

# Natural Gas Procurement Basics and Biogas Overview

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## Natural Gas Procurement Basics

- As Consumers, What Do We Want?
  - Natural gas delivered as expected
  - Don't want to pay “too much”
  - Consider environmental benefits
- RELIABILITY
- PRICE STABILITY
- “GREEN” GAS

## Reliability of Natural Gas

- How do we define reliability?
  - Expectations
- Cost vs. Reliability, do we have to choose?
  - Strike a balance
- Categorize Reliability Issues
  - Supply
  - Transportation
  - Distribution

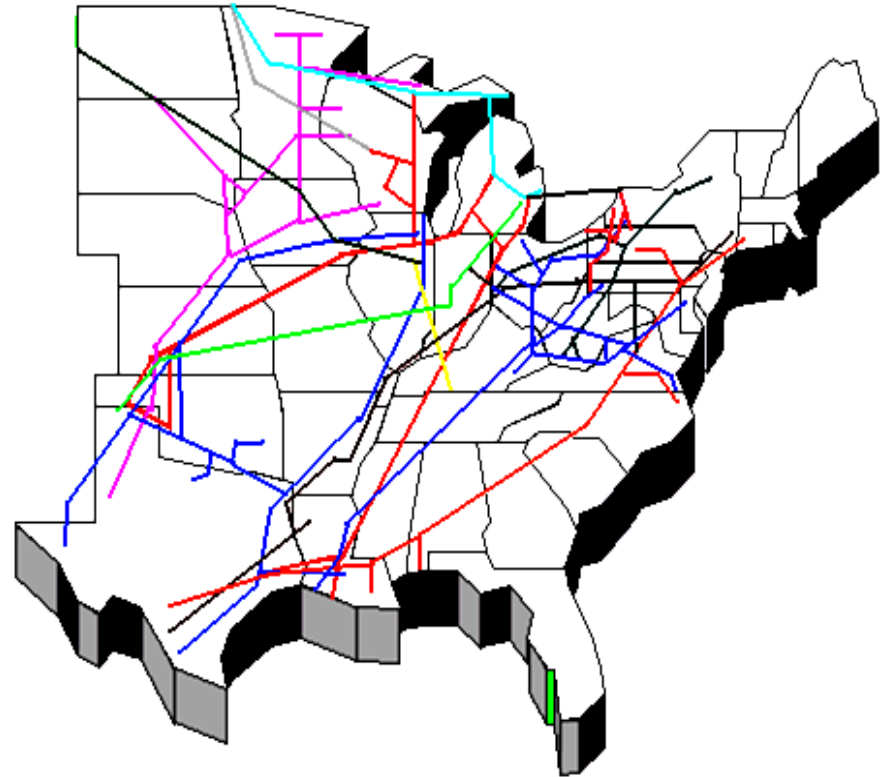
## Supply Reliability



- Where are you transacting?
- Who is your counterparty?
- What level of contract is being used?
- How could storage improve this?

## Transport Reliability

- Which Pipelines?
- Receipt Locations
- What about direct ownership?
- If buying delivered gas, how does supplier answer these questions?



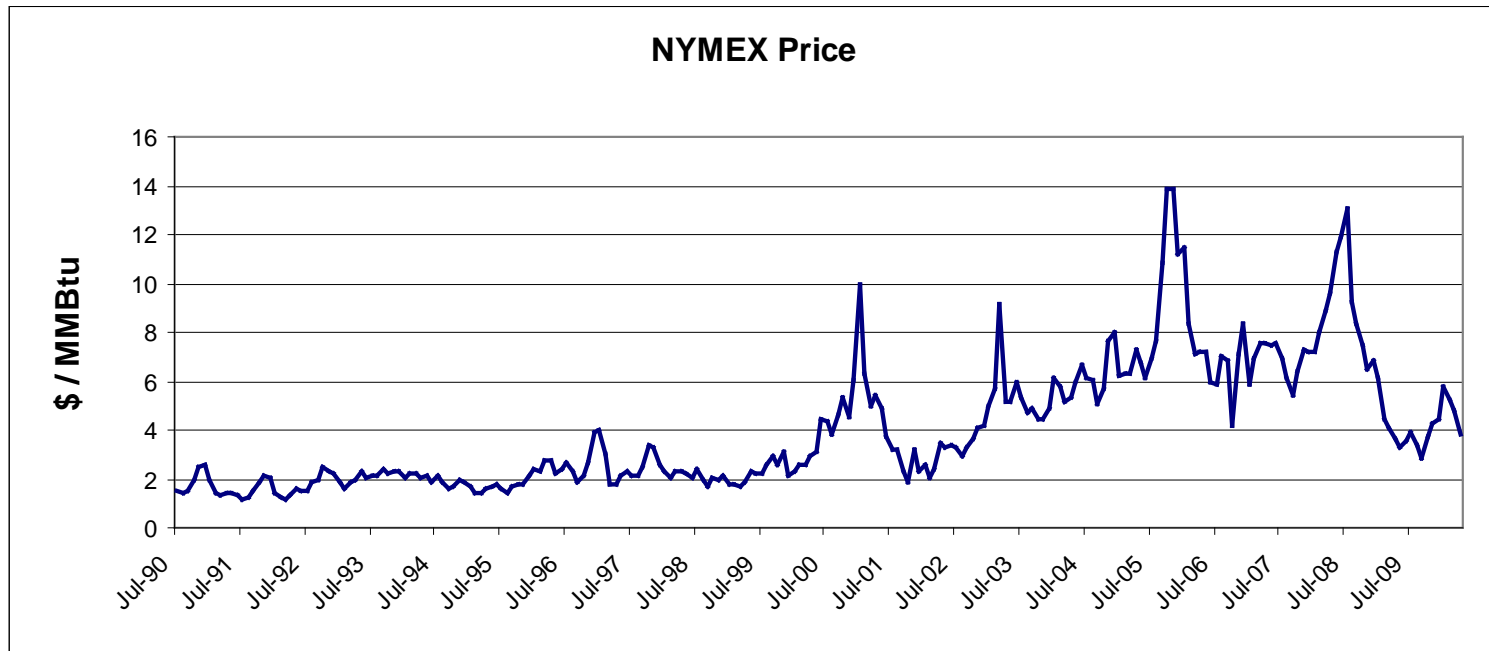
## Distribution Reliability

- Firm vs. Interruptible Rates
- Utility System Design
  - Number of pipeline feeds
  - Pressure requirements
- Alternate Fuel Capability
  - Ultimate reliability
  - Quantity of back-up fuel on site
  - Deliverability of fuel



## Price Stability

- What does this look like?
- Gas Bubble in the late 80's & early 90's
- Mid 2000's - LNG Desperately Needed
- Now - Shale Gas in Every Backyard



## Strategic Tools



vs



- Natural Gas Market doesn't exactly fit statistical tools
- These tools can still be used effectively
- What price levels are historically “good value”

## Strategy Questions



- How far into the future?
- What percentages to lock?
- Do you set midterm targets?
- Coordinate with reliability plan.

## “Green Gas”

- Definition – Bio Gas
  - Landfill gas, digester gas, other
- Benefits
  - Gas infrastructure
- Regulation
  - Carbon legislation vs. EPA rules
  - Path vs. Certification



## Bio Gas Economics & Technology

- Selling Bio Gas
  - Gas quality
  - Heat content
  - Pressurization
- Power Generation
  - Understood technology
  - Power pricing



## IntegrYS Energy Experience

- Landfill Projects
  - Gas only
  - Gas to electric
- The only blanket rule is that every site has its own situation.



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