Undergraduate Certificate in Energy Trading and Risk Management:

Arbitrage: The simultaneous purchase and sale of an asset to profit from a price difference in two or more markets. In energy trading, arbitrage opportunities may arise from price discrepancies between different energy markets, locations, or time periods.

Baseload Power: The minimum level of electric power that must be continuously produced or purchased to meet the constant demand of customers, such as households and businesses. Baseload power is usually supplied by reliable and cost-effective power plants, such as coal, nuclear, or hydro plants.

Broker: A person or entity that acts as an intermediary between buyers and sellers in a financial market, such as energy trading. Brokers facilitate transactions, provide market information, and may offer advisory services to their clients.

Commodity: A physical substance or product that is interchangeable with other products of the same type and quality, and is traded on a commodity market. Examples of energy commodities include crude oil, natural gas, coal, electricity, and emission allowances.

Contango: A market situation in which the futures price of a commodity is higher than the expected spot price at the time of delivery. Contango can create a negative roll yield for investors who hold long positions in futures contracts, as they have to pay a higher price to roll over their contracts to the next delivery month.

Day-Ahead Market: A market where energy traders buy and sell electricity for delivery on the following day. The day-ahead market is based on forecasts of supply and demand, and serves as a price discovery mechanism for the spot market.

Derivative: A financial instrument whose value is derived from an underlying asset, such as a commodity, currency, or index. Derivatives include futures, options, swaps, and forwards, and are used for hedging, speculation, or arbitrage purposes.

Energy Risk Management: The process of identifying, assessing, and managing the risks associated with energy trading, such as price volatility, supply disruptions, operational failures, and regulatory changes. Energy risk management involves the use of various tools and techniques, such as hedging, diversification, credit risk assessment, and scenario analysis.

Forward Contract: A non-standardized agreement between two parties to buy or sell a commodity at a

predetermined price and quantity, for delivery at a future date. Forward contracts are customized contracts that are traded over-the-counter, and are used for hedging or speculative purposes.

Futures Contract: A standardized agreement between two parties to buy or sell a commodity at a predetermined price and quantity, for delivery at a specified date in the future. Futures contracts are traded on organized exchanges, such as the New York Mercantile Exchange (NYMEX) or the Intercontinental Exchange (ICE), and are used for hedging or speculative purposes.

Hedging: The use of financial instruments or strategies to reduce or offset the risk of adverse price movements in an underlying asset. Hedging can be achieved through the use of futures, options, swaps, or forwards, and is commonly used by energy traders to protect their physical or financial positions from price volatility.

Intraday Market: A market where energy traders buy and sell electricity for delivery within the same day. The intraday market is based on real-time supply and demand data, and serves as a price discovery mechanism for the balancing market.

Market Liquidity: The ability of a market to quickly buy or sell a commodity without affecting its price. Market liquidity is an important factor for energy traders, as it determines the ease and cost of entering or exiting a position.

Naked Option: An option contract that is bought or sold without any underlying position or intention of taking a position in the underlying commodity. Naked options are used for speculative purposes, and involve a high level of risk, as the buyer or seller is exposed to the full price movement of the commodity.

Natural Gas Liquids (NGLs): A group of hydrocarbons that are extracted from natural gas during the production or processing stage. NGLs include ethane, propane, butane, isobutane, and pentane, and are used as feedstocks for the petrochemical industry, or as heating or transportation fuels.

Option: A contract that gives the buyer the right, but not the obligation, to buy or sell a commodity at a predetermined price and quantity, for delivery at a specified date in the future. Options are traded on organized exchanges, such as the NYMEX or the ICE, and are used for hedging or speculative purposes.

Physical Market: A market where energy traders buy and sell physical commodities, such as crude oil, natural gas, coal, or electricity. Physical markets involve the actual delivery and transfer of ownership of the commodity, and are subject to logistical, operational, and regulatory constraints.

Price Discovery: The process of determining the market price of a commodity through the interaction of buyers and sellers in a market. Price discovery is an important function of energy markets, as it provides information and transparency to market participants, and facilitates the allocation of resources.

Price Volatility: The degree of variation in the price of a commodity over time. Price volatility is a inherent characteristic of energy markets, and is influenced by factors such as supply and demand,

geopolitical risks, weather conditions, and regulatory changes.

Regression Analysis: A statistical method used to estimate the relationship between a dependent variable and one or more independent variables. Regression analysis is used in energy trading to forecast price movements, identify trends, and assess risk factors.

Renewable Energy: Energy produced from natural resources that are replenished over time, such as solar, wind, hydro, geothermal, or biomass. Renewable energy is considered a clean and sustainable alternative to fossil fuels, and is supported by various policies and incentives.

Roll Yield: The gain or loss that results from rolling over a futures contract to the next delivery month. Roll yield is affected by the difference between the price of the current contract and the price of the next contract, and can be positive or negative.

Spot Market: A market where energy traders buy and sell electricity for immediate delivery. The spot market is based on real-time supply and demand data, and serves as a price discovery mechanism for the day-ahead and intraday markets.

Swap: A financial instrument that involves the exchange of cash flows between two parties, based on the performance of an underlying asset, such as a commodity, interest rate, or currency. Swaps are used for hedging or speculative purposes, and are traded over-the-counter.

Tick Size: The minimum price increment at which a commodity can be traded. Tick size is determined by the exchange or regulatory authority, and is used to ensure market liquidity and stability.

Volumetric Risk: The risk of changes in the volume of a commodity that is traded, produced, or consumed. Volumetric risk is an important factor for energy traders, as it affects the supply and demand balance, and can have a significant impact on price movements.

Weather Derivative: A financial instrument that is used to manage the risk of weather-related events, such as temperature, precipitation, or wind speed. Weather derivatives are used by energy traders to hedge against the impact of weather on energy demand, production, or transportation.