Price of Natural Gas

History and Forecast

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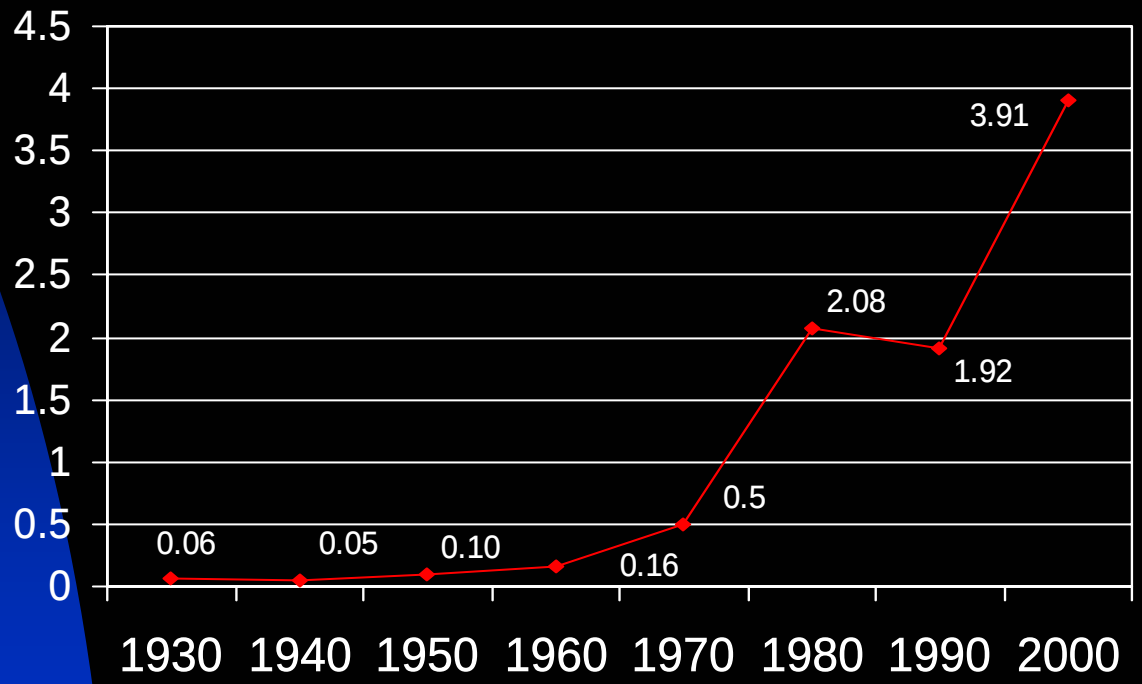
Introduction

- An Overview of Some Current Natural Gas Pricing Process

Topics of Discussion

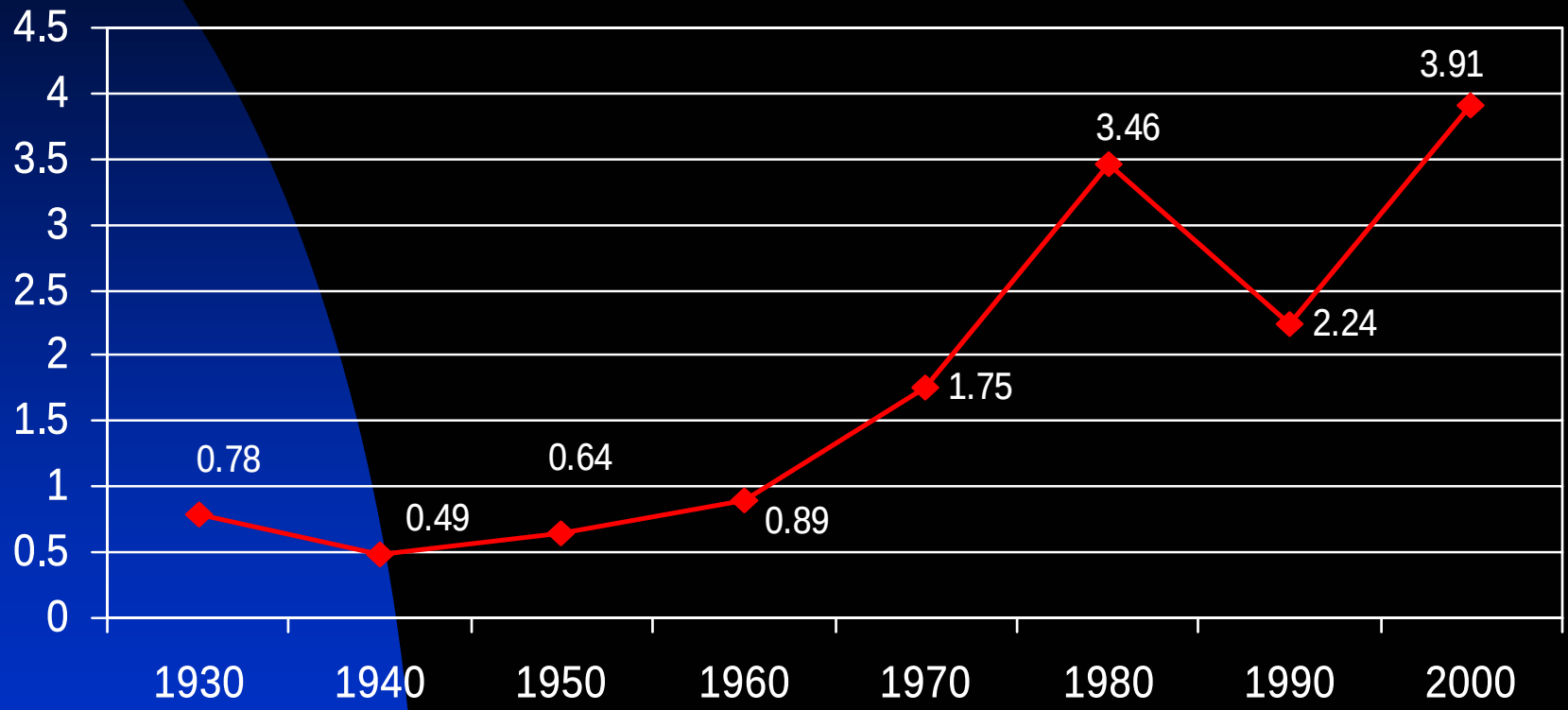
- A Look Back
- Current Gas Prices
- A look Ahead
- Gas Bill Affordability
- Price Volatility
- Gas Price Hedging

Price of Natural Gas: A Historical View (Nominal Prices per Mcf)



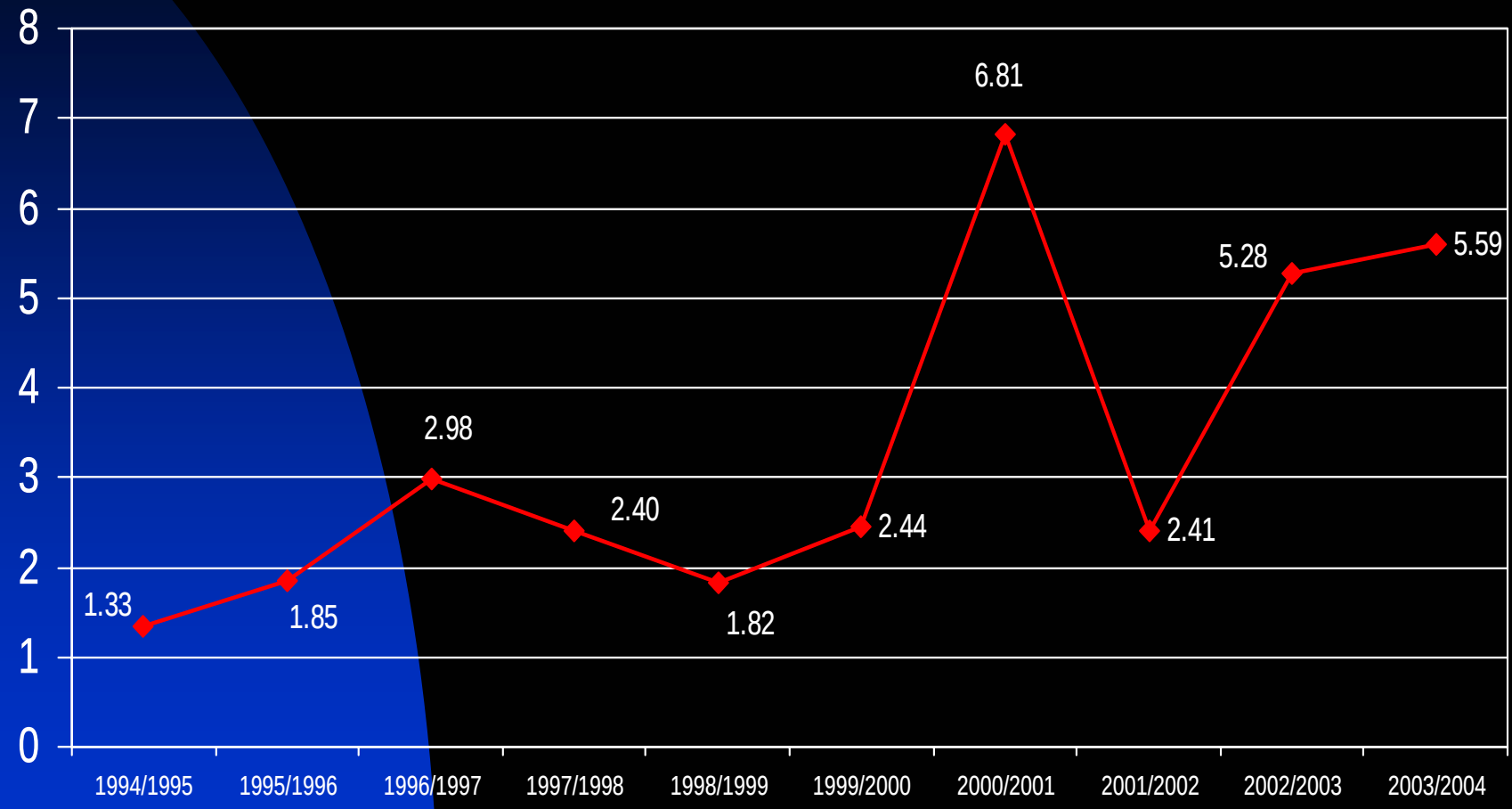
Source: EIA

Price of Natural Gas (Inflation Adjusted Prices)



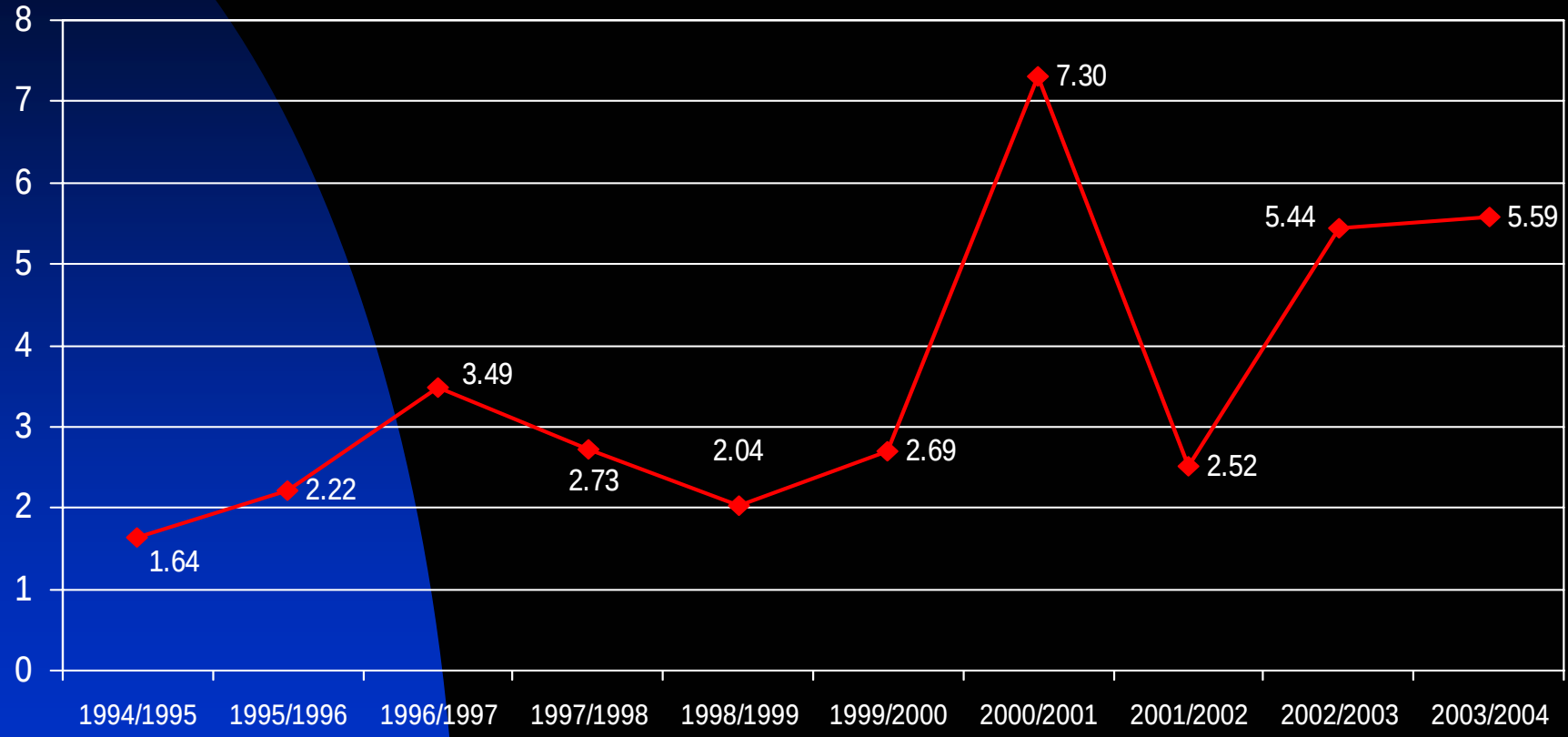
Source: EIA, CPI Index

Average Winter Prices: Mid-Continent Gas (Nominal Prices)



Source: Inside FERC's Gas Market Report

Average Winter Prices: Mid-Continent Gas (Inflation Adjusted Prices)



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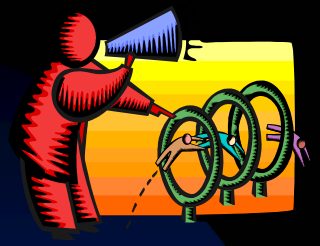
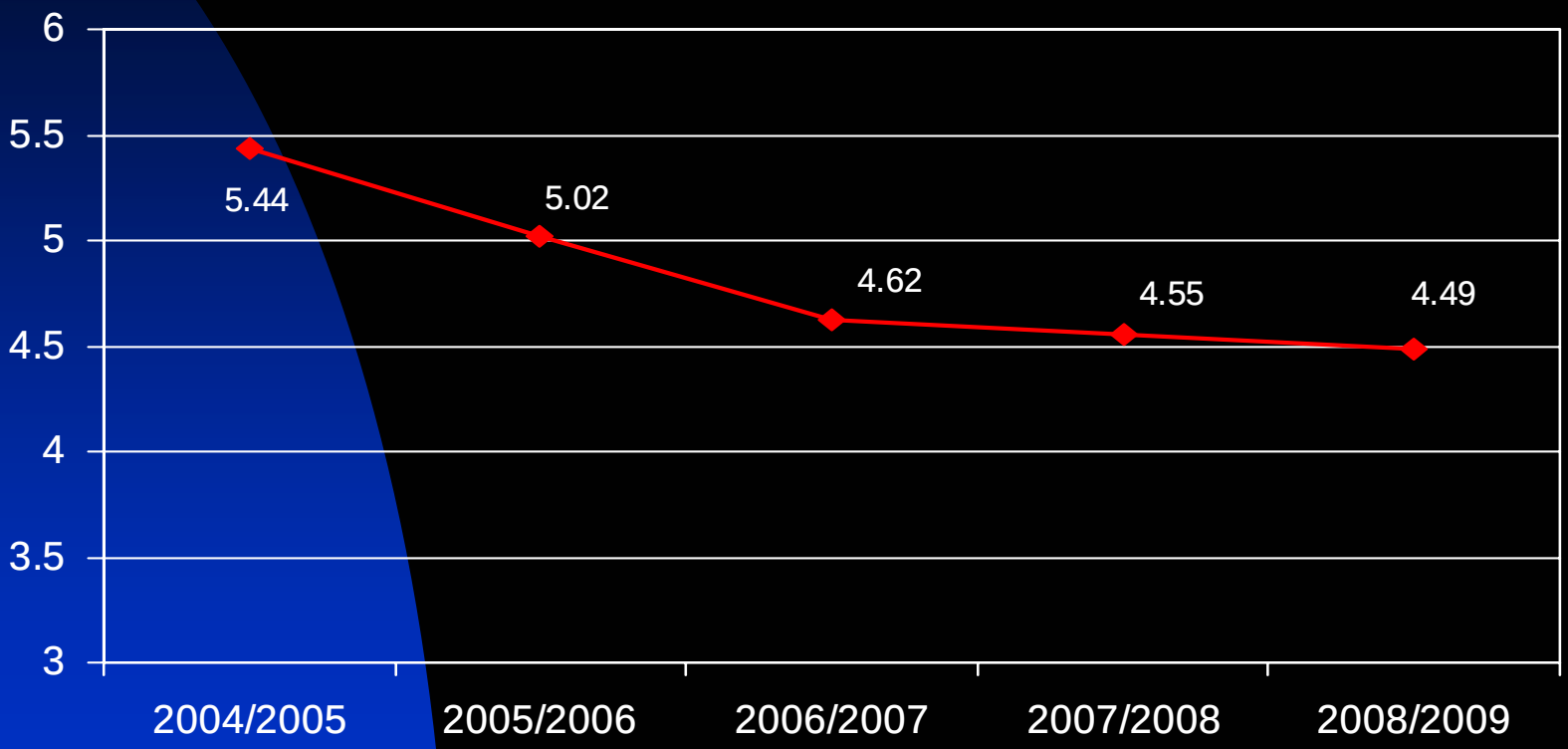


Winter Gas Price Forecast: Average Mid-Continent Prices (Based on Futures Prices at January 9, 2004 Close)

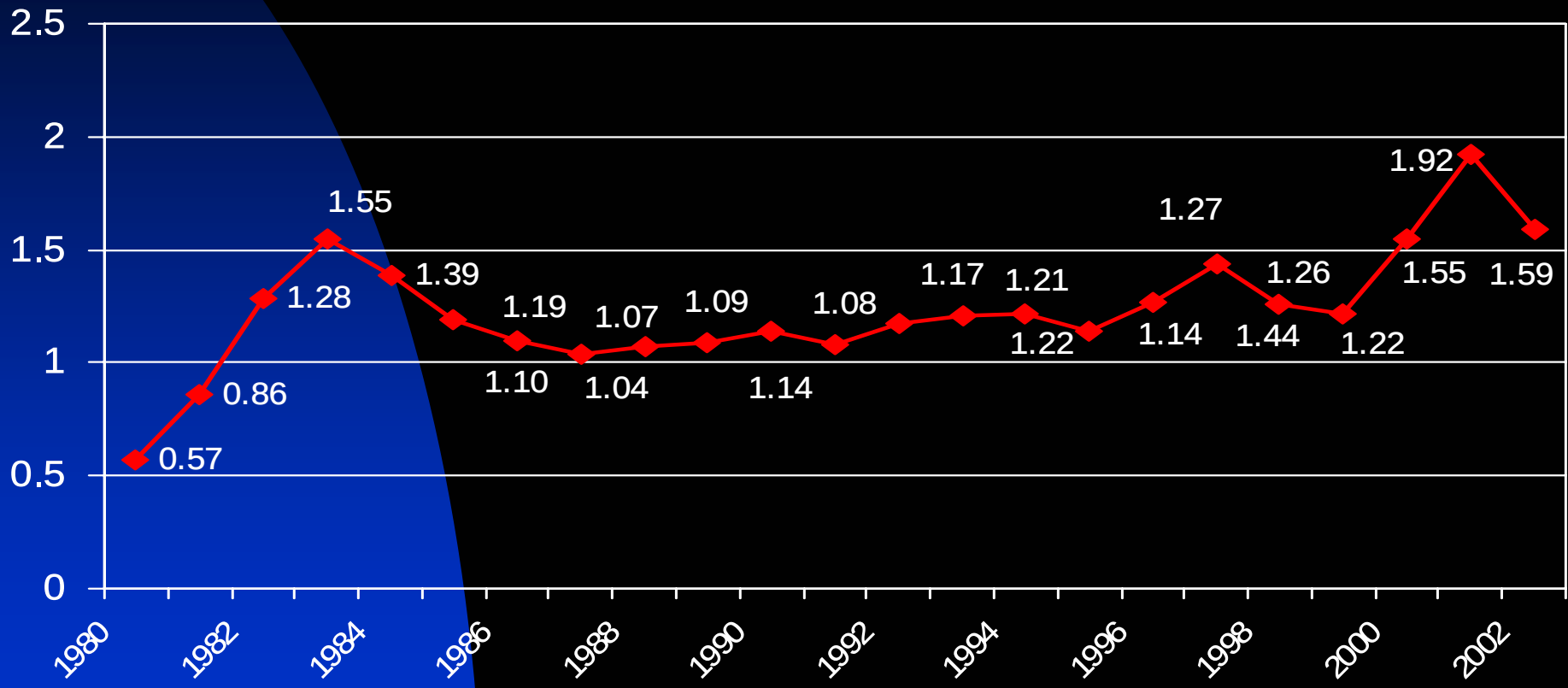


Source: MYMEX

The Bundled Price of Gas/Mcf: Winter Average Delivered Price to Residential Customer (Based on KGS estimated charges, Non-hedged)

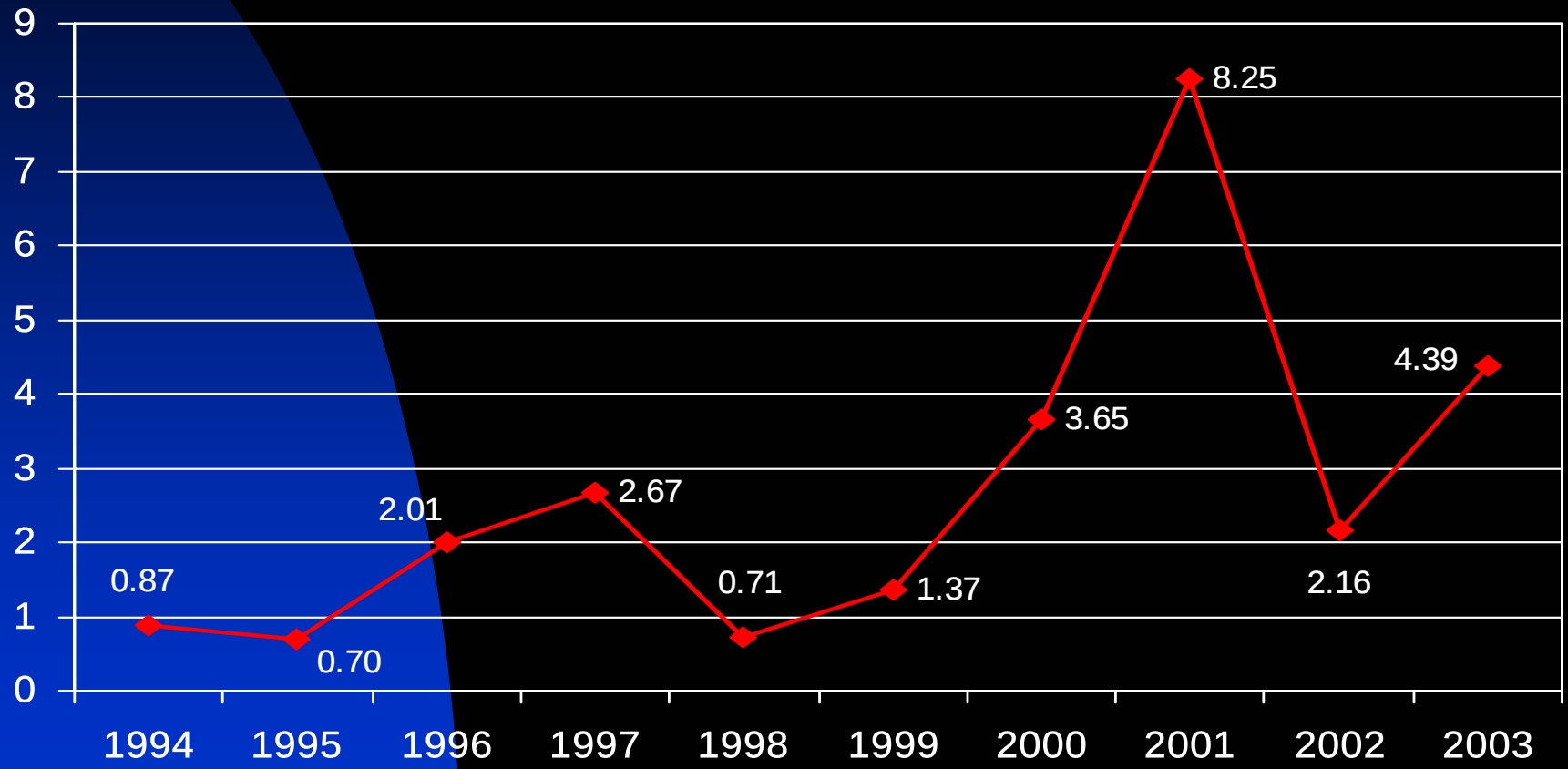
Source: Inside FERC's Gas Market Report

Affordability of Residential Gas Bills (Average Annual Gas Bill / Average Household Income)



Source: Available from KCC Staff

Natural Gas Price Volatility (Measured: High minus Low Price over Calendar Year, Normal Price Range)



Source: Inside FERC's Gas Market Report

Gas Hedge Programs

- What does it mean to hedge?
  - A hedger seeks to shed or reduce risk exposure
    - A speculator seeks to increase or take-on risk.

- In the context of natural gas consumers, what does it mean to hedge?
  - It means reducing gas price volatility. Using our measure of risk, it means reducing the possible range of prices.

Kansas Gas Utilities that have implemented Hedge Programs

- KGS: Approved March 1998
- Atmos Energy: Approved April 2001
- Aquila: Approved December 2001
- MWE: Indicates to Staff that it will apply for a Hedge Program fro the 04/05 winter.

Focus Group Results: Some Marketing Research

In the fall of 2001, KGS and Atmos Energy sought to evaluate their customers' interests in gas price hedging. Through this marketing research they found:

- Customers want their utility to hedge on their behalf
- Customers understand that hedging is a value-added service and, therefore, costs extra
- Customers are not willing to spend a large amount on hedging, however, appear willing to pay about $1/month ($12/year)
- Customers are less concerned about downside risk, more averse to upside risk (have an asymmetric aversion to risk)

How have the Utilities and the Commission responded to the Market Survey Results?

Companies have applied for and the Commission has approved Gas Hedge Program implementation.

- Companies must seek Commission approval prior to any purchase/arrangement of hedging derivatives.
- Hedge Program budgets are limited to $12/year per customer
- Hedge Programs are to be designed to establish protection from catastrophic prices, accordingly, the basic designs amount to price-cap-type designs. There are a number of different ways to establish price cap protection.

Hedge Program Performance

- Protection from severe price spikes: *price caps* are implemented via the Hedge Programs

  Example 1: KGS capped 100% of its March 03 purchases at approximately $3.10. The March 03 market price was $8.66. All KCC approved Gas Hedge Programs afforded significant protection from the March 03 price spike.

Hedge Program Performance

- Reduce Price Volatility

Example 2: the December 2003 to January 2004 price volatility: Using the KGS Hedge Program results,

Hedged volatility: $0.48

Non-hedged volatility: $1.30

Hedge Program Performance

- Customer Savings: About zero in the long run

  Hedging is not a money making proposition. Total net savings from Hedge Programs is expected to be close to zero in the *long run*. This means, about half the time the hedge instruments yield a profit, the other half a loss. It is important to be aware that money can be expended on financial derivatives that ultimately yield no payoff.