

# Appendix J

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## Glossary

**Anthracite coal**—The highest ranked coal, used primarily for residential and commercial space heating. It is a hard, brittle, and black lustrous coal, often referred to as hard coal, containing a high percentage of fixed carbon and a low percentage of volatile matter.

**Barrel (bbl)**—Liquid unit of volume measure equal to 42 U.S. gallons, commonly used in expressing quantities of petroleum or petroleum products.

**Biofuels**—Liquids derived from non-fossil biomass energy sources through chemical, thermal, and biological processes and used to produce thermal energy or electricity. Examples are fuel wood, waste wood, garbage, and crop waste. Different mixes of biofuels are used by each consuming sector. The residential sector burns wood for space heating. The transportation sector uses ethanol as an additive to motor gasoline and biodiesel blended with diesel fuel. Some electric generation uses wood or municipal waste as co-firing or primary fuels.

**Bituminous coal**—Often referred to as “soft coal,” is more volatile than anthracite, and has a higher heat content than lignite. It has a heating value of 11,450–13,010 Btu per pound and is the most commonly used coal.

**British thermal unit (Btu)**—The quantity of heat necessary to raise the temperature of one pound of water one-degree Fahrenheit. Because different energy types use different standards of measurement, this unit provides a common denominator for quantifying all types of energy on an equivalent energy content basis. One Btu is equal to 252 calories of heat energy.

**Coke**—A solid carbonaceous residue derived from low-ash, low-sulfur bituminous coal. The volatile constituents are driven off by baking in an oven at temperatures as high as 2,000 degrees Fahrenheit so that the fixed carbon and residual ash are fused together. Coke is used as a fuel and as a reducing agent in smelting iron ore in a blast furnace.

**Combined heat and power (CHP)**—Includes plants designed to produce both heat and electricity from a single heat source.

**Commercial sector**—The part of the energy-using sector of the economy that engages primarily in providing goods and services other than manufacturing. The commercial sector includes both private and public entities, and is made up of apartment and office buildings, governmental units, schools, institutions, churches, hotels, restaurants, and retail stores.

**Constant Dollars**—Values that have been adjusted to remove the effect of changes in inflation. The price paid for a product or service in the present value of the constant dollar year. Also referred to as real dollars.

**Cord of wood**—A cord of wood measures 4 feet by 4 feet by 8 feet, or 128 cubic feet.

**Crude oil**—A mixture of hydrocarbons that exists in the liquid phase in natural underground reservoirs. Refined crude oil produces several different fuels, including residual fuel, motor gasoline, and distillate fuels.

**Degree-days, cooling**—A measure of temperature as it affects energy demand for space cooling. It is similar to heating degree-days, although the relationship is not as precise. If the average of a day's high and low temperature extremes is below 65°F, then the cooling degree-days for that day are zero; otherwise, they are equal to the difference between the average and 65°F.

**Degree-days, heating**—A measure of temperature as it affects energy demand for space heating. It is based on the fact that most buildings require no heat to maintain an inside temperature of at least 70°F when the daily mean is 65°F or higher. If the average of a day's high and low temperature extremes is more than 65°F, the heating degree-days for that day are taken to be zero; otherwise, they are equal to the difference between the average and 65°F. Note that a higher number of heating degree-days implies cooler temperatures.

**Dekatherm**—One dekatherm equals 10 therms or 1,000,000 Btu. Unit commonly used to measure amount of natural gas, based on its heat content in Btu rather than its volume in cubic feet.

**Distillate fuel**—A general classification for one of the petroleum fractions produced in conventional distillation operations. It includes diesel fuels and fuel oils. Products known as No. 1, No. 2, and No. 4 diesel fuel are used in on-highway diesel engines, such as in trucks and automobiles, as well as off-highway engines, such as in railroad locomotives and agricultural machinery. Products known as No. 1, No. 2, and No. 4 fuel oils are used primarily for space heating and electric power generation.

**Electric generation**—Includes both publicly and privately-owned generating plants in the State.

**End-use**—Any ultimate consumption of any type of energy source including fossil fuels (petroleum, coal, natural gas) or electricity, whether generated by fossil fuel or other energy source. End-users are often classified by economic sector, such as residential, commercial, industrial, and transportation.

**Feedstock**—The raw material furnished to a machine or industrial process. Fossil fuels sometimes are used as feedstocks for their chemical properties, rather than their energy value (e.g., oil used to produce plastics and synthetic fabrics).

**Gallon (gal)**—A unit of volume, the U.S. gallon contains 3.785 liters and is 0.083 times the imperial gallon. Also equal to 4 quarts (231 cubic inches), commonly used to measure petroleum products such as gasoline and heating oil. One U.S. gallon of water weighs 8.3 pounds.

**Geothermal energy**—Thermal energy generated and stored in the Earth. Water or steam extracted from geothermal reservoirs can be used for geothermal heat pumps, water heating, or electricity generation.

**Gigawatt (GW)**—One million kilowatts, or one billion watts.

**Gigawatt-hour (GWh)**—One million kilowatt-hours, or one billion watt-hours. Unit of measure for amount of electricity generated or used.

**Hydro**—A prefix used to identify a type of generating station, power, or energy output in which the prime energy source is water.

**Hydrocarbon gas liquids (HGL):** Represents propane in Patterns & Trends. A group of hydrocarbons including ethane, propane, normal butane, isobutane, and natural gasoline. This includes the associated olefins, including ethylene, propylene, butylene, and isobutylene. This group excludes liquified natural gas.

**Industrial Sector**—That section of the energy-using economy involved in or associated with either mining, construction, or manufacturing.

**Jet fuel**—Includes both naphtha- and kerosene-type jet fuels that meet standards for use in aircraft turbine engines. Some jet fuel is used for generating electricity in gas turbines.

**Kerosene**—A petroleum middle distillate with burning properties suitable for use as an illuminant when burned in wick lamps. Kerosene also is used in space heaters, cooking stoves, and water heaters as well as to reduce viscosity of distillate fuels during winter.

**Kilowatt (kW)**—One thousand watts. A unit of power, usually used for electricity.

**Kilowatt-hour (kWh)**—The amount of electrical energy involved with a one-kilowatt demand over a period of one hour. One kilowatt-hour is equivalent to 3,412 Btu.

**Mcf**—One thousand cubic feet. Measure of volume commonly used for natural gas.

**Megawatt (MW)**—One thousand kilowatts or one million watts.

**Megawatt hour (MWh)**—One thousand kilowatt-hours, or one million watt-hours.

**Metric Ton**—A unit of weight equal to approximately 2,204 pounds.

**Motor gasoline**—A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives that have been blended to form a fuel suitable for use in spark-ignition engines. Leaded and unleaded refinery products are included.

**Natural gas**—An odorless, colorless, tasteless, non-toxic clean-burning fossil fuel, widely used to generate electricity and used directly by end-use customers to provide space heat, water heating, and cooking.

**Naphtha**—A general term applied to a petroleum fraction with an approximate boiling range between 122°F and 400°F.

**Net Energy Consumption**—The energy consumed at the end-use location (e.g., building or vehicle), including electricity as well as the fuels burned to provide space heat, water heat, etc. “Net” energy accounts for electricity based on the heat content of energy at the plug (3,412 Btu per kWh), and excludes the heat losses incurred during generation, transmission, and distribution of electricity. Adding the heat losses associated with electricity use to “net” energy results in “primary” energy.

**Nominal dollars**—Values that have not been adjusted to remove the effect of changes in inflation. The price paid for a product or service at the time of the transaction.

**Nuclear**—The energy liberated by fission, fusion, or radioactive decay.

**Organization of Petroleum Exporting Countries (OPEC)**—OPEC includes Algeria, Ecuador, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

**Petroleum**—A general term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oil, and refined non-hydrocarbon compounds blended into finished petroleum products such as gasoline, diesel fuel, jet fuel, and heating oil.

**Primary Energy Consumption**—The total consumption of fuels, including the fuels used to generate electricity. “Primary” energy accounts for electricity based on the equivalent heat content of fuel at the generator. Subtracting the heat losses associated with electricity generation, transmission, and distribution from “primary” energy results in “net” energy.

**Propane**—A colorless, highly volatile hydrocarbon that is readily recovered as a liquefied gas at natural gas-processing plants and refineries. It is used primarily for residential and commercial heating and cooling, and as a fuel for transportation and industrial uses, including petrochemical feedstocks. Propane is the first product refined from crude petroleum. Propane is often used at customer locations where natural gas is not available, as it can be easily transported by truck and stored at the customer site.

**Real dollars**—Values that have been adjusted to remove the effect of inflation or changes in the purchasing power of the dollar. Also referred to as “constant dollars” because the adjustments equalize and make the cost of commodities comparable over time.

**Refined petroleum**—Products made from processing crude oil, unfinished oils, natural gas liquids and other miscellaneous hydrocarbon compounds. Includes aviation gasoline, motor gasoline, naphtha- and kerosene-type jet fuels, kerosene, distillate fuel oil, residual fuel oil, ethane, liquefied petroleum gases, petrochemical feedstocks, special naphthas, lubricants, paraffin wax, petroleum coke, asphalt, road oil, still gas and miscellaneous products.

**Residential sector**—The part of the economy having to do with the places people stay or live. The residential sector is made up of homes, apartments, condominiums, etc. including private households. Specifically included are the following end-uses: space heating and cooling, water heating, cooking, lighting, clothes drying, and refrigeration.

**Residual fuel**—The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are boiled off in refinery operations. Included are products known as No. 5 and No. 6 fuel oils, heavy diesel oil, Navy Special Fuel Oil, Bunker C oil and acid sludge and pitch used as refinery fuels. Residual fuel oil is used for production of electric power, space heating, vessel bunkering, and various industrial purposes.

**Short Ton (Coal)**—A unit of weight equal to 2,000 pounds. A long ton or metric ton is equal to 2,204 pounds.

**Solar Electric**—A technology that directly converts light energy radiated by the sun as electromagnetic waves (electromagnetic radiation) into electricity by means of solar electric (also known as photovoltaic or PV) panels or concentrating (focusing) collectors.

**Solar Thermal**—A technology that collects heat energy from the sun to heat water. Solar thermal energy is used for space heating; domestic hot water heating; and heating swimming pools, hot tubs, or spas.

**Therm**—100,000 Btu.

**Transportation Sector**—An energy-consuming sector that consists of all vehicles whose primary purpose is transporting people and/or goods from one physical location to another. Included are automobiles, trucks, buses, motorcycles, trains, subways, other rail vehicles, aircraft, ships, barges, and other waterborne vehicles. Vehicles whose primary purpose is not transportation (e.g., construction cranes, bulldozers, farming vehicles, and warehouse tractors and forklifts) are classified in the sector of their primary use.

**Trillion (T)**—1,000,000,000,000, or  $10^{12}$ .

**Ton**—In the United States, Canada, and Union of South Africa, a unit of weight equal to 2,000 pounds, often used to measure amounts of coal and air emissions of various pollutants. The American ton is often called the “short” ton. The metric or “long ton” equals 2,204 pounds.

**Watt (W)**—The unit of measure for electric power or rate of doing work. It is the rate of energy transfer equivalent to one ampere flowing under a pressure of one volt at unity power factor. It is analogous to horsepower or foot-pounds per minute of mechanical power. One horsepower is equivalent to approximately 746 watts.

**Watt-hour (Wh)**—An electrical energy unit of measure equal to one watt of power supplied to, or taken from, an electrical circuit operating continuously for one hour.