

# RSM

## RESOURCE SUPPLY MANAGEMENT

Energy Procurement

Energy Management

### **RSM's Glossary of Energy Trading Terms:**

Firm Power: Power or power-producing capacity intended to be available at all times during the period covered by a guaranteed commitment to deliver, even under adverse conditions.

Firm Gas: Gas sold on continuous non-interruptible terms.

Direct Access: The ability of a retail customer to purchase commodity electricity directly from the wholesale market rather than through a local distribution utility. Having market prices is called market access.

Interruptible Gas: Gas sold to customers with a provision that permits curtailment or cessation of service at the discretion of a member of the supply chain under certain circumstances, as specified in the service contract.

Fundamental Analysis: The study of basic, underlying factors, which will affect the supply and demand of the commodity being traded in futures contracts.

Technical Analysis: An approach to forecasting commodity prices which examines patterns of price change, rates of change, and changes in volume of trading and open interest, without regard to underlying fundamental market factors.

Notional Quotation: An offer to sell gas based on the price at the time the offer is made. Since prices constantly change, a notional amount is subject to change and is therefore an example of an offer rather than a firm offer.

Short Covering: This describes the purchasing of gas contracts to offset currently held short positions. The market participants are buying gas contracts to satisfy the contracts previously sold. A high daily volume of trades that results in a reduction of the total open interest is evidence short covering is occurring.

Contango: Market situation in which prices in succeeding delivery months are progressively higher than in the nearest delivery month.

Backwardation: Market situation in which futures prices are progressively lower in the distant delivery months. Opposite of contango, also called inverted market, indicates supply shortages.

Good 'Til Canceled Order (GTC): An order that is valid at any time during trading hours until executed, canceled or the futures contract expires. Also open order.

Close: The period at the end of the trading session, designated by the exchange, during which all transactions are considered complete.

Settlement: The daily price established by the exchange to even up positions, clear all trades and settle all accounts between members for each contract month. This is the weighted average price during the last thirty minutes of trading.

Expiration: When a NYMEX contract quits trading. For gas this is three business days before the first of the month of delivery. For example on Jan 29, 2003, the February 2003 contract stops trading (expires).

“Round Tripping” or “Wash” Trading: This is the practice whereby total trading volumes are inflated and a market made to appear more liquid as two companies buy and sell the same volume of energy at the same price to each other. This practice was more common in electricity markets as gas trading already had sufficient volumes to be a healthy properly functioning market.

Overbought – A technical opinion that the current market price is high in relation to a price-based indicator such as a moving average.

Oversold – An opinion that the price is low in relation to a similar indicator.

Forward Curve: Energy supply prices that can be purchased today – such as the NYMEX market for gas. Forward curves can be used for marking positions to market. Forward curves are not price forecasts and are not necessarily useful for planning purposes. A *forecast* is a prediction of future prices based on analysis while the *forward curve* is a snapshot of today's market.

Load: The amount of specific energy delivered or required at any specific point or points on a system. The requirement originates at the energy-consuming equipment of the consumers.

Futures market: A trade center for quoting prices on contracts for the delivery of a specified quantity of a commodity at a specified time and place in the future.

Henry Hub: A pipeline hub on the Louisiana Gulf coast. It is the delivery point for the natural gas futures contract on the New York Mercantile Exchange (NYMEX).

Specifications for the NYMEX gas contract:

- Trading unit = 10,000 decatherms (dt) or million British thermal units (mmBtu)
- Trading hours = Open outcry 9:30 am until 2:30 pm weekdays, Internet based ACCESS 3:15 pm until 9:00 am the next day, Mondays through Thursdays. On Sunday ACCESS trading begins at 7:00 pm.
- Trading months = 72 consecutive months commencing with the next calendar month.
- Prices = Dollars and cents to 1/10 th of a cent. Example: \$2.645 per dt.
- Last day of trading = Three business days prior to the first calendar day of the delivery month.
- Delivery location = Sabine Pipe Line Co.'s Henry Hub in Louisiana. Seller is responsible for delivery through Hub; buyer, from Hub. Hub fee is paid by seller.
- Delivery period = Uniformly over the course of the month.
- Quality specifications: Pipeline specifications in effect at the time of delivery.

## **RSM's Pricing Terms:**

Basis: The difference between the cash or spot price of a commodity and the price of the futures contract for the same commodity. For gas, basis reflects the locational difference between the Henry Hub and a delivery point. The delivery point may be a point on a pipeline or a Citygate location.

NYMEX Price: This represents the commodity price of natural gas. NYMEX is short for New York Mercantile Exchange where natural gas is traded along with other commodities. Like other commodities natural gas prices may change quickly with large swings. It is also sometimes referred to as the Henry Hub price because you can take physical delivery of gas at the Henry Hub in Louisiana where many interstate pipelines connect with each other. Most of the time however, physical delivery is arranged at other locations on a specific pipeline.

Index Price: This is the published result of a price survey conducted by an index maker. Commonly used indexes in natural gas are *Inside FERC*, *Natural Gas Intelligence* and *Gas Daily*. The index maker surveys active traders during the last few trading days of the month and finds both the range and the weighted average price for certain geographic trading points. Indexes are widely used in the gas contracts. Remember an index is a historical price while prices on the NYMEX are for future delivery.

Spot price: The price for a one-time open market transaction for immediate delivery of a specific quantity of product at a specific location where the commodity is purchased "on the spot" at current market rates.

Market-based pricing: Prices of electric power or other forms of energy determined in an open market system of supply and demand under which prices are set solely by agreement as to what buyers will pay and sellers will accept. Such prices could recover less or more than full costs, depending upon what the buyers and sellers see as their relevant opportunities and risks.

Market Clearing Price: The price at which supply equals demand for future energy delivery.

Strike Price: The price, agreed to by the parties, at which the underlying commodity or futures contract will move from seller to buyer.

Hedging: Taking a position in the futures market as a temporary substitute for a cash transaction that will occur later.

Burnertip Price - Estimated all-in cost of gas to end-user.

## **RSM's Natural Gas Terms:**

City Gate: A point or measuring station at which a gas distribution company receives gas from a pipeline company or transmission system

Design Day: A 24-hour period of demand which is used for planning gas capacity requirements.

Wellhead (Gas Supply) - Major oil and gas companies along with smaller independent oil and gas companies explore for natural gas. The wellhead is the equipment placed on top of each well to control flow and pressure. Each of the thousands of wells is commonly referred to as a wellhead. Wellhead price might also be referred to as supply price, commodity price, index price, NYMEX price or gathering point price.

Interstate Transportation Costs (Interstate Basis) - Interstate natural gas pipelines are operated by various companies throughout the United States. Transcontinental gas Pipe Line (Transco), Southern Natural (Sonat), Tennessee Gas Pipeline, East Tennessee Natural Gas, and Texas Gas Transmission are some of the interstate pipelines that serve the Southeast. These pipelines are the means by which gas is transported from gas producers to local distribution companies or, in the instance of some very large industrials, directly to end-users. Interstate pipeline companies do not own or charge for the gas, but only for the transportation of the gas through their pipeline. The charge of transportation is referred to as "transportation costs" or "estimated interstate basis". This cost is comprised of demand or reservation fees, pipeline commodity charges, fuel shrinkage for compressors pumping gas to market, costs to get gas from the Henry Hub to pipelines pooling points and other charges.

Distribution Rate: This is the transportation charge the local distribution company charges to distribute gas from its "city gate" to the end-user. This reflects the charge of distributing the gas from the city gate to the end-user, but not the cost of the gas itself.

Heating degree-days: A measure of how cold a location is over a period of time relative to a base temperature, most commonly specified as 65 degrees Fahrenheit. The measure is computed for each day by subtracting the average of the day's high and low temperatures from the base temperature (65 degrees), with negative values set equal to zero. Each day's heating degree-days are summed to create a heating degree-day measure for a specified reference period. Heating degree-days are used in energy analysis as an indicator of space heating energy requirements or use.

### **Gas Measurements:**

Cubic foot (cf), natural gas: The amount of natural gas contained at standard temperature and pressure (60 degrees Fahrenheit and 14.73 pounds standard per square inch) in a cube whose edges are one foot long.

Mcf: One thousand cubic feet.

MMcf: One million cubic feet.

Bcf: One billion cubic feet.

Tcf: One trillion cubic feet.

Therm: A unit of heating value equivalent to 100,000 British thermal units (Btu).

MMBtu: A thermal unit of energy equal to 1,000,000 Btus, that is, the equivalent of 1,000 cubic feet of gas having a heating content of 1,000 Btus per cubic foot, as provided by contract measurement terms. Also DEKATHERM.

## **RSM's Electricity Terms:**

Customer choice: The right of customers to purchase energy from a supplier other than their traditional supplier or from more than one seller in the retail market.

Day-ahead and hour-ahead markets: Forward markets where electricity quantities and market clearing prices are calculated individually for each hour of the day on the basis of participant bids for energy sales and purchases.

Stranded costs: Costs incurred by a utility, which may not be recoverable under market-based retail competition. Examples include undepreciated generating facilities, deferred costs, and long-term contract costs.

Electricity demand: The peak hourly rate at which energy is delivered to loads and scheduling points by generation, transmission, and distribution facilities.

Non-Firm Power: Power or power-producing capacity supplied or available under a commitment having limited or no assured availability.

Standby Service: Support service that is available, as needed, to supplement a consumer, a utility system, or to another utility if a schedule or an agreement authorizes the transaction. The service is not regularly used.

Transformer: An electrical device for changing the voltage of alternating current.

Transmission: The movement or transfer of electric energy over an interconnected group of lines and associated equipment between points of supply and points at which it is transformed for delivery to consumers, or is delivered to other electric systems. Transmission is considered to end when the energy is transformed for distribution to the consumer.

Cooling degree-days: A measure of how warm a location is over a period of time relative to a base temperature, most commonly specified as 65 degrees Fahrenheit. The measure is computed for each day by subtracting the base temperature (65 degrees) from the average of the day's high and low temperatures, with negative values set equal to zero. Each day's cooling degree-days are summed to create a cooling degree-day measure for a specified reference period. Cooling degree-days are used in energy analysis as an indicator of air conditioning energy requirements or use.

Generator: A machine that converts mechanical energy into electrical energy.

### **Electricity Measurements:**

Watt: The electrical unit of power. The rate of energy transfer equivalent to 1 ampere flowing under a potential of 1 volt at unity power factor. Equal to 3413 Btu's.

Kilowatt (kW): One thousand watts. This refers to capacity.

Kilowatt-hour (kWh): One thousand watt-hours. This is a quantity of energy.

Megawatt (MW): One million watts, one thousand kilowatts.

Megawatt-hour (MWh): One million watt-hours, one thousand kilowatt-hours.