



Targamh
Art Of Translation

English ↔ Arabic ↔ French

Natural Gas Glossary

معتصم الحارث الضوي

Anticline

An anticline is an area of the earth's crust where folding has made a dome like shape in the once flat rock layers. Anticlines often provide an environment where natural gas can become trapped beneath the earth's surface, and extracted. See also [Traps](#), [Faults](#), [Permeability](#), and [Porosity](#).

[Top of Glossary](#)

Bcf - Billion Cubic Feet

Gas measurement approximately equal to one trillion (1,000,000,000,000) [Btu's](#). See also [Mcf](#), [Tcf](#), [Quad](#).

[Top of Glossary](#)

Brine

Brine is a kind of sedimentary rock found near shores. It is composed of the shells of many sea creatures that have formed a layer of sediment, which then formed a layer of rock.

[Top of Glossary](#)

Btu - British Thermal Unit

The Btu is a unit of measurement for energy. It represents the amount of heat that is necessary to raise the temperature of one pound of water by 1 degree, Fahrenheit.

[Top of Glossary](#)

Bundled Service

Gas sales service and transportation service packaged together in a single transaction in which the pipeline, on behalf of the utility, buys gas from producers and then delivers it to the utility. See also, [Unbundled Services](#), [FERC Order 636](#).

[Top of Glossary](#)

Clean Air Act Amendments of 1990

This legislation to improve the quality of the atmosphere and curb acid rain promotes the use of cleaner fuels in vehicles and stationary sources.

[Top of Glossary](#)

Canadian Gas Association

The Canadian Gas Association (CGA) is a trade organization representing all segments of the gas industry in Canada. Founded in 1907, it specifically represents distributors, transmission companies, producers, pipeline contractors, manufacturers and allied service organizations. CGA set up a standards writing, inspection and product certification program in the mid 1950's at a time when natural gas was being extended to Eastern Canada and the West Coast. CGA has been accredited by the National Standards Council of Canada to prepare National Standards of Canada in the area of equipment for use with natural gas and propane.

[Top of Glossary](#)

Carbonate Rock

A rock consisting primarily of a carbonate mineral such as calcite or dolomite, the chief minerals in limestone and dolostone, respectively.

[Top of Glossary](#)

Casing

A casing is used to line the walls of a gas well to prevent collapse of the well, and also to protect the surrounding earth and rock layers from being contaminated by petroleum, or the drilling fluids.

[Top of Glossary](#)

Cathodic Protection

Cathodic protection refers to the method of preventing corrosion in metal structures that involves using electric voltage to slow or prevent corrosion. It is used along natural gas pipelines, as well as in certain bridges or other large metal structures that need to resist corrosion over an extended period of time.

[Top of Glossary](#)

Coal Bed Methane

Prior to the mid-1980's, methane from coal seams was classified as an uneconomic resource - one of vast potential, but low value due to poor recovery rates and high associated water production. By applying new production technologies to this resource, coalbed methane has become the single largest new source of gas supply in the past decade. Current estimates show approximately 100 [Tcf](#) of coalbed methane that appears to be economically recoverable in the lower 48 states alone.

[Top of Glossary](#)

CFC's Chlorofluorocarbons

Quite a mouthful, it's easy to see why Chlorofluorocarbons are often abbreviated to CFC's. These gaseous compounds are used for cooling, but are being rapidly replaced by new materials because their release into the atmosphere has produced ozone depletion. See also [HCFC's](#).

[Top of Glossary](#)

Christmas Tree

A Christmas Tree, when referring to gas production, is the term given to the series of pipes and valves that sits on top of a producing gas well. Since some gas wells have natural lift because of the high pressures underground, they don't require an artificial pumping mechanism to produce the gas. In these cases, a Christmas Tree is used in place of a pump to extract the gas from the well.

[Top of Glossary](#)

Citygate

A location at which custody of gas passes from a gas pipeline company to an [LDC](#).

[Top of Glossary](#)

Natural Gas Co-Firing

Co-Firing refers to the injection of natural gas with pulverized coal or oil into the primary combustion zone of a boiler. Co-firing is not new technology, but efforts to determine optimal natural gas injection levels for both environmental and operational benefits are relatively recent. Co-firing only produces a mild increase in production costs, but benefits plants by offering cleaner overall operation. Slag that builds up inside boilers is reduced, and precipitators, which capture soot and ash from coal or oil firing, foul up less frequently.

[Top of Glossary](#)

Compression

Natural gas is compressed during transportation and storage. The standard pressure that gas volumes are measured at is 14.7 Pounds per Square inch (psi). When being transported through pipelines, and when being stored, gas is compressed to save space. Pipelines have compressing stations installed along the line (one about every 100 miles) to ensure that the gas pressure is held high while the gas is being transported. Current pipelines can compress natural gas to nearly 1500 psi, but most tend to operate at closer to 1000psi.

[Top of Glossary](#)

CSST - Corrugated Stainless-Steel Tubing

Flexible piping used to install gas service in residential and commercial areas.

[Top of Glossary](#)

Cubic Foot

A unit of measurement for volume. It represents an area one foot long, by one foot wide, by one foot deep. Natural gas is measured in cubic feet, but the measurements are usually expressed in terms of [Bcf](#), [Tcf](#), [Mcf](#), or [Quads](#).

[Top of Glossary](#)

Cutting

A cutting is a piece of rock or dirt that is brought to the surface of a drilling site as debris from the bottom of well. Cuttings are often used to obtain data for [logging](#).

[Top of Glossary](#)

Delivery or Receipt Point

Designates the point where natural gas is transferred from one party to another. The [city gate](#) is the delivery point for a pipeline or transportation company because this is where the gas is transferred to the [LDC](#).

[Top of Glossary](#)

Dip

A layer's dip refers to the angle at which it lies in relation to a flat line at the surface. Most layers of rock do not lie flat because they have been folded one or more times throughout their history. The dip of a rock layer can tell a geologist important information that could help locate possible petroleum [traps](#).

[Top of Glossary](#)

DOE-Department of Energy

Main government agency responsible for regulating many energy sources, gas included.

[Top of Glossary](#)

Electronic Bulletin Board (EBB)

An electronic bulletin board (in the context of the natural gas industry) is an electronic service that provides information about pipeline company rates, available capacity on lines, confirmation of delivery and so forth. Under FERC [Order 636](#), most pipelines are required to post data about excess capacity.

[Top of Glossary](#)

EPACT - Energy Policy Act of 1992

Comprehensive energy legislation that is expected to expand natural gas use by reforming [PUHCA](#) restrictions, allowing wholesale electric transmission access and providing incentives to developers of clean fuel vehicles.

[Top of Glossary](#)

Fault

A fault occurs when a part of the earth's crust fractures due to forces exerted on it by movement of plates on the earth's crust. Faults often occur along with earthquakes that result from the rapid movement of the plates against one another. Faults can have movement that is horizontal or vertical, and they can be classified as normal or reverse. With regard to natural gas, faults are of interest because they often form [traps](#).

[Top of Glossary](#)

FERC Order 380

[FERC](#) Order 380, issued in 1983, invalidated contract requirements that a gas utility pay a pipeline for a certain amount of gas even if it could not take the gas. This paved the way for utilities to buy gas directly from producers and marketing companies. For other FERC orders, see [FERC](#).

[Top of Glossary](#)

FERC Order 436

[FERC](#) Order 436, issued in April of 1985, set up a voluntary open-access transportation program that allowed pipelines to offer transportation service not linked to gas sales service, making it easier for utilities and gas customers to purchase gas directly from producers and marketing companies and have it transported by pipelines. For other FERC orders, see [FERC](#).

[Top of Glossary](#)

FERC Order 451

[FERC](#) Order 451, issued in 1987, provided the opportunity for sellers of gas from older wells to receive a more market-sensitive price. For other FERC orders, see [FERC](#).

[Top of Glossary](#)

FERC Order 500

[FERC](#) Order 500, issued in late 1989, was an addendum to [FERC Order 436](#) and provided mechanisms for settling certain contract liabilities incurred by pipelines that could not take all of the gas they had ordered from producers. For other FERC orders, see [FERC](#).

[Top of Glossary](#)

FERC - Federal Energy Regulatory Commission

The federal agency that regulates interstate gas pipelines and interstate gas sales under the [Natural Gas Act](#). Successor to the Federal Power Commission, the FERC is considered an independent regulatory agency responsible primarily to Congress, but it is housed in the [Department of Energy](#). See also [FERC - 380](#), [FERC - 436](#), [FERC - 451](#), [FERC - 500](#), [FERC - 636](#).

[Top of Glossary](#)

Firm Service Contract

A type of contracted service where the distributor agrees to provide the buyer with uninterrupted supply of gas. This type of contract is usually more expensive, and is used primarily by those firms who cannot afford to risk loss of fuel for any period of time. See also [Interruptible Service](#).

[Top of Glossary](#)

Formation

A formation refers to either a certain layer of the earth's crust, or a certain area of a layer. It often refers to the area of rock where a petroleum reservoir is located.

[Top of Glossary](#)

Fracturing

Fracturing refers to a method used by producers to extract more natural gas from a well by opening up rock formations using hydraulic or explosive force. Advanced fracturing techniques are enhancing producers' ability to find and recover natural gas, as well as extending the longevity of older wells.

[Top of Glossary](#)

Fuel Cell

Fuel cell technology is one of the most exciting and environmentally sound advances in Natural Gas technology. These cells were first used by NASA in the 1960's for power generation in space capsules. The high price of fuel cell technology has limited the growth of their implementation, but now cells are being used to generate power in hospitals, and soon vehicles may employ this technology. Fuel cells rely on the chemical interaction of natural gas and certain other metals, such as platinum, gold and other electrolytes to produce electricity. The only by product of a fuel cell's operation is water, which is pure enough to drink.

[Top of Glossary](#)

Hydrocarbon

An organic compound containing only carbon and hydrogen. Hydrocarbons often occur in petroleum products, natural gas, and coals.

[Top of Glossary](#)

HCFC's - Hydrochlorofluorocarbons

Hydrochlorofluorocarbons, or HCFC's to most, are gaseous compounds that meet current environmental standards for minimizing stratospheric ozone depletion. See also [CFC's](#).

[Top of Glossary](#)

Horizontal Drilling

Horizontal Drilling, heralded today as "causing the greatest change in the industry since the invention of the rotary bit," is the most rapidly growing movement in the petroleum industry. Essentially, in addition to the vertical shaft in an oil or gas well, special equipment allows producers to extend horizontal shafts into areas that could not otherwise be reached. This technique is especially useful in off shore drilling, where one platform may service many horizontal shafts, thus increasing efficiency. Horizontal wells can be categorized as short (extending only 20-40ft from vertical), medium (300-700ft from vertical) or long (1000-4500ft from vertical) radius. The larger radius wells are typically found off-shore.

[Top of Glossary](#)

Independent Producer

The basic definition of an Independent Producer is a non-integrated company which receives nearly all of its revenues from production at the wellhead. They are exclusively in the exploration and production segment of the industry, with no marketing or refining within their operations. The tax definition, published by the IRS, states that a firm is an Independent if its refining capacity is less than 50,000 barrels per day in any given day or their retail sales are less than \$5 million for the year.

[Top of Glossary](#)

Interruptible Service

Interruptible service contracts allow a distributing party to temporarily suspend delivery of gas to a buyer in order to meet the demands of customers who purchased [firm service](#). Interruptible service is less expensive than firm service, and is used by customers who can either accommodate interruption, or switch to alternative fuels temporarily.

[Top of Glossary](#)

Independent Power Producer

Private firms producing electricity, as opposed to utility companies.??

[Top of Glossary](#)

Knot or Nautical Mile

The Knot is the unit of measurement for water speed. It is nearly equivalent to miles per hour for land. It is also used to measure wind speeds over water.

[Top of Glossary](#)

Local Distribution Company

A retail gas distribution company that delivers natural gas to end users.

[Top of Glossary](#)

Lithology

Lithology is the study of rocks. It is important for exploration and drilling crews to have an understanding of lithology as it relates to the production of gas and oil. Often, [cuttings](#) have to be analyzed to make important decisions about a well. See also [logging](#).

[Top of Glossary](#)

Logging

Logging refers to the lowering of different types of measuring instruments into the wellbore and gathering and recording data on [Porosity](#), [Permeability](#) and types of fluids present near the current well. This data is then used to construct subsurface maps of a region to aid in further exploration.

[Top of Glossary](#)

LORAN

LORAN is a satellite navigation system commonly used by ships and naval vessels to precisely locate their position while at sea.

[Top of Glossary](#)

Magnetometer

This device is able to measure small changes in the earth's magnetic field at the surface, which indicates what kind of rock formations might be present underground. Originally, this technology was only mildly useful because the magnetometers were bulky and only small areas could be surveyed. However, with increasing technology, magnetometers can now be placed in helicopters, airplanes, and in 1981 NASA launched a magnetometer satellite, named [Magsat](#).

[Top of Glossary](#)

Magsat Satellite

The Magsat is a satellite launched by NASA in 1981 that is used as a [magnetometer](#) to study magnetic fluctuations in the earth's crust.

[Top of Glossary](#)

MAGSAT

In 1981, NASA developed sufficient technology to launch a magnetometer satellite. This satellite serves as a useful tool for structural geologists to use when studying formations of rock within the earth's surface. See also [Magnetometer](#).

[Top of Glossary](#)

Magsat Satellite

The Magsat is a satellite launched by NASA in 1981 that is used as a [magnetometer](#) to study magnetic fluctuations in the earth's crust.

[Top of Glossary](#)

MAGSAT

In 1981, NASA developed sufficient technology to launch a magnometer satellite. This satellite serves as a useful tool for structural geologists to use when studying formations of rock within the earth's surface. See also [Magnetometer](#).

[Top of Glossary](#)

Mcf - Thousand Cubic Feet

Mcf stands for one thousand cubic feet. It's a unit of measure that is more commonly used in the low volume sectors of the gas industry, such as [stripper well](#) production. See also [Btu](#), [Bcf](#), [Tcf](#), [Quad](#).

[Top of Glossary](#)

Methane

Methane, commonly known as natural gas (or CH₄ to a scientist), is the most common hydrocarbon gas. It is colorless and naturally odorless, and burns efficiently without many by products. Natural gas only has an odor when it enters your home because the local distributor who sells it to you adds it as a safety measure.

[Top of Glossary](#)

MER or Most Efficient Recovery

The MER, or most efficient recovery rate, is based on the most oil and gas that can be extracted for a sustained period of time without harming the formation. Generally, most wells cannot produce oil and gas for 24 hours a day, 7 days a week, or the rock formation could be damaged, which would result in less oil and gas being produced in the long run.

[Top of Glossary](#)

Muds

Muds are used in drilling to lubricate the drilling bit in rotary drilling rigs. These fluids cool the bit, remove cuttings and debris, and coat the wellbore with a cake. Most fluids have a clay base, and are customized for the specific formations that are encountered at a given site. The cake that forms from the fluids serves to coat the walls of the wellbore until a steel casing can be put in place to prevent collapse.

[Top of Glossary](#)

Multiple Completions

Sometimes, in order to take full advantage of all the gas and oil present in a reserve, it is beneficial to drill to several different depths from a single well to increase the rate of production or the amount of recoverable petroleum. See also [casing](#).

[Top of Glossary](#)

Natural Gas Act

The Natural Gas Act was passed in 1938, giving the Federal Power Commission (now the Federal Energy Regulatory Commission or [FERC](#)) jurisdiction over companies engaged in interstate sale or transportation of natural gas. The act instituted federal oversight of rates charged by interstate gas-transmission companies, and also limited certification authority. Nobody was allowed to build an interstate pipeline to deliver gas into a market already served by another gas pipeline without first obtaining a Federal Power Commission certificate. The principle aims of the Natural Gas Act were to:

- 1) provide a stable financial and regulatory environment for the financing and construction of interstate gas pipelines; and
- 2) prevent the "naturally monopolistic" pipelines from engaging in undue discrimination and other feared abuses, including those attendant on their control by utility holding companies or major oil and gas producers.

[Top of Glossary](#)

The Natural Gas Policy Act of 1978

The gas market before 1978 was drastically different than the one currently existing in the United States. The changes in the market since the 1970's have come partially from increasing technology, but also largely from changes in natural gas regulation. The Natural Gas Policy Act was one of the first efforts to deregulate the gas industry. Congress intended to allow the supply, demand, and thus the price of natural gas to be dictated by market forces, rather than regulation. Other deregulation bills include [Order 636](#).

[Top of Glossary](#)

Natural Gas Resource Base

An estimate of the amount of natural gas available, based on the combination of [proved reserves](#), and those additional volumes that have not yet been discovered, but are estimated to be "discoverable" given current technology and economics. Current estimates for the resource base in the lower 48 states range from 900 to 1,300 [Tcf](#).

[Top of Glossary](#)

NES- National Energy Strategy

A 1991 federal proposal that focused on national security, conservation and regulatory reform, with options that encourage natural gas use.

[Top of Glossary](#)

Natural Gas Vehicle (NGV)

A natural gas vehicle is a new breed of car, bus or truck that is powered by a natural gas, either in compressed or liquefied form, rather than the traditional gasoline or diesel fuel. These vehicles offer an extremely clean, safe and efficient alternative to traditional transportation. With the passage of the Clean Air Act Amendments and the Energy Policy Act of 1992, these alternative fuel vehicles are expected to proliferate in the later 1990's. Already, major car manufacturers are offering natural gas vehicles, and there are over 700 fueling stations nationwide.

[Top of Glossary](#)

NO_x - Nitrogen Oxides

Acid deposition, commonly called acid rain, occurs when sulfur dioxide ([SO₂](#)) and, to a lesser extent, NO_x emissions are transformed in the atmosphere and return to the earth as dry deposition or in rain, fog or snow. Highway vehicles - autos, trucks and buses - account for nearly 30 percent of all NO_x and non-methane hydrocarbons emitted annually in the United States. Burning any fossil fuel produces NO_x, and it is difficult to generalize with respect to the relative NO_x emissions of the various fuel types for different applications. However, the substitution of new high-efficiency gas equipment can offer significant NO_x reductions, relative to older and less efficient equipment. For example, replacing a coal-fired electricity generating unit with a new gas-fired combined-cycle unit can reduce NO_x by some 95 percent. See also [SO₂](#), [CFC](#), [HCFC](#).

[Top of Glossary](#)

NPC - National Petroleum Council

An advisory body of appointed members whose purpose is to advise the Secretary of Energy.

[Top of Glossary](#)

Off Peak Period

The period of time during a day, week, month or year when gas use on a particular system is not at its maximum.

[Top of Glossary](#)

Order 636

The [Federal Energy Regulatory Commission](#)'s 1992 order that required pipelines to unbundle their transportation, sales and storage services. Its biggest impact was to convert pipelines from being sellers of gas to being primarily shippers of gas that is bought and sold by other parties. See also [NGPA](#).

[Top of Glossary](#)

Peak Shaving

Using sources of energy, such as natural gas from storage, to supplement the normal amounts delivered to customers during peak-use periods. Using these supplemental sources prevents pipelines from having to expand their delivery facilities just to accomodate short periods of extremely high demand (see [Peak Use Periods](#)).

[Top of Glossary](#)

Peak Use Period

The period of time when gas use on a particular system is at its maximum. This is the period when gas supply is most likely to be suspended for [interruptible service](#) customers. Distributors also employ techniques such as [peak shaving](#) to soften the impacts of high demand on the pipelines.

[Top of Glossary](#)

Permeability

Permeability is the measure of how easily a fluid can pass through a section of rock. If fluid can pass relatively easily through a given layer, then the permeability is said to be high. However, if a layer effectively blocks fluids, or no fluids can flow through the layer at all, then the layer is said to be impermeable. Such layers are known as layers in [traps](#). See also [Porosity](#).

[Top of Glossary](#)

P.I.G.s

Not your typical farm animal, these robotic agents roam the pipeline collecting data. Intelligent PIGS are used to inspect pipeline interior walls for corrosion and defects, measure pipeline interior diameters, remove accumulated debris and for other specialty tasks. As the PIG travels through the pipeline, it takes thousands of sensor measurements for later computer analysis and comparison with other historical data. Advances in these technologies are improving pipeline reliability and reducing the need for excavating long sections of pipe for inspection.

[Top of Glossary](#)

Porosity

Pores are spaces between grains of sediment in sedimentary rock. A sedimentary rock with larger grain size will generally be more porous, allowing more fluid or air to flow through it. Very porous rock acts somewhat like a sponge, soaking up water, air and petroleum. Generally, porosity, or the degree to which a formation can hold fluid, decreases with depth because increased pressures press grains together, thus decreasing the space between grains. See also [Permeability](#).

[Top of Glossary](#)

Producer

A natural gas producer is generally involved in exploration, drilling, and refinement of natural gas. There are [independent](#) producers, as well as integrated producers, which are generally larger companies that produce, transport and distribute natural gas.

[Top of Glossary](#)

Proved Resources

The part of the [Natural Gas Resource Base](#) that includes the working inventory of natural gas - volumes that have already been discovered and are readily available for production and delivery. Out of an estimated 900 to 1300 [Tcf](#) of gas in the resource base in the lower 48 states, about 155 Tcf are proved resources.

[Top of Glossary](#)

Proved Resources

The part of the [Natural Gas Resource Base](#) that includes the working inventory of natural gas - volumes that have already been discovered and are readily available for production and delivery. Out of an estimated 900 to 1300 [Tcf](#) of gas in the resource base in the lower 48 states, about 155 Tcf are proved resources.

[Top of Glossary](#)

Pounds Per Square Inch Gauge (psig)

Pressure measured with respect to that of the atmosphere. This is a pressure gauge reading in which the gauge is adjusted to read zero at the surrounding atmospheric pressure. It is commonly called gauge pressure.

[Top of Glossary](#)

PUHCA - Public Utility Holding Company Act of 1935

Amended by [EPACT](#), to allow power generation by [independent power producers \(IPPs\)](#) without restrictions on corporate structure. Many IPP projects will use natural gas.

[Top of Glossary](#)

Quad

An abbreviation for a quadrillion (1,000,000,000,000,000) [Btu](#). For natural gas, roughly equivalent to one trillion (1,000,000,000,000) cubic feet, or 1 [Tcf](#). See also [Bcf](#), [Mcf](#).

[Top of Glossary](#)

Reburning

Natural gas reburning is an effective and economic means of reducing [NO_x](#) emissions from all types of industrial and electric utility boilers. Gas reburn may be used in coal or oil boilers, and it is even effective in cyclone and wet-bottom boilers, for which other forms of NO_x control are either not available or very expensive. A reburn application which entails the injection of natural gas into a coal-fired boiler above the primary combustion zone- representing 15 to 20 percent of the total fuel mix- can produce NO_x reductions in the 50 to 70 percent range and [SO₂](#) reductions in the 20 to 25 percent range.

[Top of Glossary](#)

Reserve Additions

Volumes of the [Natural Gas Resource Base](#) that are continuously moved from the resource category to the [proved resources](#) category. Reserve additions represent the volumes that become part of the gas industry's working inventory as producers replace volumes that are sold and used.

[Top of Glossary](#)

SCADA - Supervisory Control and Data Acquisition

Remote controlled equipment used by pipelines and [LDCs](#) to operate their gas systems. These computerized networks can acquire immediate data concerning flow, pressure or volumes of gas, as well as control different aspects of gas transmission throughout a pipeline system. See also [EBBs](#), [Compression](#).

[Top of Glossary](#)

Separator Tank

These tanks are usually located at the well site. They are used to separate oil, gas and water before sending each off to be processed at different locations.

[Top of Glossary](#)

SO₂ - Sulfur Dioxides

Acid deposition, commonly called acid rain, occurs when sulfur dioxide and, to a lesser extent, nitrogen oxides ([NO_x](#)) emissions are transformed in the atmosphere and return to the earth as dry deposition or in rain, fog or snow. Roughly 23 million tons of SO₂ is emitted annually in the United States, according to the U.S. Environmental Protection Agency (EPA). The combustion of natural gas produces virtually no SO₂ and, with proper design, far less NO_x than combustion of coal or fuel oil. The [Clean Air Act Amendments of 1990](#) will have major impacts on electric utility power plants. Together, these plants must reduce their SO₂ emissions by roughly 10 million tons annually, by the year 2000. In addition, an absolute cap of 8.9 million tons will be placed on the electric utility sector in 2000. See also [NO_x](#), [CFC](#), [HCFC](#).

[Top of Glossary](#)

Spot Market

A product of deregulation, the spot market is a method of contract purchasing whereby commitments by the buyer and seller are of a short duration at a single volume price. The duration of these contracts is typically less than a month, and the complexity of the contracts is significantly less than their traditional market counterparts.

[Top of Glossary](#)

Spot Purchase

Natural gas purchased on the [spot market](#), which involves short-term contracts for specified amount of gas, at a one-time purchase price.

[Top of Glossary](#)

Stripper Wells

Stripper wells are natural gas wells that produce less than 60,000 cubic feet of gas per day. Ohio, West Virginia, Texas, Kentucky and New Mexico all have significant numbers of stripper wells. In 1994 there were 159,369 stripper wells in the United States, and they produced 940,420,777 [Mcf](#).

[Top of Glossary](#)

Three Dimensional (3-D) Seismic

Possibly the single most important advancement in exploration technology in years, the three dimensional seismic allows producers to see into the earth's crust to find promising formations for retrieval of fossil fuel. Taking advantage of highly advanced supercomputers, geologists process millions of pieces of data to generate a detailed, three dimensional image of underground structures. They can rotate and slice these models for closer examination, searching for evidence of hydrocarbons. Using 3-D seismic, drilling has become more precise and the risk of costly dry holes has diminished.

[Top of Glossary](#)

Trillion Cubic Feet

A volume measurement of natural gas. Approximately equivalent to one [Quad](#). See also [Btu's](#), [Bcf](#), [Mcf](#).

[Top of Glossary](#)

Traps

A trap is a generic term for an area of the earth's crust that has developed in such a way as to *trap* petroleum beneath the surface. When exploring for natural gas and oil, geologists look for evidence of traps. For a full description of the exploration process. See also [Faults](#), [Permeability](#), and [Porosity](#).

[Top of Glossary](#)

Unbundled Services

Unbundling, or separating, pipeline transmission, sales and storage services, along with guaranteeing 'open access' to space on the pipelines for all gas shippers. See also [Bundled Service, FERC Order 636](#).

[Top of Glossary](#)

Underground Gas Storage

The use of sub-surface facilities for storing gas that has been transferred from its original location for the primary purpose of [load balancing](#). The facilities are usually natural geological reservoirs, such as depleted oil or gas fields or water-bearing sands on the top by and impermeable cap rock. There are currently more than 400 underground storage facilities spread across 27 states and Canada, which together can hold more than 3 quads of gas.

[Top of Glossary](#)

Viscosity

Viscosity is the measure of a fluid's thickness, or how well it flows. Water would have a very high viscosity since it flows very easily, while maple syrup or mollasses would have a very low viscosity since they flow very slowly.

[Top of Glossary](#)