basic living expenses has increased steadily and disproportionately compared to household income. This trend means that, over time, more families will struggle to maintain basic needs and to stay afloat. Increased cost of basic necessities coupled with rising home energy costs, have caused the measure of energy affordability to become more of a moving target for many low and limited income households. Those households often choose between paying for everyday necessities such as food, shelter, and home energy and paying for unexpected expenses such as medication and medical bills or auto repairs.

This is problematic because the primary safety net for vulnerable utility customers has traditionally been LIHEAP, the federally funded Low Income Home Energy Assistance Program. Over the past five years, funding for LIHEAP has decreased at the same time that household expenses and home energy costs are rising. Since funding for LIHEAP was reduced, customers sought help elsewhere. To help meet that need, regulators and utilities often proposed programs aimed at making monthly bills more affordable. Typically, the programs have been very costly to administer.

LIHEAP funding in Pennsylvania has decreased by almost $90 million per year in the past four years. Customers who require assistance often enroll into rate-based Customer Assistance Programs (CAPs). As CAP enrollment increases, so

[6] National Energy and Utility Affordability Coalition (NEUAC) State Fact Sheets ("LIHEAP Needs At Least $4.7 billion in Fiscal Year 2015"). Available: http://www.neuac.org/2014_LAD_Sheets_50_States(03-24-14).pdf

does program cost. The costs are most often recovered from all ratepayers through increased monthly bills, placing greater emphasis on balancing the societal benefit with program costs.

Timothy Alan Simon

California has some of the highest electricity rates in the nation. The state's energy efficiency programs largely offset these rates. Energy efficiency and demand response are the number one loading orders of California's Energy Action Plan. In California the current tier system (rate design) is regressive in that it places higher rates in the inland region with climates that run into triple digits for extended periods (and greater usage), which also have a higher growth rate of working class families. The two lower tiers, which have not seen rate increases in 10 years due to a legislative freeze, are in the cooler-climate coastal regions, which typically attract higher-income families. This structure derived from the electricity crisis and is currently under formal California Public Utilities Commission review. California also has over 27 mandates and growing on electric generation and delivery. Most are environmental, including its renewable portfolio standard and anti-global warming initiatives. The sliding cost of photovoltaic panels and natural gas prices has mitigated the predicted rate explosion, but policies should not be based upon rolling dice predictability. California does fund its California Alternative Rates for Energy (CARE) and Energy Savings Assistance Programs (ESAP) to aid low-income customers. Unfortunately enrollment figures do not reflect the true level of engagement because they only calculate participants rather than the aggregate qualifying families based upon U.S. Census. This is also currently under review.

Nationally, consumers will be hampered by environmental mandates that force generators from lower cost hydrocarbons, particularly natural gas, to renewable generation. While efforts to combat global warming are paramount, refusal to better factor in unprecedented and unmatched carbon reduction by the U.S. *via* energy efficiency, demand response, distributed generation and flattening demand, is in fact picking winners at the expense of consumers. The consumer voice needs to be better injected in the environmental arguments, which to date have characterized advocates for balanced fuel policies as the utilities, coal and natural gas industries when in fact many are concerned with rising rates and their effect on the U.S. economy. This should not place consumer advocates in the category of opposing policies to combat global warming, rather, as advocates for measures that maintain just and reasonable electricity cost.

Question 3

Consider the various segments of the population who have trouble paying their energy bills. Is it worthwhile identifying each of these segments and the conditions that led to their predicament?

David Conn

Yes, I think this exercise is essential to developing successful approaches to energy affordability and bill payment. That's because no single approach can possibly work for all households facing bill payment crisis. At BGE we developed a pilot program several years ago that provided modest incentives to eligible limited income customers to pay their bills in full and on time. Our hope was that the desire to receive bill credits as a reward for good payment behavior would change poorly paying customers into on-time payers. What we found was that a one-size-fits-all approach simply didn't work. People come to the utility with a nearly infinite variety of challenges and circumstances. We relearn this every time we host an energy application event, and listen to the stories of our customers.

We also should recognize that because of these wide varieties of life challenges, an energy assistance program that only serves up bill payment grants may help some people survive a temporary crisis, but it will do nothing to help many households move toward economic self-sufficiency. We should also accept that some households, particularly the poor elderly on fixed incomes, will never be in a position to improve their financial condition, and must access all sources of support available to them.

Chad Quinn

No, it's not worthwhile. There will always be a segment of the population that will struggle to make ends meet. Unemployment, underemployment, lack of adequate retirement income, substandard/inefficient housing, disability, and other reasons are all contributing factors that can certainly lead to a household's inability to regularly make ends meet. Understanding the predicament and creating solutions to alleviate it requires an effort much larger than one provided solely from within the energy segment.

The role that we all play is to make sure that a safety net exists for those who are clearly demonstrating a sincere effort to pay for their home energy use, but have fallen short. A variety of safety net type programs needs to be offered to vulnerable households that cannot pay for their basic home energy needs.

Timothy Alan Simon

Yes, within the concerns of customer privacy, identifying customers by income and consumption benefits markets. Especially to the extent that state and federal policies may have spawned additional cost on low-income customers by way of cuts to subsidies or increase to electric delivery cost. This information is critical to reshape policies that can ease the energy burden on consumers. Categorizing customers could facilitate competitive markets for electricity service providers (energy efficiency, demand response and vehicle charging). It is equally important to evaluate the impact on utility credit ratings, which are eventually borne by ratepayers by way of cost of capital proceedings.

Question 4

Do you expect energy affordability to be an even more significant issue in five years? What factors are most important in determining the future state of energy affordability?

David Conn

I think there are factors at tension with each other when it comes to the future of energy affordability. On the one hand, we see electricity prices moderating and even declining in recent years, with some exceptions. The Energy Information Institute reports that residential electricity prices rose 3.2% in the first half of 2014 vs. a year earlier. But that was the highest year over year increase in five years, and it was due primarily to substantial infrastructure enhancements by utilities to improve service and reliability. Those investments won't continue forever, and offsetting forces such as cheap electricity from natural gas should continue to moderate any price increases.

On the other hand, the economy has failed to produce gains for households at the bottom end of the ladder. The Federal Reserve reported in September 2014 that U.S. families' median incomes fell 5% from 2010-2013—a time of national economic recovery—with only families in the top 20% of incomes seeing any gains (4.3%) and those in the middle and bottom 20% "quintiles" declining from 3.5% (the bottom) to 7% (the 40% percentile group).[7]

Meanwhile, government spending on programs for the poor—not just LIHEAP—is declining as a share of the economy. The 2011 Budget Control Act set caps on non-defense "discretionary" spending—this includes programs such as food, energy, housing and child care supports. The federal Office of Management and Budget projects this spending to drop in 2016 to its lowest level since 1962 under current spending policies. Unfortunately, few states' budgets are in good enough shape to make up the shortfalls.

All this combines to suggest that affordability of not only energy, but other basic needs, will continue to become more difficult in coming years. Whether the issue will be more significant to the public and policymakers will depend in part on the noise made by those most directly affected, and those who work on their behalf.

[7] "Changes in U.S. Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances," Federal Reserve Bulletin, Vol. 100, No. 4, September 2014. Available: http://www.federalreserve.gov/pubs/bulletin/2014/pdf/scf14.pdf

Chad Quinn

In five years, energy affordability will be an even more significant issue.

First, the shift away from traditional energy generation will have begun to take place as a result of recently proposed EPA regulations. Traditional coal fired electricity generation, which has always been among the most affordable means of electricity supply, will be phased out. The Government Accountability Office recently released a report that estimates that 13% of the coal fired electricity generation will be eliminated in the next 5 to 10 years. Many existing coal fired plants will either be decommissioned or will need upgraded to meet the new standards. Those that are upgraded will undergo costly improvements; the costs of which will be passed along to consumers. To make up for the loss of that segment of supply generation, energy supply that is at this moment much more expensive to acquire will be used.

Another factor that will impact energy affordability is the cost of replacing the aging energy delivery infrastructure. Transmission lines and gas pipelines need to be replaced for reliability, safety, and capacity reasons. The cost for those improvements will also ultimately be at the expense of individual consumers.

Finally, as state and federal environmental standards increase, more pressure is put on renewable energy portfolios and their place in utility distribution companies' energy mix. Currently, renewable energy is a more costly option than nuclear, natural gas, coal, or hydroelectric power. Increasing the percentage of renewable energy in a utility company portfolio will likely cause an associated increase in costs to the end user until those methods of generation and supply become more cost effective.

Timothy Alan Simon

Yes. I think energy affordability will remain a major domestic issue. At one point I thought it would be avoided by the abundance of natural gas derived from shale deposits and hydraulic fracturing. However, the EPA's efforts to reduce methane emissions may have an impact on core natural gas and electricity prices. The cost associated with new resources—the integration of renewable resources; the shaping and firming of variable resources; system upgrades to accommodate electric vehicle charging; investments to accommodate distributed generation, including rooftop solar and other emerging technologies—will increase system costs and pass to lower income customers. High-net-worth and upper-middle-income customers are likely to be early adopters of new technologies, such as Nest thermostats, Tesla EVs, and rooftop solar distributed generation. The added cost of these measures could be a burden on consumers who do not have the financial capacity to adopt these technologies. Also, the inherent stranded cost from coal plant retirements, and eventually older natural gas generators, all place upward pressure on the rates paid by consumers and costs borne by shareholders.

Question 5

Given that different low-income consumers exhibit different preferences with regard to many aspects of utility service and uses of energy—for example, bill payment methods or channels of payment; patterns of appliance ownership and energy usage; preferences for more or less volatility in monthly bills and/or rates; frequency of contact with a utility call center, etc.—to what extent is a regulatory or utility "one-size-fits-all" tariff approach working for programs, services and rates? (For example, should utilities offer residential customers several different rate design options? Should more energy efficiency programs allow individual customization? Should service options be expanded to recognize the different ways that people choose to communicate or transact with the utility?)

David Conn

It's hard to argue with the premise of the question, given that consumers seem to favor more choice in almost every other aspect of their lives, with one caveat I'll address in a moment.

As noted in Question 3, I've seen that a single approach to energy assistance programs doesn't work, and that's equally true of most other aspects of utility service, delivery, bill payment and communication. Many people seem surprised when they learn that the single most widespread communication vehicle for most limited income utility customers is the cell phone (84% of households earning less than $30,000 had a cellphone in 2014, a year that *smartphone* ownership hit 47% in that demographic, according to the Pew Research Center, a nearly 114% increase since 2011).[8] Many households lack access to computer-based Internet service, and often to a landline telephone. But increasingly few lack a mobile phone with Internet access (or at the very least, texting service).

When it comes to alternative rate design programs, differential rate designs for members of a single customer class (e.g., residential), are generally prohibited in Maryland. Utilities have attempted to demonstrate cost-effectiveness for various programs, but that is difficult to prove under current standards for energy assistance programs; efficiency and conservation programs have had better success in that regard.

But it seems unassailable that different customers want different things from their utility, no less than any other business they deal with. Some prove this by making multiple small payments throughout the month, rather than paying off the whole bill when due. Some choose to incur a transaction fee to pay over the phone, or at check-cashing centers. Some customers across the country, and in other nations, report extremely high satisfaction—and lower energy consumption—by paying for their service in advance, as they do for most other products, rather than only after the fact.

My one caveat about choice is that too much of it can be overwhelming. (Ever try to buy a bottle of detergent in the supermarket, or shop for a new mobile phone plan for your family?) We have seen the consequences of some customers' not fully understanding their options and paying more for energy than they needed to with competitive energy suppliers. Life is busy and complicated, and with choice comes the need to understand the fine print. As utilities, we have an obligation to help our customers do that, even as we work to give them the choices they want.

Chad Quinn

Energy efficiency programs have had an impact on the amount of home energy consumed for traditional uses such as heating, cooking, lighting, and other basic uses. However, not all of the money spent on energy efficiency programs has provided a significant return on investment. Energy efficiency programs aimed at low-income consumers, especially appliance replacement programs, have missed many segments of the low-income community specifically those living in multi-tenant buildings, master metered apartment complexes, and government and non-profit owned housing structures. Residents living in those types of structures are often not qualified for energy efficiency programs because of the customers' lack of a direct relationship with a utility company.

Additionally, I believe that low-income customers should have access to energy through the use of prepaid service using smart meters. Most advocates for low and limited income utility customers do not support the idea of prepaid service as a means to acquiring utility service because they fear that low-income elderly and disabled customers would face barriers to properly understand the technology and to make the payments for the prepaid service. In many situations, prepaid service would allow customers who have been disconnected for non-payment, have large balances that prevent them from reconnecting, or those that cannot pay a security deposit to acquire utility service. The ability of the customer to see the cost of their daily energy use in real time will ultimately make the consumer more knowledgeable regarding the cost of energy, their household's energy use, and their own ability to control energy use.

Timothy Alan Simon

Investor owned utilities are placing considerable resources into developing what is now commonly referred to as the "utility of the future." I see this entity in many forms. In some cases, a poles and wires utility will be focused entirely on

[8] "Cell Phone and Smartphone Ownership Demographics," Pew Research Internet Project. Available: http://www.pewinternet.org/data-trend/mobile/cell-phone-and-smartphone-ownership-demographics/

transmission and distribution services, and the provision of generation service choices made by customers. These choices will include power derived from distributed generation, e.g., roof-top solar, and battery storage from both home batteries and electric vehicles, amongst other choices of power and conservation. Utilities have a great opportunity to work directly with customers to design programs that meet their specific consumption and generation demands. This can be in the form of critical peak pricing or models crafted to meet the consumers' demand schedule. Crediting multi-family dwellings, and particularly low-income residents, with the costs of net metering and rebates for smart appliance and weatherization. In this regard, clearly the customer billing methodology comes into play. The ability to craft payments that better meet low- and moderate-income challenges can be employed with the advent of new technologies like mobile applications. This could include pre-pay cards and rebates that incentivize human behavior that drives energy efficiency. The mobile phone and cable industries are examples of how service delivery can be catered to the individual consumer's needs. Smart meters and appliances, some of which can be subsidized through federal and state programs, should tie into FCC Universal Service Fund and state subsidies. Billing by phone and tying that billing to consumption practices can give low-income customers the ability to better manage energy use. This can also reduce billing cost of the utilities including the cost of shut-offs.

Question 6

What can or should utilities and regulatory agencies do to increase the choices (programs, services, rate options) available to each low-income energy consumer?

David Conn

I'm a big believer in shamelessly stealing good ideas from others. When a utility, government provider or nonprofit agency can show off a new program or policy that works, I like to try it out at BGE. That's why I was glad to participate in the Low Income Energy Issues Forum, and why I put so much stock in the webinars and conferences that allow us all to share our best practices.

The easiest way for a utility or regulator to support increased choice is by sanctioning small pilot programs that can test a concept, or see if another state's approach can be replicated successfully. We should acknowledge that what works in one place may not work elsewhere, because of different weather conditions, economic factors, or legal and regulatory structures. But we must be willing to try new options, and risk failure.

I'd like to see utilities and regulators embrace experimentation wherever possible—with sufficient education and protections for consumers. I do worry when a legal or regulatory framework makes full-scale implementation of a new option contingent on cost-effectiveness standards that cannot be met solely within the confines of a utility's cost structure. Many programs that can provide significant help to low-income customers pay dividends far beyond the collection costs incurred by the utility. These might include health, education and economic benefits that are enjoyed by all of society. I think we risk stagnation of programs, services, rates and even technologies when we take a limited view of both the costs *and* the benefits of new utility options.

Chad Quinn

Percentage of Income Payment Programs (PIPPs) have been used in many states to help low-income customers by providing a reduced payment. The programs, which vary from state to state and utility to utility, often provide a maximum payment based on a percentage of household income, typically 3% for electric and 3% for natural gas.

These types of programs are very beneficial at helping lower payments, but they are very expensive to administer because of the nature of the benefit. Without proper controls in place, the programs often fail to identify households that consume more energy than similar households. Customers that use more energy than their cohorts can be targeted with energy education, energy efficiency audits, and additional programming that monitors their energy use and encourages wiser use or conservation.

Another way to address PIPP programs is to move away from a fixed payment to a program that offers a fixed monthly credit. The fixed credit looks at a variety of factors and formulates a fixed monthly credit, still based on household income, to reduce the monthly payment to an "affordable" level. This approach provides customers an incentive to control the portion of their utility bill which they can control, their usage. Fixed credit programs help customers understand the relationship of increased usage with increased payment while fixed payment programs offer a single monthly payment that is unrelated to energy consumption.

Timothy Alan Simon

Consumer education is the game changer. All the technology and policies are muted without an active consumer engagement. Utilities and electricity service providers can incentivize consumer participation in on-line seminars by way of rebates. This could include activities like energy efficiency audits and surveys monitoring the benefits of low-income programs and subsidies. Too often the low-income consumer is unaware of programs that are designed to help families work their way out of poverty. Better education on roof-top solar to prevent elder financial abuse is also important. Some efforts to engage consumers become ripe for fraud because elderly and low-income customers do not understand rate design. Utilities and electric service providers that focus on consumer education and engagement will excel in the world of advancing customer applications. They have the relationship; the key is building the trust.

Question 7

Can you provide examples of U.S. states and Canadian provinces which have replaced punitive policies and regulations (e.g., those which impose fees and penalties on low-income customers who do not behave like middle- and upper-income customers) with policies and/or regulations that encourage better payment performance by low-income consumers?

David Conn

I want to challenge the premise of the question. In a moment.

First, I'd like to acknowledge that there is a definite, measurable cost to collecting payments, and we can't ignore this when considering the cost-effectiveness of any given low-income program. A program that costs $100 to collect $1,000 in payments is better than one that costs $400 to collect $1,200. Likewise, a policy that waives certain fees or penalties could be preferable to one that takes a harder line if, in the end, it collects more payments at lower expense to the utility and all its other customers, and even more so if it can avoid service terminations.

Second, states, provinces and utilities should definitely experiment with different models of discounts and collections activities. Arizona Public Service, for instance, offers a multi-tiered rate discount that varies based on the amount of energy consumed each month. APPRISE and others have shown that low-income customers tend to adhere to regular monthly payments most often when they have a predictable monthly billed amount, often called a "budget billing" program. And most utilities, like most other businesses, tailor their collection practices to each customer, based on their past payment behavior and overall risk profile. Occasionally waiving late fees and temporarily postponing turnoffs could be perfectly acceptable strategies to encourage more payments in the long run.

But I'm not aware of any utility or jurisdiction that doesn't back up the obligation to pay the bill with some kind of collection action, potentially culminating in a severance of service. Ultimately, a customer must know they are responsible to pay what they owe—whether that means the billed amount, or an amount made more affordable by a grant or low-income rate. Without a definite payment amount and due date, and no negative consequences for non-payment, what customers would pay what they owe? Would you? Imagine how high your bill would go if you never felt the need to pay it.

We should figure out what combination of affordability and collections actions produce the best results for low-income and all utility customers. But we should view penalties, including turnoffs, not as "punitive" but as necessary, if often bitter, medicine to keep the whole system healthy.

Chad Quinn

Customers who enroll in Customer Assistance Programs (CAPs) or Percentage of Income Payment Programs (PIPPs) oftentimes enter the program as a result of a pending or actual termination of their services. Enrolling accounts typically carry large balances. Traditionally, when a customer exits the program, the pre-program balance becomes immediately due or the customer is offered to pay that balance over a period of 12 months in addition to their full monthly post-program payment. This provision penalized customers whose financial situation improved, were able to meet their household's financial obligations, and were attempting to exit the program.

In the past several years, many utility run and state run CAPs and PIPPs have implemented arrearage forgiveness components to their programs that provide relief to a customer in exchange for regular on-time payments. The programs have proven very successful. Customers see an immediate benefit to paying their bills in full, on time, every month. The utilities are able to reduce the pre-program receivable each month over an extended period of time, often 24 to 36 months. By incentivizing the customers to pay on time, the utility reduces "churn," a process whereby customers are dismissed for late or non-payment and later reenroll when missed payments were made. Churn is an administrative burden which is expensive to manage.

An additional benefit was also achieved through the introduction of the arrearage forgiveness program component. Customers started to get into the habit of paying their bills in full and on time every month and understood the importance of doing this. Better bill payers were created and customers who exited the programs with no pre-program arrears were significantly less likely to seek re-entry into the program than customers who exited the programs with significant pre-program balances.

Timothy Alan Simon

When I was a Commissioner I eliminated the predatory utility customer deposit requirements to turn on electricity or gas after a shut off of power. In California the required deposit had to be a minimum of two months prior payment. In the inland areas, due to high air conditioning usage, this could result in over $1,000 in deposit cost. This was achieved by promoting financial instruments as guarantees as well as allowing shut-off customers to utilize the co-signature of a relative or friend. Another breakthrough was after the shut-down of San Onofre Nuclear Generation Station (SONGS), demand response materials were printed in foreign languages to accommodate English language learner customers, many of whom are low-income.

Closing Remarks

David Conn

A thread that I see running through all of these questions is the idea that no single approach can be expected to cure all problems. The causes that lead customers into financial difficulties, the barriers that keep them from improving their situations, and the personal preferences that will make one approach superior to another simply cannot be assumed for everyone we consider "low income."

We should actively seek out the best practices that have helped low-income customers succeed, but we should not fool ourselves that all of them will work everywhere. A state, province, city or county that truly wants its citizens to succeed and meet their basic needs should work with its utilities—and vice versa—to try new approaches, if only on a small scale at first, and not be afraid to fail.

Here's what the founder of America's electrical system, Thomas Edison, had to say on the subject: "Many of life's failures are people who did not realize how close they were to success when they gave up." Thanks to DEFG for not letting us give up on this vital challenge.

Chad Quinn

This forum shows that a utility, a private non-profit organization and a regulator can all agree on a definition of energy affordability. The forum also shows that those three stakeholders agree that properly-designed policies and effective programs are a necessary part of the solution.

Companies, regulators, and other stakeholders should be present at the table for discussions aimed at making energy available and affordable to all classes of customers including low income households. Best practices should be shared to help create and implement meaningful, cost-effective programs. These programs should focus on addressing the needs of the majority of customers in the segment without focusing on specific individual circumstances and specific instances where the system of checks and balances fail. In addition, technological developments, like smart meters and prepaid meters, need to be studied to determine their benefits to low income customers.

However, we must remember that we can only do so much within this segment to address energy affordability. The federal safety net, LIHEAP, is extremely important and needs to be fully funded each and every year to provide assistance to the most vulnerable low income customers. Also, federal regulators need to support the development of and access to low-cost energy supplies and alternative energy portfolios that are cost effective and harmless to the environment.

Timothy Alan Simon

The scope of the growing energy affordability problem is well understood; many current policies and utility activities to address customer energy efficiency and bill assistance have proven useful, especially in California. However, there are still too many people for whom the monthly utility bill is a significant burden, so greater effort and new approaches must be promoted with the understanding that this segment of customers are critical to achieving financial and environmental milestones.

At the recent Low Income Energy Issues Forum workshop, it was apparent that new approaches—such as prepaid energy service or providing customers with daily usage information—can help customers get more control over their household usage and monthly household budget. I am heartened by the work of the Forum.

I believe the key to the energy affordability problem will continue to be customer education. The challenge to the regulatory community and to energy utilities is to create programs that engage and better serve all customers who are feeling the burden of the monthly utility bill. There is also a need to serve the low-income customers who are hard to reach with incentives, including subsidies. This may include the undocumented, ex-offenders and others who live “in the shadows,” and those who, for whatever reason, have traditionally viewed utilities as a form of “government” which should not be trusted. Serving groups previously unserved could be valuable not only for the efficiencies, but also for the data accumulated as a result of their enrollment and energy consumption.

Summary

The Low Income Energy Issues Forum is focused on innovative and integrated policies and approaches that can help to close the widening gap between what vulnerable energy consumers can pay and their current utility bills. Narrowing or bridging this gap will go a long way to restore confidence in energy utilities and utility regulation. Making essential utility services more affordable can help households feel secure about their homes and families.

A recurring issue in our discussions has been how to best meet the needs of individual customers and address the challenges of unique households. People find themselves in “situations” from time to time, each one unique, and yet these situations share a common attribute: they are difficult for households to cope with at that point in time. These "situations" seem to occur more frequently now. The average, real (inflation-adjusted) residential prices of electricity and natural gas have risen in the U.S. by about 10% over 14 years. During the same period, per capita income is down slightly and energy assistance funding has been repeatedly cut in federal budgets.

Three perspectives are presented on energy affordability. The authors include a low-income customer expert at an energy utility in Maryland, an executive at a not-for-profit energy assistance agency in Pennsylvania, and a former state utility commissioner from California. They brought their various backgrounds to the panel presentation during the Low Income Energy Issues Forum's first annual workshop, and they responded to the seven questions posed here.

The common definition of affordable—home energy costs of less than 6% of the household gross income—must be tempered with the reality that averages do not tell a complete story. Variations in household expenses leave many low- and moderate-income families suffering, or may leave them in a crisis situation. The working poor are experiencing financial hardship in the current economy. Not only is energy assistance program funding inadequate, but its coverage is uneven across the states. Several states have a significant number of eligible customers who are not served by any energy assistance programs.

While there is agreement that utilities and government cannot solve all the problems of energy affordability, there are different points of view on what should be done. Several of these authors maintain that the problems are getting worse, especially in light of infrastructure investment needs for transmission lines, pipelines and coal power plant replacement, and the consequent rate cases (rate increases) to permit utility cost recovery. Understanding various segments of the population can be useful if a utility is trying to customize its offerings and improve service. But many social factors contribute to the difficulty in paying utility bills, and some solutions are beyond the capabilities of utilities. Therefore, creation of a safety net may be more important than the delivery of specialized or customized services. Some of the lessons from other industries may be relevant, especially with regard to service delivery that is customized to individual consumers' needs.

Choices can be useful to low income customers, including bill payment options, more frequent (e.g., daily) updates about usage, more energy efficiency programs (weatherization; appliance replacement), and alternative rate designs. But too much choice can be confusing if presented in the wrong way. Further, there is a recognition that energy efficiency programs may not target or reach multi-tenant buildings, master-metered apartment complexes, or government- and non-profit-owned housing.

There is agreement that experimentation is needed by utilities, and that their regulators and legislators need to be "on board" to allow experimentation and to reform the rules and regulations. Fifty states offer a range of activities and experiences to learn from, but there is not enough best practice learning and application because each of the regulatory regimes has its own restrictions. For example, Percentage of Income Payment Programs (PIPP) are successful in some states, but not offered in other states. Several states require that every residential customer take the same service level or quality—to ensure fairness and equity—when some variation could better serve low- and moderate-income households. Regional variation is also evident as a result of weather differences, and different patterns of home and appliance ownership, making "lessons learned" and "best practices" more difficult to transfer.

DEFG's Low Income Energy Issues Forum will continue to compile information about innovative policies that can help to close the gap between what vulnerable energy consumers can pay and their current utility bills. Each state and utility must find its own path forward. It will take determined action at the state level to ensure that new approaches are permitted, authorized, tested and implemented. Reform of the statutes and the regulations will be required before certain promising new programs, offerings or tariffs are permissible.

About the Authors

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About DEFG

DEFG is a management consulting firm specializing in energy (http://defgllc.com). We believe that retail customers are the future of the energy industry. Since 2003, we have helped clients create value in a commodity marketplace. In our rapidly changing marketplace, customer engagement is key to success, and our clients learn to better engage with residential and commercial customers. Customers provide unique resources, reduce risks and increase revenue potential.

About the Low Income Energy Issues Forum

The Low Income Energy Issues Forum is a large and diverse group, comprised of consumer advocates, program administrators, regulatory commissioners and representatives from energy utilities, retail energy providers, non-profit organizations and government agencies, and service providers and vendors. The goal of the Forum is to propose innovative and integrated policies and approaches that help close the widening gap between what vulnerable energy consumers can pay and their current utility bills. The Forum takes a fresh look at the best ways to provide utility services and bill payment assistance to low-income energy consumers.

The work products of the Low Income Energy Issues Forum do not necessarily represent the views of any participating organization, state regulatory agency, sponsoring company or individual participant. To learn more, please contact Nat Treadway, DEFG Managing Partner at 713-729-6244 or ntreadway@defgllc.com.