

# Glossary

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W

**W:** See [Watt](#)

**WACOG:** Weighted Average Cost of Gas

**Wafer:** A thin sheet of semiconductor (photovoltaic material) made by cutting it from a single crystal or ingot.

**Walk-in refrigeration units:** Refrigeration/freezer units within a building that are large enough to walk into. They may be portable or permanent, such as a meat storage locker in a butcher store. Walk-in units may or may not have a door, plastic strips, or other flexible covers.

**Wall insulation:** Insulating materials within or on the walls between heated areas of the building and unheated areas or the outside. The walls may separate air-conditioned areas from areas not air-conditioned.

**Warm-air furnace:** See [Furnace](#).

**Warranty contracts:** Gas purchase agreements for the sale of natural gas by a producer to a pipeline company wherein the producer warrants it will have available sufficient gas supplies to meet its commitments over the life of the contract. Generally, the producer does not dedicate gas reserves underlying any specific acreage, lease, or fields to the agreement. Substitution of various sources of gas supply may be permitted according to the terms of the contract. Warranty contracts, by their terms, may vary from the above.

**Waste:** See [Biomass waste](#) and [Non-biomass waste](#).

**Waste coal:** Usable material that is a byproduct of previous coal processing operations. Waste coal is usually composed of mixed coal, soil, and rock (mine waste). Most waste coal is burned as-is in unconventional fluidized-bed combustors. For some uses, waste coal may be partially cleaned by removing some extraneous noncombustible constituents. Examples of waste coal include fine coal, coal obtained from a refuse bank or slurry dam, anthracite culm, bituminous gob, and lignite waste.

**Waste energy:** Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw used as fuel.

**Waste heat boiler:** A boiler that receives all or a substantial portion of its energy input from the combustible exhaust gases from a separate fuel-burning process.

**Waste heat recovery:** Any conservation system whereby some space heating or water heating is done by actively capturing byproduct heat that would otherwise be ejected into the environment. In commercial buildings, sources of water- heat recovery include refrigeration/air-conditioner compressors, manufacturing or other processes, data processing centers, lighting fixtures, ventilation exhaust air, and the occupants themselves. Not to be considered is the passive use of radiant heat from lighting, workers, motors, ovens, etc., when there are no special systems for collecting and redistributing heat.

**Waste materials:** Otherwise discarded combustible materials that, when burned, produce energy for such purposes as space heating and electric power generation. The size of the waste may be reduced by shredders, grinders, or hammermills. Noncombustible materials, if any, may be removed. The waste may be dried and then burned, either alone or in combination with fossil fuels.

**Waste oils and tar:** Petroleum-based materials that are worthless for any purpose other than fuel use.

**Wastewater, domestic and commercial:** Wastewater (sewage) produced by domestic and commercial establishments.

**Wastewater, industrial:** Wastewater produced by industrial processes.

**Water bed heater:** An appliance that uses an electric resistance coil to maintain the temperature of the water in a water bed at a comfortable level.

**Water conditions:** The status of the water supply and associated water in pondage and reservoirs at hydroelectric plants.

**Water heated in furnace:** Some furnaces provide hot water as well as heat the home. The water is heated by a coil that is part of the furnace. There is no separate hot water tank.

**Water heater:** An automatically controlled, thermally insulated vessel designed for heating water and storing heated water at temperatures less than 180 degrees Fahrenheit.

**Water heating DSM programs:** These are demand-side management (DSM) programs designed to promote increased efficiency in water heating, including water heater insulation wraps.

**Water heating equipment:** Automatically controlled, thermal insulated equipment designed for heating and storing heated water at temperatures less than 180 degrees Fahrenheit for other than space heating purposes.

**Water pollution abatement equipment:** Equipment used to reduce or eliminate water borne pollutants, including chlorine, phosphates, acids, bases, hydrocarbons, sewage, and other pollutants. Examples of water pollution abatement structures and equipment include those used to treat thermal pollution; cooling, boiler, and cooling tower blowdown water; coal pile runoff; and fly ash waste water. Water pollution abatement excludes expenditures for treatment of water prior to use at the plant.

**Water pumping:** Photovoltaic modules/cells used for pumping water for agricultural, land reclamation, commercial, and other similar applications where water pumping is the main use.

**Water reservoir:** A large inland body of water collected and stored above ground in a natural or artificial formation.

**Water source heat pump:** A type of (geothermal) heat pump that uses well (ground) or surface water as a heat source. Water has a more stable seasonal temperature than air thus making for a more efficient heat source.

**Water turbine:** A turbine that uses water pressure to rotate its blades; the primary types are the Pelton wheel, for high heads (pressure); the Francis turbine, for low to medium heads; and the Kaplan for a wide range of heads. Primarily used to power an electric generator.

**Water vapor:** Water in a vaporous form, especially when below boiling temperature and diffused (e.g., in the atmosphere).

**Water well:** A well drilled to (1) obtain a water supply to support drilling or plant operations, or (2) obtain a water supply to be used in connection with an improved recovery program.

**Water wheel:** A wheel that is designed to use the weight and/or force of moving water to turn it, primarily to operate machinery or grind grain.

**Waterway:** A river, channel, canal, or other navigable body of water used for travel or transport.

**Watt (W):** The unit of electrical power equal to one ampere under a pressure of one volt. A Watt is equal to 1/746 horse power.

**Wathour (Wh):** The electrical energy unit of measure equal to one watt of power supplied to, or taken from, an electric circuit steadily for one hour.

**Wattmeter:** A device for measuring power consumption.

**Wax:** A solid or semi-solid material consisting of a mixture of hydrocarbons obtained or derived from petroleum fractions, or through a Fischer-Tropsch type process, in which the straight-chained paraffin series predominates. This includes all marketable wax, whether crude or refined, with a congealing point (ASTM D 938) between 100 and 200 degrees Fahrenheit and a maximum oil content (ASTM D 3235) of 50 weight percent.

**Weather stripping or caulking:** Any of several kinds of crack-filling material around any windows or doors to the outside used to reduce the passage of air and moisture around moveable parts of a door or window. Weather stripping is available in strips or rolls of metal, vinyl, or foam rubber and can be applied on the inside or outside of a building.

**Weir:** A dam in a waterway over which water flows and that serves to raise the water level or to direct or regulate flow.

**Well:** A hole drilled in the earth for the purpose of:

1. finding or producing [crude oil](#) or [natural gas](#); or
2. producing services related to the production of crude or natural gas.

**Well water for cooling:** A means of cooling that uses water from a well drilled specifically for that purpose. The subterranean temperature of the water stays at a relatively constant temperature. Where water is abundant, it provides a means of getting 55-degree Fahrenheit water with no mechanical cooling. Used usually for heat rejection in a water source heat pump.

**Wellhead:** The point at which the crude (and/or natural gas) exits the ground. Following historical precedent, the volume and price for crude oil production are labeled as "wellhead," even though the cost and volume are now generally measured at the lease boundary. In the context of domestic crude price data, the term "wellhead" is the generic term used to reference the production site or lease property.

**Wellhead price:** The value at the mouth of the well. In general, the wellhead price is considered to be the sales price obtainable from a third party in an arm's length transaction. Posted prices, requested prices, or prices as defined by lease agreements, contracts, or tax regulations should be used where applicable.

**West Texas Intermediate (WTI - Cushing):** A crude stream produced in Texas and southern Oklahoma which serves as a reference or "marker" for pricing a number of other crude streams and which is traded in the domestic spot market at Cushing, Oklahoma.

**Wet bottom boiler:** Slag tanks are installed usually at the furnace throat to contain and remove molten ash.

**Wet natural gas:** A mixture of hydrocarbon compounds and small quantities of various non hydrocarbons existing in the gaseous phase or in solution with crude oil in porous rock formations at reservoir conditions. The principal hydrocarbons normally contained in the mixture are methane, ethane, propane, butane, and pentane. Typical nonhydrocarbon gases that may be present in reservoir natural gas are water vapor, carbon dioxide, hydrogen sulfide, nitrogen and trace amounts of helium. Under reservoir conditions, natural gas and its associated liquefiable portions occur either in a single gaseous phase in the reservoir or in solution with crude oil and are not distinguishable at the time as separate substances. *Note:* The Securities and Exchange Commission and the Financial Accounting Standards Board refer to this product as **natural gas**.

**Wh:** See [Watthour](#)

**Wheeling charge:** An amount charged by one electrical system to transmit the energy of, and for, another system or systems.

**Wheeling service:** The movement of electricity from one system to another over transmission facilities of interconnecting systems. Wheeling service contracts can be established between two or more systems.

**White spirit:** A highly refined distillate with a boiling point range of about 150 degrees to 200 degrees Centigrade. It is used as a paint solvent and for dry-cleaning purposes.

**Whole-house cooling fan:** A mechanical/electrical device used to pull air out of an interior space; usually located in the highest location of a building, in the ceiling, and venting to the attic or directly to the outside.

**Wholesale competition:** A system whereby a distributor of power would have the option to buy its power from a variety of power producers, and the power producers would be able to compete to sell their power to a variety of distribution companies.

**Wholesale electric power market:** The purchase and sale of electricity from generators to resellers (retailers), along with the ancillary services needed to maintain reliability and power quality at the transmission level.

**Wholesale power market:** The purchase and sale of electricity from generators to resellers (who sell to retail customers), along with the ancillary services needed to maintain reliability and power quality at the transmission level.

**Wholesale price:** The rack sales price charged for No. 2 heating oil; that is, the price charged customers who purchase No. 2 heating oil free-on-board at a supplier's terminal and provide their own transportation for the product.

**Wholesale sales:** Energy supplied to other electric utilities, cooperatives, municipals, and Federal and state electric agencies for resale to ultimate consumers.

**Wholesale transmission services:** The transmission of electric energy sold, or to be sold, in the wholesale electric power market.

**Wholesale wheeling:** An arrangement in which electricity is transmitted from a generator to a utility through the transmission facilities of an intervening system.

**Wi:** Withheld to avoid disclosure of individual company data.

**Wind energy:** Kinetic energy present in wind motion that can be converted to mechanical energy for driving pumps, mills, and electric power generators.

**Wind energy conversion system (WECS) or device:** An apparatus for converting the energy available in the wind to mechanical energy that can be used to power machinery (grain mills, water pumps) and to operate an electrical generator.

**Wind farm:** See [Wind power plant](#).

**Wind power plant:** A group of wind turbines interconnected to a common utility system through a system of transformers, distribution lines, and (usually) one substation. Operation, control, and maintenance functions are often centralized through a network of computerized monitoring systems, supplemented by visual inspection. This is a term commonly used in the United States. In Europe, it is called a generating station.

**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.

**Wires charge:** A broad term referring to fees levied on power suppliers or their customers for the use of the transmission or distribution wires.

**Wood conversion to Btu:** Converting cords of wood into a Btu equivalent is an imprecise procedure. The number of cords each household reports having burned is in exact, even with the more precise drawings provided, because the estimate requires the respondent to add up the use of wood over a 12-month period during which wood may have been added to the supply as well

as removed. Besides errors of memory inherent in this task, the estimates are subject to problems in definition and perception of what a cord is. The nominal cord as delivered to a suburban residential buyer may differ from the dimensions of the standard cord. This difference is possible because wood is most often cut in lengths that are longer than what makes a third of a cord (16 inches) and shorter than what makes a half cord (24 inches).

In other cases, wood is bought or cut in unusual units (for example, pickup-truck load, or trunk load). Finally, volume estimates are difficult to make when the wood is left in a pile instead of being stacked. Other factors that make it difficult to estimate the Btu value of the wood burned is that the amount of empty space between the stacked logs may vary from 12 to 40 percent of the volume. Moisture content may vary from 20 percent in dried wood to 50 percent in green wood. (Moisture reduces the useful Btu output because energy is used in driving off the moisture). Finally, some tree species contain twice the Btu content of species with the lowest Btu value. Generally, hard woods have greater Btu value than soft woods. Wood is converted to Btu at the rate of 20 million Btu per cord, which is a rough average that takes all these factors into account. Also see [Btu conversion factors](#).

**Wood energy:** Wood and wood products used as fuel, including round wood (cord wood), limb wood, wood chips, bark, saw dust, forest residues, charcoal, pulp waste, and spent pulping liquor.

**Wood pellets:** Saw dust compressed into uniform diameter pellets to be burned in a heating stove.

**Working gas:** The quantity of natural 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. Volumes of working gas are reported in thousand cubic feet at standard temperature and pressure.

**Working gas capacity:** The amount of total [natural gas storage](#) capacity that can be used to store natural gas available for withdrawal.

**Working interest:** An interest in a mineral property that entitles the owner of that interest to all or share of the mineral production from the property, usually subject to a royalty. A working interest permits the owner to explore, develop, and operate the property. The working-interest owner bears the costs of exploration, development, and operation of the property and, in return, is entitled to a share of the mineral production from the property or to a share of the proceeds there from. It may be assigned to another party in whole or in part, or it may be divided into other special property interests.

- Gross working interest. The reporting company's working interest plus the proportionate share of any basic royalty interest or overriding royalty interest related to the working interest.
- Net working interest. The reporting company's working interest is not including any basic royalty or overriding royalty interests.

**Working storage capacity:** The difference in volume between the maximum safe fill capacity and the quantity below which pump suction is ineffective (bottoms).

**WTI:** West Texas Intermediate

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**Thank You.** We welcome your comments or suggestions (*optional*).

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