



Energy Glossary

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Acquired Capacity Agreement: An agreement between a pipeline and acquiring shipper setting forth the terms and conditions for using capacity purchased from a **releasing shipper**. (Also called a **replacement agreement**).

Acquiring Shipper: A shipper who purchases released capacity rights from a **releasing shipper**. (Also called **replacement shipper**).

Aggregator: An entity responsible for planning, scheduling, accounting, billing, and settlement for energy deliveries.

Alternate Receipt and Delivery Points: Receipt and delivery points, other than the primary points designated in a contract, at which a firm shipper may schedule gas receipt or delivery with a priority above that of interruptible service.

Alternative fuel: Alternative fuels, for transportation applications, include the following:

- methanol
- denatured ethanol, and other alcohols
- fuel mixtures containing 85 percent or more by volume of methanol, denatured ethanol, and other alcohols with gasoline or other fuels -- natural gas
- liquefied petroleum gas (propane)
- hydrogen
- coal-derived liquid fuels
- fuels (other than alcohol) derived from biological materials (biofuels such as soy diesel fuel)
- electricity (including electricity from solar energy.)

Alternative-rate DSM program assistance: A DSM (demand-side management) program assistance that offers special rate structures or discounts on the consumer's monthly electric bill in exchange for participation in DSM programs aimed at cutting peak demands or changing load shape. These rates are intended to reduce consumer bills and shift hours of operation of equipment from on-peak to off-peak periods through the application of time-differentiated rates. For example, utilities often pay consumers several dollars a month (refund on their monthly electric bill) for participation in a load control program. Large commercial and industrial customers sometimes obtain interruptible rates,

which provide a discount in return for the consumer's agreement to cut electric loads upon request from the utility (usually during critical periods, such as summer afternoons when the system demand approaches the utility's generating capability).

American Public Power Association (APPA): The trade association that primarily represents municipal utilities.

Ampere (amp): The unit of measurement of electrical current produced in a circuit by 1 volt acting through a resistance of 1 ohm.

Ancillary Services: Services necessary to support the transmission of electric power while maintaining reliable operation of the transmission system.

Apparent consumption, natural gas (international): The total of an individual nation's dry natural gas production plus imports less exports.

Apparent consumption, petroleum (international): Consumption that includes internal consumption, refinery fuel and loss, and bunkering. For countries in the Organization for Economic Cooperation and Development (OECD), apparent consumption is derived from refined product output plus refined product imports minus refined product exports plus refined product stock changes plus other oil consumption (such as direct use of crude oil). For countries outside the OECD, apparent consumption is either a reported figure or is derived from refined product output plus refined product imports minus refined product exports, with stock levels assumed to remain the same. Apparent consumption also includes, where available, liquefied petroleum gases sold directly from natural gas processing plants for fuel or chemical uses.

Aquifer: A water bearing permeable rock formation that is capable of storing natural gas.

Arbitrage: The simultaneous purchase of one commodity against the sale of another in order to profit from fluctuations in the usual price relationships.

The Arctic National Wildlife Refuge (ANWR): A region in northern Alaska recognized for its potentially abundant oil and gas reserves.

At-the-Market: An order to buy or sell a futures contract at whatever price is obtainable when the order reaches the trading floor.

At-the-Money: In futures trading, when an option's exercise price is the same as the current trading price of the underlying commodity, the option is *at-the-money*.

Available But Not Needed Capability: Net capability of generating units that are operable, but not considered necessary to carry load. These units cannot be connected to provide power within 30 minutes.

Available Electric Margin: The difference between available resources and net demand, expressed as a percent of available resources. This is the capacity available to cover random factors such as forced outages or generating equipment, demand forecast errors, and weather extremes.

Available Transfer Capability (ATC): A unit of measure for the transfer capability remaining in the physical transmission network for further commercial activity, over and above committed uses.

Avoided Cost: The cost a utility is spared from incurring.

Backhaul: A "paper transport" of natural gas by displacement against the flow on a single pipeline, so that the natural gas is redelivered upstream of its point of receipt.

Back Month: All contract months for futures contracts after the contract currently trading.

Back Up Power: Power provided from another source to take the place of the regular power source.

Backwardation: In the context of futures trading, a market condition in which futures prices are gradually lowered in the future months of delivery. Also referred to as an inverted market.

Balancing: Equalizing an end user's usage with the volume of gas that was nominated into the

pipeline on their behalf or on behalf of a group of customers. Balancing may have both daily and monthly components with penalties assessed for imbalances.

Base Gas: Gas required in a storage field to maintain sufficient pressure to keep the working gas recoverable. Also called "cushion" gas.

Base Load Capacity: Electric generating equipment normally operated to serve loads on an around-the-clock basis.

Base Load Plant: A plant which is normally operated to take all or part of the minimum load of a system, and which consequently produces electricity at an essentially constant rate and runs continuously.

Base Load: The minimum amount of electric power delivered or required over a given period of time at a steady rate.

Basis: The price difference between the **futures contract** and the cash or spot price of the same commodity at another physical location. For natural gas, basis has meant the difference between the **NYMEX** natural gas **futures contract** at the **Henry Hub** and the cash price at other market points. Natural gas **basis** primarily represents pipeline transportation costs; however, it may also take into consideration regional supply issues.

Bcf: The abbreviation for 1 billion cubic feet.

Bear: One who expects prices to decline.

Bear Market: Market in which prices are declining.

Best Efforts: Service offered to customers under rate schedules or contracts that anticipate and permit some interruption on short notice.

Bidding Shipper: Parties who bid for capacity, released by a firm pipeline transportation capacity owner, which has been posted on the pipeline's electronic bulletin board.

Bid Week: The time period at the end of a month when the bulk of purchasing on the **spot market** occurs for the following month. **Bid week** typically occurs during the last three to five business days preceding the **delivery month**.

Bilateral Agreement: A contract that is limited exclusively to two parties that trade with each other.

Blackout: Emergency loss of electricity through the failure of generation, transmission or distribution systems.

Boiler: A device for generating steam for power, processing, or heating purposes or for producing hot water for heating purposes or hot water supply.

British Thermal Unit: The amount of heat required to increase the temperature of a pound of water 1° Fahrenheit. A Btu is used as a common measure of heating value for different fuels. Prices of different fuels and their units of measure (dollars per barrel of crude, dollars per ton of coal, cents per gallon of gasoline, cents per thousand cubic feet of natural gas) can be easily compared when expressed as dollars and cents per million Btus.

Broker: A retail agent who buys and sells natural gas and/or power but doesn't take title to the commodity in the transaction.

Brownout: Partial reduction of electrical voltage caused by customer demand being higher than anticipated or by failure of the generation, transmission or distribution system. May result in lights being dimmed.

Bulk Power System: Term for all electric generating plants, transmission lines and equipment.

Bull: One who expects a rise in prices.

Bull Market: Market in which prices are rising.

Burner Tip: The point at which natural gas is used as a fuel. This is at an end user's meter or place of delivery.

Buyer: As it relates to the futures market, a market participant who takes a long futures position or buys an option.

Buyer's Market: A condition of the market in which there is an abundance of goods available and hence buyers can afford to be selective and may be able to buy at less than the price that previously prevailed.

Bypass: The action of a retail customer to obtain power or natural gas directly from a wholesale supplier or transporter, thus eliminating any utility charges applicable to distribution.

Calendar Month: A period beginning on the first day of the month and ending on the first day of the next month.

Call Option: As it relates to the futures market, a contract that entitles the buyer/taker to buy a fixed quantity of commodity at a stipulated basis or striking price at any time up to the expiration of the option. The buyer pays a premium to the seller/grantor for this contract. A call option is bought with the expectation of a rise in prices.

Capacitor: A device that helps improve the efficiency of the flow of electricity through distribution lines by reducing energy losses. It is installed in substations and on poles. Usually it is installed to correct an unwanted condition in an electrical system.

Capacity (Transmission): In reference to electricity, the maximum load that a transmission line or generating unit can carry under specified conditions for a given period of time without exceeding approval limits of temperature and stress.

Capacity (Generating): A measure of the ability to generate electric power, usually expressed in megawatts (MW). Capacity can refer to the output of a single generator, a plant, an entire electric system, a power pool, or region.

Capacity (Purchased): The amount of energy and capacity available for purchase from outside the system.

Capacity Assignment: The assignment of a specific right to firm transportation service on an interstate natural gas pipeline.

Capacity Charge: An element in a two-part pricing method used in capacity transactions (energy charge is the other element). The capacity charge, sometimes called Demand Charge, is assessed on the amount of capacity being purchased.

Capacity Margin: The amount of capacity above planned peak system demand available to provide for scheduled maintenance, emergency

outages, system operating requirements, and unforeseen electricity demand.

Capacity Release: The assignment or release of firm gas transportation rights to another party, done on a permanent or temporary basis. Capacity release is accomplished through prearranged transportation or through the pipeline's electronic bulletin board. If the **releasing shipper** solicits bids for their capacity via the pipeline's electronic bulletin board, **bidding shippers** will bid on the capacity, and it will ultimately be awarded to the highest bidder.

Captive Customer: A customer who does not have realistic alternatives to buying natural gas or power from the local utility, even if that customer had the legal right to buy from competitors.

Cash Market: The market for a cash commodity where the actual physical product is traded.

Cash out: The procedure that allows end users to resolve monthly or daily differences between actual nominations and actual usage.

Circuit: A conductor or a system of conductors through which electric current flows.

City Gate: The physical location where the interstate pipeline interconnects with the utilities' distribution pipeline. At this point, the pipeline pressure is lowered, and the natural gas is odorized.

Co-firing: The process of burning natural gas in conjunction with another fuel to reduce air pollutants.

Coal bed methane: Methane is generated during coal formation and is contained in the coal microstructure. Typical recovery entails pumping water out of the coal to allow the gas to escape. Methane is the principal component of natural gas. Coal bed methane can be added to natural gas pipelines without any special treatment.

Coal gasification: The process of converting coal into gas. The basic process involves crushing coal to a powder, which is then heated in the presence of steam and oxygen to produce a gas. The gas is then refined to reduce sulfur and other impurities. The gas can be used as a fuel or processed further and concentrated into chemical or liquid fuel.

Cogenerator: A generating facility that produces electricity and another form of useful thermal energy (such as heat or steam). Natural gas is a favored fuel for combined-cycle cogeneration units, in which waste heat is converted to electricity.

Collar: A supply contract between a buyer and seller of a commodity, whereby the buyer is assured that he will not have to pay more than a set maximum price, and whereby the seller is assured of receiving a set minimum price.

Commercial and Trade Accounts: As it relates to the futures market, trade and commercial accounts are companies like El Paso or Enron. They are entities involved in the production, processing, or merchandising of a commodity. They typically have their own group of traders in the physical trading ring but sometimes use other traders as well to try to keep their trading patterns more secretive.

Commitment: See Open Interest.

Commitment of Traders Report: This is a report released each Friday by the CFTC, which details the volume of long and short positions.

Commodity Charge: The portion of a natural gas sales or transportation rate, which is based upon the volume actually used or transported.

Commodity Futures Trading Commission (CFTC): The federal regulatory body that oversees commodity futures trading activities, standards and practices.

Compliance coal: A coal or a blend of coals that meets sulfur dioxide emission standards for air quality without the need for flue gas desulfurization.

Compressed Natural Gas (CNG): Compressed natural gas used in vehicles and in other applications not attached to a pipeline.

Congestion: (1) A market situation in which shorts attempting to cover their positions are unable to find an adequate supply of contracts provided by longs willing to liquidate or by new sellers willing to enter the market, except at sharply higher prices; (2) in technical analysis, a period of time characterized by repetitious and limited price fluctuations.

Contango Market: A term used in futures trading meaning that prices are progressively higher in succeeding delivery months than in the nearest delivery month. Also called forwardation.

Contract: (1) A term of reference describing a unit of trading for a commodity future or option; (2) An agreement to buy or sell a specified commodity, detailing the amount and grade of the product and the date on which the contract will mature and become deliverable.

Contract Demand: The amount of service a seller agrees to provide on a periodic (daily, monthly, annually) basis. Contract demand is a maximum amount.

Contract Path: A Point of Receipt to Point of Delivery route for which capacity rights and contract prices have been established.

Convergence: The cash and futures markets converge when the price of the near-month futures contract effectively settles at or very near the cash market price at the Henry Hub delivery point.

Convergence Merger: A merger of companies with different types of products, such as electric and natural gas services.

Cooperative Electric Utility: An electric utility legally established to be owned by and operated for the benefit of those using its service. The utility company will generate, transmit, and/or distribute supplies of electric energy to a specified area not being serviced by another utility.

Cross Subsidization: The practice of charging rates higher than the actual cost of service to one class of customers in order to charge lower rates to another class of customers.

Cubic Foot: The most common unit of measurement of gas volume. The amount of gas required to fill a volume of one cubic foot under standard conditions of temperature, pressure and water vapor, usually referenced to 14.7 PSI and 60 degrees Fahrenheit. Very roughly, one cubic foot equals one thousand Btu's (1 cf = 1 Mbtu).

Current (Electric): A flow of electrons in an electrical conductor. The strength or rate of

movement of the electricity is measured in amperes.

Current Delivery Month: The futures contract, which matures and becomes deliverable during the present month or the month closest to delivery. Also called the spot month.

Curtailment: Reduction in scheduled capacity or energy delivery as a result of transmission constraints.

Cushion Gas: See Base Gas.

Customer Choice: Used as a synonym for "deregulation" or "restructuring" to emphasize the goal of customer empowerment.

Cycling: A storage process in which the same quantity of gas is injected into and withdrawn from storage within a prescribed time period.

Degree Day: A measure of temperature variation from standard, used primarily in connection with heating and cooling loads. This is determined by subtracting the average outdoor temperature of the day from 65° F (65° F is the point below which artificial heat is normally required to maintain comfort in the home or building). See heating degree day.

Dekatherm: Ten therms or 1 million BTUs

Delivery Month: The specific month in which delivery of the actual commodity takes place.

Delivery Point: The point where natural gas exits one system and enters another. A **city gate** delivery point is the point where the interstate pipeline interconnects with the **local distribution company's (LDC's)** facilities. A **burner tip delivery point** is the point where the LDC's distribution pipeline interconnects with the **end user's** meter.

Demand (Electric): The rate at which electric energy is delivered to or by a system, part of a system or piece of equipment, at a given instant or averaged over any designated period of time.

Demand Charge: The portion of a gas or electric charge that reflects a customer's contract requirements. Usually a set monthly fee, which is paid even if no gas or power is used.

Demand-Side Management (DSM): The process of managing the consumption of energy, generally to optimize available and planned generation resources. DSM programs include, for instance, offering discounts on new, high-efficiency appliances so that consumers get rid of their older, less efficient models.

Deregulation: The process of removing restrictive regulations on previously regulated companies and allowing for competition to enter the market.

Derivative: A financial instrument, traded on or off an exchange, the price of which is directly dependent upon (i.e., derived from) the value of one or more underlying securities, equity indices, debt instruments, commodities, other derivative instruments, or any agreed upon pricing index or arrangement (e.g., the movement over time of the Consumer Price Index or freight rates). Derivatives are most often traded over-the-counter (OTC). Derivatives involve the trading of rights or obligations based on the underlying product, but do not directly transfer property. They are used to hedge risk or to exchange a floating rate of return for fixed rate of return.

Direct Load Control: Refers to program activities that can interrupt consumer load at the time of annual peak load by direct control of the utility system operator by interrupting power supply to individual appliances or equipment on consumer premises. This type of control usually involves residential consumers.

Disco: An electric utility that solely owns distribution and doesn't own generation or transmission.

Distillate Fuel Oil: Diesel fuel (#2 fuel oil) used in cars, buildings and very often in combined cycle cogeneration plants as an alternate fuel to natural gas.

Distributed Generation: Small-scale power generation that provides electric power at a location that is closer to the customers than the central generation unit.

Distribution: The delivery of electricity to the retail customer's home or business through low voltage distribution lines.

Distribution Line: A line or system for distributing power from a transmission system to

a customer. It is any line operating at less than 69,000 volts.

Distribution Utility: The regulated electric utility entity that constructs and maintains the distribution wires connecting the transmission grid to the final customer.

Divestiture: The stripping off of one utility function from the others by selling (spinning off) or in some other way changing the ownership of the assets related to that function. Most commonly associated with spinning off of generation assets.

Economic Dispatch: The process of determining the desired generation level for each of the generating units in a system in order to meet customer demand at the lowest possible production cost given the operational constraints on the system.

Edison Electric Institute (EEI): An association representing electric utilities.

EIA: The Energy Information Administration. An independent agency within the U.S. Department of Energy that develops surveys, collects energy data, and analyzes and models energy issues. The Agency must meet the requests of Congress, other elements within the Department of Energy, Federal Energy Regulatory Commission, the Executive Branch, its own independent needs, and assist the general public, or other interest groups, without taking a policy position.

Electrical Energy: The generation or use of electric power over a period, usually expressed in megawatt hours (MWh), kilowatt hours (KWh), or gigawatt hours (GWh), as opposed to electric capacity, which is measured in kilowatts.

Electric Power Research Institute (EPRI): Research program founded in 1972 by electric utilities to improve electric production, distribution and use.

Electric Utility: A corporation, person, agency, authority, or other legal entity or instrumentality that owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy primarily for use by the public. Facilities that qualify as cogenerators or small power producers under the Public Utility

Regulatory Policies Act (PURPA) are not considered electric utilities.

Elliot Wave: (1) A theory named after Ralph Elliot, who contended that the stock market tends to move in discernible and predictable patterns reflecting the basic harmony of nature; (2) in technical analysis, a charting method based on the belief that all prices act as wavers, rising and falling rhythmically.

Embedded Cost: The historical cost of all facilities in the electric or gas supply system. Also referred to as “sunk costs.”

Embedded Costs Exceeding Market Prices (ECEMP): Embedded costs of utility investments exceeding market prices that are: 1) costs incurred pursuant to a regulatory or contractual obligation; 2) costs that are reflected in cost-based rates; and 3) cost-based rates that exceed the price of alternatives in the marketplace.

End-User: The ultimate consumer of petroleum products or natural gas; most commonly refers to large commercial, industrial, or utility consumers.

Energy Charge: That portion of the charge for electric service based upon the electric energy (kWh) consumed or billed.

Energy Service Company (ESCO): A company that markets and provides energy-related products and services.

Energy Source or Energy Fuel: The primary source that provides the power that is converted to electricity through chemical, mechanical, or other means. Energy sources include coal, petroleum and petroleum products, gas, water, uranium, wind, sunlight, geothermal, and other sources.

EPA: The Environmental Protection Agency. A federal agency charged with protecting the environment.

EPAct: The Energy Policy Act of 1992 addresses a wide variety of energy issues. The legislation creates a new class of power generators, exempt wholesale generators (EWGs), that are exempt from the provisions of the Public Utilities Holding Company Act of 1935 and grants the authority to FERC to order

and condition access by eligible parties to the interconnected transmission grid.

ESCO: See Energy Service Company.

Estimated Proved Recoverable Reserves: An estimated quantity of natural gas, which analysis of geological and engineering data demonstrates with reasonable certainty to be recoverable in the future from known oil and gas reservoirs, under existing economic and operating conditions. Reservoirs are considered “proved” that have demonstrated the ability to produce either by actual production or by conclusive formation testing.

Exchange for Physical (EFP): A contractual arrangement between two parties, under which one part will give futures contracts to the other and receive physical gas from that party in return.

Exercise (or Strike) Price: The price specified in the option contract at which the buyer of a call can purchase the commodity during the life of the option, and the price specified in the option contract at which the buyer of a put can sell the commodity during the life of the option.

Exit Fee: A fee that is paid by a customer leaving the utility system intended to compensate the utility in whole or part for the loss of fixed cost contribution from the exiting customer.

Expiration Date: The date and time after which trading in a futures or options contract terminates, and after which all option contract rights or obligations become null and void.

Exploratory well: A hole drilled: a) to find and produce oil or gas in an area previously considered unproductive area; b) to find a new reservoir in a known field, i.e., one previously producing oil and gas from another reservoir, or c) to extend the limit of a known oil or gas reservoir.

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Federal Energy Regulatory Commission (FERC): The Federal Energy Regulatory Commission regulates the price, terms and conditions of power sold in interstate commerce and regulates the price, terms and conditions of all transmission services. FERC is the federal counterpart to state utility regulatory commissions.

Federal Power Act: The primary statute governing FERC regulation of electric utilities. The Federal Power Act, enacted in 1935, established guidelines for federal regulation of electric sales in interstate commerce.

FERC Orders 888 and 889: Federal regulations that foster wholesale competition in electricity by requiring all owners of transmission grids to permit other parties to access them to move electricity from generators to customers.

Financial Instruments: As used by the CFTC, this term generally refers to any futures or option contract that is not based on an agricultural commodity or a natural resource. It includes currencies, securities, mortgages, commercial paper, and indices of various kinds.

Firm Gas: Gas sold on a continuous and generally long-term contract.

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 Recallable Capacity: Firm pipeline capacity released, usually to a specific acquiring shipper, subject to the releasing shipper's right to recall the capacity, in accordance with previously specified criteria (like unexpectedly cold weather).

Firm Service: The highest quality sales of gas transportation or electric transmission service offered to customers under a filed rate schedule that anticipates no planned interruption.

Firm Transmission Service: Point-to-point transmission service that is reserved and/or scheduled for a term of one year or more and that is of the same priority as that of the Transmission Provider's firm use of the transmission system.

Floor: An option strategy that gives a seller a guarantee of a fixed price and provides protection against a fall in prices. Implemented through put options.

Force Majeure: A standard clause involving an "Act of God" or unexpected disruptive events, which are beyond the control of parties to a contract. The clause indemnifies a party from its contractual obligations.

Forced Outage: Shutdown of a generating unit, transmission line or other facility for emergency reasons. Forced outage reserves consist of peak generating capability available to serve loads during forced outages.

Forward Contract: A cash market transaction between two parties in which the specified commodity is deliverable at an agreed-upon future date. Different from a futures contract because terms are negotiated and not standardized.

Fossil Fuel: Any naturally occurring organic fuel, such as petroleum, coal, and natural gas.

Fossil-Fuel Plant: A plant using coal, petroleum, or gas as its source of energy.

Front Month: Sometimes referred to as the nearby or **spot month**. This is the **futures contract** month that is closest to expiration. Trading of the **front month** expires three business days prior to the end of the first calendar day of the **delivery month** for the NYMEX natural gas **futures contract**.

Fuel Cell: A battery-like piece of equipment used to generate electricity on a small scale. Unlike a battery, it does not run down because it is constantly refueled by, for instance, natural gas.

Fuel Loss: The difference between the amount of gas that enters a pipeline versus the amount that is actually delivered to the **city gate**. **Fuel loss** occurs because compressor stations along the pipeline serve as the facility to move the gas through the pipeline and use a portion of the gas moving through the pipeline as fuel.

Fuel oil: A liquid petroleum product less volatile than gasoline, used as an energy source. Fuel oil includes distillate fuel oil (No. 1, No. 2, and No. 4), and residual fuel oil (No. 5 and No. 6).

Fundamental Analysis: The study of pertinent supply and demand factors, which influence the specific price behavior of commodities. Includes physical factors like storage inventories and weather. See also Technical Analysis.

Funds: As it relates to the futures market, funds are commodity funds or pools of risk capital. They are similar to mutual funds except that they invest in futures contracts.

Futures Contract: A legally binding agreement to buy or sell a commodity that is traded for future delivery under the provisions of exchange regulations. The standard futures contract for the NYMEX natural gas **futures contract** is 10,000 MMBtu or approximately 10,000 dekatherms.

Futures Options: The holder of a futures option is conferred the right but not the obligation to buy or sell a specified futures contract at a chosen price. The option holder may purchase a futures contract once the contract begins trading at the named price. See call option or put option.

Gas Day: The proposed standard gas day is from 9:00 a.m. to 9:00 a.m. Central Clock Time, i.e., either Central Standard or Central Daylight Time, whichever is the prevailing time.

Gas Industry Standards Board (GISB): An organization formed to create voluntary standards to facilitate gas transportation transactions.

Gasification: A method for converting coal, petroleum, biomass, wastes, or other carbon-containing materials into a gas that can be burned to generate power or processed into chemicals and fuels.

Gathering System: Pipelines and other equipment installed to collect, process and deliver natural gas from the field, where it is produced.

GENCO (Generation Company): A regulated or non-regulated entity that operates and maintains existing generating plants.

Generating Unit: Any combination of physically connected generator(s), reactor(s), boiler(s), combustion turbine(s), or other prime mover(s) operated together to produce electric power.

Generation (Electricity): The process of producing electric energy by transforming other forms of energy; also, the amount of electric energy produced.

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

Geothermal Plant: A plant in which the prime mover is a steam turbine. The turbine is driven either by steam produced from hot water or by natural steam that derives its energy from heat found in rocks or fluids at various depths beneath the surface of the earth. Drilling and/or pumping extract the energy.

Gigajoule: A unit of energy equaling approximately 1 million Btu or 1 MMBtu.

Gigawatt (GW): One billion watts.

Gigawatthour (GWh): One billion watt-hours.

Grandfather Clause: The continuation of a former rule, clause or policy where a change to a new rule would be unfair to parties with continuing operations.

Green Energy: A popular term for energy produced from renewable energy resources.

Green Pricing: A term used to market electricity that is produced, at least in part, through renewable technologies.

GRI or Gas Research Institute: A management organization for research, development, demonstration and deployment of new gas technologies.

Headstation: Mainline receipt points on the pipeline. Also called "pooling points."

Heating Degree Days (HDD): A measure of the coldness of the weather experienced, based on the extent to which the daily mean temperature falls below a reference temperature, usually 65 degrees F.

Hedging: The initiation of a position in a futures or options market that is intended as a temporary substitute for the sale or purchase of the actual commodity. In the commodities market, a hedge is a transaction entered into for the purpose of protecting the value of a commodity from adverse price movement. The

sale of futures contracts in anticipation of future sales of cash commodities as a protection against possible price declines, or the purchase of futures contracts in anticipation of future purchases of cash commodities as a protection against the possibility of increasing costs.

Henry Hub: A pipeline interchange near Erath, Louisiana, where a number of interstate and intrastate pipelines interconnect through a header system operated by Sabine Pipeline. The **Henry Hub** is the standard **delivery point** for the New York Mercantile Exchange (NYMEX) natural gas **futures contract**.

Historical Volatility: The annualized standard deviation of percent changes in futures prices over a specific period. It is an indication of past volatility in the marketplace.

Horizontal Drilling: New technology in which a well bore of a directionally drilled well is deviated so that it is horizontal when it penetrates the producing formation.

Hub: An interchange where multiple pipelines or electric transmission lines interconnect and form a market center.

Hydroelectric Plant: A plant in which the turbine generators are driven by falling water.

Imbalance: Discrepancy between the amount of gas that a seller contracted to deliver and the actual volumes used or delivered.

Implied Volatility: A measurement of the volatility of the underlying instrument's price based upon market-traded option premiums, as opposed to the calculation of volatility from historical prices of the underlying instrument.

Incentive Ratemaking: Allows a regulated entity to set market-based rates for gas supply or transportation. Gives incentive to keep overhead costs low by allowing them to make a profit on their services not tied to rates of return.

Independent Power Producer (IPP): A private entity, not owned by a utility, that operates a generation facility and sells power to electric utilities for resale to retail customers.

Independent System Operator (ISO): An entity that controls but does not own the transmission assets in a specific geographic

region. An ISO is responsible for ensuring non-discriminatory access to the transmission grid.

Indexing: Tying the commodity price of gas in a contract to published index prices.

Interconnection: A specific transmission connection between one utility to another.

Interruptible Demand: The magnitude of customer demand that, in accordance with contractual arrangements, can be interrupted by direct control of the system operator, remote tripping, or by action of the customer at the direct request of the system operator.

Interruptible Gas: Gas sold to customers with a provision that permits curtailment of service.

Interruptible Load: Refers to program activities that can interrupt consumer load at times of seasonal peak load by direct control of the utility system operator or by action of the consumer at the direct request of the system operator. Interruptible Load as defined here excludes Direct Load Control and Other Load Management.

Interruptible Power: Electric power whose delivery can be curtailed by the supplier, usually under some sort of agreement by the parties involved.

Interruptible Service: Gas or electric service, which can be interrupted on short notice. The rate for interruptible service is lower than the rate for firm service.

Interruptible Transportation Service: A type of pipeline service, which is scheduled after **firm transportation service**.

Interstate Natural Gas Association of America (INGAA): Trade group representing interstate pipelines.

In-the-Money: A term used to describe an option contract that has a positive value if exercised. The option is in-the-money if the underlying futures price is above a call option's strike price or below a put option's strike price.

IOU: An investor owned utility. A company, owned by stockholders for profit, that provides utility services.

IPP: See Independent Power Producer.

ISO: See Independent System Operator.

Kilovolt (kV): Electrical potential equal to 1,000 volts.

Kilowatt (kW): One thousand watts.

Kilowatt Hour (kWh): Amount of electricity needed to light ten 100-watt light bulbs for a one-hour period. One thousand watts used for one hour.

Kyoto Protocol: The result of negotiations at the third Conference of the Parties (COP-3) in Kyoto, Japan, in December of 1997. The Kyoto Protocol sets binding greenhouse gas emissions targets for countries that sign and ratify the agreement. The gases covered under the Protocol include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride.

Lambda: The measure of the rate at which fuel is consumed relative to electric output, expressed in Btu's per kWh.

Landfill gas: Gas that is generated by decomposition of organic material at landfill disposal sites. The average composition of landfill gas is approximately 50 percent methane and 50 percent carbon dioxide and water vapor by volume. The methane percentage, however, can vary from 40 to 60 percent, depending on several factors including waste composition (e.g. carbohydrate and cellulose content). The methane in landfill gas may be vented, flared, combusted to generate electricity or useful thermal energy on-site, or injected into a pipeline for combustion off-site.

Last Trading Day: As it relates to a futures contract, the day on which trading ceases for the maturing (current) delivery month.

LDC: See local distribution company.

Limit (Up or Down): As it relates to a futures contract, the maximum price advance or decline from the previous day's settlement price permitted during one trading session, as fixed by the rules of an exchange.

Limit Order: As it relates to the futures market, an order in which the customer specifies a price limit or other condition, such as time of an order,

as contrasted with a market order, which implies that the order should be filled as soon as possible.

Liquidation: As it relates to the futures market, the closing out of a long position. The term is sometimes used to denote closing out a short position, but this is more often referred to as covering.

Liquid Market: A market in which selling and buying can be accomplished with minimal price change.

Line Loss: Electric power lost in the transmission and distribution process.

Liquidation: The closing of futures positions.

Liquefied natural gas (LNG): Natural gas (primarily methane) that has been liquefied by reducing its temperature to -260 degrees Fahrenheit at atmospheric pressure.

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

Load Balancing: Meeting fluctuations in demand. Sometimes this can be done by making delivery or withdrawal through underground storage facilities.

Load Factor: Expressed as a percent, the ratio of the amount of gas a customer actually takes, compared to the maximum amount the customer is entitled to take. It can be expressed daily, weekly, monthly or annually. The **load factor** indicates to what degree energy has been consumed compared to maximum demand. **End users**, who only buy gas during cold weather, are typically low **load factor** customers. Industrial **end users**, who use gas year round, are usually high **load factor** customers.

Load Following: An electric system or plant's ability to regulate its generation to follow the instantaneous changes in its customers' demand.

Load Shape: The variation in the magnitude of the power load over a daily, weekly or annual period.

Load Shedding: Deliberately removing, manually or automatically, demand from the system.

Locals: As it relates to the futures market, locals are individuals who are physically in the futures trading ring and make trades for their own accounts or make trades to fill orders for clients. Locals typically make numerous trades and are key to providing liquidity.

Local Distribution Company (LDC): Company that distributes natural gas primarily to end-users. A gas utility.

Long Hedge: As it relates to the futures market, the purchase of futures against the fixed price forward sale of a cash commodity.

Long Position: As it relates to the futures market, one who has bought a futures contract to establish a market position or a market position which obligates the holder to take delivery unless the contract is liquidated with an offsetting sale.

Loop Flow: The tendency of electricity to flow along the path of least resistance, which may not necessarily be the same as that intended in the contract between the two transmitting entities. If power sold along a contractual path utilizes a different physical path, the power-flow may interfere with control of the systems, which were unaware of the contractual power transfer. Also referred to as **parallel path flow**.

Looping: Laying additional pipeline or additional electric transmission or distribution beside existing pipeline or transmission in order to increase the capacity of the system.

Major fuels: Fuels or energy sources such as: electricity, fuel oil, liquefied petroleum gases, natural gas, district steam, district hot water, and district chilled water.

Margin: As it relates to the futures market, the amount of money or collateral required when a futures contract is purchased.

Margin Call: As it relates to the futures market, a demand for additional funds when futures prices move adversely to a trader's position.

Marginal Cost Pricing: Pricing at the cost of producing the next unit. Also referred to as incremental pricing.

Market-Based Pricing: Basing a contract or rate schedule on published current market prices of competing supplies or alternate fuels.

Market Center: See Hub.

Market Clearing Price: Price determined by the convergence of buyers and sellers in a free market.

Market Maker: As it relates to the futures market, a professional securities dealer who has an obligation to buy when there is an excess of sell orders and to sell when there is an excess of buy orders. In the commodities industry, this term is sometimes loosely used to refer to a floor trader or local who, in speculating for his own account, provides a market for commercial users of the market.

Market Power: The ability of a particular seller or group of sellers to influence significantly the price or availability of a product or service to their advantage over a sustained period of time, through actions such as raising prices by restricting output, creating barriers to entry for potential competitors, and leveraging the sale of one product or service into domination of additional product or service sales.

Marketer: A company, other than the pipeline or LDC, that buys and resells gas or electricity for a profit.

Maximum Daily Quantity (MDQ): The greatest quantity of gas to be received and/or delivered in a twenty-four hour period by the pipeline on behalf of the shipper under terms defined in a contract.

Maximum Demand: The greatest of all demands of the load that has occurred within a specified period of time.

Maximum Transportation Rates: The maximum rate that a pipeline may charge for its services.

Mcf: One thousand cubic feet.

Megawatt (MW): One million watts.

Megawatt Hour (MWh): Amount of electricity needed to light ten thousand 100-watt light bulbs for a one-hour period. One million watts used for one hour.

National Association of Regulatory Utility Commissioners (NARUC): An affiliation of the public service commissioners to promote the uniform treatment of members of the railroad, public utilities, and public service commissions of the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, and the territory of the Virgin Islands.

MMBtu: One million British thermal units, one dekatherm. Approximately equal to a thousand cubic feet (Mcf) of natural gas.

MMcf: One million cubic feet.

Methane: A colorless, flammable, odorless hydrocarbon gas (CH₄) which is the major component of natural gas. It is also an important source of hydrogen in various industrial processes. Methane is a greenhouse gas.

Modified Fixed Variable (MFV): Natural gas rate design in which fixed costs associated with the pipeline's return on equity and associated income taxes are included in its volumetric charge, while all other fixed costs are recovered in the demand charge.

Monopoly: The only seller with control over market sales.

Moving Average: An indicator used to signal that a new trend has begun, or that an old trend has ended or reversed. Technicians use the intersection of two or more simple or exponentially smoothed moving averages of different time periods to confirm that a new trend has begun.

Municipal Utility: A utility owned by a city.

Must Run Units: A specific generating unit that has been designated by the system operator to be on line or on the grid to insure the flow of electricity. This must run unit is outside of economic dispatch and may or may not be the system's most efficient unit. A unit may be designated as must run for operating reasons that may include system reliability, voltage control, or system stability.

Nameplate Capacity: The full-load continuous rating of a generator or other electric power production equipment under specific conditions as designated by the manufacturer.

NARUC: The National Association of Regulatory Utility Commissioners.

National Energy Board (NEB): The Canadian Regulatory body that oversees inter-provincial natural gas trade and pipelines. Similar to FERC for the U.S.

Natural Gas: A naturally occurring mixture of hydrocarbon and non hydrocarbon gases found in porous geological formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

NERC: See North American Electric Reliability Council.

Net Generating Station Capability: Gross generation less the electric energy consumed at the generating station for station use.

Net Position: In futures trading, the difference between the open long contracts and the open short contracts in any one commodity.

New York Mercantile Exchange (NYMEX). The commodity exchange based in New York City where natural gas **futures contracts** are traded. Other energy futures are traded on this exchange as well.

No-Notice Service: A bundled, city-gate firm natural gas sales service under Order 636 that allows customers to receive gas on demand to meet peak service needs without paying daily balancing and scheduling penalties.

Nomination: A natural gas shipper's order that indicates how much gas they plan to move through a pipeline during a given period of time.

Non-Commercials: As it relates to the futures market, non-commercials are generally speculative traders.

Non-Firm Transmission Service: Point-to-point transmission service that is reserved and/or scheduled on an as-available basis and is subject to interruption.

Non-spinning Reserve: Generating units that are not connected to the system but are capable of coming on line within a specified time.

Non-Utility Generator (NUG): Facility for generating electricity that is not primarily owned by an electric utility.

North American Electric Reliability Council (NERC): A council formed in 1968 by the electric utility industry to promote the reliability and adequacy of bulk power supply in the electric utility systems of North America. NERC consists of ten regional reliability councils and encompasses essentially all the power regions of North America. The ten regions include:

- ECAR - East Central Area Reliability Coordination Agreement
- ERCOT – Electric Reliability Council of Texas
- FRCC – Florida Reliability Coordinating Council
- MAAC – Mid-Atlantic Area Council
- MAIN – Mid-America Interconnected Network
- MAPP – Mid-Continent Area Power Pool
- NPCC – Northeast Power Coordinating Council
- SERC – Southeastern Electric Reliability Council
- SWPP – Southwest Power Pool
- WSCC – Western Systems Coordinating Council

Nuclear Fuel: Fissionable materials that have been enriched to such a composition that, when placed in a nuclear reactor, will support a self-sustaining fission chain reaction, producing heat in a controlled manner for process use.

Nuclear Power Plant: A facility in which heat produced in a reactor by the fissioning of nuclear fuel is used to drive a steam turbine.

OASIS (Open-Access Same-Time Information System): A standardized Internet-based communication system used for purchasing and scheduling electrical energy transmission. FERC Orders 889 and 889A require all wholesale transmission transactions to be conducted using OASIS.

Off-Peak Energy: The energy supplied during periods of relatively low system demands as specified by the supplier.

Off-Peak Gas: Gas that is to be delivered and taken on demand when demand is not at its peak.

Ohm: The unit of measurement of electrical resistance. The resistance of a circuit in which a potential difference of 1 volt produces a current of 1 ampere.

On-Peak: Refers to hours of the business day when demand is at its greatest.

OPEC (Organization of the Petroleum Exporting Countries): The acronym for the Organization of the Petroleum Exporting Countries that have organized for the purpose of negotiating with oil companies on matters of oil production, prices, and future concession rights. Current members (as of the date of writing this definition) are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

Open Access: The ability to send or wheel natural gas or power over a pipeline or transmission system on a nondiscriminatory basis.

Open Interest: Future(s) contracts during a given period of time, which have not been satisfied by an offsetting sale or purchase or actual delivery. Also referred to as open commitment.

Opening Price: The price for a given futures commodity that is designated by the exchange as the official opening.

Operational Flow Order (OFO): Orders, which are issued by a pipeline, to protect the operational integrity of the line. The orders may either restrict service or require affirmative action by shippers, such as line pack or draft.

Option: A supplement to the NYMEX futures contract. A commodity option is a unilateral contract, which gives the buyer the right to buy or sell a specified quantity of a commodity at a specific price within a specified period of time, regardless of the market price of that commodity. See Call Option or Put Option.

Option Premium: The buyer's cost associated with purchasing the option.

Order: When buying or selling futures contract(s), the broker will ask for specific instruction.

Outages: A planned outage is the shutdown of a generating unit, transmission line, or other facility for inspection and maintenance, in accordance with an advance schedule. A forced outage is the unplanned loss of service of a generating unit, transmission line, or other

facility for purposes other than inspection and maintenance.

Out-of-the-Money: An option that has no intrinsic value. For **calls**, an option whose exercise price is above the market price of the underlying future. For **puts**, an option whose exercise price is below the futures price.

Overbought: A technical opinion that the market price has risen too steeply and too fast in relation to underlying fundamental factors. Traders who were bullish and long have turned bearish.

Oversold: A technical opinion that the market price has declined too steeply and too fast in relation to underlying fundamental factors. Traders who were bearish and short have turned bullish.

Overrun Charge: Rate to be paid for delivered natural gas volumes that exceed contract demand. They can be determined daily, monthly or yearly. Overrun charges are either authorized or unauthorized, with penalties added to unauthorized volumes.

Over-The-Counter (OTC): A private market for the purchase and sale of unregulated hedge instruments such as swaps and options. A market that refers to a collection of traders, brokers, and other market participants, which are interested in a given commodity, security, or derivative, and trade it among themselves, and not on an exchange.

Pancaking of Rates: Refers to the accumulation of transmission payments to multiple transmission owners as electricity crosses from one transmission system to another.

Parallel Path Flow: See Loop Flow.

Peak Demand: The maximum amount of power or natural gas necessary to serve a customer or customers.

Peak Shaving: Methods to reduce the peak demand for gas or electricity.

Peaking Capacity: Capacity of generating equipment normally reserved for operation during the hours of highest daily, weekly, or seasonal loads.

Performance-Based Regulation (PBR): A rate setting mechanism, which attempts to link rewards (generally profits) to desired results or targets. PBR sets rates, or components of rates, for a period of time based on external indices rather than a utility's cost of service.

Planned Electric Outage: An interruption of service to electric lines to permit work that cannot be performed while the lines are energized.

Point-To-Point Transmission Service: Provides a customer the ability to use only that portion of a transmission owner's integrated facility to input power at a specified point and take out the power at a specified point regardless of actual flow.

Poolco: A regional energy wholesale market where buyers and sellers can talk to each other and buy and sell electricity.

Pooling Point: The point (either physical or theoretical) at which gas is aggregated from many receipt points in order to serve several contracts without tying a specific receipt point to a specific contract.

Position: As it relates to the futures market, an interest in the market, either long or short, in the form of one or more open contracts.

Postage Stamp Rates: Flat rates charged for transmission or transportation service without regard to distance.

Power Exchange (PX): An institution that facilitates electricity trading by disseminating price and quantity data regarding offers to sell and requests to buy various electricity products.

Power Factor: The fraction of real power (in watts) actually used by a customer's electrical equipment compared to the total apparent power (volt-amperes) supplied, usually expressed as a percentage.

Power Marketer: A wholesale power entity that has registered with the Federal Energy Regulatory Commission to buy and sell wholesale power from and to each other and other public entities at market-derived prices. Typically, power marketers do not own generating facilities.

Power Marketing Administrations: Congress established five federal power-marketing administrations (PMAs) to sell hydroelectric power generated by federal dams and power plants.

- Bonneville Power Administration (BPA)
- Western Area Power Administration (WAPA)
- Southwestern Power Administration (SWPA)
- Southeastern Power Administration (SEPA)
- Alaska Power Administration (APA)

Power Plant: A generating station. A place where electricity is produced.

Power Pool: An entity established to coordinate short-term operations to maintain system stability and achieve least-cost dispatch. The dispatch provides backup supplies, short-term excess sales, reactive power support, and spinning reserve. The pool may own, manage and/or operate the transmission lines or be an independent entity that manages the transactions between entities.

Power: The rate at which energy is transferred. Electrical energy is usually measured in watts. Also used for a measurement of capacity.

Prearranged Release: An arrangement set between a shipper releasing firm transportation capacity and a prospective acquiring shipper.

Preliminary Determination: Conditional approval granted by FERC after the review of all the terms and conditions of a proposed construction project. A preliminary determination typically precedes a final determination for the construction project.

Price Elasticity of Demand: A measurement of the sensitivity of demand to changes in price.

Price Majeure: The process of retrading the commodity of gas or electricity because of significant upward or downward price adjustments.

Primary Firm Pipeline Capacity: All pipeline contracts contain primary **receipt** and **delivery points**. If the capacity is released, and the primary **receipt** and **delivery points** remain unchanged, the pipeline transportation capacity retains the primary firm scheduling priority.

Proven Reserves: Crude oil and natural gas demonstrated with reasonable certainty to be

recoverable from known reservoirs and existing economic and operating conditions.

Provider of Last Resort A legal obligation (traditionally given to utilities) to provide service to a customer where competitors have decided they do not want that customer's business.

Public Utility Holding Company Act of 1935 (PUHCA): This act prohibits acquisition of any wholesale or retail electric business through a holding company unless that business forms part of an integrated public utility system when combined with the utility's other electric business. The legislation also restricts ownership of an electric business by non-utility corporations.

Public Utility Regulatory Policies Act of 1978 (PURPA): Federal law that required utilities to purchase electricity from a **qualifying facility** at a price that reflects the **avoided cost**. This avoided cost rate is equivalent to what it would have otherwise cost the utility to generate or purchase that power themselves. Portions of the act were designed to encourage the development of small-scale cogeneration and renewable resources.

Public Utility (Service) Commission: State commissions that regulate the activities of intrastate pipelines, local distribution companies (LDCs), and electric, telephone and water utilities.

PUHCA: See Public Utility Holding Company Act of 1935.

Purchased Gas Adjustment (PGA): A pre-Order 636 adjustment to an effective pipeline sales rate to reflect the fluctuating cost of purchased gas. The PGA permitted pipelines to track changes in gas costs in order to pass them along to customers. LDCs, to some extent, also pass on the fluctuating cost of purchase gas through a PGA.

Purchased Power Adjustment: A clause in a rate schedule that provides for adjustments to the bill when energy from another electric system is acquired, and it varies from a specified unit base amount.

PURPA: See Public Utility Regulatory Policy Act of 1978.

Put Option: An option to sell a specified amount of a commodity at an agreed price and time at any time until the expiration of the option. A put option is purchased to protect against a fall in price. The buyer pays a premium to the seller/grantor of this option. The buyer has the right to sell the commodity or enter into a short position in the futures market if the option is exercised.

Quad: Volume of gas equivalent to one quadrillion Btu and roughly equal to 1 trillion cubic feet (Tcf) of gas.

Qualifying Facility (QF): A cogeneration or small power production facility that meets certain ownership, operating, and efficiency criteria established by the Federal Energy Regulatory Commission (FERC) pursuant to the Public Utility Regulatory Policies Act (PURPA).

Rate Base: The investment value established by a regulatory authority upon which a utility is permitted to earn a specified rate of return.

Rate of Return: The percentage that a company earns on its investment. A pipeline's rate of return is set by federal regulators. A utility's rate of return is often set by the state regulators.

Reactive Power: Used to control voltage on the transmission network, particularly the power flow incapable of performing real work or energy transfer. Measured in volt-amperes-reactive (VAR), reactive power sustains electric and magnetic equipment, like motors and transformers.

Real Power: Portion of the electrical flow capable of performing real work or energy transfer. Expressed in megawatts.

Real-Time Pricing: The instantaneous pricing of electricity based on the cost of the electricity available for use at the time the electricity is demanded by the customer.

Rebundling (natural gas): The coordination of "rebundling" the various components of natural gas for delivery: the commodity, the transportation, and other services to allow for one-stop shopping.

Receipt Point: The point at which gas is delivered into the pipeline, such as the

interconnection between the producer's wellhead facilities and the pipeline system.

Regional Transmission Organization (RTO): An independent entity approved by FERC to coordinate transmission planning, expansion, and operation on a regional basis. An RTO may be in the form of a for-profit entity, which owns the transmission assets in the region or a non-profit entity or **ISO**, which controls but doesn't own the transmission assets.

Releasing Shipper: The original owner of the firm pipeline capacity.

Renewable Resources: Renewable energy resources are naturally replenishable, but flow-limited. Renewable energy resources include: biomass, hydro, geothermal, solar and wind. In the future they could also include the use of ocean thermal, wave, and tidal action technologies.

Replacement Shipper: The shipper who acquires firm pipeline transportation capacity from the **releasing shipper** through the **capacity release** program. (Also referred to as the **acquiring shipper**).

Reservation Charge: A set unit charge payable at the outset by the recipient of a service based on total entitlement or demand. Currently used by natural gas transmission pipelines for firm transportation service.

Reserve Capacity: Capacity in excess of that required to carry peak load.

Reserve Margin: The amount of unused available capability of an electric power system at peak load for a utility system as a percentage of total capability.

Reserves: Volume of recoverable natural gas that is still in wells, fields or pools.

Restructuring: The process of changing the structure of the electric power industry from one of guaranteed monopoly over service territories to one of open competition between power suppliers for customers.

Retail Access: The ability of a retail consumer to purchase energy from an entity other than the local utility.

Retail Competition: The activity through which companies compete to sell energy to the end user.

Retail Wheeling: The process of transmitting electricity over transmission lines not owned by the supplier of the electricity to a retail customer of the supplier. With retail wheeling, electricity consumers can secure their own supply of electricity indirectly, from a marketer or broker, or directly, from the generating source. The power is then wheeled at a fixed rate or at a regulated “non-discriminatory” rate set by a state utility commission.

Retracement: A reversal within a major price trend.

Ring: As it relates to the futures market, a circular area on the trading floor of an exchange where traders and brokers stand while executing futures trades. Also referred to a trading pit.

Salt Cavern: A mined or brined cavity developed in either “domed” or “bedded” formations. Could be used for storing natural gas, NGLs or a variety of petroleum products.

Secondary Firm Pipeline Capacity: All pipeline contracts contain primary **receipt** and **delivery points**. If pipeline capacity is released and the primary **receipt** and/or primary **delivery points** are modified, the pipeline transportation capacity is classified as ‘secondary’ and is scheduled after **primary firm pipeline capacity**, but before interruptible pipeline capacity.

Secondary Market: The market for firm transportation capacity when the original owner is not using it.

Securitization: A financial tool used by electric utilities to reduce the financing of transition costs. Also referred to as rate reduction bonds.

Seller’s Market: A condition of the market in which there is a scarcity of goods available and hence sellers can obtain better conditions of sale or higher prices. Opposite of buyer’s market.

Settlement Price: The price established by the NYMEX Exchange Settlement Committee at the close of each trading session to be used by the clearinghouse in determining net gains or losses, margin requirements, and the next day’s price limits. Calculating the weighted average of

prices as the market nears closing derives the settlement price.

Short: As it relates to the futures market, (1) The selling side of an open futures contract; (2) a trader whose net position in the futures market shows an excess of open sales over open purchases. Opposite of long.

Short Position: As it relates to the futures market, one who has sold a futures contract to establish a market position or a market position, which requires the seller to make delivery at the agreed upon price unless the contract is liquidated with an offsetting purchase. Opposite of Long Position.

Speculator: In the futures market, an individual who does not hedge, but who trades with the objective of achieving profits through the successful anticipation of price movements.

Spinning Reserve: Electric units that automatically respond to frequency deviations and operate as needed.

Spot Market: The cash market. Short-term contracts for energy supplies. Natural gas spot market trades are done on a monthly or daily basis whereas power market spot market trades are done on an hourly basis.

Spot Month: The **futures contract** closest to maturity. The nearby **delivery month**.

Spread: The difference between two prices, amounts, or numbers such as the bid/ask prices in a commodity trading. In the futures and options markets, a spread is the simultaneous purchase and sale of two different contracts with the expectation of a favorable exchange in their relative prices.

Step-Down/Step-Up: Step-Down is the process of changing electricity from a higher to a lower voltage. Step-up is the opposite. Step-up transformers are usually located at generator sites, while step-down transformers are found on the distribution side.

Stochastic: A principal momentum indicator or price oscillator used with natural gas futures. Involves a probabilistic estimate or process.

Stop Order: As it relates to the futures market, this is an order that becomes a market order

when a particular price level is reached. A sell stop is placed below the market; a buy stop is placed above the market.

Storage: Facility used for the storage of natural gas; usually a cavern carved out of natural salt domes or depleted natural gas reservoirs into which natural gas can be reinjected and produced with minimal loss.

Straight Fixed Variable (SFV) Rate Design: A rate design method applied by the FERC on gas pipelines, which allocates all fixed costs to the demand component and all variable costs to the commodity, or usage component.

Stranded Costs: The difference between the market value of assets and the amount of the debt still owing on the asset. Utilities pay for building assets like generating facilities by borrowing money and then repay the debt from the revenues generated from the sale of electricity produced by the facility. This works well when customers are required to pay the price charged. If they have a choice not to buy the electricity, however, as occurs during deregulation, the utility may have to drop its price to meet the competition. This may mean that revenue is not adequate to cover the debt plus the operating costs of the facility. The amount of the debt uncovered is the stranded cost. Facilities without debts cannot have associated stranded costs.

Stranded Benefit: The opposite of **stranded costs**. Under deregulation, the utility would actually be able to recover more than the market value of its assets resulting in a net gain to the utility.

Strike Price: The price at which the underlying futures contract is bought or sold in the event an option is exercised. Also called an exercise price.

Strip: The simultaneous purchase (or sale) of futures positions in consecutive months. The average of the prices for the futures contracts bought (or sold) is the price level of the hedge. A six-month strip, for example, consists of an equal number of futures contracts for each of six consecutive contract months.

Substation: Facility equipment that switches, changes, or regulates electric voltage.

Supplemental gas: Any gaseous substance introduced into or commingled with natural gas that increased the volume available for disposition. Such substances include, but are not limited to, propane-air, refinery gas, coke-oven gas, still gas, manufactured gas, biomass gas, or air or inerts added for Btu stabilization.

Swap: A portfolio of forward contracts. An agreement between two parties to exchange, at some future point, one product, either physical or financial, for another. One of the advantages of swaps is that a market maker can tailor a swap to fit the needs of a particular counter-party, whereas standardization is the key to the success of exchange-traded instruments.

Swing Supply: Natural gas taken as needed, generally to meet peaking demand above a user's base load gas supply.

Switching Station: Facility equipment used to tie together two or more electric circuits through switches. The switches are selectively arranged to permit a circuit to be disconnected, or to change the electric connection between the circuits.

Tariff: A schedule of rates or charges permitted to a common carrier or utility; pipeline tariffs are the charges made by pipelines for transporting crude oil, refined products, or natural gas from an origin to a destination.

Tcf: Trillion cubic feet.

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.

Therm: 100,000 British thermal units. A dekatherm is 1 million Btus.

Total Transfer Capability (TTC): The amount of electric power that can be transferred over the interconnected transmission network in a reliable manner at a given time.

Trading Volume: In the futures market, the number of transactions in a contract made during a specified period of time.

Transco (Transmission Company): A company engaged solely in the transmission function. It can also refer to that portion of an electric utility's business that involves the bulk transmission of power; operated separately from any other power functions the utility might own or operate.

Transfer Capability: The measure of the ability of interconnected electric systems to move or transfer power in a reliable manner from one area to another over all transmission lines (or paths) between those areas under specified system conditions. Generally expressed in megawatts (MW).

Transition Costs: Costs associated with the change of an industry from a regulated, bundled industry to a competitive open-access service. Transition costs can include **stranded costs**.

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

Transmission Reliability Margin (TRM): Amount of transmission transfer capability necessary to ensure that the interconnected transmission network is secure under a reasonable range of uncertainties in system conditions.

Transmission System (Electric): An interconnected group of electric transmission lines and associated equipment for moving or transferring electric energy in bulk between points of supply and points at which it is transformed for delivery over the distribution system lines to consumers, or is delivered to other electric systems.

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.

Trigger: A form of pricing, which is a hybrid of EFP pricing. A trigger requires notification by one party of its intent to trigger, or fix, the effective price.

Turbine: A machine for generating rotary mechanical power from the energy of a stream of

fluid (such as water, steam, or hot gas). Turbines convert the kinetic energy of fluids to mechanical energy through the principles of impulse and reaction, or a mixture of the two.

Unbundling: Disaggregating electric utility service into its basic components and offering each component separately for sale with separate rates for each component. For example, generation, transmission and distribution could be unbundled and offered as discrete services.

Upstream Pipeline: The pipeline delivering natural gas to another pipeline at an interconnection point where the second pipeline is closer to the consumer.

Utility: A regulated entity, which exhibits the characteristics of a natural monopoly. For the purposes of electric industry restructuring, "utility" refers to the regulated, vertically integrated electric company. "Transmission utility" refers to the regulated owner/operator of the transmission system only. "Distribution utility" refers to the regulated owner/operator of the distribution system, which serves retail customers.

VAR: Voltage-Ampere-Reactive. A measure of reactive power.

Vertically Integrated: A utility that combines the functions of generation, transmission and distribution.

Volatility: The market's price range and movement within that range. The direction of the price move can be up or down.

Volt: A unit of electrical pressure. It measures the force or push of electricity.

Volumetric Charges. A rate or charge for a commodity or service that is charged on the basis of the amount or volume actually received by the purchaser.

WACOG: Weighted Average Cost of Gas. Formula used by LDCs (and formerly by pipelines) to determine the cost of gas underlying their sales rate.

Watt: The electrical unit of power. The rate of energy transfer equivalent to 1 ampere flowing under a pressure of 1 volt at unity power factor.

Watthour: An electrical energy unit of measure equal to 1watt of power supplied to, or taken from, an electric circuit steadily for 1 hour.

Wellhead: The place where natural gas and oil come out of the ground. Commonly used as a pricing point by producers.

Wheeling: The transmission of electricity by an entity that does not own or directly use the power it is transmitting. Wholesale wheeling is used to indicate bulk transactions in the wholesale market, whereas retail wheeling allows power producers direct access to retail customers. This term is often used colloquially as meaning transmission.

Wholesale Competition: As applied to the electricity industry, the ability of utilities to sell electricity to each other, and the ability of non-utility generators to sell power to each other or to utilities. Wholesale competition is competition at the level of supply, not the retail level.

Wholesale wheeling: The wheeling of electric power in amounts and at prices that generally have been negotiated in long-term contracts among generators or between a generator and a distributor.

Wind turbine: Wind energy conversion device that produces electricity; typically three blades rotating about a horizontal axis and positioned up-wind of the supporting tower.

Working (top storage) gas: The volume of gas in the reservoir that is in addition to the cushion or base gas. It may or may not be completely withdrawn during any particular withdrawal season. Conditions permitting, the total working capacity could be used more than once during any season.

(END)

Energy Conversion Table

Butane	103,000 BTU/gallon
Electricity	3,413 BTU/kWh
Gasoline	125,000 BTU/gallon
Kerosene	135,000 BTU/gallon
Natural Gas	1,000 BTU/cubic foot
#2 Oil	138,500 BTU/gallon
#6 Oil	150,000 BTU/gallon
Propane	91,500 BTU/gallon

Natural Gas Measurements (Rough approximations)

10 Therms = 1 dekatherm (dth)
1 Mcf = One thousand cubic feet
1 MMBtu = 1 million BTUs
1 Dekatherm = 1 Mcf = 10 Therms = 1 MMBtu
1 MMcf = 1,000 dth = 1 billion BTUs

Electric Measurements

1 kilowatt (KW) = 1,000 watts
1 megawatt (MW) = one million watts
1 gigawatt (GW) = one billion watts
1 terawatt (TW) = one trillion watts

50 watts x 20 hours = 1 kilowatt-hour (KWh)