Gas Market Dynamics

Prerequisites:
There are no prerequisites for this course

Detailed Course Description:
The course begins with an overview of the monopoly and competitive markets found in North America today and a look at the forces that drive supply and demand in gas markets and how this impacts prices. The types of gas markets found in North America are then discussed as well as the specific services that are traded in these markets. The course concludes with a look at the strategies used by four common market participants to manage risk and maximize earnings. The course is comprised of five modules; an introduction as well as Gas Market Structures and the Roles of Market Participants, Principles of Gas Supply and Demand, Gas Services and the Markets They Trade In, and Market Strategies for Key Gas Industry Players.

Agenda/Course Content):
Introduction
- Course objectives
- Gas units
Gas Markets Structures and the Roles of Market Participants
- What is a gas market?
- The differences between monopoly and competitive markets
- The key physical characteristics of natural gas that affect how markets function
- The 4 sectors of market participants (upstream, midstream, downstream, consumer)
- Bundled vs. unbundled service
- Supply choice for various customer classes in North America
- Gas market structure for commodity and transport/storage
- Market hubs
Principles of Gas Supply and Demand
- Short-term and long-term factors that drive gas demand
- Concepts used in evaluating demand (baseload demand, average demand, peak-day demand, load factor, annual load profile)
- Residential gas use (specific uses for gas and characteristics of gas demand)
- Commercial gas use (specific uses for gas and characteristics of gas demand)
- Industrial gas use (specific uses for gas and characteristics of gas demand)
- Electric generation gas use (specific uses for gas and characteristics of gas demand)
- How weather affects demand
- How storage activity affects demand
- Key factors driving gas supply in the short term
- Sources of U.S. supply
- Major North American supply regions
- Reserve to production ratios
Gas Market Dynamics, Continued

- The North American transmission pipeline system
- North American storage facilities
- Key factors driving gas supply in the long term
- New potential supply sources (Alaska, Mackenzie Delta) and issues with their development
- Pipeline and storage expansions
- LNG as a supply source (proposed and constructed terminals, pricing)
- How gas is priced throughout the value chain
- The forward price curve
- Historical U.S. gas prices
- Long-term factors affecting gas prices

Gas Services and the Markets They Trade In

- Bilateral markets
- Electronic exchanges
- Tariff markets
- Gas supply (forward, spot)
- Transportation services (firm, interruptible and the secondary market)
- Storage services (injection, inventory, withdrawal) and levels of service available (firm, interruptible)
- Balancing services and rules
- How flow orders are used to maintain system integrity
- Market hubs and the services they provide (wheeling, parking/lending, peaking gas, balancing, title transfer, hub-to-hub transfer)
- Which services trade in which markets?
- How pipeline and storage transactions are scheduled
- Structuring of supply, transport and storage agreements
- How and why prices change as gas travels through the value chain
- Price differentials across the U.S.
- Transportation pricing
- How storage and hub services are priced
- Retail commodity pricing and structure
- Contracts
- The North American Energy Standards Board (NAESB) and its role

Market Strategies for Key Gas Industry Players

- The 2 paradigms for business in gas markets (regulated vs. competitive)
- The relationship between earnings and the level of risk required to achieve them
- Risks inherent in the gas business (price, basis, volume, counterparty, execution, operational, regulatory, legal)
- Physical tools used to manage risk (pricing, take obligations, firm/IT transport, storage, balancing provisions, hub services, internal procedures, portfolio hedging)
Gas Market Dynamics, Continued

- Market strategies for Local Distribution Companies (LDCs)
  - Goals
  - Key risks
  - How regulated prices are set in the rate case process
  - How LDCs create earnings
  - How LDCs increase earnings
  - How decoupling affects earnings
  - How pipeline and storage facilities create earnings
  - How LDCs, pipelines and storage facilities use markets
  - How LDCs, pipelines and storage facilities handle key risks
  - The key skills necessary for LDC, pipeline and storage facility success

- Market strategies for Gas Producers
  - Goals
  - Key risks
  - How producers create earnings
  - The markets used by producers to sell supply
  - How prices are determined
  - How producers increase earnings
  - How producers handle key risks
  - The key skills necessary for producer success

- Market strategies for Wholesale Marketers
  - Goals
  - Key risks
  - Wholesale trading strategies
  - How wholesale marketers create earnings
  - How wholesale marketers increase earnings
  - How prices are determined
  - How wholesale marketers handle key risks
  - The key skills necessary for wholesale marketer success

- Market strategies for Retail Marketers
  - Goals
  - Key risks
  - Retail marketing strategies
  - How retail marketers create earnings
  - How wholesale purchases are optimally matched to retail sales
  - How an appropriate price is determined
  - How supply and sales commitments are structured and why this is critical
  - Selling value added services
  - How retail marketers increase earnings
  - How retail marketers handle key risks
  - The key skills necessary for retail marketer success