
Glossary of Natural Gas Industry Terms and Natural Gas Conversion Tables

[Conversion tables](#) for natural gas and LNG storage volumes can be found at the end of the glossary.

AGDC

See [Alaska Gasline Development Corp.](#)

AGIA

Alaska Gasline Inducement Act, a 2007 state of Alaska law intended to spur construction of a gas pipeline from the North Slope. AGIA authorizes up to \$500 million in state reimbursements of qualified expenses to a pipeline-project developer. In exchange, the developer must adopt an aggressive development schedule, apply for licensing by FERC, commit to use project labor agreements with unions, and, for any capacity expansions, structure pipeline-tariff terms that are favorable to new shippers. The developer, however, is not required to proceed through construction. In 2008 the state issued an AGIA license to TransCanada, now a partner in the Alaska Southcentral LNG Project [1].

Alaska Gasline Development Corp.

A [state of Alaska agency](#) [2] established in 2010 to plan a pipeline project that would deliver North Slope gas to Alaskans. AGDC is sponsoring the [ASAP pipeline](#) project.

Alaska Oil and Gas Conservation Commission (AOGCC)

An independent state of Alaska agency that regulates oil and gas production. AOGCC will have an important say [3] in the timing and volume of natural gas production for any North Slope gas pipeline project.

Alaska Southcentral LNG project

A major export project [1] under consideration by a consortium comprised of ExxonMobil, ConocoPhillips, BP and TransCanada. The project would involve producing gas from North Slope fields, treating the gas to remove carbon dioxide and other impurities, piping it about 800 miles to a liquefaction plant, loading the LNG aboard tankers and exporting it overseas.

Arbitrage

The purchase of an asset and subsequent resale at a higher price, usually in a different market. For LNG, arbitrage can occur if the price difference between two markets, such as North America and

Asia, more than compensates for the extra transportation cost of moving lower-priced LNG to the higher-priced market.

ASAP pipeline

A smaller-scale proposed gas pipeline project sponsored by the state of Alaska [4]. Some consider the proposal a backup plan if the larger project under consideration [1] by the North Slope producers stalls. The proposed pipeline would have up to 500 million cubic feet per day of capacity and would supply gas to the Fairbanks and Southcentral regions of Alaska, with enough capacity left over to serve mines and an LNG export terminal or other industrial customers. The project also is known as the bullet line, the in-state line and the Alaska Gasline Development Corp. Project.

Associated gas

Natural gas produced in association with crude oil.

Bcf

See [billion cubic feet](#).

Bcm

See [billion cubic meters](#).

Billion cubic feet

A natural gas industry term for the amount of gas in a field's reserves or an amount of gas produced and moved to market daily, monthly or annually. A standard cubic foot of natural gas is the amount of gas within a cubic foot at 60 degrees Fahrenheit and at atmospheric pressure (about 14.7 pounds per square inch).

Billion cubic meters

The natural gas industry's metric term — mainly used outside North America — for the amount of gas in a field's reserves or an amount of gas produced and moved to market daily, monthly or annually. A standard cubic meter of natural gas is the amount of gas within a cubic meter at 59 degrees Fahrenheit and pressurized at 100 kilopascals (about 14.5 pounds per square inch). A cubic meter of gas equals 35.3 cubic feet. See [billion cubic feet](#).

Boiling point

The temperature above which a liquid becomes a vapor, and below which a vapor becomes a liquid. For example, the boiling point of water is 212 degrees Fahrenheit. For methane, the boiling point is minus 260 Fahrenheit — the temperature at or below which it is LNG.

Boil-off gas

Liquefied natural gas that revaporizes in storage tanks or at sea during a tanker voyage.

British thermal unit

The amount of heat needed to raise the temperature of one pound of water one-degree Fahrenheit. Natural gas, especially in the LNG trade, typically is priced in terms of 1 million Btu of energy — roughly 1,000 cubic feet of gas.

Brownfield

A project built on a previously developed or partly developed site. For LNG, brownfield projects would include expansions of capacity at existing LNG plants, and adding liquefaction and export services to an LNG import terminal. These sites might already have in place utilities, pipeline connections, tanker berths and storage tanks, for example. Brownfield LNG developments are less expensive than [greenfield](#) developments.

Btu

See [British thermal unit](#).

Carbon dioxide

An inert gas often produced with natural gas. Carbon dioxide gets removed in whole or in part from the gas stream before gas heads to market. Gas buyers don't want CO₂ because it doesn't burn. Gas pipelines don't want CO₂ because it can corrode steel. LNG makers don't want CO₂ because before the methane cools into a liquid, the carbon dioxide would freeze into a solid — think dry ice — and possibly damage liquefaction equipment. See [gas treatment plant](#).

Certificate of public convenience and necessity

A Federal Energy Regulatory Commission-issued certificate that lets the recipient build and operate an interstate natural gas pipeline. Before granting a certificate, FERC typically undertakes a meticulous review of a proposed project, including an environmental evaluation under the [National Environmental Policy Act](#).

CIF

See [cost, insurance and freight](#).

City gate

A transition point in a natural gas transportation network where a [local gas distribution company](#) takes title to the gas.

CNG

See [compressed natural gas](#).

Combined-cycle gas plant

A power plant that uses natural gas turbines to generate electricity and uses exhaust heat from the gas turbines to make steam that generates more electricity via a steam turbine. The higher efficiency of these plants compared to straight coal or gas-fired generation has helped natural gas catch on as a power plant fuel in recent years.

Compressed natural gas

Natural gas that has been compressed under high pressure, typically to between 3,000 to 3,600 pounds per square inch, to make it more compact to store. For some vehicles, particularly city transit buses, CNG is an alternative fuel to gasoline or diesel.

Compressor station

A facility that pressurizes natural gas to provide the energy the gas needs to move through a pipeline to its next destination, such as another compressor station. Compression also allows the pipeline operator to put more gas into the line.

Condensate

A high-Btu component of natural gas that changes from vapor to liquid with a change of temperature and pressure during production. Condensate commonly is a mixture of heavier gas liquids, sometimes with lighter gas liquids such as ethane or propane. The presence of condensate, such as at Alaska's Point Thomson field, can complicate production. If production changes the reservoir pressure enough so that the condensates become liquid inside the reservoir rather than later, smaller amounts of hydrocarbons will be recovered.

Conventional gas

A gas reservoir that usually is more profitable to produce than "unconventional" shale gas or coal-bed methane. The gas has migrated from its source rock and is trapped in abundance below a sealing strata of rock. It can flow under pressure relatively easily to a well drilled into the reservoir. See also [unconventional gas](#).

Cost, insurance and freight

A sales-contract term meaning that the LNG sales price covers the cost of natural gas, insurance and shipping to its destination. See also [delivered ex-ship](#) and [free on board](#).

CPCN

See [certificate of public convenience and necessity](#).

Cubic meter of LNG (liquid cubic meter)

The capacities of LNG tankers and storage tanks are reported in terms of liquid cubic meters. One liquid cubic meter of LNG equals about 585 cubic meters of vaporous gas, or about 20,600 *cubic feet* of vaporous gas. An average-sized LNG tanker in international trade has a capacity of about 150,000 cubic meters of LNG, the equivalent of about 3 billion cubic feet of vaporous gas.

DAP

See [delivered at place](#).

DAT

See [delivered at terminal](#).

Debottlenecking

Increasing an LNG plant or other plant's capacity by modifying equipment or processes that constrain production. Usually debottlenecking is a much less expensive way to boost production than adding new facilities.

Delivered at place

A sales-contract term meaning that the seller's LNG price includes delivery to a named place but not the unloading and import-clearance costs, such as taxes. See [delivered at terminal](#) and [delivered ex ship](#).

Delivered at terminal

A sales-contract term meaning that the seller's LNG price includes delivery to and unloading at a named terminal but not the import-clearance costs, such as taxes. See [delivered at place](#) and [delivered ex ship](#).

Delivered ex ship

A legal term in older sales and some newer contracts meaning the seller will be responsible for the LNG until it is delivered to a specified port. The International Chamber of Commerce now recommends using the alternative terms of "[delivered at place](#)" or "[delivered at terminal](#)." See also [cost, insurance and freight](#).

Department of Energy

A [federal department](#) [5] that authorizes exports of natural gas, in addition to multiple other duties. Export authorization is granted automatically to countries with which the United States has [free-trade agreements](#) covering natural gas. Most countries that import LNG do not have such free-trade agreements with the United States. Applications to export to these countries undergo a review to determine whether the exports would be in the public interest. Opponents have the burden of demonstrating the exports would be against the nation's interest.

DES

See [delivered ex ship](#).

Destination clause

A legal agreement between an LNG seller and buyer that requires the cargo to be delivered to a specified destination. This protects both the seller and buyer. The seller is assured the buyer won't reroute the LNG shipment to a high-priced destination where the gas could compete with other shipments from the seller. The buyer is assured the seller won't reroute deliveries to another customer.

Dry gas

Natural gas either lacking gas liquids, water and inert components such as carbon dioxide, or for which the liquids, water and inerts have been removed. Methane is dry gas. In North America, pipeline gas is dry gas.

Engineering, procurement and construction

An agreement between a developer and a contractor that covers work through construction. Separate EPC contracts might cover different parts of an LNG project, such as one for a gas treatment plant, another for a pipeline and a third for an LNG plant.

EPC

See [engineering, procurement and construction](#).

Ethane

The simplest natural gas liquid found in a natural gas stream. Ethane has more carbon and hydrogen atoms than methane — the form of natural gas piped to North American furnaces and power plants — but fewer carbon and hydrogen atoms than propane, butane and heavier gas liquids. Ethane will change from vapor to liquid at temperatures below minus 126 degrees Fahrenheit or at pressures above about 800 pounds per square inch. Ethane is a petrochemical-industry feedstock used in producing plastics, anti-freeze and detergents, among other products.

Ex ship

A contract term signifying that the selling price includes all charges incurred up to the point of delivery to the buyer's import terminal. Similar but not identical to [*cost, insurance and freight*](#).

Federal Energy Regulatory Commission

An [independent U.S. government agency](#) [6] that regulates interstate transmission of natural gas, oil and electricity. Its oversight also includes the siting, construction, operation and safety of interstate gas pipelines and liquefied natural gas import and export plants.

FEED

See [*front-end engineering and design*](#).

Feedstock gas, or feed gas

Gas that is used as the raw material for a liquefied natural gas plant or for a petrochemical plant.

FERC

See [*Federal Energy Regulatory Commission*](#).

FID

See [*final investment decision*](#).

Final investment decision

A decision by an LNG project developer to go ahead and build the project. This step typically occurs after detailed design and engineering is finalized, financing has been arranged and long-term buyers for most of the gas have been secured.

FLNG

See [*floating liquefied natural gas*](#).

Floating liquefied natural gas

A form of LNG production where the LNG plant is offshore rather than onshore. This is a new production concept and technology [7], tried for the first time in the 2010s. FLNG is aimed at bringing to market natural gas reservoirs stranded far from shore that otherwise would go undeveloped, as well as at simplifying environmental and other permitting for a project by moving production offshore. The FLNG vessel would produce, liquefy and store the gas, loading it aboard tankers for delivery to customers.

Floating LNG

See [floating liquefied natural gas](#).

Floating storage and regasification unit

An LNG receiving terminal located offshore — typically close to shore. The LNG is received, stored and warmed back into a vapor then piped ashore. Sometimes FSRUs can be less expensive to build and faster to permit than an onshore LNG receiving terminal.

FOB

See [free on board](#).

Force majeure

A common term that releases one side from the obligation to fulfill contract terms due to an unanticipated or uncontrollable event, such as a war, strike, riot, terrorism act, sabotage, flood, earthquake, etc.

Free on board

An LNG sales and purchase contract term that says the buyer acquires the gas at the LNG plant and is responsible for shipping.

Free-trade agreement

The United States negotiates free-trade agreements with nations to reduce barriers to U.S. exports. When the trade agreement requires "national treatment for trade in natural gas," applications to export U.S. LNG to that partner country get automatic [Department of Energy](#) approval. Applications to export LNG to non-FTA destinations get more rigorous scrutiny on how the exports could [affect U.S. national interests](#) [5]. The United States has FTAs for natural gas with Canada, Mexico and over a dozen other nations. However, it does not have such FTAs with most major LNG importers, including Japan, China and Western European nations.

Front-end engineering and design

The stage where the detailed design and environmental work is done so that a project developer can make a [final investment decision](#) and let the contract for [engineering, procurement and construction](#).

FSRU

See [floating storage and regasification unit](#).

Gas cap

A layer of gas that lies above, and pressurizes, the oil zone in some oil and gas reservoirs. In such reservoirs, the oil typically is produced first, and any gas that comes up the wells gets reinjected into the gas cap to bolster the reservoir's pressure so that more oil will flow to wells.

Gas condensate

See [condensate](#).

Gas cycling

A production technique for oil and gas fields in which the produced oil is marketed but the produced gas is returned underground to help pressure more oil up the wells. Cycling also is used when gas [condensate](#) is present, such as at Alaska's Point Thomson field, to maintain a high enough pressure to keep the condensate from becoming a liquid within the reservoir.

Gas-to-liquids

A highly technical and capital intensive operation [8] in which methane is processed into such products as low-sulfur diesel, jet fuel and heating oil that typically are refined from crude oil.

Gas treatment plant (GTP)

A plant, usually located near a gas field, that cleanses raw produced gas of water, carbon dioxide and other impurities to prepare the gas for transport to market.

Greenfield

A project that is built on a previously undeveloped or minimally developed site. Compare with [brownfield](#).

Heads of agreement

A non-binding preliminary agreement that outlines main issues to be settled for the sale and purchase of LNG. An HOA guides both parties in negotiating a final [sales and purchase agreement](#).

Henry Hub

A major gas pipeline intersection in Erath, La., that is the most widely used reference point or benchmark for U.S. natural gas prices. Henry Hub is the New York Mercantile Exchange's official delivery point for its gas futures contracts.

HOA

See [heads of agreement](#).

Hydrostatic testing

A means of testing a new gas pipeline for strength and leaks before start-up. Under U.S. safety regulations, new gas pipelines [must be tested](#) [9] with heavily pressurized water or other liquids, air, natural gas or inert gas. Typically in hydrostatic testing, the pipeline is filled with water which then is gradually pressurized until the pressure exceeds the [maximum allowed for the pipeline](#).

Indexation

The tying of the contract price for a commodity, such as LNG, to the published price of another commodity or index. For LNG, the price often is linked to a certain percentage of the prevailing crude oil price, such as the [Japan customs-cleared crude](#) or the price of an oil product.

Japan crude cocktail

A colloquial term for [Japan customs-cleared crude](#), a price average used in setting oil-indexed LNG prices.

Japan customs-cleared crude

A statistic of the average monthly price for imported crude oil to Japan. LNG prices in Japan typically are a percentage of this average.

Japan-Korea Marker (JKM)

An LNG price benchmark published by Platts since 2009 and based on the spot-market LNG import price in Japan and South Korea. Platts considers establishing a reliable benchmark to be a crucial step in developing financial-market trading of LNG.

JCC

See [Japan crude cocktail](#) and [Japan customs-cleared crude](#).

Liquefaction

An industrial process that cools methane until the temperature hits minus 260 Fahrenheit, at which point the methane changes from vapor to liquid. The liquid methane occupies 1/600th the space of vaporous methane, making it more efficient to ship to market on special tankers that keep the methane cold.

Liquefied natural gas

A liquid form of methane achieved by superchilling vaporous methane to minus 260 Fahrenheit. LNG takes up 1/600th the volume of vaporous methane, making it more economical to ship across oceans. At the destination port, the LNG is offloaded into storage and warmed back into a vapor as needed for distribution to homes, businesses or other consumers.

Liquefied petroleum gas, liquid petroleum gas

A mixture of two natural gas liquids: propane and butane. LPG is used globally in transportation, commercial and industrial businesses, farming, and residential heating and cooking.

LNG

See [liquefied natural gas](#).

Local distribution company

A business that distributes and retails natural gas to homes and businesses within a community.

LPG

See [liquefied petroleum gas](#).

MAOP

See [maximum allowable operating pressure](#).

Maximum allowable operating pressure

A gas pipeline safety standard that limits the degree to which natural gas may be pressurized within the line, based on the pipe's strength, purpose, proximity to homes and businesses, and other factors.

Mcf

One thousand cubic feet of natural gas. For further definition, see [billion cubic feet](#).

MMcf

One million cubic feet of natural gas. For further definition, see [billion cubic feet](#).

Methane

The simplest hydrocarbon — one carbon atom and four hydrogen atoms — and the main constituent of natural gas. Its primary use worldwide is as a heating fuel and a power-generation fuel.

Metric ton

1,000 kilograms, or 2,204.6 pounds. An LNG plant's annual capacity and output — and the capacity of LNG receiving terminals — usually are denoted in units of [million metric tons](#). A metric ton sometimes is called a "tonne." A metric ton differs from a ton or short ton (2,000 pounds), and a long ton (2,240 pounds).

Million metric tons per year

See [million tonnes per annum](#).

Million tonnes per annum

One million metric tons of LNG a year, a standard unit used to describe an LNG export plant or receiving terminal's capacity. One million metric tons of LNG equals 48.7 billion cubic feet of natural gas once the LNG is converted back into a vapor. For example, a 15 million tonne LNG plant could liquefy the equivalent of 730 billion cubic feet of natural gas each year, or an average of 2 bcf a day.

Mtpa

See [million tonnes per annum](#).

National Balancing Point

A virtual trading hub for gas buyers and sellers in the United Kingdom. For pricing purposes, all gas in the country is deemed to flow through the NBP even though, unlike the U.S.'s Henry Hub, it is not an actual physical location. The NBP is Europe's most active trading hub for gas, and some LNG contracts use the NBP price in their pricing formulas.

National Environmental Policy Act

A U.S. law that mandates federal agencies understand and disclose the environmental consequences of their decisions. The term "environmental impact statement" is derived from NEPA. An Alaska LNG export project or major North Slope gas pipeline would need a NEPA review before receiving federal approvals.

Natural gas

A naturally occurring mixture of combustible hydrocarbons and inert non-hydrocarbons, existing as vapors or as solution in crude oil, inside underground reservoirs. The main hydrocarbon present typically is methane, but ethane, propane, butane and other [natural gas liquids](#) also can be present in

smaller volumes. The non-hydrocarbon molecules can include carbon dioxide, hydrogen sulfide, nitrogen and helium.

Natural gas liquids

Ethane, propane, butane, pentane and other liquid hydrocarbons extracted from field gas. Each of these has its own market.

Netback value

The price of natural gas at its destination market minus the cost of transporting the gas there. For example, an LNG cargo load that sells for \$15 per million Btu in Asia and that costs \$4 per million Btu to treat and pipe to an LNG plant, \$4 to liquefy and \$2 to ship from the LNG plant carries a netback value of \$5. This netback sometimes is called the "wellhead price."

NEPA

See [National Environmental Policy Act](#).

NGL

See [natural gas liquids](#).

Non-associated gas

Natural gas in underground reservoirs that do not contain oil. Most [conventional gas](#) production in North America involves non-associated gas — that is gas not associated with oil production.

Off-take

The acquisition and removal of gas from a pipeline or LNG plant. For example, under [AGIA](#), the pipeline for the producer-led Alaska LNG export project [1] would feature at least five off-take points where in-state utilities, mines or other larger-volume buyers could obtain gas for local use.

Oil indexation

See [indexation](#).

Open season

A period when a pipeline owner or developer offers capacity to potential gas shippers. The potential shippers bid for space, after which the two sides negotiate terms in an effort to reach a final contract for use of the pipeline.

Peak-shaving plant

A small plant, often owned by a local utility, that liquefies pipeline gas and stores the LNG during the off-season so that supplemental gas is available when demand peaks during winter.

Permafrost

Soil that is continuously frozen for at least one year. Much of an Alaska North Slope gas pipeline would be buried in permafrost or soils where permafrost is intermittent.

Petrochemicals

Chemicals made from natural gas or oil. While most petroleum products are used for energy, a small percentage of gas and oil gets processed into chemicals used in making many thousands of products, from plastics to automobile parts, clothing, furniture and on and on.

Petrochemicals feedstock

The raw materials derived from natural gas that the petrochemical industry uses to make its products. For example, methane can be processed to make ammonia used in fertilizers and medicines, and ethane can be processed to make polyethylene used in plastics and insulation.

PHMSA

See [*Pipeline and Hazardous Materials Safety Administration*](#).

Pipeline and Hazardous Materials Safety Administration

A U.S. agency that regulates the safe construction and operation of oil and gas transmission pipelines.

Pre-FEED

Pre-front-end engineering and design is an early stage in which the developer decides what kind of project might be undertaken and does preliminary engineering and marketing work to get a sense of the project's economics. See also [*front-end engineering and design*](#).

Production sharing contract

An agreement between an oil or gas developer and the resource owner — usually a government — in which the developer gets the right to explore and develop a prospect over a fixed time period. The agreement allows the developer to keep some of the produced oil and gas, or allows it to recover its costs and a certain profit.

Project financing

A method of financing large-scale construction projects — such as an LNG plant or gas pipeline. The infrastructure to be built is pledged as collateral. Only cash flow from the project — not other assets of the developer — is used to repay principal and interest.

Proved reserves

The estimated quantities of natural gas or oil that geological and engineering data demonstrate with reasonable certainty to be recoverable from known reservoirs under existing economic and operating conditions

Refrigerants

Substances used to lower the temperature of vaporous methane — through a series of cycles — until the methane temperature reaches minus 260 degrees Fahrenheit, at which point it liquefies and becomes LNG. Many varieties of refrigerants can be used, from ethane and propane to such nonflammable elements as nitrogen.

Regasification

The warming of LNG back into a vapor so that it can be piped to its ultimate users.

Regasification plant

A plant at an LNG receiving terminal that retrieves LNG from storage tanks and warms it back into a vapor for delivery to a pipeline system.

Rich gas

Natural gas that contains more than trace amounts of such gas liquids as ethane, propane, butane and pentane. Also known as "wet gas" because of the presence of these liquids. Rich gas has a higher Btu content than dry gas.

Royalty gas

The gas-resource owner's share of what the leaseholder/developer produces. Typically the land owner can take the gas and market it, called "in-kind gas," or have the producer sell the royalty gas and pay the proceeds to the land owner, called "in-value gas." See also [production sharing contract](#).

Sales and purchase agreement (SPA)

A contract between a seller and buyer for a specified quantity of LNG, delivered over a specified period at a specified price. See also [heads of agreement](#).

SC LNG

See [Alaska Southcentral LNG project](#).

Send-out capacity

The volume that an LNG plant or LNG regasification terminal can deliver over a specific period of time. See also [million tonnes per annum](#).

Ship or pay

A contract term that requires a gas shipper to pay a penalty if it fails to move the required volumes of gas down a pipeline. This ensures some cash flow for a pipeline developer that has incurred significant infrastructure costs. See also [take or pay](#).

Spot-market gas

Gas that is bought for immediate delivery, rather than under long-term (five-plus years) or short-term (less than five years) contracts. Although most LNG shipments occur under long-term contracts, two prime drivers have boosted the volume of spot-market LNG. First, a greater prevalence of contract terms that allow shipments earmarked for a specific destination to be diverted elsewhere. Second, a greater need for supplemental supplies of LNG due to unexpected surges in demand, such as in Japan after the 2011 Fukushima disaster prompted the shutdown of nuclear-power generation. See [destination clause](#).

Take or pay

A common contract term between a buyer and seller of gas in which the buyer agrees to receive a certain amount of gas or pay a penalty. This protects a gas pipeline or LNG plant owner from cash flow problems after incurring significant cost in building the infrastructure. See also [ship or pay](#).

Tariff

A fee charged for a service provided to get natural gas to market. For example, a pipeline tariff is the fee the pipeline owner charges for shipping gas through the line. In the LNG industry, other such fees — sometimes called tariffs — can be charged for liquefaction, regasification, shipping and port services.

Tcf

See [trillion cubic feet](#).

Tcm

See [trillion cubic meters](#).

Tolling model

An LNG value-chain structure in which the liquefaction plant is independent from the gas producers. The plant merely provides liquefaction services on someone else's gas for a fee, or "toll." Some planned U.S. LNG export plants intend to use a tolling model. Tolling differs from the normal model in which LNG plants are owned and operated by the same companies that own the gas resources, be they multinational petroleum companies or state-owned national oil and gas producers.

Tonne

A [metric ton](#), or 2,204.6 pounds.

Train (liquefaction train)

An LNG production unit at an export terminal. Each train can take feedstock gas and chill it to minus 260 Fahrenheit to make LNG. Most LNG terminals have more than one train operating at the same time, each producing a stream of LNG.

Trillion cubic feet

A natural gas industry term for the amount of gas in a field's reserves or an amount of gas produced or consumed, usually on an annual basis. A standard cubic foot of natural gas is the amount of gas within a cubic foot at 60 degrees Fahrenheit and at atmospheric pressure (about 14.7 pounds per square inch). See also [trillion cubic meters](#).

Trillion cubic meters

A natural gas industry term for the amount of gas in a field's reserves. A standard cubic meter of natural gas is the amount of gas within a cubic meter at 59 degrees Fahrenheit and pressurized at 100 kilopascals (about 14.5 pounds per square inch). A cubic meter of gas equals 35.3 cubic feet. See also [trillion cubic feet](#).

Unconventional gas

Natural gas that is harder and more expensive to produce than [conventional gas](#) because it is not concentrated in discrete reservoirs but rather spread over vast areas, often in rock layers that are relatively non-porous and non-permeable so that the gas doesn't flow to wells as freely. Shale gas and coal-bed methane are examples of unconventional gas. New technologies have been developed and refined to improve the economics of producing from unconventional plays; these include horizontal drilling to expose more of the play to an individual well and hydraulic fracturing, or fracking, to blast open the rock so that more gas flows to a well.

Wet gas

Natural gas that contains more than trace amounts of such gas liquids as ethane, propane, butane and pentane. Also known as "rich gas." See also [dry gas](#).

Links:

[1] <http://www.arcticgas.gov/alaska-Ing-project>

[2] <http://www.agdc.us>

[3] <http://www.arcticgas.gov/small-alaska-agency-has-say-producing-north-slope-gas>

[4] <http://www.agdc.us/>

[5] <http://energy.gov/fe/articles/department-energys-role-liquefied-natural-gas-export>

[6] <http://ferc.gov/>

[7] <http://www.arcticgas.gov/flng-drops-anchor-industry-moves-production-offshore>

[8] <http://www.arcticgas.gov/can-gas-liquids-technology-get-traction>

[9] <http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=96be209828387dc5ff49d7593a141470&rgn=div6&view=text&node=49:3.1.1.1.8.10&idno=49>

[10] <mailto:kelliott@arcticgas.gov>

[11] <http://www.arcticgas.gov/glossary>

Natural Gas Conversions

<i>Convert from</i>	<i>Convert to</i>		
	Billion cubic feet (vapor)	Billion cubic meters (vapor)	Million tonnes LNG
	<i>Multiply by</i>		
<i>1 billion cubic feet</i>	1	0.028	0.021
<i>1 billion cubic meters</i>	35.3	1	0.74
<i>1 million tonnes LNG</i>	48.7	1.36	1

LNG Tanker and Storage Volumes

<i>Convert from</i>	<i>Convert to</i>		
	Cubic feet (vapor)	Cubic meters (vapor)	Tonnes LNG
	<i>Multiply by</i>		
<i>1 cubic meter LNG</i>	20,631	584	0.423