

## Energy Efficient Gas Products

Tankless water heaters,  
other products can save  
money for consumers  
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# Natural Gas TODAY



For Municipal Gas Systems

January, 2008  
Edition

## PIPELINE

### Factoids

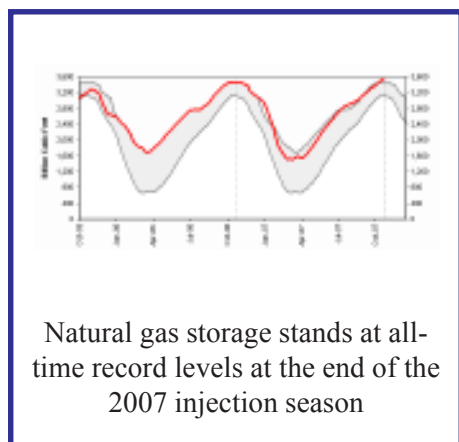
Natural gas is used in over 60 million homes. In addition, natural gas is used in 78 percent of restaurants, 73 percent of lodging facilities, 51 percent of hospitals, 59 percent of offices, and 58 percent of retail buildings.

Natural gas provides approximately a quarter of the nation's total energy supply, and according to the EIA Annual Energy Review 2006, between 1985 and 2005, natural gas consumption increased about 30%, from 17 Tcf to 22 Tcf. During this same period however, supply has stagnated.

### For the Record

"Public gas systems nationwide have an increasing lack of confidence in the natural gas marketplace. This lack of confidence is directly linked to the lack of transparency in the natural gas over-the-counter market. Consumer confidence regarding the fairness of the natural gas market can only be restored if and when the CFTC has better tools to detect and deter potential manipulative activity" --APGA Policy Statement

### Snapshot



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## Rocky Mountain High?



### Western Gas is Plentiful, but Remains Tough to Access

Natural gas for only \$1 per MMBtu? No, it wasn't a typo. It was the actual selling price for gas in the Rocky Mountain region earlier this summer.

While plenty of midwestern communities would have been happy to purchase that gas, the problem was that there was simply no way to get the gas out of the region – hence the low prices. To date, the lack of infrastructure has created a supply/demand imbalance which has caused prices in the region to remain abnormally low in the summer months.

According to the federal Energy Information Agency, the Rockies region accounts for about 22% of all US natural gas

reserves. Production in the region increased from 5.49 bcf/day in 2000 to 8.61 bcf/day in 2006. Yet, consumers in the region used only 1.66 bcf/day in 2006. With insufficient pipeline capacity to move the excess gas, prices plunged.

But things may be getting better in terms of accessing plentiful western gas. New pipelines, such as the Rockies Express, which will cut through the heart of IMGGA country, are expected to add as much as 1.5 bcf/day to current transport capacity. Still, even these efforts may not be enough. The EIA projects that production in the region will increase 19% by the year 2010.

## Natural Gas Glut in the US

### Then why are gas prices so high?

Conventional wisdom used to be that 3 trillion cubic feet of natural gas in storage constituted "full pool" – with the nation's gas storage infrastructure filled to overflowing. But in November, the total quantity of natural gas in storage stood at 3.545 trillion cubic feet – nearly 20% above the traditional full pool level.

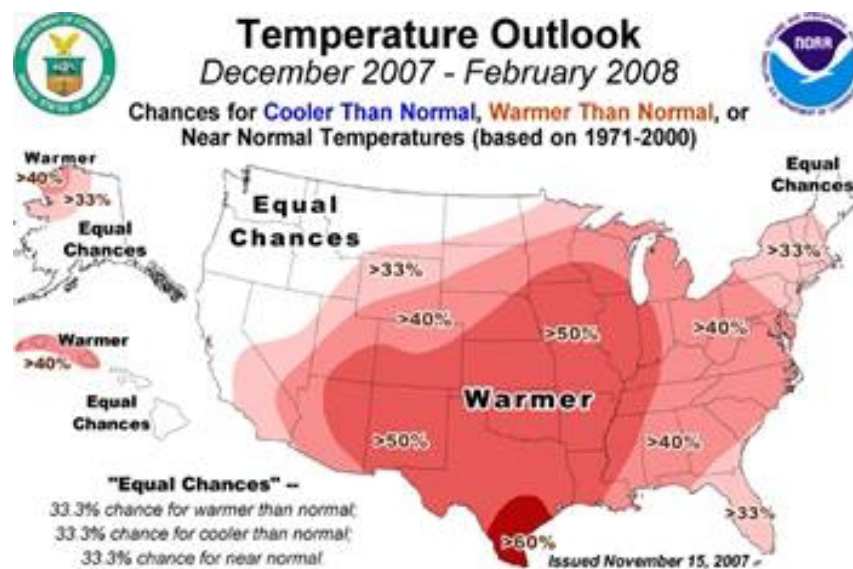
Operators of municipal gas systems are beginning to ask: "With all that gas around, why aren't our prices lower?" The answer to this question is complex and multifaceted.

First, 3 tcf is no longer considered full pool. A recent study by the federal government found that the nation's true storage capacity is about 3.7 tcf. That means that the nation's natural gas tank was actually only 94% full this autumn.

Second, there is less seasonality in the natural gas market place. Summer used to mean lower demand and lower prices. However, the increased use of natural gas for electricity generation means a more level usage pattern – and overall higher prices.

Third, in a natural gas market driven primarily by fear and rumor, there is always the next news cycle to create impetus to drive prices higher. From an energy-disruption standpoint, this year's hurricane season was one of the quietest on record. Nevertheless, every appearance of a tropical wave in the mid-Atlantic provoked a new speculative rally in prices.

In short, natural gas prices will probably never be as low as muni systems would hope, but there are still bargains to be had in the marketplace if you shop carefully.



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# Risk Management Can Vary by Year or Season

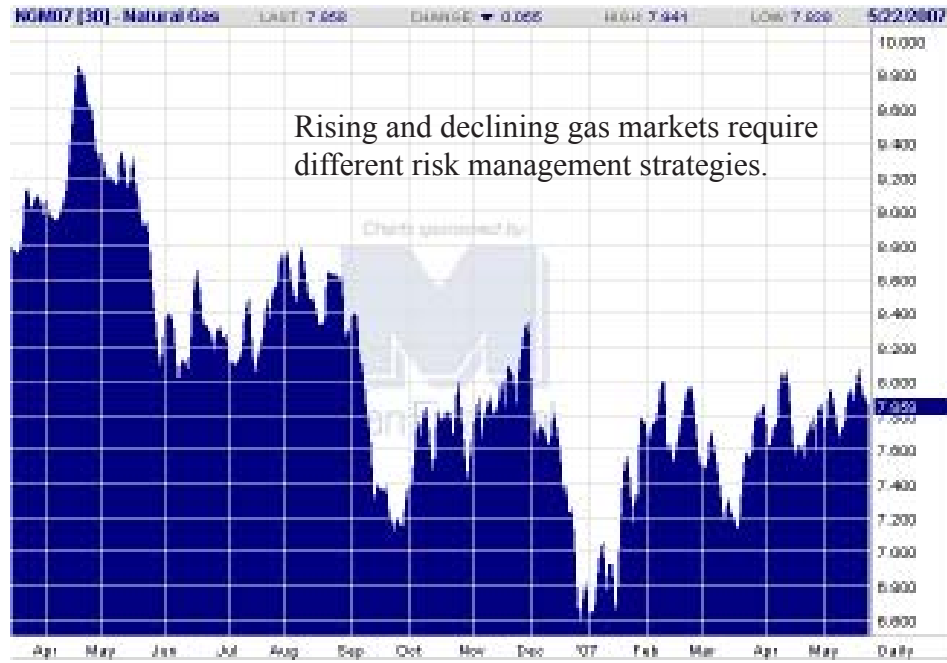
*Effective risk management a continually changing approach.*

In the last edition of Natural Gas Today, we discussed the wide variety of risk management tools which were available to municipal gas systems. We also examined the importance of developing a risk management plan for your community, taking into account its specific situation and tolerance for risk.

In this issue, we're going to look at the ways in which risk management strategies can vary with market conditions, and stress the importance of keeping a risk management plan up to date.

To recap, here are a wide variety of tools available for managing price risk. Among the major tools are:

- ◆ **Fixed Price Agreements.** These agreements fix a price on future purchases of gas for anywhere from one month to a year or more.
- ◆ **Caps.** In exchange for a premium, a cap will guarantee that gas prices will not exceed a pre-determined level during a specific period of time.



- ◆ **Costless Collars.** These financial agreements allow natural gas prices to fluctuate with both a floor and a ceiling price throughout the term of the agreement.
- ◆ **50% Participating Swaps.** This type of swap sets a ceiling price for the gas purchased, but in return allow prices to fall half as fast as the market does.

- ◆ **Rolling Purchase Plans.** These tools spread risk over time by purchasing smaller portions of future supply over a three to five year period.
- Why is it important to vary the use of these strategies depending on the situation? Let's look at some real-world scenarios which will help explain.

◆ **Scenario One: High or Falling Markets.** When gas prices are at their highest, most towns should have a risk management plan already in place. But there are times, such as the Fall of 2005, when outside events (such as Hurricanes Katrina and Rita) drive prices sharply and unexpectedly upward.

In situations where the market is already high, fixing a price doesn't make much sense. Why lock in prices that are already too high? The goal for most communities should be to cap prices, while allowing the community to benefit if the prices should fall. The perfect tool in such circumstances is the 50% participating swap. There is no up-front cost to this type of an agreement. When prices do drop, they do so at 50% of the market rate – a \$1 price decrease will provide 50 cents in price relief to the community.

Findlay, Illinois provides one example of a community which utilized this risk management tool effectively in 2005-2006. When compared to first of the month pricing, Findlay saved 62.7 cents per MMBtu by utilizing a 50% participating swap. Total savings for the community over the winter months amounted to \$34,470. Findlay gas chairman Leonard Logan received a commendation from his village board for working effectively to keep prices low.

◆ **Scenario Two: Low or Rising Markets.** If a community feels that the market has bottomed out – or is about to – it's time to lock in favorable pricing while the time is right. In these situations, a fixed-price agreement seems to work best. When the market is near the bottom, there is no need to allow for further declines. While it is usually very difficult to "bottom feed" for the absolute lowest prices, communities should find a price range attractive to them and then lock those prices in.

◆ **Scenario Three: Middle Markets.** There will be times (probably many) when prices are neither overly high nor overly low. In these situations, it might be good to consider caps or costless collars. While there is a price premium for the use of a cap, it does provide upside protection in case prices spike. On the other hand, while costless collars do not require a premium, they do limit the downside potential to the pre-established floor should prices drop.

According to Paul Freyre of Shell Trading, any risk management strategy should be thoroughly analyzed, well defined, and designed to achieve specific financial objectives. How can communities accomplish this?

The Interstate Municipal Gas Agency offers the full array of risk management tools. Unlike some joint action agencies, which limit risk management choices to a pre-set protocol, IMGA will work with a community to design the risk management program to meet the specific needs of that community. Heather Viele of IMGA said: "We don't believe in one size fits all risk management. Just like in clothing, one size usually winds up fitting nobody."

For those communities which lack the time or expertise to make their own risk management choices, IMGA also offers the MarketEDGE plan. This is a rolling purchase program, which can be implemented for a period of one or more years, to meet community needs. Risk is diffused by breaking future gas supply needs into smaller parcels, which are purchased at pre-determined points throughout the year, when market forces allow.

"No matter what a community needs, we have the skills and products to meet those needs, says the IMGA's Viele.

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## IMGA Members In Their Own Words...

**John Watret**  
Utility Manager  
Franklin, Illinois  
IMGA Purchasing Member



"It's important to remember that the IMGA is a non-profit unit of municipal government, created by municipal governments specifically to serve municipal governments. We are the IMGA."



The Interstate Municipal Gas Agency  
Created BY Municipals FOR Municipals

# Gas Price + New Appliances = Consumer Savings

*Energy efficient natural gas becoming more attractive to homeowners, builders.*



*Energy-efficient natural gas appliances, such as tankless water heaters and high efficiency furnaces only multiply the cost-effectiveness of natural gas as an energy source.*

While the days of natural gas priced at \$3 per MMBtu are probably gone forever, natural gas remains an attractive – and cost-effective – energy source. When combined with a new generation of high-efficiency natural gas appliances, the cost-effectiveness of natural gas grows significantly.

When looking at the price of energy per MMBtu, natural gas has long been the MOST cost effective energy source for homeowners. The chart below demonstrates the price superiority of natural gas, when compared to other home energy sources. Prices used in the chart were as of November 26, 2007. However, the price ratio has remained relatively constant over time, with natural gas costing about half as much per MMBtu as any other home energy source. Given these numbers, it's no wonder that natural gas heats more homes than all other sources combined.

But the competitive advantage of natural gas can be greatly increased when the energy source is combined with the latest technology.

One of the hottest new trends is the installation of energy-efficient tankless hot water heaters. Unlike a tank water heater, tankless units do not store and re-heat water, causing significant energy loss. Tankless heaters only heat water as it is needed. One wall mounted unit can supply eight times the hot water of a traditional 40 gallon tank, at a significant cost savings.

With 25% of an average household's energy expenditures going toward producing hot water, a tankless water heater makes sense even for those with relatively new gas water heaters. Energy costs will be cut in half, and the unit will pay for itself by the end of the third year. The return on investment will be greater for those with electric hot water heaters.

The dramatic cost savings is the reason that more and more consumers are switching to tankless systems, according to Rinnai, a manufacturer. They estimate that a new tankless unit is installed somewhere in North America every 3.75 minutes.

Of course, heating and cooling represent the largest energy cost for most homeowners. In this area, new natural gas appliances are also providing a high return on investment.

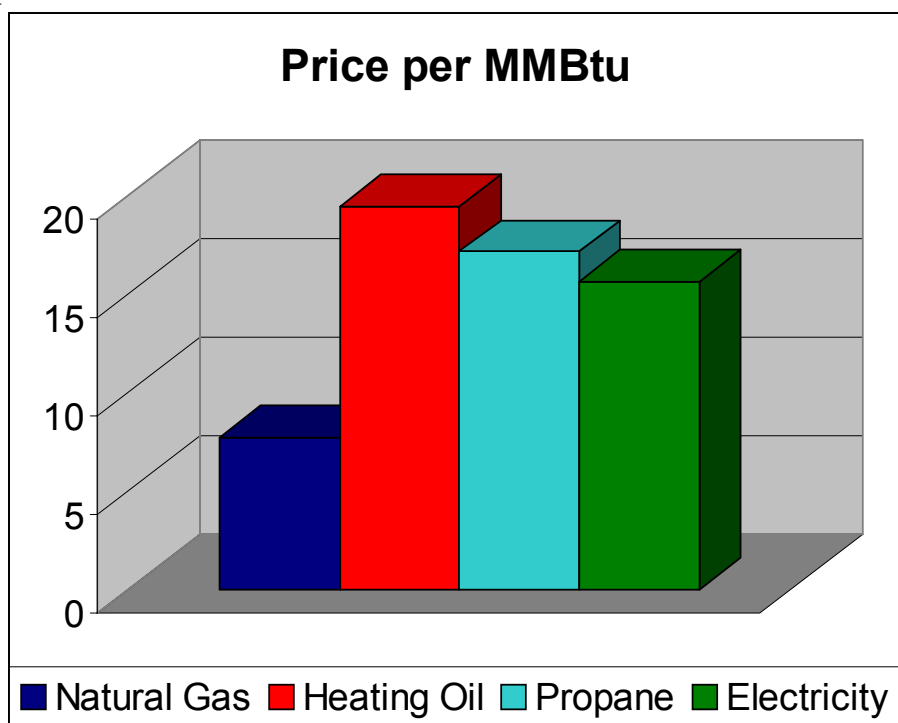
New natural gas furnaces routinely reach an Annual Fuel Utilization Efficiency (AFUE) in excess of 90 percent. These units are so efficient that their exhaust can be vented not through a traditional chimney, but through a simple PVC pipe.

But it is not only more efficient burners that make these units cost effective. Continually-operating variable speed fans reduce drafts and provide for less variation in room temperature, while using less energy than a 100 watt light bulb.

New generation thermostats allow residents to heat and cool their homes by specific "zones" – adjusting the specific temperature in each area to meet the needs of that room.

This technology goes far beyond a simple "set-back" thermometer, which turned back the heat while residents were sleeping or away at work. Of course, the new units can still do that. But they also take into account the fact that a kitchen will need less heat than a living room. They will also allow residents to maintain a much lower temperature in rooms not frequently used – storage areas or guest rooms, for example.

Energy efficiency is the primary reason that many builders are recommending natural gas appliances for their homes. It's also one reason that the Village of Rossville Illinois has required natural gas forced air heat in homes built in two subdivisions being developed using TIF money from the village.



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## IMGA Members In Their Own Words...



**Carol Mitchell**  
 Mayor  
 Tamms, Illinois  
 IMGA Purchasing Member

“The biggest benefit of the Interstate Municipal Gas Agency is that we are all allowed to hold on to our individuality. Each purchase is set up for our specific town, not all towns in general. The Agency knows our specific situation and works to meet our needs. I don't have to worry. I know that we'll be taken care of.”



The Interstate Municipal Gas Agency  
 Created BY Municipals FOR Municipals.

# Community Outreach Grants Help IMGAs Towns

*Mini-grants help members provide special touches for their communities.*

Membership has its benefits for communities which purchase gas from the Interstate Municipal Gas Agency. In addition to a low commodity cost for gas, and one of the lowest management fees in the industry (only four cents per MMBtu), purchasing members are eligible to receive Community Outreach Grants for small projects in their communities.

These \$250 mini-grants can be used for projects which are not included in a community's normal operating budget, according to Heather Viele of the IMGAs. "While its not a huge amount of money, it is one way in which we can help contribute to the quality of life in the communities we serve," Viele said. Here are some of the projects for which grant money was used...



**Pleasant Hill, IL – The Harman House Museum**

Funded by a retired school teacher, and maintained through volunteer efforts, the Harman House museum provides a glimpse of local history. Money from the community outreach grant was used to fund renovation of the electrical wiring system at the museum.



**Tamms, IL – Helping Fund a Health Center**

Access to quality, affordable health care is a concern for many rural communities. The Village of Tamms used its grant to assist in funding a new community health center, which will provide many long-term benefits for the town, according to Mayor Carol Mitchell.



**Pinckneyville, IL – Landscaping for the Library**

To assist in an overall campaign of city beautification, Pinckneyville used its Community Outreach Grant funds to provide new landscaping for the city's public library. "Thank you for providing this opportunity for your purchasing members," said Mayor Joseph Holder.



**New Boston, IL – HVAC for Community Center**

When the local American Legion post disbanded, the group donated its building for use as a Community Center. However, the heating and air conditioning units required repair. The City of New Boston used its grant funds to assist in this important community project.

### Other Projects Funded

Among other projects funded by IMGAs Community Outreach Grants were the completion of a new footbridge in Karnak, financial assistance for Cobden's sesquicentennial celebration, new picnic tables for the park pavillion in Thebes, and flowers and decorating assistance for parks and other public spaces in Findlay and Pittsfield. This is the second year of the IMGAs Community Outreach Grant program. For more information, contact IMGAs Headquarters at 217-438-4642.

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## IMGAs Members... In Their Own Words...



**Linda Viola**  
*Office Manager*  
Riverton, Illinois  
IMGAs Purchasing Member

"The most important thing I've learned is that I actually *trust* the people I'm working with. I can trust them for accurate pricing information, for the latest on what's going on in the market, and what I can attribute it to. The bottom line is that what we do has to be best for our customers. IMGAs gives us the knowledge we need, the service we trust."

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## Creating Win / Win Situations

Our most rewarding work as a municipal joint action agency happens when we are able to create win / win situations for one of our communities and its customers.

Consider the case of Tamms, Illinois. For many years, a natural gas main serving Tamms ran right in front of the town's major non-governmental industry: a silica plant. But despite the availability of a reliable, more cost effective fuel source, that plant continued to use propane to dry its silica.

Working with Tamms Mayor Carol Mitchell, IMGAs was able to demonstrate to the plant's owners that they could save thousands of dollars a year by switching from propane to natural gas.

The bottom line? Tamms enjoyed a significant increase in gas volume, and the plant helped cut its costs of production.

Can IMGAs help create a win / win situation for your town? Give us a call today to find out.



**Interstate Municipal Gas Agency**

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217-438-4642 [www.imga.org](http://www.imga.org)

