

# Natural Gas Prices: Past Trends and Future Projections

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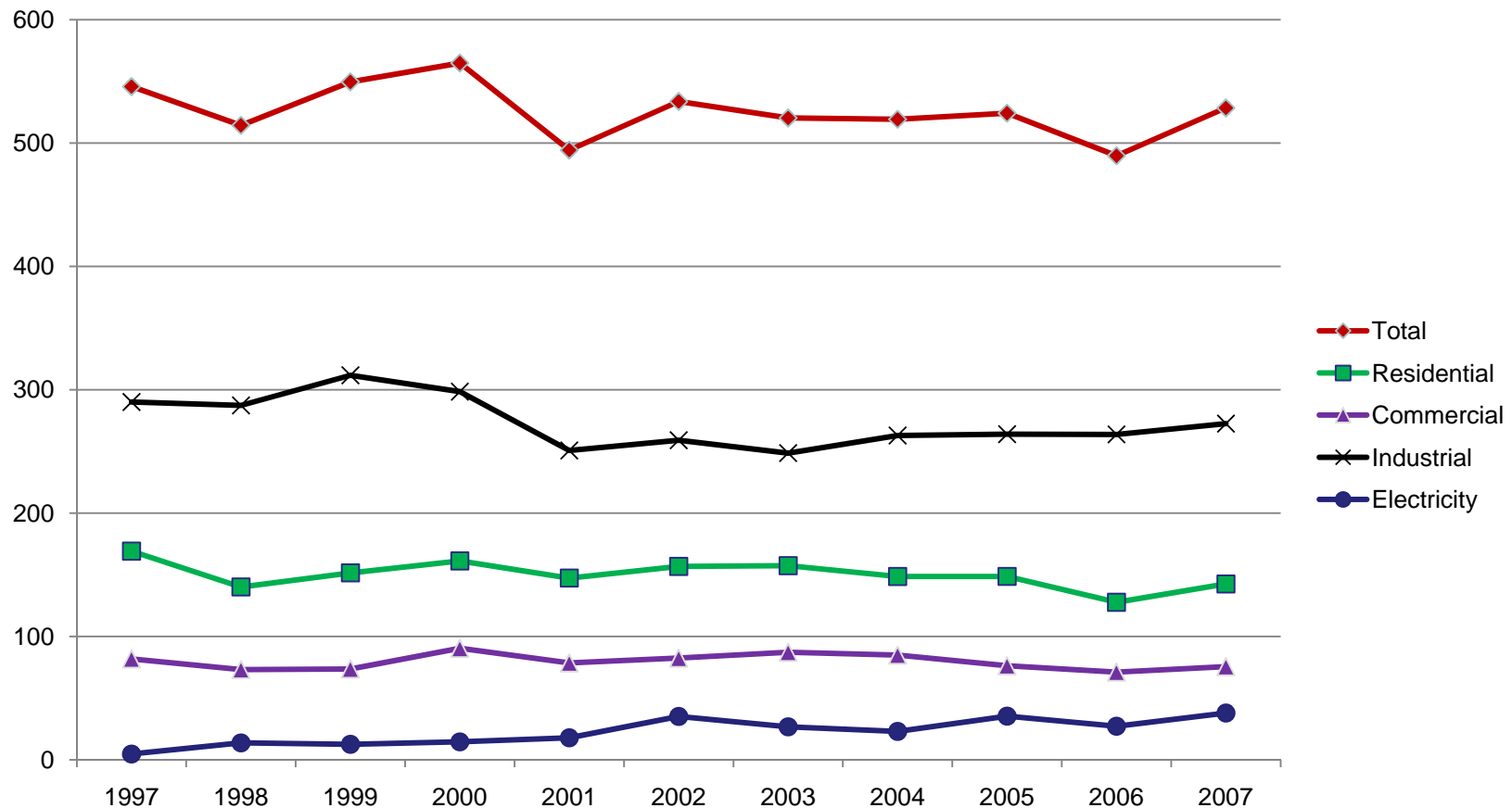
# Natural Gas Prices

- Natural gas prices tend to be very volatile
- Relatively constant prices with occasional extremes
- Very difficult to predict future prices
  - we do not project natural gas prices, but they are a factor in electricity use and prices, so we do look at the projections of others

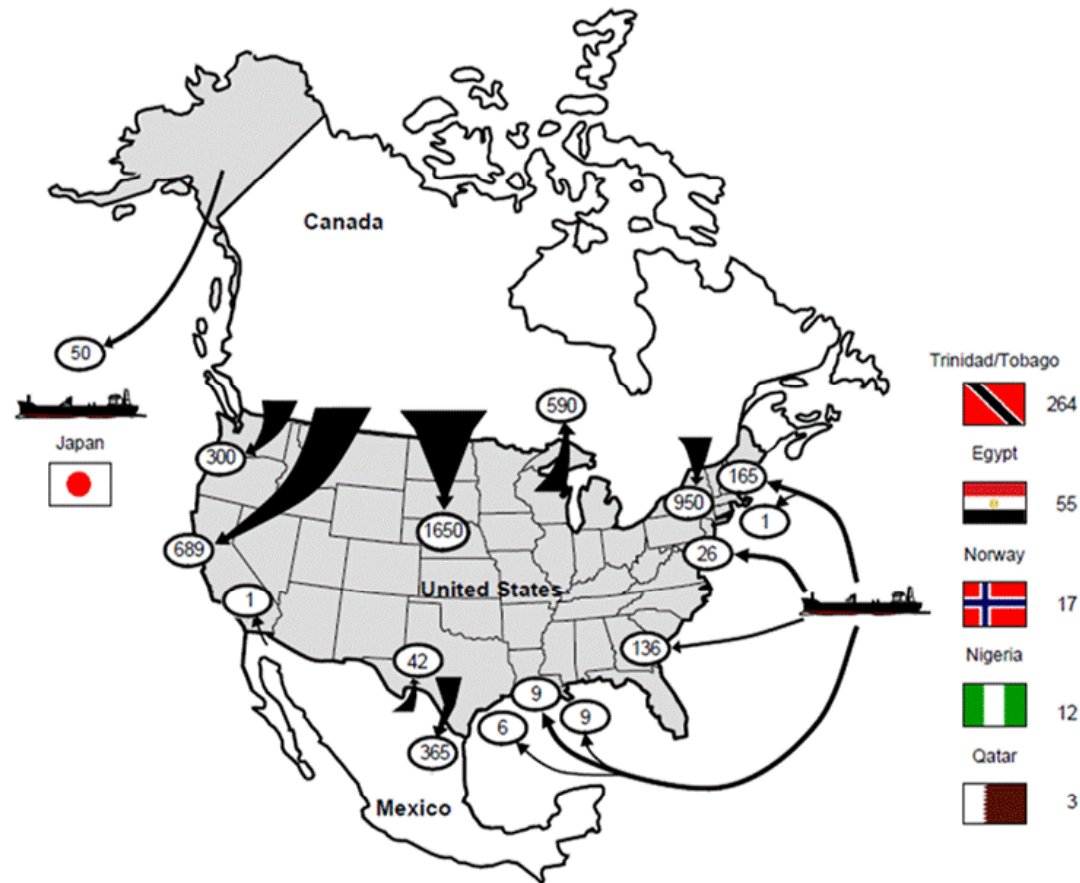
# Factors Affecting Prices

- Demand
  - economic factors
  - weather
  - electricity sector
- Supply
  - drilling
  - pipelines
  - imports
- Storage
- Prices of other fuels
  - oil
  - coal

# Indiana Natural Gas Consumption by Sector (Bcf)



# 2008 U.S. Natural Gas Imports & Exports (Bcf)



Source: Energy Information Administration, U.S. Natural Gas Imports and Exports: 2008, Tables SR6 and SR8

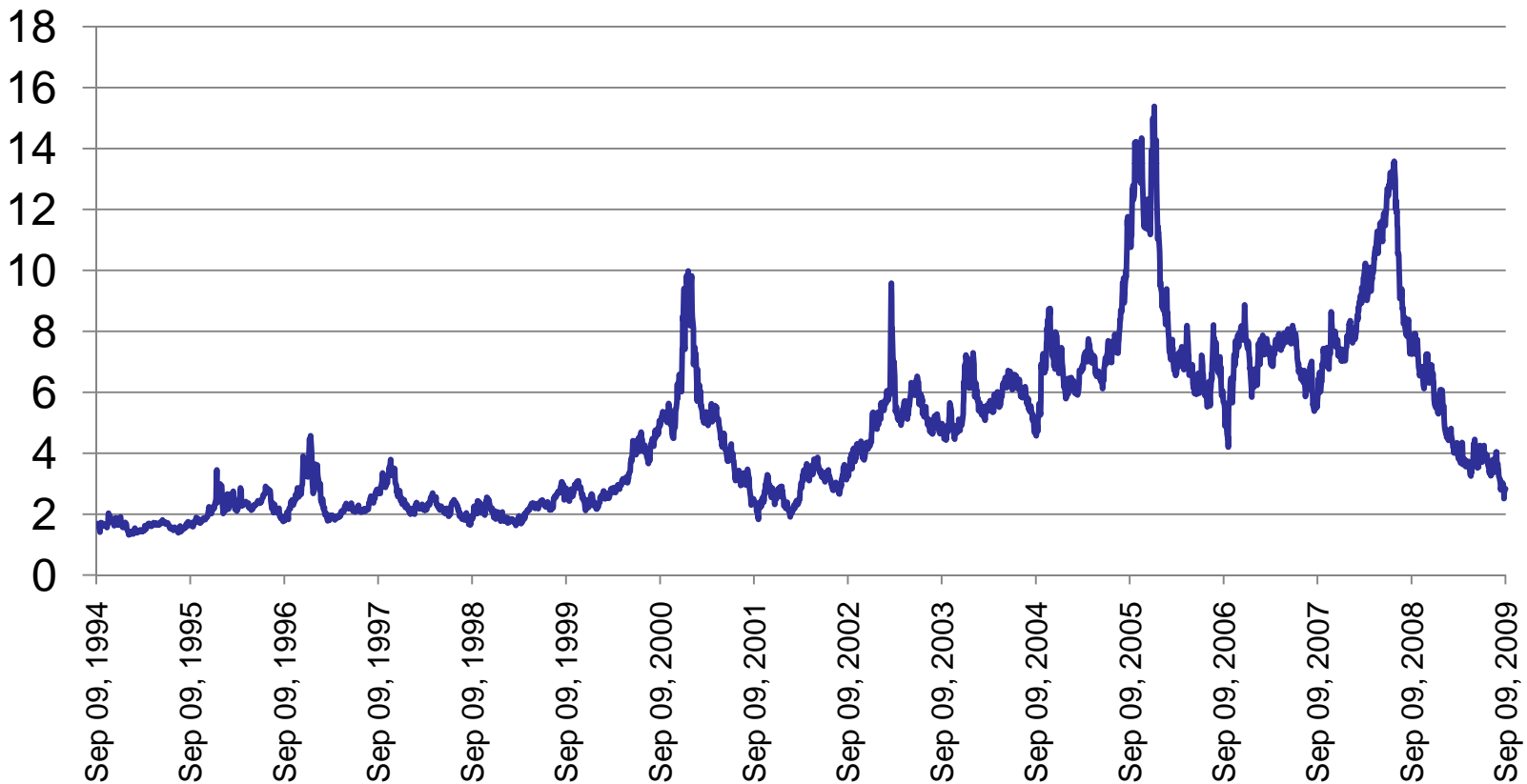
# Indiana Natural Gas Supply in 2007 (Bcf)

- Production 3.6
- Imported 2,432
- Exported 1,874



77 % of the gas that entered the state (from the south and west) passed through and left the state (to the north and east)

# Natural Gas Near-term Futures Prices (\$/mmBtu)



Data source: Energy Information Administration (EIA)

# What's changed

- About 10 years ago, the amount of gas produced per new well started dropping
  - the best gas locations were becoming played out
- Also, large amounts of new gas-fired electricity generators were built
- As prices increased, new wells were drilled, but total production stayed flat



# Since Then

- Price spikes have become more pronounced
- The “normal” price of gas has increased from around \$2 to the \$4-6 range
- Prolonged high prices in the fall of 2005 were due to supply disruptions after Hurricanes Katrina & Rita

## More Recently

- Production of gas from “unconventional” sources, such as shale gas
- High prices in 2008 were largely a result of infrastructure issues
  - Pipeline system had to catch up to new wells
- New pipelines came into place around the same time as the demand dropped due to the economy

# Current Natural Gas Consumption

- EIA estimates gas consumption will fall by 2.4 % in 2009
  - 12 % in industrial sector
- The price decrease makes gas more attractive for electricity generation
  - gas use by electricity sector expected to increase by 4.3 % despite 3 % drop in electricity sales

# Current Natural Gas Production

- Low price has curtailed drilling activities
- Total working rigs in U.S. down by 45 % since start of the year
- EIA expects 2009 U.S. production to be 0.9 % higher than 2008 and 2010 production to be 3.5 % lower.

# Current Natural Gas Storage

- As of the end of August 28, working gas storage was 3,323 Bcf
  - 501 Bcf above the 5-year average
  - 489 Bcf above the year before
- EIA projects it to reach 3,840 Bcf by end of October, beating the previous record
  - 3,565 Bcf in 2007

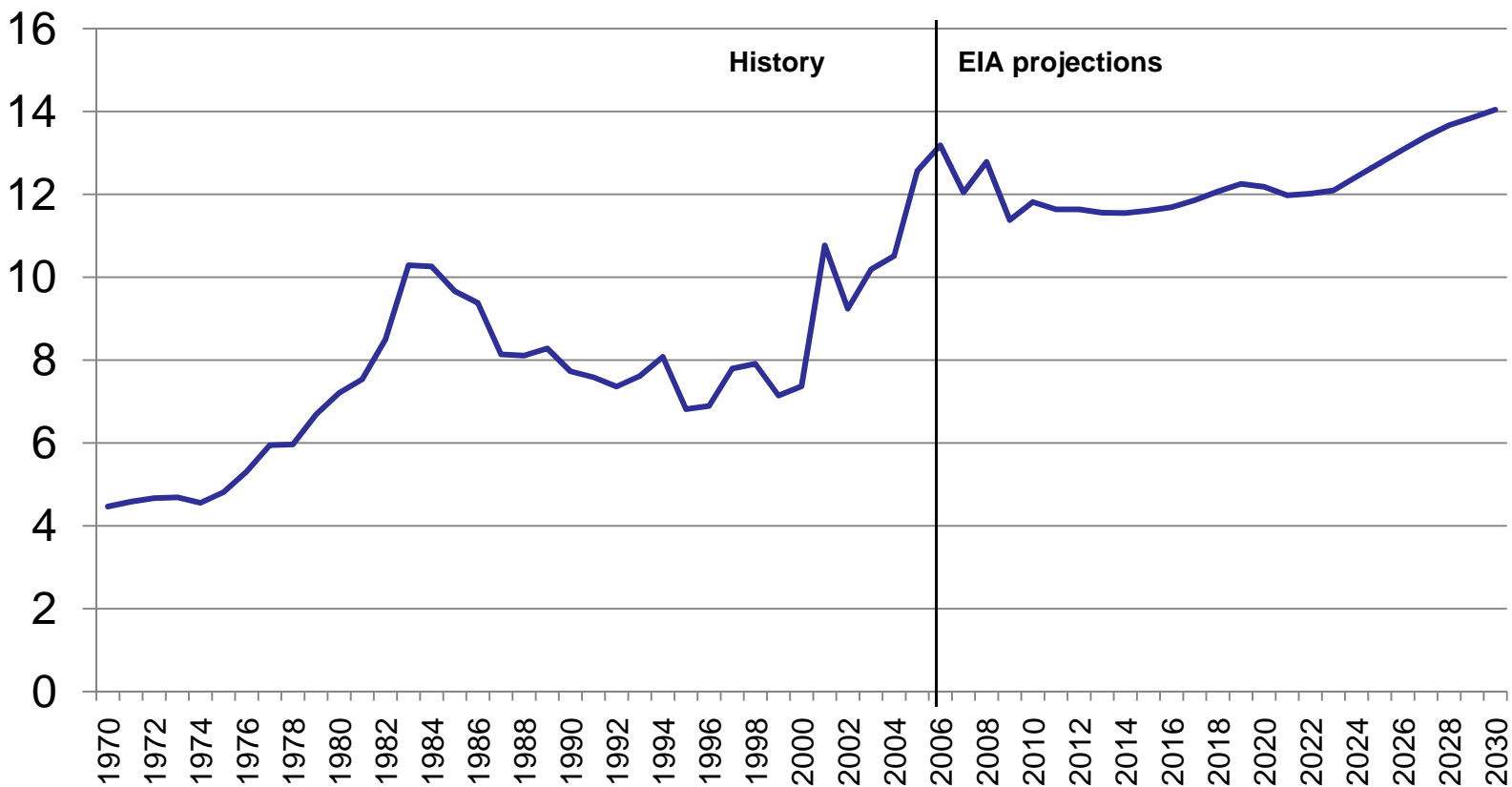
# EIA's Short-term Outlook (September 2009)

- Prices will remain low for the rest of 2009, averaging \$3.65/thousand cubic feet for entire year
  - resilient production
  - high storage levels
  - low demand
  - possible increase in imports
- Prices will rebound somewhat in 2010, averaging \$4.78/thousand cubic feet

# EIA's Long-term Projection (March 2009)

- Real (inflation adjusted) prices stay relatively flat until early 2020s then rise as more expensive resources are developed
- Prices vary depending on technology and economic growth assumptions

# Indiana Real Residential Natural Gas Prices (2007 \$/mmBtu)



Data source: EIA