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NARUC

**The National
Association
of Regulatory
Utility
Commissioners**

Natural Gas Information Toolkit

Prepared by the National
Regulatory Research Institute

The 2008 Natural Gas Information Toolkit

Prepared for

**The National Association of Regulatory Utility Commissioners
(NARUC)**

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Executive Summary

During a teleconference call in June 2008 of the NARUC Staff Subcommittee on Gas, a topic of considerable discussion was the rise of U.S. natural gas prices that started in the fall of 2007. Many on the call questioned how NARUC should respond to this troubling development for state public utility commissions and gas utility customers. A proposal was made and adopted by the members of the Staff Subcommittee, with the approval of the NARUC Committee on Gas, to update the *Natural Gas Information Toolkit* that NARUC last published in the fall of 2003. The document was distributed widely to state commissions and other members of the regulatory community. Some commissions used the document to guide their actions in response to the natural gas situation prior to the 2003-2004 winter heating season.

The objective of this 2008 version of the Toolkit remains the same as that of the 2003 version. The 2003 Toolkit had the major objective of assisting state commissions in addressing the problems consumers face from volatile and high natural gas prices.

With this background, in June 2008 discussion among members of the NARUC Staff Subcommittee on Gas concluded with the assessment that updating the 2003 Toolkit would provide valuable information to state commissions. At the time of the discussion, spot gas prices were in the \$12-13 range, which were the highest they have ever been for early summer. The fear was that if prices remained high through the upcoming winter, or even went higher, natural gas would become unaffordable for an increasing number of residential customers. Social dismay could occur, especially in cold areas of the country where households consume large amounts of natural gas during the winter months. Gas utilities, in addition, could experience higher bad debt and other financial problems and, along with state commissions, would be the recipients of public wrath.

Although as of early September, spot and futures natural gas prices have subsided since early summer,¹ they are higher than their levels at the same time last year.² Because of the tightness of the natural gas market, any event could quickly raise wholesale prices to their mid-2008 levels (e.g., a hurricane disrupting natural gas production, or unusual weather that affects

¹ According to the U.S. Energy Information Administration, the decline in price resulted from the combination of a drop in oil prices, mild summer temperatures, and a larger-than-expected increase in domestic gas production. (See <http://www.eia.doe.gov/emeu/steo/pub/contents.html>.) From October 2007 through June 2008, the average monthly price of Henry Hub gas increased each successive month.

² The Henry Hub price on September 11, 2007 was \$5.98 per MMBtu; on the same date in 2008, the price was \$7.81 per MMBtu, or 30 percent higher.

demand, such as a hot late summer or cold early winter). In its September 2008 *Short Term Energy Outlook*, EIA projected that residential consumers, for the country as a whole, will spend almost 19 percent more for natural gas this winter than last winter. Almost all of this increase is attributable to an increase in price: as of early September, EIA projects the Henry Hub price in 2008, on average, to exceed the 2007 price by more than 35 percent. EIA, in fact, projects the average Henry Hub price in 2008 to be the highest for any year.³

The Toolkit provides state commissions with options for the 2008-2009 winter heating season as well as for future winters, for their consideration in response to the discomforting natural gas price situation. The Toolkit is not designed to provide definitive answers to state commissions on how to best cope with volatile and high natural gas prices; instead, it suggests possible actions that state commissions can take to mitigate the effects of these conditions on retail gas consumers. Although several state commissions have been proactive in responding to the price problem, the Toolkit contains additional ideas that they may want to consider in the future. The Toolkit includes some innovative ideas that state commissions may not have previously contemplated.

This updated document retained parts of the 2003 Toolkit deemed to be still appropriate for today's environment. It revised the sections on state actions in response to high gas prices, price projections, and options for consumers and state commissions. The document deleted sections of the 2003 Toolkit deemed no longer relevant in today's environment.

Similar to the 2003 Toolkit, this document encourages commissions to be pro-active in addressing the problem of high natural gas prices in their states. It has become more tenable, relative to 2003, for commissions and gas utilities to promote energy efficiency in reducing consumers' gas bills. It also has become imperative that consumers become informed of developments in the natural gas market; otherwise, they are unable to vary their gas usage optimally in response to price changes. Energy assistance to low-income households has become especially critical as natural gas prices rise, jeopardizing these households' ability to purchase other essential goods and services. By spending more on household energy costs, low-income consumers may forgo other goods and services, thus threatening their safety and health. All in all, exploring the benefits of the options identified in this document has become more consequential and necessary, relative to 2003 when natural gas prices were much lower.

This document intends to provide state commissions with information that can assist them in addressing the following questions:

³ As of early September, EIA projects the average Henry Hub price in 2008 at \$9.71 per MMBtu; the highest actual average price, \$8.94 per MMBtu, occurred in 2005, the year of Hurricanes Katrina and Rita.

1. Where are wholesale gas prices expected to head over the next year or so? What explanations have industry experts given for the high prices through mid-2008? What is the likelihood of prices returning to their mid-2008 levels?
2. What can be done to lighten the burden of high gas prices on residential consumers?
3. How can a state commission respond to a public and legislative outcry over high gas bills?
4. What ratemaking methods and rate designs may be most compatible with an environment of high and volatile natural gas prices?
5. What can gas utilities do to deal with high gas prices?
6. What can consumers themselves do?
7. What role can energy efficiency play in reducing the burden of high gas prices? What can a utility and state commission do to promote energy efficiency?
8. What can a utility and state commission do to help low-income households in paying high gas bills and receiving energy assistance from non-utility sources?
9. What near-term actions (i.e., actions that would have an effect this upcoming winter heating season) can a state commission, a gas utility and consumers take? What longer-term actions can they consider?
10. What actions have state commissions already taken to address the high and volatile natural gas prices consumers will face during the upcoming winter and beyond?

This document cautions state commissions not to support subsidies to consumers as a substitute for more effective and longer-term actions, unless an exceptional need exists to assist certain consumers such as low-income households. Subsidies, although politically expedient and often seen as a quick fix, can cause long-term damage. Subsidies, for example, can harm the financial condition of a utility or raise rates to most consumers, lead to economic inefficiencies, and encourage subsidized consumers to overuse natural gas. Experiences with subsidies across a wide array of sectors have shown that they tend to continue even when conditions change and the need for the subsidies no longer exists. Under any set of circumstances, if a subsidy is the only way to address a particular problem in the near term, no subsidy should extend beyond this short-term need.

Some of the actions identified in this Toolkit may be appropriate even in the absence of high and volatile natural gas prices. More energy assistance funding, energy efficiency initiatives, and regulatory oversight of a utility's gas supply planning and procurement activities, for example, all merit serious commission attention irrespective of the level and volatility of natural gas prices.

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The 2008 Natural Gas Information Toolkit

I. Purpose of this document

The major objective of this document, referred to as the “Toolkit,” is to assist state commissions in addressing the problem of high and volatile gas prices, particularly as they affect residential gas consumers. Even in those states that have taken action, in many instances these actions may not represent the “best” approach to the severity of the problematic natural gas-price situation.

This document does not attempt to offer an independent analysis of why natural gas prices have exhibited high volatility and an upward trend over the last several years. It recognizes, however, that different factors account for this phenomenon, mainly those that affect physical supply and demand conditions in the natural gas market. In a tight market, natural gas prices are especially sensitive to these conditions, making prices both volatile and susceptible to forecasting error. Supply and demand factors include aggregate storage levels,⁴ consumer response to price changes, weather, the cost of gas exploration and production, oil prices, general economic conditions, and regional pipeline capacity relative to demand. While this document takes no position on the effect of financial speculation on the price of natural gas, it is noted that numerous experts on financial markets have claimed that speculation has had a significant effect.

The Toolkit can assist state commissions by providing a comprehensive listing and description of actions that they can consider in addressing the problematic natural gas price situation. The hope is that the Toolkit will inspire and assist state commissions to take well-conceived actions with positive long-term effects for both consumers and society as a whole.

The purpose of this Toolkit, however, is not to make recommendations on which of the options it identifies state commissions should pursue. The Toolkit also does not provide detailed analyses of the individual options.

The Toolkit also should provide valuable information to other policymakers whose actions affect the natural gas sector. Some of the options for state commissions identified in this Toolkit could be available by the upcoming winter, while others would not have an effect until a later time. Longer-term options include comprehensive oversight of gas supply planning and procurement, development of large-scale energy efficiency programs, revamping of cost-

⁴ Empirical evidence over the past several years shows a high (negative) correlation between natural gas prices and the deviation in aggregate storage levels from the historical five-year average.

recovery mechanisms and rate design, increased fuel diversity for electric generation, and higher permanent energy assistance funding.

II. Introduction

The volatility of natural gas prices⁵ along with an upward trend in prices over the last several years has led to great anxiety for gas consumers, state commissions, and gas utilities. It has become difficult for many residential consumers to budget their incomes to pay winter gas bills. Low-Income Home Energy Assistance Program (LIHEAP) recipients typically spend 20 percent of their annual income on home energy bills—more than six times the percentage that other income groups spend on home energy use. Increases in energy prices since 1998 have far exceeded any growth in LIHEAP recipients' income, leaving less money for other essentials such as food, rent, and health care. Only about 15 percent of eligible households receive LIHEAP assistance. Overall, LIHEAP funds have not kept pace with the increase in the number of households eligible for funds.

Because of high natural gas prices, some large, gas-intensive industrial customers have had to close their doors. State commissions and gas utilities have taken the brunt of public outcries over high gas prices.

State commissions desire to have natural gas remain affordable for all customers and priced "fairly and reasonably." Gas utilities worry that high and volatile gas prices will decrease their profits from increased uncollectible debt expenses, reduced gas throughput, and the increased likelihood of less-than-full recovery of purchased gas costs. Because of the stress on consumers as well as the natural gas industry from volatile prices, state commissions face intense pressure from politicians and stakeholders to revisit and change their extant policies and practices.

Aggravating the effect of high gas prices is the trend of the electricity industry toward greater reliance on natural gas for generation. For state commissions and consumers, high gas prices mean not only higher gas bills, but also higher electricity bills. This Toolkit will focus on the effect of high gas prices on residential gas consumers, while recognizing that rising gas prices can burden electricity consumers as well. In many regions of the country, gas-fired electricity generation has become the marginal source of power, acting as a primary determinant

⁵ In 2008, natural gas prices especially have exhibited a roller coaster behavior: spot prices continuously rose from the beginning of the year until around August and then declined to where, as of mid-September, they were not much above January prices.

of market-based wholesale electricity prices.⁶ Gas-fired generation has also served base-load demand for electricity, affecting both peak and off-peak electricity prices.

Overall, high and volatile natural gas prices can drag down the economy and lead to serious economic injury to different groups of consumers. Specifically, high gas prices can particularly cause harm to low- and fixed-income households, industries that rely heavily on natural gas for their production, and electricity consumers in regions where gas-fired generation is a major determinant of wholesale electricity prices.

Compared with five years ago, when NARUC published its last Information Toolkit in response to anticipated high gas prices for the winter of 2003-2004 (i.e., spot prices in the \$4-\$5 range), the current gas market situation has caused even greater concern.⁷ A reason for this is the belief held by many industry observers that gas supplies in the U.S. market have seriously tightened, to the degree that natural gas prices could escalate to a yet higher plateau.

Over the past several months we have seen large fluctuations of spot gas prices. As of today, because of tight market conditions, many industry experts project continued historically high and volatile gas prices at least over the next few years. Partially because of the weak short-run response of both the supply and demand for natural gas to price changes, even moderate changes in supply or demand can produce large fluctuations in price. This outcome was evident this year when prices rose rather sharply earlier this year and then fell almost as sharply starting around early summer. Some analysts attribute the drop in prices to reports about the production of abundant supplies of shale gas, in particular in the Barnett Basin, at less than \$7 per Mcf.

Aggravating the upward trend of natural gas prices, as argued by some industry analysts, is the increased presence of speculators in natural gas financial markets. Some industry observers blame speculation in financial derivatives by noncommercial market participants (e.g., hedge funds, pension funds, and other institutional investors) for the volatility and rise in natural

⁶ From 1999 to 2003, for example, 200,000 MW of new gas-fired generating capacity came on the market. Back in the 1990s, when wholesale gas prices averaged around \$2 per Mcf, the economics of gas-fired electric generation was not as much of an issue; whereas today, with future gas prices likely to be at least three to four times higher, the economics of gas-fired electric generation has more serious consumer impacts.

⁷ The Board of Directors of NARUC gave its support to the development of the 2003 Toolkit by passing a resolution at its July 2003 Summer Meetings in Denver. The resolution expressed that the purpose of the Toolkit was to help state commissions address the dual problem of high natural gas prices and high price volatility. Although most industry experts did not consider the gas market situation in 2003 to be a crisis, they concurred that the tight gas market had led to prices becoming volatile in response to even mild swings in demand and supply.

gas prices.⁸ Speculation in energy markets, including natural gas, has increased dramatically over the past few years. Industry, regulatory, and other analysts disagree, however, on whether, and the extent to which, speculation has affected energy prices.⁹ Empirical evidence conclusively shows a high correlation between financial trading and volatile energy prices. This relationship does not prove, however, whether the surge in trading caused volatile prices or volatile prices caused more trading. The first phenomenon would support the claim that speculation has exacerbated price increases and volatility; the second phenomenon would suggest that speculators merely react to price changes, rather than initiate price changes through their actions. Although the evidence is inconclusive on the role of speculators in affecting natural gas prices, theory and case studies support the possibility that speculation has caused natural gas prices to be higher than otherwise in recent years. NARUC has formed a Working Group of state commissioners to examine various questions relating to speculation in natural gas markets.¹⁰

Topics covered in the Toolkit include projections of natural gas prices for the upcoming winter, actions taken by state commissions in response to high gas prices, short- and longer-term options available to both consumers and state commissions in coping with high gas prices, discussion of low-cost energy-efficiency initiatives offering the potential for lowering gas bills, and available energy-assistance funding sources. Finally, the Toolkit provides hyperlinks to websites containing pertinent information, including those of non-NARUC groups such as the American Gas Association (AGA) and U.S. Energy Information Administration that also have addressed the problem of high natural gas prices.

⁸ The Commodity Futures Trading Commission (CFTC) defines noncommercial investors as those investors who are not physically exposed to the commodity but trade “with the objective of achieving profits through the successful anticipation of price movements.” In other words, noncommercial investors are speculators that attempt to make money by correctly predicting price changes, especially those changes that are difficult to predict.

⁹ Some economists and analysts argue that rising speculative activity has had a major effect on the surge in energy, metals, and agricultural prices in recent years.

¹⁰ The Working Group has the mission of: (1) educating NARUC and state commissions about speculation in natural gas markets, (2) monitoring federal actions on speculation in natural gas markets, and (3) recommending policies to NARUC via resolutions. At its 2008 Summer Meetings, NARUC passed a resolution on Pricing and Speculation in Natural Gas Markets. See <http://www.naruc.org/meetingresolutions.cfm?2008-07-23>.

III. What are the price projections for this winter, and how do they compare to last winter's prices? What are the price projections through 2009, and how do they compare to 2007 prices?

A. EIA's natural gas outlook for the 2008-2009 winter heating season and the rest of 2009, as of September 9, 2008

The Energy Information Administration (EIA) in the U.S. Department of Energy projects that natural gas consumption will continue to increase in the fourth quarter of 2008 and through 2009 as prices trend lower and production levels remain strong. The following summary:

- Notes the downward trend in both Henry Hub spot prices and world oil prices since June 2008.
- Highlights the uncertainty of forecasts, particularly in light of the unknown effects of Hurricane Ike on production infrastructure and the current fragile domestic economic conditions.
- Compares EIA's price projections with other forecasts generated between late August and September. All forecasts were generated before Hurricane Ike and some were made before Hurricane Gustav.

In its latest *Short-Term Energy Outlook*, released on September 9, 2008, the EIA projects that natural gas spot prices at the Henry Hub will average \$8.85 per million Btu (MMBtu) during the upcoming heating season (November – March) compared with about \$8.04 last winter. The average wellhead natural gas price, which includes both spot and contract purchases, is projected to average about \$8.38 per MMBtu, up about 17 percent from last winter's average (\$7.15). Residential natural gas prices for October 2008 through March 2009 are expected to increase by \$2.21 per thousand cubic feet (\$2.14 per MMBtu) or 17 percent from year-earlier levels to an average of \$14.93 per thousand cubic feet (\$14.48 per MMBtu).¹¹ Heating fuel expenditures for the average household using natural gas are expected to increase by \$162 or 19 percent because of higher prices and increased consumption (Table 1). Corresponding expenditures for households heated with fuel oil or propane would increase by \$585 (30 percent) and \$217 (13 percent), respectively.

¹¹ The national average price of natural gas masks the differences of prices across states. Explanations for these differences include the proximity of the demand area to the producing region, the number of pipelines in the state, and the transportation charges associated with them, in addition to state regulations and the degree of competition.

Table 1. U.S. average consumer prices and expenditures for natural gas during the winter heating season

	Winter Actual			Winter Forecast	
	2006-07	2007-08	Average 2002-07	2008-09	Percent Change
Consumption (Mcf)	66.0	67.2	67.1	68.1	1.3
Price (\$ per Mcf)	12.35	12.72	11.18	14.93	17.4
Expenditures (\$)	815	855	751	1,017	18.9
Households (thousands)	57,223	57,804	56,146	58,309	0.9

Note: Mcf = Thousand cubic feet. \$/Mcf = Dollars per Mcf.

Source: Energy Information Administration, *Short-Term Energy Outlook* (September 2008).

Overall, however, natural gas prices in 2009 are expected to continue the downward trend seen since June, when the average spot price at the Henry Hub reached \$12.68 per MMBtu. The Henry Hub spot price averaged \$8.24 per MMBtu in August, \$2.87 per MMBtu less than the average spot price in July. Mild temperatures, increasing production, and lower oil prices all contributed to the price decline. In the near term, potential hurricane disruptions present the greatest uncertainty in the price forecast. September has historically been the peak month for hurricane activity, and EIA's September *Outlook* assumptions include shut-in production of 65 Bcf for the remainder of the season attributable to Gulf Coast storms. Nevertheless, continued growth in onshore production is expected to limit any large and sustained increases in the natural gas spot price. On an annual basis, the Henry Hub spot price is expected to average about \$9.42 per MMBtu in 2008 and \$8.30 in 2009. The Henry Hub spot price averaged \$6.97 per MMBtu in 2007.

Total natural gas consumption is expected to increase by 2.7 percent in 2008 and by 2.2 percent in 2009. Growth in all sectors is expected to remain high through 2009, driven primarily by increases in the residential and commercial sectors in 2008, and by electric power in 2009. Despite higher prices through the first half of 2008, natural gas consumption in the industrial sector increased by 3.7 percent compared with the corresponding period in 2007. Consumption in the industrial sector is expected to increase by 1.6 percent in 2008 and by 1.4 percent in 2009. Fragile domestic economic conditions, however, add significant uncertainty to the forecast.

Marketed natural gas production is projected to increase by 7.8 percent in 2008 and by 3.8 percent in 2009, because of the strong production growth from the development of onshore fields, mostly in Texas and Wyoming. U.S. imports of liquefied natural gas (LNG) have

declined from last year, as a result of growth in global LNG demand as well as the escalated relative prices in the Asia-Pacific region and Europe. LNG imports are expected to decline by more than 50 percent in 2008 reaching about 350 Bcf, and then increase to about 450 Bcf in 2009. Storage inventories are expected to reach 3,376 Bcf by the start of the upcoming heating season (November), compared with 3,567 Bcf a year earlier. Working gas in storage was 2,905 Bcf as of Friday, September 5, 2008, which is 2.9 percent above the 5-year average inventory level. Total natural gas supplies are expected to be adequate this winter.

B. Other forecasts

The EIA’s price projections in the September *Short-Term Energy Outlook* are generally lower than those of other forecasts generated in late August and early September. Other price forecasts for Henry Hub natural gas ranged from \$9.30 per MMBtu to \$11.31 for 2008 and from \$8.35 per MMBtu to \$12.25 for 2009, compared with EIA’s \$9.42 per MMBtu for 2008 and \$8.30 for 2009 (Table 2). The EIA’s quarterly price projections are the second lowest for the last 6 months of 2008 and the lowest for 2009 (Figure 1 and Table 4). All the forecasts were made before Hurricane Ike and some were made before Hurricane Gustav; thus, they do not reflect the effects of storm damage. As previously noted, the EIA’s assumptions include shut-in production of 65 Bcf for the remainder of the season attributable to Gulf Coast storms. Actual shut-ins already exceeded 100 Bcf by September 15, 2008, and are likely to be more extensive as a result of Hurricane Ike.

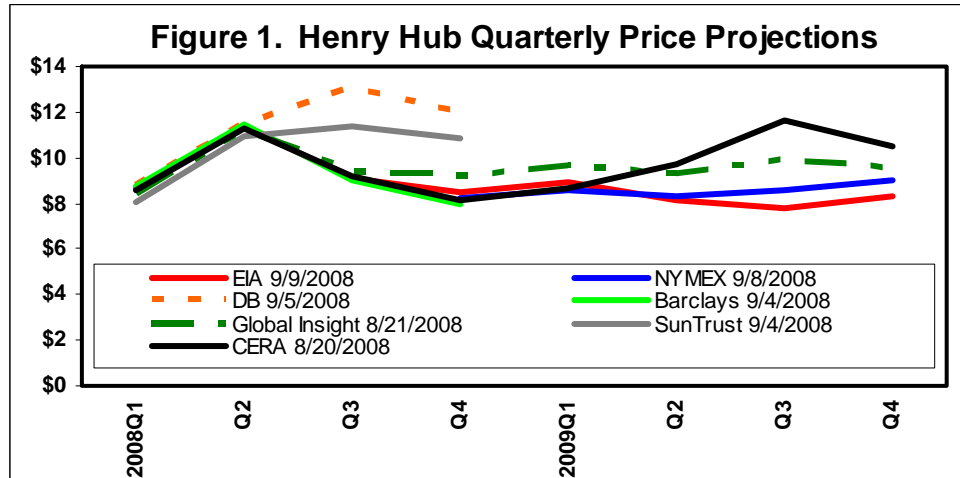
Again, it should be noted that all forecasts are highly uncertain. The outlook for natural gas depends on several hard-to-predict factors such as weather, economic conditions, and world oil prices. Changes in any of these factors could affect natural gas supply and demand and alter the outlook for natural gas. The July *Outlook*, for example, projected the average wellhead price for 2008 and 2009 at \$10.20 per Mcf and \$10.47 per Mcf. The September *Outlook* revised these projections downward by over 15 percent and 25 percent, respectively. These revisions reflect the high volatility of natural gas prices over short periods of time. This dynamic movement of natural gas prices makes it difficult for forecasters to make reliable projections even a few months out.

Table 2. Projected Henry Hub natural gas spot prices
(dollars per MMBtu)

Year	EIA	Other Forecasts (Excluding EIA)		
		Low	Average	High
2007	6.97			
2008	9.42	9.30	9.95	11.31
2009	8.30	8.35	9.79	12.25

**Table 3. Projected Henry Hub natural gas spot prices
(dollars per MMBtu)**

Year	EIA 09/09/08	NYMEX 09/08/08	Deutsche Bank 09/05/08	Barclays 09/04/08	SunTrust 09/04/08	Global Insight 08/21/08	CERA 08/20/08
2007	6.97		7.12		6.86	6.94	6.95
2008	9.42		11.31	9.30	10.30	9.55	9.31
2009	8.30	8.61	12.25	8.35	9.86	9.55	10.14



**Table 4. Projected quarterly natural gas prices at the Henry Hub, 2008-2009
(dollars per MMBtu)**

Year/Q	EIA 09/09/08	NYMEX 09/08/08	Deutsche Bank 09/05/08	Barclays 09/04/08	SunTrust 09/04/08	Global Insight 08/21/08	CERA 08/20/08
2008Q1	8.66	--	8.72	8.74	8.03	8.43	8.58
Q2	11.39	--	11.50	11.47	10.93	11.23	11.32
Q3	9.12	--	13.00	9.00	11.40	9.34	9.18
Q4	8.52	8.24	12.00	8.00	10.85	9.19	8.15
2009Q1	8.91	8.55	--	--	--	9.58	8.68
Q2	8.14	8.31	--	--	--	9.25	9.75
Q3	7.82	8.57	--	--	--	9.86	11.64
Q4	8.33	9.04	--	--	--	9.50	10.49

C. NYMEX natural gas futures prices

Many analysts believe futures prices are accurate (unbiased) predictors of the future spot price.¹² In other words, although futures prices pertain to financial instruments, they are linked to physical gas markets and provide reasonable projections of the forward market for physical gas. According to this view, natural gas futures prices represent long-term supply prices or the expected price of natural gas.

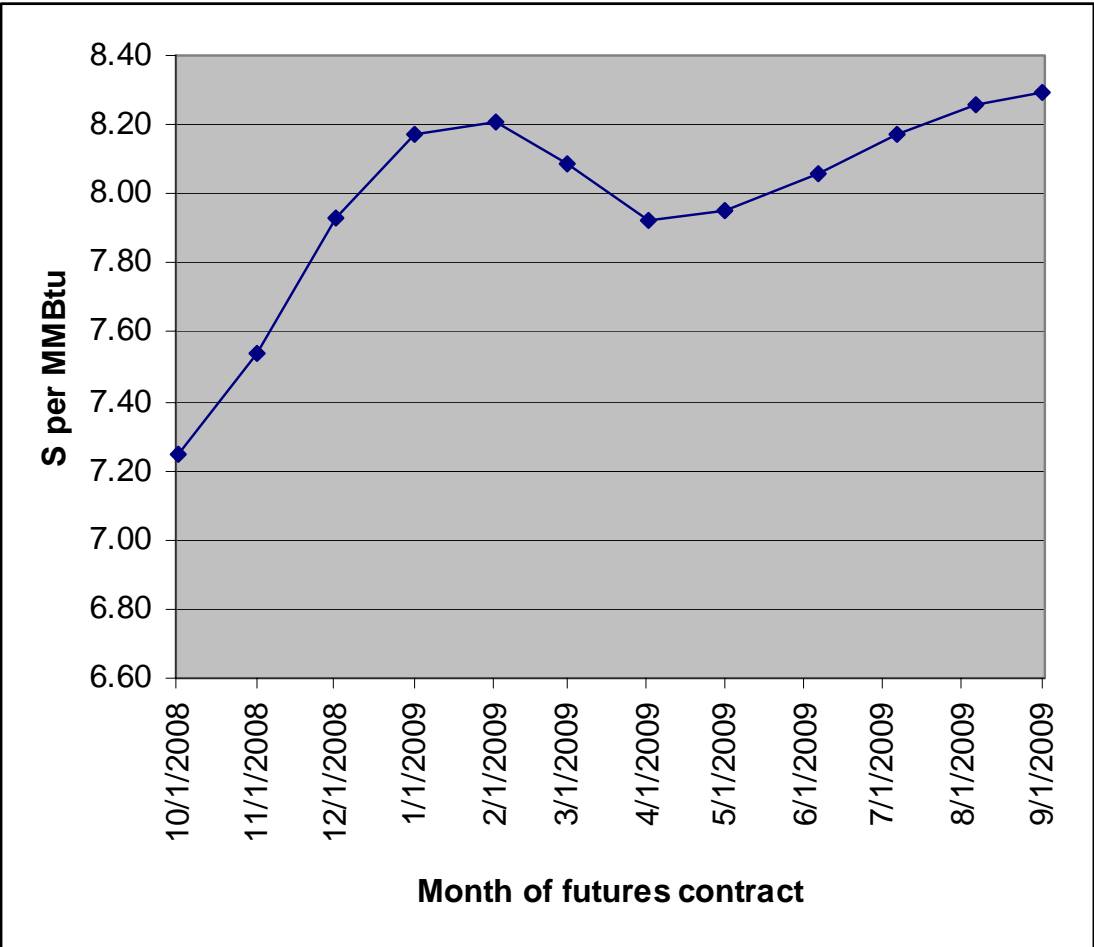
Futures prices reflect market consensus estimates that emerge from the trading activity of many parties. As expressed by one authoritative source, “The futures market distills the diverse views of market participants into a single price... [These] participants buy or sell a futures contract at the price they believe the commodity will sell for on the delivery date.” The market relies on NYMEX futures prices as pricing benchmarks for wholesale contracts and other commercial transactions.

Figure 2 shows the 12-month NYMEX futures prices as of September 11, 2008. The forward curve depicts, for any given date, the price of each NYMEX futures contract for successive future months. The figure reflects the market’s belief that prices for the upcoming (2008-2009) winter will be much lower than the prices during the June-July period of 2008. The market also believes that winter prices will increase on average less than one dollar per MMBtu from spot prices in early September (the time of this writing).

One certainty is that market prices and price projections can quickly change. In early July of this year, for example, futures price strips for the winter of 2008-2009 were in the vicinity of \$13 per MMBtu, about \$5 per MMBtu more than early September 2008.

¹² As a general rule, futures prices should approximate the spot price plus the storage cost from carrying the commodity forward to the delivery date of the futures contract. Some analysts, however, question this relationship because of what is called the “convenience yield” for storing a commodity. Storage, for example, can reduce supply interruptions and help to meet an unexpected shift in demand. These benefits would tend to increase the spread between the futures prices and the future spot price.

Figure 2. Natural gas forward curve: Price of NYMEX futures on September 11, 2008



IV. What actions have state commissions and gas utilities taken so far to address the problem of high and volatile natural gas prices?

As part of the work for this document, the NARUC Staff Subcommittee on Gas developed and distributed a survey on current actions state commissions and gas utilities are taking or have taken to address the possibility of residential customers facing high and volatile natural gas prices during the winter of 2008-2009 and beyond. Twenty state commissions replied to the survey.¹³ That survey asked questions on nine categories of activities by commissions and gas utilities. The reader can access the replies of individual state commissions at <http://www.nrri.org> (the main page of the National Regulatory Research Institute's website), under "New Information for the Regulatory Community." What follows is a summary of the replies for each of the categories.

1. **Education:** Education activities by state commissions run the gamut from brochures, press releases, and workshops to sophisticated multi-media and internet information campaigns. The New York Commission, for example, carries out multimedia statewide outreach and education (O&E) that includes: direct mailing to a wide range of interested consumer groups, local governments, and state agencies; radio, newspaper, internet and outdoor advertising; and exhibiting and speaking at large and small venues. New York also has a special website dedicated to answering customer questions, <http://www.AskPSC.com>, as well as a dedicated toll-free telephone number for this purpose. Several responding commissions, like the Arizona Corporation Commission (ACC), have a winter preparedness workshop prior to each winter. At the workshop, the commission, utilities, and pipelines discuss the outlook for the coming winter heating season. Some commissions also organize groups of involved and affected parties to consider ideas and proposals for addressing the effects of higher gas prices on customers as well as the state more generally. Finally, all responding commissions ensure that gas utilities take appropriate actions to keep their customers informed about gas topics that may affect price, safety, or reliability of service.
2. **Energy conservation:** Most state commissions provide information to customers on means to reduce energy usage and find more efficient ways to use energy. This information is presented in brochures, commission press releases, via the internet, and via public statements by the commission in meetings and conferences. Most commissions also have programs they either sponsor directly or sponsor in partnership

¹³ These states are Alabama, Arizona, California, Delaware, Indiana, Kentucky, Michigan, Minnesota, Missouri, Nebraska, New York, North Carolina, Ohio, Pennsylvania, South Dakota, Tennessee, Utah, West Virginia, Wisconsin and Wyoming.

with other agencies (e.g., state energy office, utilities) to help customers change their use of energy through physical changes to property (e.g., weatherization, energy audits, DSM, appliance upgrades). Some of these programs include an incentive to help ensure utility commitment. Several commissions also have permitted rate decoupling by utilities to help remove disincentives for the utilities to fully support and implement energy efficiency and conservation programs, both their own and those developed by other state agencies. Generally such programs are focused on residential and commercial customers. Utah has just implemented an extensive DSM Pilot Program that offers assistance in weatherization and appliance upgrades, promotes Energy Star homes, energy audits and education programs, and upgrades building codes.

3. **Bill-payment assistance:** The federal LIHEAP program remains the cornerstone for payment assistance to customers. In most of the responding states, utilities offer bill-payment assistance, either from funds donated by their customers or through local charities and other sources of community support. For funds donated by utility customers, some utilities match these funds up to a predefined maximum level. Most utility tariffs contain provisions requiring utilities to set up payment plans for customers to catch up on their bills if in arrears. The California Alternate Rates for Energy (CARE) program, in particular, has a well-specified energy assistance provision: a 20 percent discount on gas bills funded through a rate surcharge paid by all other utility customers; income eligibility limits increase with household size, starting from \$30,500 for households of 1-2.
4. **Budgeting tools for customers:** These tools range from simple to quite detailed options. More simple tools include: usage history on the monthly bill or via the internet (or both), bill stuffers, and internet tools to calculate energy usage and costs. More comprehensive options also exist. NorthWestern Energy (Nebraska) has an internet bill calculation tool that allows customers to see the effect of changing appliances or home size. (See <http://northwestern.apogee.net/homesuite/reshouse/select.aspx>.) The Ohio Commission has the Apples to Apples Gas Rate Comparison Interactive Calculator on its website. (See <http://www.commissiono.ohio.gov/COMMISSIONO/ApplesToApples/index.cfm?navitem=leftsidebar>.) A similar calculator is available on the PPL Electric website in Pennsylvania (See <http://www.pplelectric.com/Community+Services/Tools+For+Teachers/Energy+Calculator>), and on the South Dakota Commission website and the sites of several South Dakota utilities (See <http://www.commission.sd.gov/energy/naturalgas.aspx>.)
5. **Actions by local distribution companies (LDCs):** Almost all LDCs offer budget/levelized billing plans for customers, under commission oversight. Most of these plans provide customers who are behind in their payments one or more payment arrangement options. A few utilities offer fixed rate/bill options, for example Missouri, Nebraska, South Dakota, and Wisconsin (on a pilot basis). NIPSCO of

Indiana offers the Price Protection Service (PPS), providing customers fixed commodity prices for a 12-month period. This service contains two pricing options, Fixed Pricing and Capped Pricing. The Fixed Pricing Option offers customers a fixed commodity price for a 12-month period despite commodity price fluctuations; the Capped Pricing Option guarantees that customers will not pay more than the set fixed commodity price over the span of a year. This same utility also offers the Choice Program. This program allows customers to select a natural gas supplier. California LDCs offer ratepayer-subsidized systems and building design assistance: new or expanded/upgraded commercial and/or industrial facilities may get free design advice from LDCs and incentives of up to 60 cents per therm, up to \$500,000 or 50 percent of incremental cost, whichever is less. (See <http://www.savingsbydesign.com>.)

6. **Hedging activities by LDCs:** A few commissions require or strongly encourage LDCs to have a formal gas acquisition plan. Physical and financial hedging, narrowly or broadly defined, is a part of all such planning/procurement requirements. In New York, for example, the commission requires LDCs to develop an acquisition strategy to include a mix of purchase options with a view toward fostering price stability. A strategy should include guidelines and limits to support the mix of options and include an assessment of risk for each option. These strategies may include: (a) physical hedges (supply basin diversification, storage, fixed price short- and long-term purchases, spot acquisitions), (b) financial hedges (futures contracts, options such as calls, puts and collars, and (c) other hedges (contracts providing flexibility in the amount taken over the term of the agreement). The commission requires LDCs to consider volatility of customer bills as well as cost and reliability in purchasing strategies. The commission may view excessive reliance on any one gas pricing mechanism or strategy as not reflecting the best management of the gas portfolio. Any gas utility without a diversified gas pricing strategy has a heavy burden to demonstrate that its approach is reasonable.

Other commissions have more prescriptive planning and gas purchasing requirements. Michigan, for example, requires utilities to meet specific fixed price levels at four different deadlines, intended to layer-in fixed price gas throughout the year to mitigate volatility. During the winter, a utility has to meet 50 percent of its requirements with storage, and 25 percent of the remaining winter supply has to have a fixed price. Michigan encourages the use of purchase indicators, such as historical price quartiles, to aid utilities in making fixed priced purchases. Michigan also promotes Dollar Cost Averaging whereby fixed price purchases are spread throughout the summer months when gas prices are typically lower. Unlike Michigan, most commissions have no such detailed planning/procurement requirements.

All commissions that responded allow physical hedging; the majority of commissions allow financial hedging. Some commissions emphasize physical hedging, namely, fixed price physical contracts (e.g., Arizona and Utah) and storage (e.g., California and Michigan). All commissions review gas costs for prudence at least annually.

7. **The use of Purchased Gas Adjustment (PGA) mechanisms by gas utilities and Fuel Cost Adjustment (FCA) mechanisms by electric utilities:** All the responding commissions allow LDCs to use PGAs. The structure of these PGAs, however, varies among commissions. Most commissions include a simple cost pass through mechanism for recovery of LDC gas costs. Some commissions use a benchmark mechanism for comparison with actual costs. The usual benchmark is a 12-month average cost (e.g., rolling average, NYMEX pricing). All PGAs include prudence reviews of costs by the commission. About half the PGAs allow cost deferrals. California mentioned a Gas Cost Incentive Mechanism (GCIM), under which utilities attempt to purchase gas at prices within four percent of a benchmark market price. Windfalls and shortages are split on a tiered basis between customers and the utility. Among the commissions responding to the survey only Ohio is working to remove gas utilities from the gas purchasing function. Currently, Ohio is auctioning off that function, with the goal of securing lowest gas cost for consumers via non-utility suppliers. Only one commission, Wyoming, mentioned a FCA mechanism. The response indicated that two electric utilities have Power Cost Adjustment Mechanisms, which include sharing mechanisms, dead bands and deferred costs.
8. **Direct actions by state commissions:** Most commonly cited commission activities include the following: (a) procurement reviews (sometimes in conjunction with planning/procurement requirements), (b) determination of purchased-gas cost recovery based on the standard of prudence, (c) disconnection restrictions, and (d) winter/cold weather protection plans (for billing and cut-offs).
9. **Other measures:** The most common activity mentioned by responding commissions is monitoring FERC activities and filings by interstate natural gas pipelines at the FERC. None of the commissions mentioned more active participation in either activity, but it is generally well known that large states such as New York and California have more actively participated in such dockets in the past. A few commissions mentioned monitoring the status and functioning of natural gas markets. Only the California commission mentioned encouraging gas supply diversity to reduce risk of supply shocks from weather, force majeure, or other outages or capacity constraints. The Arizona Corporation Commission (ACC) cited several specific actions it has taken:

The ACC issued a policy in 2003 encouraging development of natural gas infrastructure in Arizona, including both pipeline and storage facilities, with goals including a diversification of natural gas supplies to Arizona and more reliable natural gas service. The ACC supported efforts at the North American Energy Standards Board to enhance the ability of pipeline shippers to utilize their pipeline capacity in an efficient manner. The ACC filed comments in several pipeline rate case proceedings at FERC expressing a concern with underperformance by producers in supply basins and the possible impacts on supply reliability of the producers' failure

to perform, particularly in the case of wellhead freeze-off events. The ACC filed comments at FERC regarding the possible use of flow control valves by pipelines and their potential impact on electric grid reliability as well as direct natural gas service. The ACC pre-approved cost recovery for two Arizona LDCs and an electric utility for capacity on Transwestern Pipeline's Phoenix Expansion project, which is under construction and expected to come into service in late 2008. The ACC is also holding discussions with various entities to explore extending natural gas service to Payson, Arizona, which currently does not have natural gas service, but rather propane service.

The North Carolina Utility Commission (NCUC) indicated its staff has recommended that the NCUC send letters to the North Carolina Congressional delegation concerning the need for legislation to rein in manipulation and excess speculation in the energy commodities market.

V. How do higher wholesale gas prices pass through to retail consumers?

The price of retail gas typically closely relates to a gas utility's cost of service, which includes both wholesale gas costs and distribution charges. Other than Hawaii, states have what is called a "purchased gas adjustment" (PGA) mechanism. This mechanism allows a utility to recover the changes in its wholesale gas costs on a periodic basis and without the need for a formal rate review of non-gas cost items. In most states, the utility passes through dollar-for-dollar purchased gas costs, which include the cost of the gas commodity, pipeline transportation and wholesale storage services, subject to a prudence review. Some states, for example, allow monthly adjustments with an annual prudence review of wholesale gas purchases as well as an annual true-up of the difference between actual costs and recovered costs.¹⁴ Utilities typically recover all costs found not to be imprudent from those retail consumers who purchase gas from the local gas utility. An exception is in those states that have performance-based regulation

¹⁴ Because price adjustments never occur more frequently than once a month, consumers do not see the day-to-day fluctuations in gas prices. PGAs allow a utility to recover changes in its average cost of gas purchases over a specified period of time. The more frequent the adjustment, the sooner residential prices will reflect the actual changes in the price (up or down) paid by the utility for the gas it delivers.

(PBR) mechanisms, which allow purchased gas costs to be recovered from consumers on the basis of a pre-determined cost-sharing formula.¹⁵

State commissions have no direct effect on the price of purchased gas paid by the local gas utility.¹⁶ They have authority, however, over whether the utility can recover the entire cost of its gas purchases from retail consumers, consistent with applicable state law and regulations. A state commission may decide, for example, that the utility should have purchased more gas under long-term contracts or hedged with financial derivatives.¹⁷ Depending on a state's interpretation of the prudence standard, a commission could deprive the utility of full recovery of its actual costs on grounds that those costs were not reasonable and reflective of prudent management.

Because wholesale gas costs represent only one component of a utility's total costs recovered from retail consumers,¹⁸ a specific percentage increase in the price of wholesale gas translates into a lesser percentage increase in the retail price. Assuming that the wholesale price rises by 50 percent and wholesale gas purchases represent 60 percent of a gas utility's total costs, retail consumers would then see a price increase of 30 percent.

Many residential gas consumers purchase their gas from marketers and other third-party providers.¹⁹ These purchases fall within the sphere of what are called "customer choice

¹⁵ Several states have PBR mechanisms for purchased gas. These mechanisms generally reflect cost-sharing based on the difference between a pre-specified price benchmark and the actual price paid by the utility. (See, for example, <http://www.nrri.org/pubs/gas/06-15.pdf>.)

¹⁶ The commodity portion of gas prices is deregulated, and the interstate transportation component is regulated by the Federal Energy Regulatory Commission.

¹⁷ A utility can integrate long-term contracts into its gas supply portfolio to stabilize prices as well as to assure gas-supply adequacy. Some gas utilities have expressed their reluctance to sign long-term contracts without a regulatory commitment to full recovery of the costs. Commissions' reluctance to make this commitment stems from the downside of long-term contracts, namely, the risk to a utility and its customers from a contract with rigid terms and conditions over a multi-year period. A contract with a fixed price, for example, could lead to the gas utility being stranded with high priced gas or capacity, with the cost of this high priced gas or capacity likely absorbed by the utility's customers.

¹⁸ The other major components are pipeline, storage, and distribution costs.

¹⁹ Nineteen states and the District of Columbia presently have programs in place allowing for residential choice. As of December 2007, these programs had a 13.4 percent participation rate. Participation rates have increased over time for some programs while decreasing for others.

programs.” Typically, third-party providers purchase gas in the wholesale market and have it transported to the city gate of the local gas distribution company.²⁰ The commodity gas portion of the price is unregulated. Just as when a utility buys gas, an increase in the price of wholesale gas translates into an increase in cost for the third-party provider. Unless a customer had previously signed a fixed-price contract, the customer would pay a higher price. Many residential customers under customer choice programs have opted for fixed-price contracts, thereby shielding themselves from gas-price volatility over a one-year or two-year time horizon.

VI. What can consumers do to mitigate the effects of high gas prices?

In most markets, when price rises consumers minimize their economic losses by curtailing the consumption of the good or service in question. One common response is for consumers to substitute other goods or services for the one whose price has increased. For residential consumers of natural gas, the opportunity to switch to another fuel is greatly restricted in the short run. If natural gas prices suddenly increase during the winter, for example, most households probably would respond little in reducing their usage for the remainder of the winter. The consequence is that for a given price increase consumers encounter larger economic losses than if they are able to reduce their natural gas usage by a higher level.

As noted later in this Toolkit, however, consumers can take various actions that would reduce their gas consumption.²¹ Weatherization and other energy efficiency actions, for example, can lower consumers’ gas bills. Studies have shown, however, that many residential

Participation rates vary widely across programs, attributable to different factors including the price of utility gas and the ease of customers signing up with a third-party marketer. (See, for example, http://www.eia.doe.gov/oil_gas/natural_gas/restructure/restructure.html.) Analysts and other industry observers have varying opinions on whether these programs have benefitted residential customers.

²⁰ The city gate is the point on the gas network where the local gas distribution company takes gas off the pipeline system.

²¹ The average (weather-normalized) consumption of natural gas per residential consumer, for the U.S. as a whole, has decreased over 30 percent since 1980, according to the American Gas Association. Most gas utilities have experienced a decline. Factors explaining the decline include new building codes, appliance efficiency standards and a rise in the real price of natural gas. Empirical evidence points to a steeper decline in the past few years, attributable partially to the rise in natural gas prices. See, for example, Frederick Joutz and Robert P. Trost, *An Economic Analysis of Consumer Response to Natural Gas Prices*, prepared for the American Gas Association, March 2007.

gas consumers have not availed themselves of low-cost conservation opportunities (“low-hanging fruit”) that can reduce their gas bills.

Qualified low-income households should take advantage of available energy assistance funds. Many eligible consumers currently do not receive funds, however, either because they are not aware of assistance or, if they are, they are reluctant to receive aid.²² Some senior citizens, for example, attach a stigma to receiving energy assistance, which to them may represent a form of welfare payments. Compounding this problem is the fact that in many states energy assistance funds have fallen short of meeting the needs of qualified low-income households.

Consumers also should familiarize themselves with their gas utility’s disconnection policies. Some state commissions lack formal rules or policies prohibiting service disconnections during the winter heating season.²³ Consumers should consider contacting their utility prior to reaching the point of disconnection to work out a payment plan.

Consumers also should consider taking advantage of budget payment plans, if offered by their local gas utility, to even out their monthly gas bills. These plans allow consumers to reduce their winter gas bills by paying more during other times of the year when gas consumption normally is much lower. Unlike energy assistance programs, under a budget bill payment plan consumers are responsible for paying the full cost of gas service. The percentage of residential consumers under budget bill payment plans varies widely across states and gas utilities, suggesting that some utilities along with their commissions have more aggressively promoted these plans than others.

In certain states, those consumers placing a high value on price stability can select gas services that offer fixed prices. In those jurisdictions with customer choice programs, for example, consumers can consider fixed-price service when offered by a marketer. In addition, some gas utilities have offered fixed-price bundled service, which risk-averse consumers might

²² One approach to increase customer participation in state-mandated low-income energy assistance programs is for state commissions to direct public utilities to partner with other state agencies that provide health and medical service, which have similar eligibility requirements and a more rigorous re-certification process. This partnership offers a couple of advantages over a stand-alone utility outreach effort. First, because low-income households use health and medical services more, utilities can reach more customers immediately. Secondly, because other agencies have strict re-certification processes, utilities should see a reduction in attrition rates.

²³ The webpage <http://liheap.ncat.org/Disconnect/disconnect.htm> contains a survey of state disconnection rules and policies.

prefer over traditional bundled sales service whose price varies periodically with movements in wholesale gas prices.²⁴

VII. What actions can residential consumers take to conserve their usage of natural gas?

In responding to higher natural gas prices, a residential consumer can save money by conserving and using natural gas more efficiently. The consumer can follow a seven-step plan:

1. Acquire information on energy conservation
2. Determine energy use and cost
3. Do an energy audit
4. List all potential projects
5. Prioritize the list
6. Take immediate action on the highest-priority energy conservation projects
7. Repeat steps one through six for new energy savings as often as possible.

What follows is a detailed description of these steps that a residential consumer can pursue to conserve on the use of natural gas, thereby mitigating the effects of high gas prices.

One source of natural gas savings, not discussed below, is a cutback on the use of electricity during peak periods. For many regions, gas-fired generating facilities are the marginal plants during peak periods. These plants, consequently, would operate less when electricity consumption falls during those periods. Less frequent operation of gas-fired plants could help to moderate the market price of natural gas.

Step 1 – Acquiring the information

This short guide will assist the consumer on the path to save natural gas at low cost and in a short period of time. A wide variety of free information on energy conservation is available from various sources. The U.S. Department of Energy, State energy offices, energy utilities,

²⁴ Fixed or contract prices reflect both current spot prices and expected future spot prices, in addition to the relative degree of risk aversion preferred by gas providers and buyers.

environmental organizations, and natural gas/energy associations all provide useful information to help a consumer conserve on the use of natural gas.

Acquiring this information is as simple as getting on the Internet or going to the public library. Assembling a list of energy conservation advice is the first step to saving energy and money.

Residential customers can access a number of energy calculators that allow them to make cost comparisons between appliances with different energy use (therms or Ccf). The following two energy calculators are user friendly and provide customers with the ability to see how the various appliances and their usage level affect their utility bill:

1. The **Home Energy Saver calculator (Energy Advisor)** allows residential consumers to identify the best ways to save energy in their homes and find the resources to make the savings happen. The project is sponsored by the U.S. Department of Energy (DOE), as part of the national ENERGY STAR Program for improving energy efficiency in homes. Users can begin the process by simply entering their zip code, and in turn receive instant initial estimates. By entering the number and approximate age of their major appliances, users can estimate their energy consumption, based on historical sales-weighted efficiency data. A more detailed module also is included to estimate energy consumption for lighting and dozens of miscellaneous gas and electric appliances, with default values based on data compiled over the years by researchers from Lawrence Berkeley National Laboratory. The results from the calculator provide a list of recommendations, ranked by payback time, tailored to the particular home being evaluated. The user can vary the energy efficiency assumptions, as well as the retrofit costs and then recalculate the table. The user can view the results on line or print out a detailed report, which includes retrofit description and other details as well as links to additional information.
2. The **Tacoma Public Utilities' (Tacoma Power) calculator (Home Appliance Calculator)** provides residential customers with costs estimates of energy use based on the customer's inputs. The calculator allows the customer to: (1) select home appliance groups (heating, water heating, lighting, appliances, kitchen, and tools); (2) identify the energy use (watts) for a given appliance (default wattages are listed); and (3) designate the hours of operation per month (defaults are available). Based on the above input, the calculator provides the customer's monthly expenditures for the appliance(s) selected. Although the annual and monthly results are not intended to be precise, they provide a cost comparison between the energy the customer's home is currently using ("Base House") and various "Scenario" variations. After running a few variations, the customer may click the "View Annual" and "View Monthly" buttons for comparing costs.

Step 2 – Determine your natural gas use and cost

Consumers should closely review their natural gas bills. They should find out their natural gas usage and how much they are paying for natural gas. This will set a consumer's baseline. The consumer can extract this information from monthly natural gas bills. In some cases the bill also provides the consumer's annual (12-month rolling average) natural gas use. Some utilities will provide a consumer with this information if requested.

A consumer can consider a plan setting out a goal and establishing a priority list of strategies to accomplish some goal. The goal could be to save X amount of natural gas over last month or last year, or Y amount of money.

Even when natural gas prices are declining, the consumer can still save money by using less. In setting priorities, the consumer should know the cost of the equipment and the amount of the annual natural gas savings buying this new equipment will have over existing equipment. In some instances the consumer can get this information from the label on the equipment. In other instances the consumer may have to estimate this savings from the information found on energy conservation. If an energy investment costs \$100 to install and the annual energy cost savings are projected to be \$50 per year, for example, the consumer's investment will pay for itself in two years. Once the cost of the equipment is paid the rest is pure savings. This is called a simple payback method.²⁵

The next step in setting priorities to meet the consumer's goal to save money is doing an audit.

Step 3 – Energy audit

A consumer has the choice of either doing her own energy audit (with help from online services) or hiring an expert. An energy expert will charge for doing the audit but this amount can be much less than the potential savings from consuming less natural gas. Various online audits available through the U.S DOE, U.S. EPA, State Energy offices or various energy and environmental organizations can assist the do-it-yourself audit.

Step 4 – List all potential projects

After the energy audit is completed, the consumer can then review different techniques and equipment for saving natural gas. The consumer can always add to the list provided below

²⁵ The payback period equals the installed cost of the equipment divided by the annual energy cost savings (dollars/year).

by checking web-based free audits on energy conservation strategies or materials from the local library.

1. **Building envelop – minimize heat use:** The consumer can do the following at little cost: (1) stop leaks and reduce heat transfer, control humidity and sunlight to improve heat gain; (2) tighten up loose windows and doors with weather-stripping, (3) seal cracks around windows and door frames; where the walls meet the foundation and where pipe or other cable enter through the building; (4) replace broken glass panes in windows; (5) fix doors and windows to operate and close properly; (6) adjust, replace or install automatic door closers; and (7) cover window air conditioners.
2. **Heating system :** The consumer can do the following at little cost: (1) lower the thermostat – keeping the thermostat a bit lower but still comfortable can produce substantial savings; (2) when the consumer is not home, turn down the thermostat to a lower setting; (3) turn the heating system to a lower but comfortable setting at bedtime; (4) close the curtains at night and keep them open on sunny days; (5) minimize the use of exhaust fans; (6) replace air filters regularly; (7) adjust air ducts to maximize heating where needed; (8) routinely test and tune up the heating system; and (9) maximize use of passive solar heating.
3. **Water heater:** The consumer can do the following at little cost: (1) insulate the water heater, (2) lower the temperature setting to proper settings for needs, (3) insulate hot water pipes, (4) install water-conserving showerheads, (5) install aerators on sink faucets, (6) minimize and reduce the amount of hot water used, (7) eliminate leaks, and (8) clean out sediment from the hot water tank—2 to 5 gallons every six months.
4. **Cooking:** The consumer can do the following at little or no cost: (1) turn equipment on when ready to cook including preheating, (2) use only as high a temperature as is needed – medium or low heat, (3) open oven doors at a minimum, (4) cook larger volumes of food and reheat, (5) adjust the flames so the tips just touch the pot or pan and (6) minimize use of the exhaust fan by operating it more than needed.
5. **Washing and drying:** The consumer can do the following at little cost: (1) reduce the water temperature from a water heater to the minimum needed, and (2) wash a full load.

Step 5 – Prioritize the list

Subsequent to a walk-through audit and a review of the above list—along with supplemental information from a website audit and conservation information—the consumer can compile a list of projects. The list should then be prioritized.

As a rule of thumb, the consumer should pick projects that get the largest “bang for the buck,” that is, the most natural gas saved for a given amount of money. This analysis should take into account the consumer’s lifestyle and needs. A family of five with three teenagers that take 30-minute showers, as an example, would probably find installing water conservation

showerheads a good strategy. On the other hand, a single-member household that takes baths would probably not find this strategy to be cost-effective.

Step 6 – Do it

Take immediate action on the first item on the prioritized list. Obviously, compiling a list does not help unless the consumer uses it to take action.

Step 7 – Repeat as often as possible

A consumer should start slow, taking a part of the savings and reinvesting them in more energy savings to reach her goal. The consumer also can evaluate what worked and adjust her goals accordingly, and then start over again.

VIII. What energy assistance programs are available to residential customers?

A. Existing energy assistance programs

Low-income customers may qualify for energy assistance programs administered by the state or federal government. Several states also have low-income programs that (1) assist low-income households who find it difficult to pay their gas bills, especially during the winter months; and (2) provide weatherization measures to reduce energy consumption and produce more energy efficient homes.

1. LIHEAP

The major source of assistance is the Low-Income Home Energy Assistance Program (LIHEAP). This program is a block grant program administered by the U.S. Department of Health and Human Services (HHS). Congress established the formula for distributing funds to the states based on each state's weather and low-income population. All states and the District of Columbia receive LIHEAP grants each year.

To be eligible for a LIHEAP grant, a household's income must not exceed either 150 percent of the federal poverty level or 60 percent of the state's median income, whichever is greater. The highest level of LIHEAP assistance goes to those households with the lowest incomes and highest energy costs or needs in relation to income, taking into account family size. States and other grantees must conduct outreach activities designed to ensure that eligible households, especially households with elderly or disabled individuals and households with high home energy burdens, know about the availability of this assistance. States and other grantees also must coordinate and leverage their LIHEAP programs with similar and related programs.

The LIHEAP statute authorizes a contingency fund of approximately \$850 million. The President may release these funds to assist with the home energy needs arising from an

emergency situation. In the past, the President generally has released these funds in response to emergency situations arising from extreme weather conditions or energy-price increases.

2. Other federal programs

Other federal programs can help consumers pay their utility bills by augmenting income or helping pay for energy efficiency measures. The Earned Income Tax Credit (EITC) sometimes called the Earned Income Credit (EIC), for example, is a refundable federal income tax credit for low-income working individuals and families. Congress originally approved the tax credit legislation in 1975 in part to offset the burden of social security taxes and to provide an incentive to work. When the EITC exceeds the amount of taxes owed, it results in a tax refund to those who claim and qualify for the credit. State and federal income tax credits, in addition, are available for investment in certain energy conservation measures.

3. State-mandated and voluntary utility assistance programs

Other sources of assistance for qualified low-income households include those programs either mandated by a state commission or legislative action or voluntarily implemented by a utility. These state-required or utility-specific programs provide assistance to reduce the bills of low-income consumers. Several states have commission-mandated utility assistance programs; they are sometimes referred to as Percentage of Income Programs (PIP) or Customer Assistance Programs (CAP).

In Pennsylvania, they are known as Customer Assistance Programs (CAP). These utility programs help low-income, payment-troubled customers retain service by giving them affordable payments. Enrollment in CAP allows customers to make regular monthly payments, which may be for an amount that is less than the current bill for utility service. Household size and gross household income generally determine the size of any discount. Customer Assistance Programs are funded through residential rate surcharges.

Another example of a state-mandated program is the Ohio Percentage of Income Program or “PIP” as it is frequently called. Under PIP, a qualifying consumer pays the gas utility a fixed percentage of his income for utility service, regardless of usage. Some programs may require the consumer to make a monthly contribution on any arrearage. The Ohio PIPs are individually administered by each gas utility and funded by mandatory contributions from the utilities’ customers.

A third example of a state-mandated program is California’s Alternate Rates for Energy program (CARE). This program provides eligible, low-income customers a 20 percent rate discount on their electric and natural gas bills. A rate surcharge paid by all other utility customers funds the CARE program.

4. Hardship funds

Other innovative assistance programs currently exist in many states. These programs, referred to as hardship funds or fuel funds, provide cash assistance to utility customers to help

them pay their utility bills. Hardship funds provide assistance grants to customers who “fall through the cracks” of other financial assistance programs, or to those customers who still have a critical need for assistance after the exhaustion of the other resources. A hardship fund makes payments directly to utilities on behalf of eligible customers. Utilities or non-profit organizations typically administer hardship funds by collecting and distributing the money.

Alabama, New York, Pennsylvania and Wyoming are examples of states with hardship funds. In Alabama, there is a state-wide program called “Project Share.” Through this program, utility customers can voluntarily contribute one dollar a month to the Project Share fund. The fund is administered by the American Red Cross, which uses the money to pay utility bills of customers in need. Wyoming has a similar program, “Energy Share of Wyoming.” In Illinois, there is a voluntary program known as “Hands-Up.” This program is a community/utility partnership that allows customers to work off their utility bills at a rate of \$10 per hour by providing labor for community needs or by attending certain classes. A final example of a hardship fuel fund or customer assistance program (or “CAP”) is a program currently operated by a Kentucky gas utility funded by a mandatory contribution from residential customers. The customer funding is matched, dollar for dollar, by the utility’s shareholders. The funding is capped at 1.5 cents per Mcf or about \$1.50 per customer per year. A local low-income advocacy organization administers the program.

5. Weatherization measures

Aside from providing direct bill assistance in the form of cash subsidies to low-income customers, the federally administered LIHEAP program also provides weatherization measures. A portion of a state’s allotted grant award may be directed to weatherization measures with added funding for crisis services.

Additionally, some states mandate supplementary utility-funded no-cost weatherization services to low-income households. Numerous demand-side programs operate around the country. In Minnesota, for example, all state-jurisdictional gas utilities must spend at least 0.5 percent of their gross operating revenues on conservation improvement programs, such as energy audits and weatherization, and on rebates toward the purchase of energy efficient appliances. A utility must spend a portion of this money on residential conservation improvement programs for renters and low-income consumers.

State commissions can work closely with utilities and low-income groups to ensure that the availability of these programs is effectively communicated to the public prior to the onset of winter. Examples of such programs are demand-side management programs. In California, for example, by statute, state-jurisdictional utilities must budget a minimum level of funding for weatherization measures. These measures include attic insulation, energy efficient furnaces, weather-stripping, water heater blankets and other measures to reduce air infiltration.

In Pennsylvania, the program is called the Low-Income Usage Reduction Program (LIURP). LIURP helps low-income residential customers lower the amount of energy used

each month. The utility typically installs energy saving features or make energy efficiency improvements in customers' homes to help reduce bills.

B. Different ways to increase funding for energy assistance

The federal government can take various actions to increase funding levels to low-income households. At the time of this writing, the President signed the FY09 Continuing Resolution, which appropriated funds at the fully authorized \$5.1 billion level. NARUC, AGA and other groups applauded this action as providing the needed relief for low-income consumers.

NARUC, at the February 20, 2008, Winter Meetings, adopted a resolution urging Congress to appropriate LIHEAP funding: (1) for FY09 of no less than its fully authorized \$5.1 billion, and (2) for FY08 at its fully authorized level of \$5.1 billion. The resolution noted the increase in natural gas prices and recognized the constraint on state budgets and the vital role that LIHEAP plays in providing assistance to low-income households.

The federal government is the largest natural gas producer in the United States. It owns approximately 38 percent of the gas-producing land in the nation. With increasing natural gas prices, the federal government expects to earn approximately \$6 billion in gas royalties this year. As the increase in gas royalties is a direct result of rising natural gas prices, state commissions may want to encourage the federal government to use the gas royalties to help relieve the burden of low-income households from increasing natural gas prices, rather than allocating the "windfall" to the federal and state treasuries. The National Energy Policy Act of 2005 has a section that authorizes the U.S. Department of the Interior (DOI) to provide royalty in-kind natural gas to low-income consumers (sect 342(J)) at below market prices. The DOI so far has not pursued this funding option to assist low-income households.

C. Consumer education on the issues and on the availability of specific programs

1. Develop state outreach campaigns

Develop state-wide campaigns that urge all consumers to learn about ways to cope with higher winter energy costs. Develop campaigns that appeal to consumers on limited or fixed incomes to call their utility to find out about special programs, such as utility assistance programs and budget billing. The Idaho Public Utilities Commission, for example, has developed a statewide list of resources, including contact information and eligibility criteria for the programs offered. The information is available on the commission's webpage, and is used by commission staff, utilities, state agencies, and non-profit organizations when making referrals as well as by individual consumers.

2. Provide safety tips

According to the United States Fire Administration, more than one-fifth of residential fires relate to the use of supplemental room heaters—wood- and coal-burning stoves, kerosene heaters, gas space heaters, and electric heaters; so, before consumers put logs in the fireplace or

plug in the electric heater, educate them on taking precautions. A commission also can caution consumers never to use an oven or stove to help heat their homes.

3. Provide conservation tips

In addition to educating consumers on how to conserve energy, explain how to take advantage of special state and utility weatherization and energy efficiency programs.

4. Provide information on budget billing

Explain to consumers how budget billing may help them by enabling them to pay the same amount each month. Tell them to contact their electric or natural gas utility to request budget billing. Explain that the utility can adjust the bill periodically during the year, higher or lower, depending on the customer's usage. The utility should not charge customers for switching to budget billing.

5. Provide information on LIHEAP

LIHEAP provides financial assistance to low-income households to pay energy bills. LIHEAP is a federal program administered by the states. Cash benefits will help low-income customers pay their home energy bill and emergency monies will help to restore service for low-income customers whose service was shut off.

6. Payment arrangement

In many states the utility will work with consumers to establish payment arrangements on overdue bills. Consumers also can decline the utility's payment arrangement and contact the commission, which has the discretion of setting the terms of payment arrangements matching the consumer's ability to pay.

7. Provide information about hardship funds

Many states have utility hardship funds which provide cash assistance to customers to help them pay their utility bills. Hardship funds provide assistance grants to customers who "fall through the cracks" of other financial assistance programs, or to those who still have a critical need for assistance after the exhaustion of the other resources. The fund makes payments directly to utilities on behalf of eligible customers.

D. Protection of the public's health and safety

Educate consumers on available protections such as the following provisions:

1. Medical certification

Many states offer medical certification where utility service will not be shut off if a licensed physician certifies that the consumer is seriously ill. The utility will generally require

the consumer to provide a letter from a licensed physician, stating that shutting off utility service will harm the ill person residing in the home. These certifications are often for a limited period.

2. Winter termination restrictions

Many states restrict terminations during cold weather months. For example, in some states utility service cannot be shut off during the winter months of December 1 through March 31 without the state commission's prior approval or if the consumer is identified as low-income.

E. Actions for assisting low-income consumers

State commissions can consider the following actions:

1. Increase consumer awareness of energy and weatherization assistance programs through consumer education, as noted above. Refer low-income households to existing energy assistance and hardship programs and local community agencies. Commissions, in addition, should identify those agencies and organizations that can assist consumers with payment problems. A state-wide effort as described above may be appropriate.
2. Consider commission-approved emergency customer assistance programs, such as Pennsylvania's CAP, Ohio's PIP, and California's CARE, on at least a pilot basis, if none exist presently.
3. Provide assistance for energy weatherization and other conservation programs to buffer the economic injury from high utility prices. In some states, utilities directly provide this assistance, while in other states local community service agencies provide it. States may want to consider encouraging or requiring the utilities in their states to expand, reinstate, or develop gas demand-side management energy conservation programs, especially those programs directed at low-income consumers.
4. Urge Congress to increase LIHEAP basic funding levels to \$5.1 billion, increase eligibility requirements to above 150 percent of federal poverty levels, and increase federal weatherization assistance program funding by \$1.2 billion over the next ten years. This funding increase would roughly double current funding levels for weatherization measures.
5. Look to the states for state funding to supplement LIHEAP. As prices remain high and a crisis looms, state assistance funds may be appropriate.
6. Urge Congress and the new federal government administration to appropriate gas royalties to low-income assistance programs (see earlier discussion) to help offset increasing natural gas prices.

7. Review existing state and commission consumer protections to determine their adequacy in today's environment. If inadequate, revise them temporarily or permanently as appropriate.

IX. What options should state commissions consider in addressing the problem of high gas prices?

A. Communications strategy

To begin with, state commissions can consider developing an effective and comprehensive communication strategy to use within their own agency and other state agencies, in conjunction with elected officials, utilities, intervener groups, local social service agencies, senior citizen groups and low-income groups. As a component of a comprehensive communication strategy, states may also want to develop fact sheets or brochures explaining the potential for price increases and the reasons for these increases as articulated by different experts. They can distribute this information in response to questions and complaints about high gas bills as well as being made available on state commission websites.

State commissions also might consider issuing press releases and meeting with the media. They may, in addition, want to consider holding workshops/community meetings with affected stakeholders to develop a higher level of awareness concerning natural gas prices. Finally, state commissions may want to consider training personnel in their consumer services division to respond to questions about how gas rates are set, the effects of wholesale gas prices on customers' bills, and the ability of state commissions to regulate those markets.

Many good examples of fact sheets, brochures, press releases and model customer bill inserts are already available on the websites of some state commissions, as well as of the U.S. Energy Information Administration, and the American Gas Association.²⁶

The Appendix provides an example of a state commission brochure with much of the information drawn from the Toolkit. State commissions may want to consider the example in designing a brochure for natural gas consumers and the general public.

B. Energy efficiency programs

Commissions and utilities may want to consider weatherization and other energy efficiency programs to buffer the impact of high gas prices. In some states, utilities directly provide this assistance while in other states local community service agencies provide assistance.

²⁶ Section XI of this document contains links to some of these documents.

States may want to consider encouraging or requiring the gas utilities in their states to expand, re-instate, or initiate gas demand-side energy efficiency programs.²⁷ In June 2008 the New York Public Service Commission, for example, issued a decision establishing an Energy Efficiency Portfolio Standard (EEPS). As part of a statewide program to reduce natural gas usage by 15 percent, relative to forecast levels, by the year 2015, the commission established interim targets and funding through the year 2011. The commission decision requires utilities to file energy efficiency programs. It also invites the New York State Energy Research and Development Authority, as well as independent parties, to submit energy efficiency program proposals for commission consideration.

States also may want to communicate with consumers about the value of energy-efficiency actions; for example, reducing the thermostat from 72 degrees to 68 degrees, the potential benefits of energy efficient appliances, and techniques for winterizing homes.

Energy efficiency programs range from information dissemination about the benefits of energy efficiency, monetary subsidies offered for the purchase of energy efficient appliances, and equipment replacement and upgrades, to free or low-cost energy audits. Because of higher natural gas prices, some energy efficiency actions that are not cost-effective during previous periods might be cost-effective in today's environment.

State commissions may want to more aggressively promote energy efficiency this winter through education programs and other forms of information dissemination. Consumers can consequently become better aware of opportunities to reduce their consumption of natural gas during the heating season. The U.S. Department of Energy and other organizations have identified various actions that homeowners can take to conserve on their use of energy for heating.

At the 2008 NARUC Summer Meetings, NARUC passed a resolution recommending regulatory actions that would promote energy efficiency and reduction in greenhouse gas emissions. (See <http://www.naruc.org/meetingresolutions.cfm?2008-07023>.) The foundation for the resolution is the *Second Joint Statement of the American Gas Association and the Natural Resources Defense Council*, issued in May 2008. Two major parts of the joint statement advocate: (1) removing disincentives for utilities to promote energy efficiency, and (2)

²⁷ A survey by AGA in late 2007 reported that fifty-three out of eighty-two responding gas utilities administered energy efficiency programs. These programs include residential low-income weatherization, energy audits, consumer education, equipment replacement and retrofit, and financing for energy efficiency applications. Those utilities with programs spent \$280 million in 2006 on direct program costs. Consumers fund the vast majority of energy efficiency programs. AGA estimated that these programs reduced gas consumption per residential participant by 8 percent.

developing performance-based regulatory incentives to encourage utilities to promote energy efficiency. Identified incentives include performance target savings, shared savings, and a rate of return premium. The NARUC resolution “encourages commissions to consider the principles and recommendations set out in the ... *Joint Statement* ... and encourages State commissions and other policymakers to review and give strong consideration to favorably approving gas distribution proposals consistent with these principles and recommendations.”

C. Oversight of gas supply planning and procurement

Another option calls for state commissions to more closely review and monitor gas costs passed through to consumers. This could involve increased attention to overseeing utilities’ gas purchasing decisions by conducting audits and prudence reviews of those decisions. State commissions also may want to consider upfront review of utilities’ gas procurement strategies, including those contained in resource and supply plans required in some states for commission review. States may want to pay particular attention to the mixture of resources used by gas utilities in their state and to ensure that these resources meet the policy goals of the state. If price stability rather than lowest-cost supply is the primary state-policy objective, for example, the commission may want to communicate that policy objective to the gas utilities and encourage them to contract for significant quantities of fixed-price gas and more actively purchase financial derivatives.²⁸

Although there is no evidence pointing to widespread inefficient or ineffective behavior by gas utilities concerning gas supply planning and gas procurement, certain inefficiencies are difficult to detect. Detection would require a commission to investigate thoroughly the planning and procurement activities of a gas utility.²⁹ Consistent with their legal mandates, state commissions have a responsibility to assure customers and the general public of the prudence and efficiency of a utility’s actions. This assurance requires commissions to have access to certain information and undertake comprehensive analysis employing experienced and knowledgeable staff.

²⁸ Since the winter of 2000-2001, state commissions have placed increased emphasis on gas utilities achieving a better balance between reasonable prices and stable prices. In attaining more stable prices through financial hedges and other tools, however, consumers may end up paying higher prices over the long term.

²⁹ Uncovering problems often is difficult because it requires detailed and time consuming tasks demanding a high level of skill, knowledge and experience.

D. Hedging

State commissions may also want to consider the extent to which hedging activities (physical and financial hedges) by gas utilities fit into regulatory policy objectives—for example, the value of long-term, fixed-price gas contracts, and the value of using natural gas and weather-related financial instruments to help stabilize purchased gas costs. In recent years it has become more widely acceptable for gas utilities to recover the cost of financial derivatives acquired to hedge limited amounts of their gas purchases (e.g. variable supply requirements during the heating season or swing gas supplies). Some states authorize more expansive use of hedging tools as part of a utility’s gas purchasing incentive plan or as part of a hedging pilot program. State commissions should recognize and explicitly accept the downside in allowing utilities to use these tools. One such downside is the risk of locking in gas prices in current periods only to see market prices unexpectedly fall in future periods.

E. Cost recovery and rate design

Another option would call for state commissions to examine their cost recovery and rate design practices and policies. States may want to consider *whether* (1) the gas cost recovery mechanism in their states is working effectively in balancing the objectives of low-gas costs while minimizing price volatility; (2) innovative regulatory tools such as performance-based or incentive gas-cost recovery plans, whose purpose is to provide a utility with stronger incentives to control its purchased gas costs, would be appropriate; (3) existing weather normalization adjustment mechanisms should be reviewed to determine if weather normalization adjustments are working appropriately or need to be modified, and if they are not being used, whether it would be appropriate to encourage gas utilities to have such mechanisms; (4) gas utilities might be encouraged to develop and offer fixed-price or fixed-bill tariffs; (5) a utility should recover bad debt costs through a tracker account; and (6) existing rate designs and policies should undergo review and modification to advance certain regulatory objectives such as sending better price signals to consumers and shifting costs from the winter heating season to other time periods.

Gas utilities increasingly have proposed cost tracking mechanisms before their state commissions. Under this mechanism, a utility is able to adjust its rates to recover certain costs without a formal rate review. One justification for a cost tracker is the inadequacy of using historical cost to predict future costs. A tracker has the intent of stabilizing a utility’s cost recovery utility’s earnings and reducing the likelihood of future rate cases. On the downside, a tracker could diminish the incentive of a utility to control its costs from the weakening of regulatory lag;³⁰ another concern is that a tracker would shift risks to consumers, since

³⁰ Regulatory lag refers to the time gap between when a utility undergoes a change in cost and when the utility can reflect these changes in new rates. Economic theory predicts that the longer the regulatory lag, the more incentive a utility has to control its costs. The reason is that

supposedly the utility could more easily pass through excessive costs, or any cost increase, to consumers.³¹ Commissions, in practice, apply a three-part test in judging the merits of a cost tracker. The three-part requirement for commission approval of trackers typically include: (1) the cost must lie outside the control of the utility, (2) variations in costs can have a material effect on utility earnings, and (3) the cost item is difficult to predict and can fluctuate for different reasons.

With high natural gas prices, many utilities have seen a rise in bad debt. Utilities have argued that the conventional practice of recovering bad debt as a fixed expense in base rates is no longer appropriate: it does not account for the dramatic increase in bad debt over the past several years because of the combination of high gas commodity prices and more customers falling further behind in paying their gas bills. Several utilities have proposed a bad-debt tracker where the utility would recover all or a portion of its bad debt, not already included in base rates, without filing for a new rate case (e.g., the utility recovers the gas-cost portion of its bad debt expense through the purchased gas adjustment mechanism).

Revenue stabilization has become an important goal for gas utilities both because of the current natural gas commodity market and for other reasons. Utilities have proposed new ratemaking mechanisms that attempt to achieve this goal. These include (1) revenue decoupling,³² (2) straight-fixed variable rate design,³³ (3) earnings sharing, and (4) higher customer charges. All of these mechanisms also have the effect, intended or not, of eliminating or weakening the disincentive for a utility to promote energy efficiency. As argued by gas utilities and energy-efficiency proponents, standard rate design places the utility at risk for recovering its fixed costs previously deemed prudent by a state commission, with the risk escalating in recent years partially because of increased energy conservation by consumers. On the other hand, new ratemaking mechanisms and rate design may conflict with regulatory objectives deemed important by State commissions. These objectives can include public

when a utility incurs costs, the longer it has to wait to recover those costs, thus the lower its earnings become. The utility, consequently, would have an incentive to minimize additional costs. Commissions rely on regulatory lag as an important element in motivating utilities to act efficiently.

³¹ Some opponents of trackers also have argued that reducing or eliminating rate cases, which a tracker could achieve, may have an undesirable effect; namely, a commission might become less likely to rigorously scrutinize a utility's costs over time.

³² As of July 2008, twenty-six gas utilities in thirteen states had revenue-decoupling tariffs that serve 20 million residential customers.

³³ As of July 2008, eight gas utilities in six states had a straight-fixed variable rate design that serve 5 million residential customers.

acceptability, gradualism, feasibility of implementation, and fairness among customers in a particular class.

In reviewing existing rate designs and policies, a commission, as an example, may want to consider re-allocating fixed costs between volumetric billing elements and customer and demand billing elements. Current rate design may act contrary to state policy objectives. If the state's goal is to stabilize customer bills across months of the year, state commissions may want to consider moving toward rate designs based on a straight-fixed-variable (SFV) structure. This would tend to shift responsibility for recovery of a majority of costs to a fixed element of the bill and, consequently, would reduce the portion of the bill that is sensitive to changes in usage related to weather and gas prices. As an illustration, a SFV-type rate design would shift customer costs away from volumetric billing elements. This shift could reduce winter gas bills and increase gas bills during other times of the year. SFV rate design, notwithstanding its positive features, has met with strong opposition in states where utilities have proposed it. Opponents point to its adverse effect on low-usage customers, many of whom may be low-income. They also argue that it discourages price-driven energy conservation (since at the margin the cost to consumers of using more natural gas would be reduced and reducing usage has less effect on the final bill).

States also may want to review existing purchased gas adjustment clauses (PGAs) and consider modifying how often gas utilities can adjust their rates in response to rapidly changing commodity prices. In some instances, state commissions may find it appropriate to increase the frequency of authorized adjustments (for example, monthly or quarterly in times of volatile prices) to allow the utility to keep up with changing commodity prices and to prevent large accumulations of deferred costs that need to be reconciled in catch-up rate adjustments. More frequent adjustments also allow decreases in commodity gas prices to be passed on to consumers more quickly. Alternatively, state commissions may find benefits from decreasing the frequency of adjustments and allowing utilities to defer a portion of their gas costs above a certain threshold for recovery in less heat sensitive months. One benefit would be to stabilize gas bills across the different seasons of the year.

A state commission, as an example, may want to consider freezing the price of purchased gas recoverable from consumers, at some pre-specified level, during the winter months. To avert financial difficulties for a gas utility, the commission would have to allow the utility to recover any negative balances (which might include interest cost) at a later time. In effect, the cap would smooth out the utility's recovery of fluctuating gas costs, if not guaranteeing lower gas bills for consumers, over the course of a year. Freezing the price of commodity gas during the winter months, however, has a downside. Specifically, consumers could receive distorted price signals and the utility deferred costs could accumulate to a level placing the utility in financial distress until it is able to recover those costs at a later time.

For the longer term, states may want to look at innovative regulatory tools such as performance-based or incentive gas cost recovery plans, or innovative financial mechanisms such as weather risk insurance. Recognizing that stronger incentives for gas procurement could lead to improved utility performance while reducing the need for detailed prudence reviews, state

regulators in at least fifteen states have approved gas procurement incentive mechanisms for one or more jurisdictional utilities. The design of performance-based rate and incentive mechanisms can be complex, particularly the selection and calculation of the benchmark. It requires a commission to compare: (1) the cost and efficacy of gas cost prudence reviews by state commissions, and (2) the potential benefits that might not otherwise be realized by allowing utilities to share in the gains from more effective and efficient gas purchasing strategies and decisions. If such mechanisms have not been considered, state commissions may want to look at whether such plans would be permitted under existing statutes in their jurisdiction, and if so, whether they would be appropriate and beneficial to consumers in the long run.

A small number of gas utilities use weather derivatives to help offset weather-related increases in cost.³⁴ State commissions and the utilities they regulate may want to consider whether to acquire information on the availability of weather-related hedging tools and whether these tools would be appropriate for gas utilities.

Another option for state commissions is to consider authorizing their gas utilities to use weather-normalization adjustment mechanisms. These mechanisms would help moderate gas bills during the winter months.³⁵ When winter weather is colder than normal, for example, this mechanism would automatically reduce the total bill gas charged to consumers. Weather normalization, however, can be a two-edged sword for consumers—a warm winter would raise the total bill charged to consumers. Perhaps its greatest benefit, weather normalization can mitigate the worst-case scenario where consumers pay extremely high gas bills during the winter heating season because of the combination of high gas prices and high gas consumption.³⁶

³⁴ A 2008 AGA survey reported that only four utilities (out of sixty-one responding) used weather derivatives during the 2007-2008 winter heating season, compared to five for the previous winter.

³⁵ According to AGA, twenty-five states allow weather normalization adjustments. Prior to the recent interest in revenue decoupling, rate adjustments for sales focused mostly on weather normalization adjustments. The mechanism adjusts customers' monthly gas bills, usually during the winter heating season, to reflect weather patterns commensurate with "normal weather." The rationale for the mechanism centers on the effect of the traditional ratemaking practice to cause cost recovery of utility distribution services to fluctuate based on volumetric sales of gas commodity to customers.

³⁶ In states that have implemented or are considering weather-normalization adjustment mechanisms, various issues have arisen, including the appropriateness of a "dead band," the correct measurement of normal weather, the measurement of weather-sensitive usage, and the frequency of adjustments (e.g., monthly or once at the end of the winter heating season).

Particularly in states that do not have customer choice programs, state commissions may want to encourage gas utilities to consider the offering of a fixed-price or fixed-bill tariff. Some gas utilities have experimented with programs that allow consumers to pay either a fixed price for the commodity gas portion of their bill or, as in the instance of at least two states, have authorized pilot programs that allow customers to pay a fixed-bill amount each month regardless of actual usage and the market price of natural gas. These programs can be difficult to design, implement, and administer. Under certain conditions, however, for example in states that have not unbundled or restructured or where customer choice programs are not widely available, state commissions may find these kinds of regulated tariff offerings a valuable alternative for customers who want more control over their utility bill. On the negative side, fixed-price or fixed-bill tariffs may result in higher gas bills during certain times because of (1) wholesale gas prices dropping unexpectedly, and (2) the additional costs to the gas utility from hedging (i.e., shifting risks to speculators and other counterparties) that would be required in the provision of fixed-price service.

F. Customer choice programs

In states with unbundled services or gas choice programs, the state commission can consider providing consumers with additional information on natural gas markets and publicizing the importance for consumers to understand and choose a supplier that has a pricing plan compatible with their needs.³⁷ The evidence for existing gas customer choice programs to date indicates consumers can reduce their gas bills by participating in choice programs. Although average savings have been small, relative to the total delivered price of gas, choice programs have contributed toward holding down gas costs for many consumers. As an additional benefit, gas marketers may offer fixed price options. These arrangements allow consumers to take gas over a one- or two-year period at an agreed-upon fixed price. Although consumers generally pay a premium for avoiding price risk, they receive comfort from knowing their gas costs (exclusive of distribution charges) will not change.

G. The role of natural gas in state energy policy

State commissions also may want to consider how much reliance to place on natural gas to meet their state's energy needs over the long term. While a highly complicated and potentially divisive issue, state commissions may want to recognize the importance of examining the role of natural gas in the state's energy policy.

³⁷ Some consumers, for example, may be highly risk averse and prefer fixed-price service, while other consumers may opt for variable-price service with the likelihood of paying lower prices over a multi-year period.

1. If state commissions worry about the long-term availability, reliability and cost of natural gas supplies, they may want to review and consider the appropriateness of existing policies related to infrastructure expansions (especially pipelines, distribution systems and storage facilities). If the concern is over constraints in a state's existing energy infrastructure that impede access to supplies, for example, state commissions may want to consider developing policies that provide incentives to branch out existing distribution systems and encourage the development of new pipeline and storage infrastructure.³⁸
2. In states that have a formal, regulated resource planning process for electric utilities or that require electric utilities to obtain certification for new electric generation facilities in advance of construction, state commissions may want to consider the emphasis in the regulatory process for encouraging fuel diversity for electricity generation. (States may also want to recognize that encouraging fuel diversity may mean finding a place in the mix for clean coal technologies and other technologies; fuel diversity may also mean encouraging the development of renewable energy-portfolio standards.) States may have to consider other, more creative approaches, especially if they have deregulated the generation component of the electric industry and relied on market-based economic factors to determine an appropriate mix of fuels for electric generation. Most electric industry observers agree that diversity of fuels and generation technologies is a desirable goal, especially with the passage of greenhouse gas legislation. Natural gas burns more cleanly than the other fossil fuels, i.e., coal and oil. Many energy experts, including environmentalists, view natural gas as an important transitional fuel between the present carbon-based economy and a future economy highly reliant on renewable energy and energy efficiency.³⁹ What

³⁸ Gas distribution companies operate storage facilities as well as lease storage capacity from pipelines and other owners. Distribution companies rely on storage to provide valuable peaking capability during the winter months, reduce the need for higher-cost annual firm pipeline transportation, and provide access to normally lower-cost summer gas supplies. Overall, storage allows the utilities to operate more efficiently and reliably. Many utilities, for example, rely on stored gas to meet a large portion (for some utilities, half or more) of customer demands on the winter's coldest days. On average, a little less than 20 percent of the natural gas that is used by residential customers over the entire winter heating season comes from storage. State commissions regulate the on-system storage activities carried out by the local distribution utilities.

³⁹ One concern is that greenhouse legislation could further tighten wholesale gas markets, resulting in higher gas prices to residential, commercial, and industrial customers. Unlike most of the other fuels used in power generation, natural gas is consumed for a wide variety of reasons and across a large portion of the population. When the demand for natural gas increases for one

stands out in analyses of greenhouse gas legislation is that, at least in the near term, the U.S. may have no choice but to rely heavily on new gas-fired generating plants to meet the future demand for electricity. If this prediction turns out true, future natural gas prices may continue on an upward trend and exhibit high volatility, and concerns about the availability of natural gas supplies may increase.

consuming sector, it tends to drive up the price paid by all natural gas users. The greenhouse gas legislation-natural gas link has intensified with the recent suspension and cancellation of new coal-fired power plants. New coal plants have become less attractive due to more intense public opposition, high costs, and looming greenhouse gas legislation. Because of the need to increase generating capacity over the next several years, electric utilities and non-utility generators alike will soon have to decide what kinds of facilities to build. With high-carbon coal plants facing serious obstacles, new nuclear capacity unavailable until at least the middle of the next decade, and the expansion of renewable energy for now falling short of additional generating requirements, at this time gas-fired plants seem to be the “bridge fuel.”

X. What actions can state commissions, gas utilities and consumers take prior to the upcoming winter season?

Table 5 illustrates initiatives that they can take to have an effect for this upcoming winter.

Table 5. Near-term actions

Initiating party	Action
State commission	<ul style="list-style-type: none"> • Increase public awareness of the current natural gas market environment • Promote energy conservation and educate consumers on conservation opportunities • Encourage utilities to more aggressively promote levelized/budget billing • Lobby for additional federal and state funding for weatherization and energy assistance • Assist eligible households in receiving energy assistance • Clarify winter cut-off rule
Gas utility	<ul style="list-style-type: none"> • Increase public awareness of the current natural gas market environment • Create or increase energy assistance funds • Assist with weatherization • Actively inform eligible low-income households of the availability of energy assistance • Lobby for additional federal and state funding for weatherization and energy assistance • Promote levelized/budget billing
Consumers	<ul style="list-style-type: none"> • For eligible low-income households, seek energy assistance from available sources and help from social service agencies and private charities • Conserve natural gas (as well as electricity) usage during the upcoming winter heating season • Consider purchasing natural gas from a third-party provider (if allowed) • Consider levelized/budget billing

XI. What longer-term actions can state commissions, gas utilities and consumers take?

Table 6 illustrates longer-term initiatives that different parties can take.

Table 6. Longer-term actions

Initiating party	Action
<p>State commission</p>	<ul style="list-style-type: none"> • Continue with public awareness of the natural gas situation • Encourage a portfolio approach to natural gas procurement, which includes physical and financial hedging • Undertake comprehensive oversight of gas supply planning and gas procurement • Mandate or encourage expanded utility energy efficiency initiatives • Change cost recovery/rate design practices to support energy efficiency and allow a utility more flexibility • Consider the role of natural gas in state energy policy • Enact permanent commission rules (e.g., winter cut-off, reconnection of service) • Support national efforts to increase natural gas supply • Support national and regional efforts to expand natural gas infrastructure development (e.g., endorse long-term contracting, facilitate utility recovery of investments) • Encourage fuel and technology diversity for electric generation • Support greater LIHEAP and other energy assistance funding

Table 6. Longer-term actions – *continued*

Initiating party	Action
Gas utility	<ul style="list-style-type: none"> • Continue with public awareness of the natural gas situation • With commission approval, implement a portfolio approach to natural gas and transportation procurement, which includes physical and financial hedging • Continue weatherization efforts • Support national efforts to increase gas supply • Expand energy conservation initiatives • Consider rate redesigns that ease consumer bills during the winter months • Support greater LIHEAP appropriations and other energy assistance funding • Modify the cost-recovery method for purchased gas by shifting costs from the winter heating season
Consumers	<ul style="list-style-type: none"> • Continue to pursue cost-effective energy conservation initiatives, including appliance replacement • For eligible households, continue to seek energy assistance and seek help from social service agencies and private charities • Consider purchasing natural gas from a third-party provider (if allowed) • Consider major home improvements to reduce heat loss

XII. What work has been done by non-NARUC groups in addressing the problem of high natural gas prices and in providing information on natural gas market conditions?

The American Gas Association (AGA) has published a document called the “Most Frequently Asked Questions: Natural Gas Supply and Prices.” This document contains price projections for the following winter, information on factors influencing natural gas prices, actions gas utilities have taken, actions that consumers can take to reduce their gas bills, and other useful information.⁴⁰ AGA disseminates this document prior to the upcoming winter heating season. The reader can access the latest issue at <http://www.aga.org/ReleaseChrisMcGill.htm>. AGA also issues twice a month a publication called *Natural Gas Market Indicators*. It looks at different elements of the natural gas market, including reported prices, storage levels, rig counts, pipeline imports and exports, and LNG markets. The reader can access the publication at <http://www.aga.org/>. Finally, AGA has on its website a section titled *Consumer Information* that provides tips and other information that consumers might find useful. The reader can access the section at <http://www.aga.org/Kc/aboutnaturalgas/consumerinfo>.

The Natural Gas Supply Association (NGSA) publishes a *Winter Outlook* around the end of September.⁴¹ The publication examines market conditions in the natural gas sector for the upcoming winter heating season. It looks at factors of supply and demand that include weather, the economy, storage, gas production and gas consumption. NGSA does not make price predictions. The reader can access the publication at <http://www.ngsa.org/>.

EIA has issued several documents with information on natural gas prices and the effects of high prices on consumers and gas utilities. These documents include: (1) *Residential Natural Gas Prices: What Consumers Should Know*, available at http://www.eia.doe.gov/neic/brochure/oil_gas/rngp/index.html; (2) *Impact of Higher Natural*

⁴⁰ The document, for example, observes (on page 2) that: “The wholesale price of natural gas was relatively stable during the 1990s – around \$2 per thousand cubic feet (Mcf) – because natural gas supplies were ample to meet demand. Since 2000, however, wholesale, or “wellhead” natural gas prices have risen, averaging \$7.33 in 2005 and settling back down to around \$6.40 per MMBtu in 2006 and 2007, according to the Department of Energy’s Energy Information Administration (EIA). Factors that can result in higher natural gas prices include increased use of natural gas to generate electricity, especially during the summer months, disruptions to natural gas production caused by unusual weather or hurricanes and public policies that have made it increasingly difficult for energy producers to keep up with consumer demand.”

⁴¹ At the time of this writing, NGSA had just issued its outlook for the 2008-2009 winter.

Gas Prices on Local Distribution Companies and Residential Customers, available at http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2007/ngpristudy/ngpristudy.pdf; and (3) *Winter Fuels Outlook* (which EIA issues in early October), available at <http://www.eia.doe.gov>.⁴²

⁴² The document contains projections, by region of the country, of home heating expenditures for the upcoming winter. It projects both the price of home heating fuels and fuel consumption. The publication compares expenditures projections for the upcoming winter with actual expenditures for the previous winter.

Appendix: A Sample of a Commission Brochure for Consumers

This section of the Toolkit is a collection of information directed at residential consumers. Some of these consumers may find it difficult to pay their heating bills, or simply want to lower their bills in response to market conditions or have concerns about the environmental health of the planet.

Commissions may use these items by inserting them into brochures of their design and construction, or they may use these as talking points for meetings with consumer groups. This is by no means an exhaustive list. Thousands of resources are accessible on the web and in industry publications.

One particularly useful booklet is “Energy Savers Tips, 100 Ways to Save Energy in Your Home” published by the National Energy Assistance Director’s Association, the membership organization representing the state directors of the Low-Income Home Energy Assistance Program (LIHEAP). This booklet is available for purchase at a nominal cost, and bulk quantities can be customized. Go to www.projectenergysavers.com/ for more information and for ordering details.

The writers of this appendix suggest that before a commission publishes its own brochure, it should check the websites of its regulated utilities. Those websites often have excellent information that is especially tailored to a particular climate and area.

While this material contains redundancy, it is offered as a menu so that each commission can “pick and choose” what information and approach is best for its use.

Questions and Answers

Q. Why are my gas rates going up?

A. There are several pieces to this answer. Increased global demand for energy of all types is driving up prices. An increasing demand for natural gas for electric power generation means less supply for residential markets. A weakening U.S. dollar causes imports to be more expensive. Natural disasters interrupt supply and damage critical infrastructure, causing short term and longer term shortages.

All of these answers add up to one principle: supply and demand. Most U.S. energy markets by design use this principle, although the effort has by no means been totally successful. Where this principle functions effectively, the following phenomenon happens: As supply goes up, prices go down; as supplies go down, prices go up; conversely, as demand goes up, prices go up; as demand goes down, prices go down. Some industry experts argue that speculation in natural gas financial markets also has

caused prices to increase. The evidence is inconclusive, but it is conceivable that speculation has played a role.

Q. Why isn't my public utility commission controlling rates?

A. They are. Wholesale prices for most energy, including natural gas, however, are not regulated. Market trading determines the prices based on supply and demand. By far the biggest component of residential natural gas rates is the wholesale price of gas (including transportation to the gas utility system). Your commission regulates only the fixed delivery and related operational costs of the gas utilities.

Q. What can I do?

A. There are many things that you can do to lower your consumption of natural gas.

COOKING

- Place lids tightly on pans to speed cooking time.
- Keep oven door closed while baking to prevent heat loss. With each opening, the oven loses about 20 percent of its heat.
- Keep the flame on your range the size of the pot. If you can see flame around the pot, you are wasting energy.
- Use glass or ceramic pans in your oven. You can turn down the temperature about 25 degrees and foods will cook just as quickly.
- Preheat your oven only if the recipe calls for it.

WATER HEATING

- Install showerheads and faucets with water-flow restrictors.
- Bathing uses the most hot water in the average household. You use 15-25 gallons of hot water for a bath, but less than 10 gallons during a 5-minute shower.
- Use a stopper in the sink so water won't run constantly while you're shaving or washing dishes by hand.
- Insulate pipes to limit heat loss.
- Only operate dishwashers and clothes washers when they are fully loaded.
- Use only the necessary water level and temperature for a load of clothes you're washing. This action helps to save on your water bill too.
- Limit the use of the "rinse hold" setting on your dishwasher. This feature uses up to seven gallons of hot water for each use.
- Lower the temperature setting on your water heater to 120 degrees. Check your owner's manual if you have a dishwasher. Certain model dishwashers require a higher temperature to clean effectively.
- Fix leaky faucets.
- Install a water heater insulation wrap around the sides of the water heater. Never put insulation on the top of the heater or near the bottom.

HOME HEATING

- Clean or replace your furnace filter once a month during the heating season.
- Remove dust and lint from return air grilles and warm air outlets.
- Turn down your thermostat. For every degree below 70 you set your thermostat, you will save as much as 4% on your heating bill.
- Lower the thermostat when no one is home.
- Add insulation to the attic.
- Install a programmable thermostat to automatically adjust the temperature each day.
- Perform annual maintenance on heating equipment for proper operation.
- Replace older equipment with more efficient natural gas equipment.
- Warm air rises, so use registers to direct warm airflow across the floor.
- Use ceiling fans in the winter to distribute heat around a room.
- If radiators are located near cold walls, place a sheet of aluminum foil between the radiator and the wall to reflect heat back into the room.
- Install a humidifier to add moisture and comfort if the air in your home is unusually dry.
- Close off doors and vents in unused rooms to conserve heat within your home.
- Carpet adds comfort and warmth, especially if there is little or no floor insulation.
- Consider natural gas space heaters as an alternative or addition to central heating, as well as for emergency heating.
- On sunny days, open draperies and blinds to let the sun's warmth into your home.
- Keep chimneys clean and in good working order.
- Keep fireplace damper doors closed when not in use.
- While sleeping, add an extra blanket for warmth.

CLOTHES DRYING

- Separate heavier clothes (towels, heavy cottons) from the lightweight fabrics (synthetics) for more efficient drying.
- Only do full loads, but be sure not to overload the dryer.
- Select the proper setting and time for the type and size load.
- Clean the lint filter before every load. Refer to your owner's manual.
- Don't add wet clothes during the drying cycle.
- Don't over-dry clothes. Use the automatic moisture control if your dryer has one, or select the appropriate amount of time on the automatic timer.
- Be sure the outside vent is free of any obstructions and the vent cover fully opens when the dryer is in use.

Q. Are there longer-term things I can do?

A. Absolutely.

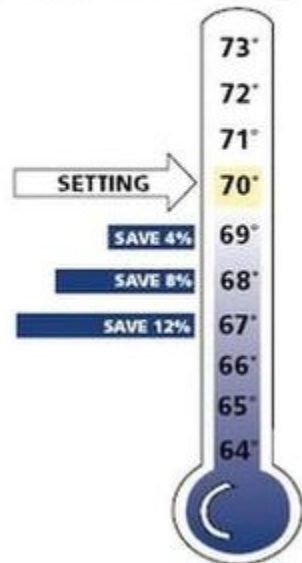
- Several websites offer home energy audits that can help you determine just how cost effective different measures will be for you. Three are listed below:
 - <http://hes.lbl.gov/>
 - http://www1.eere.energy.gov/femp/procurement/eep_eccalculators.html,

- http://www.tacomapower.com/ResidentialServices/appliance_calculator.htm
- Install a programmable thermostat.
- Check you windows and doors for air leaks and repair accordingly.
- Determine from the sites above if additional insulation is warranted.

Q. How else can I reduce my heating bills during the winter?

A. Many natural gas utilities offer some kind of leveled or budget billing that spreads your bill evenly over twelve months. Contact your gas utility for details.

Reduce
Your Heating Bill
by **Lowering**
Your Thermostat Setting



High Energy Bills

Diagnosis:

One reason for high energy bills is an increase in the price of electricity or heating fuel. Another possible reason is an inefficient component (windows, heating and cooling equipment, ducts insulation) of your home or a failure of one of these components to perform as intended. It is not always easy to pinpoint the problem, but fixing it can make your home more energy-efficient and comfortable.

Prescription Checklist:

To improve the energy efficiency of your home start with an evaluation of your home's energy use.

- ✓ To get started today, use [Home Improvement Tools](#) to score your home's energy use and generate a customized list of improvements. You will need one year of your utility bills handy.
- ✓ For best results hire a contractor who is an energy specialist to do an in-home evaluation. A good specialist will use [diagnostic equipment](#) to evaluate the performance of your home and generate a customized list of improvements.
- ✓ Improvements may include sealing air leaks, adding insulation ([Home Sealing](#)) or sealing [duct air leaks](#). Some of these you can do yourself, but you may prefer to hire a contractor.
- ✓ Turn down the temperature on your water heater to 120 degrees F. Check your owner's manual to assure that this is hot enough.
- ✓ Replace the light bulbs in your highest usage lights with ENERGY STAR CFL bulbs.
- ✓ When replacing lighting or appliances, look for [ENERGY STAR qualified light fixtures](#) and appliances.
- ✓ Install an [ENERGY STAR qualified programmable thermostat](#), and use it to save energy while you are away at work.
- ✓ Contact your utility and ask if they offer any programs to help lower energy bills.

Drafty Rooms

Diagnosis:

Cold air leaking into your house around windows, doors, electrical outlets, light fixtures, and gaps in corners can cause rooms to feel drafty and uncomfortable. As cold air is coming in through leaks, warm air is escaping through other leaks. The biggest leaks for escaping air are often found in the attic, and recessed lights are a common location.

Prescription Checklist:

- ✓ Air sealing ([Home Sealing](#)) can help stop drafts and improve the comfort of your home. The most important leaks are often in the attic. You can do some things yourself, but for the best solution you need to hire a contractor.
- ✓ Ask your heating and cooling contractor to check ducts for air leaks and balanced airflow.
- ✓ If you have a fireplace, close the damper when not in use.

Cold Floors

Diagnosis:

Although some types of floor coverings (e.g., wood, stone, tile, or concrete) will naturally feel cold on bare feet, insufficient insulation or air infiltration could be the cause for cold floors.

Common locations:

- Basement floor
- Floor over a garage
- Floor over a crawlspace

Prescription Checklist:

- ✓ Air Sealing and insulation ([Home Sealing](#)) can help stop drafts and improve the comfort of your home. You can do some things yourself, but for the best solution you need to hire a contractor.
- ✓ Contact a heating and cooling contractor to check if your heating and cooling system is providing enough air to each room. Your contractor should check: is a damper closed; has a duct become disconnected from a register; is the duct sized correctly, is the duct leaky?

Hot or Cold Room

Diagnosis:

Temperature differences of up to three degrees from room to room are not uncommon, but often one or several rooms are uncomfortably warm or cold. This condition could be caused by several factors within your home including inadequate insulation, air leakage, poor duct system design, duct leakage, unwanted heating by the sun in warmer months, or a failure in part of your heating and cooling system.

Common problem rooms include:

Attic
Room over a garage
Basement
Additions

Prescription Checklist:

For best results hire a contractor who is an energy specialist to do an in-home evaluation. A good specialist will use [diagnostic equipment](#) to evaluate the performance of your home and generate a customized list of improvements.

- ✓ Ask your contractor to check if your heating and cooling system is operating correctly.
- ✓ Ask your contractor to check your ducts for air leakage and proper distribution of air.
- ✓ [Seal air leaks](#) and add insulation ([Home Sealing](#)).
- ✓ If the sun is making rooms too hot, consider shades or solar screening.
- ✓ After trying these items, consider [ENERGY STAR labeled ceiling fans](#) to make room air circulation more uniform. You will need to hire an electrician to install them.

Assistance for Low-Income Natural Gas Consumers

The Low-Income Energy Assistance Program (LIHEAP) was created in 1981 under the Omnibus Budget Reconciliation Act to help low-income customers pay their fuel and utility bills. The program not only provides financial assistance for energy bill payments but also for home weatherization and energy related repairs.

The U.S. Department of Health and Human Services, Administration for Children and Families allocates LIHEAP funds to individual states. The Department allows each state to administer LIHEAP programs according to the needs of its own low-income population.

LIHEAP Eligible Families

- With the cost of energy at an all-time high, even with efforts to conserve, low-income households carry a heavier "energy burden" than they did ten years ago, with 33 percent more of their income spent on energy costs.
- LIHEAP recipients spend 20 percent of their annual income on home energy bills, more than six times the level budgeted by households in higher income brackets.
- The number of households that are eligible for LIHEAP funds has increased 15 percent over the past five years.

- About 84 percent of those eligible for LIHEAP support do not receive LIHEAP heating assistance.
- More than half of low-income households heat with natural gas.

Your Public Utility Commission’s LIHEAP Advocacy

- The National Association of Regulatory Utility Commissioners (NARUC), of which your commissioners are members, has consistently urged Congress in official resolutions and countless visits to Congressional offices to fund LIHEAP at “no less than its fully authorized \$5.1 billion.”

American Gas Association Advocacy and Analysis

- [AGA Study - The Increasing Burden of Energy Costs on Low-Income Consumers, September 26, 2007 \(PDF\)](#): This study, which is updated at the start of each winter heating season, describes how LIHEAP works; where LIHEAP funding stands; the state of low-income energy consumers and their energy cost burden; and the role of utilities, fuel funds, and state/local government in providing LIHEAP services.

Additional Resources

- [Campaign for Home Energy Assistance](#)
- [National Energy Director's Association \(NEADA\)](#)
- [National Fuel Funds Network](#)
- [U.S. Department of Health and Human Services, Administration for Children & Families, Office of Community Services, LIHEAP Program](#)

Local LIHEAP Administering Agency Contacts

The [LIHEAP Clearinghouse](#) collects, develops, organizes, and disseminates information on low-income energy issues to:

- state, tribal, and territorial LIHEAP grantees;
- community action agencies and local government offices (subgrantees);
- low-income energy service organizations;
- fuel funds; and
- utilities and utility regulatory commissions.

For further information about your state, click [LIHEAP](#). <http://liheap.ncat.org/sp.htm>

Why Rates Are Not Really Comparable Between States

The most comprehensive and thorough regulation possible may very well produce the highest rates. This outcome can occur because regulators have no influence on the market, climate, demographic and operating conditions that have the greatest impact on rates.

For this reason, most industry experts refrain from making rate comparisons of natural gas local distribution companies (LDCs) because there are too many variables in each set of rates to allow any valid comparison. Industry experts further question the relevance of comparing any rates of an individual LDC to a “national average,” however the calculations may be derived, or by whom. The Federal Government’s Energy Information Administration (EIA) itself has acknowledged this fact, stating:

“The national average price of natural gas is only part of the story as the prices in individual States can differ greatly. These differences are often related to a market’s proximity to the producing areas, the number of pipelines in the State, and the transportation charges associated with them, as well as State regulations and the degree of competition.”

Many factors can have a significant effect on rates and their comparability: The major ones include:

Climate

All businesses – including utilities – have a certain amount of fixed costs. Those costs must be recovered as the product is sold. The climate (i.e. coldness) of an LDC’s service territory will directly affect the number of units sold and therefore the cost per unit sold. A company operating in a very cold climate (like Alaska and the rest of the northern tier of states) with a large number of units sold will be able to spread its fixed costs over that large number, meaning that each unit will have lower fixed costs assigned to it. Conversely, in warmer climates like (Florida and the rest of the Southeast), those same fixed costs must be spread over a smaller number of units resulting in higher unit rates.

Rate design

Rate design is one of the most significant differences – one that can affect everything else. And rate design is multifaceted and complex and can vary significantly from jurisdiction to jurisdiction and even among LDCs in the same jurisdiction.

For instance, with respect to gas cost recovery *timing* alone, one LDC may have a long-term approach to recovering changing gas costs, while another may have a short-term approach. Others may have a forward looking Purchased Gas Adjustment (PGA) or a backward looking PGA. Neither is wrong or right, but they can yield vastly different rates at specific points in time for the same set of costs. For example, if an LDC has a long-term cost recovery approach, it may significantly under- or over-recover its gas costs at any given moment. The next PGA change may yield a very different effective rate than a company that has a short-term approach, where

rates change frequently in response to changes in the price of gas. Furthermore, if an LDC has a backward looking PGA, the rates may reflect last year's (or last quarter's or last month's) gas costs. An LDC with a forward looking PGA will have rates that reflect the expected costs, usually based on the futures price of gas as published by a futures market such as the New York Mercantile Exchange (NYMEX). Thus, the rate design used for the timing of gas cost recovery alone can explain a difference of 20 percent or more in rates between LDCs, especially in times of volatile wholesale gas prices, as in recent years.

Trackers and riders

Many commissions have allowed LDCs and other utilities to recover certain recurring and easily determined charges such as bad debts, pipeline replacement, taxes, and similar items through tracking mechanisms and riders. These recoveries are established according to certain parameters set by commissions to assist the utility in its day-to-day operation without having to incur the legal and other expenses of rate proceedings. As long as the changes or charges occur within the set parameters, no commission action is necessary. Generally commission staffs monitor these trackers and riders and notify commissioners of any variance.

Composition of customer base

The percent of customers by class within a service territory will have a very important effect on the rates of a utility, particularly at the margin, where one class is disproportionately different from another, or where the proportion is different for different utilities.

Load factor

Load factor, the percent of capacity at which a utility is operating, will have an effect on its rates. The South has relatively low load factors, while the upper Midwest and Northeast have relatively high load factors, allowing for more efficient utilization of their pipeline and distribution capacity.

Shared versus non-shared benefits

LDCs, under FERC rules, can sell, on a daily basis, interstate transportation capacity that is not needed for the day. This is known as capacity release. Many states allow LDCs to retain a portion of these capacity release payments, thus benefitting stockholders from these transactions. Most states also encourage, or at least allow, hedging transactions where the LDCs can "lock in" supplies of gas at favorable prices when market conditions allow. Some states also allow utility stockholders to retain a portion of these benefits.

Size of territory

Everything else being equal, it is more efficient to operate a system that is compact, not spread over a large territory; and a larger versus a smaller system in terms of the number of customers.

Physical geography

Everything else being equal, installing an LDC system in rocky or hilly terrain, through river crossings and highway crossings and the like is more expensive than installation in stable, uninterrupted soil.

Number of customers per mile of main

Everything else being equal, it is more efficient to operate a system with a high density of customers per mile than with a low density.

Age of pipe

Older pipe is more expensive to maintain or replace (or both) than newer pipe.

All these factors as well as others not mentioned affect costs and rates. Comparing rates across utilities or states is thus a meaningless exercise. Without a thorough knowledge of all factors as they relate to each utility or state, comparisons are doomed to fall short of giving an accurate picture of the effectiveness of regulation or utility management.