Global Energy Markets and Trading

# Trading Operations

Spot Market refers to the immediate purchase or sale of a commodity for delivery “on the spot”, usually within two business days. In the energy sector, a trader may buy natural gas on the spot market to meet an unexpected surge in demand. The price reflects current supply-demand balance, weather conditions, and short-term logistics constraints. A key challenge in spot trading is the volatility that can arise from sudden changes in weather or unexpected outages at production facilities.

Forward Contract is a customized agreement between two parties to exchange a specified quantity of an energy commodity at a predetermined price on a future date. Unlike exchange-traded futures, forwards are negotiated bilaterally and settled physically. For example, a power generator may lock in a price for coal delivery six months ahead to hedge against price spikes. The main risk here is counter-party risk, because the contract is not guaranteed by a clearinghouse.

Futures Contract is a standardized agreement traded on an exchange that obligates the buyer to take delivery of, or the seller to provide, a specific quantity of a commodity at a set price on a future date. Futures are cleared through a clearinghouse, which mitigates counter-party risk by requiring participants to post margin. A trader in the Henry Hub natural gas futures market can use these contracts to hedge exposure to gas price movements. The standardized nature of futures improves liquidity but limits flexibility compared to forwards.

Option gives the holder the right, but not the obligation, to buy (call) or sell (put) an underlying commodity at a predetermined strike price before or at expiration. Options are valuable tools for managing price risk while preserving upside potential. For instance, an airline may purchase a call option on jet fuel to cap its fuel cost while still benefiting from any decline in price. The premium paid for the option is a sunk cost, and the main challenge is accurately assessing the option’s implied volatility.

Swap is a bilateral agreement to exchange cash flows based on different price indices or reference rates. In energy trading, a common structure is a commodity swap where one party pays a fixed price for natural gas while receiving a floating price linked to a market index such as the TTF. Swaps can be used to lock in a predictable cost structure for large consumers or to generate income for producers. The complexity of swap pricing and the need for ongoing margin management are significant operational considerations.

Basis denotes the difference between the spot price of a commodity at a specific location and the price of a related futures contract. In the electricity market, the basis may reflect transmission constraints or regional supply-demand imbalances. Traders monitor basis to identify arbitrage opportunities; a positive basis may indicate that the local spot price is higher than the futures price, suggesting a potential profit from buying futures and selling the spot commodity.

Spread is the price differential between two related contracts or commodities. A common example is the crack spread, which measures the profitability of refining crude oil into gasoline and diesel. Traders exploit

spreads by simultaneously buying and selling the legs of the spread to capture the price differential. Managing spread risk requires careful coordination of multiple positions and awareness of the factors that drive each leg's price.

Contango describes a market condition where futures prices are higher than the expected future spot price, often due to storage costs and financing. In a contangoed oil market, traders may find it profitable to purchase physical oil, store it, and sell futures contracts at a higher price. The primary challenge is the cost of storage and the risk of price movements that could erode the expected profit.

Backwardation is the opposite of contango; futures prices are lower than the expected spot price, reflecting scarcity or high demand for immediate delivery. In a backwardated natural gas market, producers may benefit from higher spot prices, while consumers may lock in lower future prices through futures contracts. The risk for traders is the potential reversal of market expectations, which could lead to losses on forward positions.

Delivery Point specifies the location where the physical commodity will be transferred between buyer and seller. Common delivery points in gas trading include pipeline interconnection hubs such as NBP in the United Kingdom or TTF in the Netherlands. The choice of delivery point influences transportation costs, congestion risk, and the applicability of local regulations.

FOB (Free on Board) and CIF (Cost, Insurance, and Freight) are Incoterms that define the responsibilities of buyer and seller regarding transportation, insurance, and risk transfer. In an FOB contract for crude oil, the seller's obligation ends once the cargo is loaded onto the vessel at the port of loading; the buyer assumes risk thereafter. In a CIF contract, the seller also arranges and pays for insurance and freight to the destination port. Understanding these terms is essential for accurate logistics planning and cost allocation.

MT (Metric Ton) and bbl (Barrel) are standard units of measurement for crude oil and refined products. One barrel equals approximately 0.136 Metric tons, depending on the oil's density. Precise conversion between units is crucial when reconciling trade confirmations, especially in cross-border transactions where different measurement systems are used.

MWh (Megawatt-hour) is the standard unit for electricity trading. Power contracts are often quoted in terms of price per MWh. A trader dealing in the European day-ahead market may buy 10,000 MWh of electricity for delivery the following day, hedging against price volatility driven by forecasted demand and renewable generation forecasts.

TTF (Title Transfer Facility) is a virtual trading point for natural gas in the Netherlands and serves as a benchmark for European gas prices. Prices at TTF influence contracts across the continent, and many gas swaps are referenced to the TTF index. Traders watch TTF spreads to assess the relative value of gas in different regions.

Henry Hub is the primary pricing point for U.S. Natural gas futures. It is located in Louisiana and serves as the basis for the NYMEX natural gas futures contract. Understanding the relationship between Henry Hub and regional gas hubs such as the NYMEX or PEAK points is essential for managing regional basis risk.

OTR (Over-the-Road) refers to the transportation of liquid hydrocarbons by truck or rail rather than pipeline. OTR contracts include additional considerations for road safety, insurance, and delivery windows. Traders must factor in OTR costs when evaluating the total landed price of a product.

Load and Unload denote the physical actions of placing a commodity onto a carrier (e.G., A tanker) and removing it at the destination. Accurate documentation of load and unload events is required for settlement and for meeting contractual obligations such as Delivery Date and Quantity specifications.

LME (London Metal Exchange) is primarily a metals market, but its clearing and margining infrastructure is sometimes used for energy-related contracts, particularly for metal-linked commodities such as copper-based alloys used in renewable energy equipment. Understanding the cross-commodity implications can help traders manage exposure to metal price movements that affect renewable component costs.

ICE (Intercontinental Exchange) and CME (Chicago Mercantile Exchange) are major derivatives exchanges that list energy futures and options. Both provide electronic trading platforms, clearing services, and market data feeds. Choosing between ICE and CME contracts often depends on the specific commodity, geographic focus, and preferred clearing arrangement.

Clearinghouse acts as the central counter-party for exchange-traded contracts, guaranteeing performance and managing margin. The clearinghouse calculates daily variation margin based on price changes and issues margin calls when a participant's account falls below the required threshold. Effective margin management is a core operational task for trading desks.

Initial Margin is the collateral required to open a new futures or options position. It is calculated as a percentage of the contract's notional value and is intended to cover potential losses over a short time horizon. Traders must monitor their initial margin requirements to avoid forced liquidations.

Variation Margin is the daily settlement amount reflecting the change in the market value of a position. Positive variation margin is credited to the trader's account, while negative variation margin must be posted to the clearinghouse. Accurate and timely variation margin processing is essential for maintaining compliance with exchange rules.

Position Limit sets the maximum allowable net position a trader can hold in a particular contract to prevent market manipulation. Exceeding position limits can trigger regulatory scrutiny and penalties. Traders must implement monitoring tools that alert them when approaching these limits.

Netting reduces the number of settlements by offsetting opposite positions. For example, a trader holding a long and a short contract for the same delivery month can net the positions, resulting in a single cash settlement. Netting improves operational efficiency and reduces settlement risk.

Settlement can be physical or cash. Physical settlement requires the actual delivery of the commodity, while cash settlement involves a monetary payment based on a reference price. The choice of settlement type affects logistics planning, storage requirements, and regulatory reporting.

Physical Settlement entails the movement of the commodity from the seller's location to the buyer's designated delivery point. It requires coordination of transportation assets, storage facilities, and compliance with customs and safety regulations. Operational challenges include managing pipeline capacity and ensuring timely delivery.

Cash Settlement is based on a predetermined index price, such as the average spot price over a settlement period. Cash-settled contracts simplify logistics but expose participants to basis risk if the index does not reflect the actual price of the commodity at the intended delivery location.

Basis Risk arises when the price of a hedging instrument does not move perfectly in line with the underlying exposure. For instance, a natural gas trader hedging with TTF futures may still face basis risk if the local gas price deviates from the TTF index due to regional congestion. Managing basis risk often involves using cross-commodity basis swaps or adding location-specific contracts.

Counter-party Risk is the danger that the other party to a contract will default on its obligations. In OTC markets, this risk is mitigated through credit support annexes, collateral agreements, and the use of central clearing where available. Traders must regularly assess counter-party creditworthiness and adjust exposure limits accordingly.

Credit Risk refers to the potential loss arising from a counter-party's failure to meet its financial obligations. Credit risk management includes setting exposure caps, requiring margin or collateral, and using credit derivatives. The challenge lies in accurately modeling the probability of default and the loss given default for each counter-party.

Liquidity Risk is the risk that a trader cannot enter or exit a position at a fair price due to insufficient market depth. Illiquid contracts may have wide bid-ask spreads, leading to higher transaction costs. Traders mitigate liquidity risk by focusing on highly traded contracts, using algorithms that slice orders, and maintaining relationships with market makers.

Market Risk encompasses the potential for losses due to adverse price movements in the underlying commodity. Market risk is quantified using metrics such as Value-at-Risk (VaR), which estimates the maximum expected loss over a given horizon at a certain confidence level. Effective market risk management requires daily P&L attribution and stress testing.

Operational Risk includes failures in processes, systems, or human error that can lead to financial loss. Examples are trade capture errors, settlement mismatches, or data feed interruptions. Robust controls, audit trails, and regular reconciliations are essential to mitigate operational risk.

Trade Capture is the process of recording trade details into a system, typically an Order Management System (OMS) or Execution Management System (EMS). Accurate trade capture is the foundation for downstream processes such as confirmation, settlement, and reporting. Errors at this stage can cascade into P&L discrepancies and regulatory breaches.

Confirmation is a written document sent by one party to the other, confirming the terms of a trade. It includes details such as product, quantity, price, delivery point, and settlement method. Prompt and

accurate confirmations reduce the likelihood of disputes and support regulatory compliance.

Confirmation Mismatch occurs when the details in the two parties' confirmations differ. Common mismatches involve quantity, price, or delivery date. Resolving mismatches requires communication between the counterparties, and may involve amending the trade or issuing a cancellation and re-trade.

Trade Lifecycle encompasses all stages from order initiation to settlement and archiving. Key phases include order entry, execution, allocation, confirmation, affirmation, clearing, settlement, and post-trade analysis. Understanding the lifecycle helps identify where risks can materialize and where controls should be applied.

Trade Execution is the act of matching a buy or sell order with a counter-party's order. Execution can occur on an exchange, through a broker, or via an electronic communication network (ECN). Execution quality is measured by factors such as price improvement, speed, and adherence to the intended order parameters.

Execution Venue denotes the platform where orders are matched, such as an exchange floor, an electronic platform, or a broker's internal crossing network. Selecting the appropriate venue depends on factors like liquidity, latency, and regulatory requirements.

Algorithmic Trading uses computer-driven strategies to automate order placement and execution. Common algorithms include VWAP (Volume-Weighted Average Price) and TWAP (Time-Weighted Average Price). Algorithms aim to minimize market impact and achieve better execution prices, but they require careful parameter tuning and monitoring.

Dark Pool is a private trading venue where orders are not displayed publicly, allowing participants to trade large blocks without revealing their intentions. While dark pools can reduce market impact, they raise transparency concerns and may be subject to stricter regulatory oversight.

Order Book displays all outstanding limit orders for a particular contract, showing bid and ask quantities at each price level. Depth of the order book provides insight into market liquidity and potential price movement. Traders monitor the order book to gauge supply-demand imbalances.

Limit Order instructs the broker to buy or sell at a specified price or better. It provides price control but does not guarantee execution. In thinly traded markets, limit orders may sit unfilled for extended periods, exposing traders to opportunity cost.

Market Order directs the broker to execute immediately at the best available price. Market orders guarantee execution but may suffer from slippage, especially in volatile or illiquid markets. Traders balance the need for speed against the risk of adverse price movement.

Stop Order becomes a market or limit order once a specified trigger price is reached. It is commonly used to protect against adverse price moves, such as a stop-loss order that sells a position if the price falls below a threshold. Misplaced stop orders can result in unintended execution at unfavorable prices.

Fill-or-Kill is an order that must be executed in its entirety immediately or be cancelled. It is useful for traders who require full exposure without partial fills that could distort their hedge ratios.

Good-Till-Date (GTD) specifies an expiration date for an order. After the date, the order is automatically cancelled if not filled. GTD orders are used when traders have a defined time horizon for their intended exposure.

Time-in-Force determines how long an order remains active. Common settings include Day (expires at the end of the trading day) and GTC (Good-Till-Cancelled). Selecting the appropriate time-in-force impacts order visibility and execution likelihood.

Trade Allocation refers to the distribution of a single executed trade across multiple internal accounts or portfolios. Accurate allocation ensures that each account's exposure, risk limits, and performance metrics reflect the actual trading activity.

Allocation Mismatch occurs when the allocated quantities do not sum to the original trade size or when allocation details conflict with the original order. This can lead to accounting errors and compliance issues. Reconciliation processes must identify and correct allocation mismatches promptly.

Trade Reporting is the mandatory submission of trade details to a regulatory authority or trade repository. In Europe, the EMIR (European Market Infrastructure Regulation) requires reporting of OTC derivative trades. In the United States, the Dodd-Frank Act imposes similar reporting obligations. Timely and accurate reporting avoids fines and reputational damage.

Regulatory Reporting often includes fields such as trade identifier, counterparties, product type, notional amount, and collateral posted. The data must be formatted according to the regulator's schema, and any errors can trigger enforcement actions.

EMIR (European Market Infrastructure Regulation) governs the reporting, clearing, and risk mitigation of OTC derivatives in the EU. It mandates trade reporting to a registered trade repository, clearing of standardized contracts through a central clearinghouse, and the exchange of collateral between counterparties.

Dodd-Frank is the U.S. Legislative framework that introduced the Commodity Futures Trading Commission (CFTC) reporting requirements for swaps and other derivatives. It also established the Swaps Push-Through rule, which requires clearing of many standardized swaps.

MiFIR (Markets in Financial Instruments Regulation) complements EMIR by establishing transparency and reporting standards for trading venues. MiFIR requires pre-trade and post-trade transparency for certain energy derivatives, enhancing market visibility.

Position Reporting involves disclosing the size of a trader's open positions to regulators. This helps authorities monitor market concentration and detect potential manipulation. Position reports must be submitted on a regular schedule, often daily or weekly.

Transparency in energy markets is achieved through public dissemination of price and volume data, which facilitates price discovery. Exchanges provide real-time market data feeds that include last trade price, bid-ask spread, and trade volume.

Tick Size is the minimum price increment for a contract. For example, the NYMEX crude oil futures contract has a tick size of $0.01 Per barrel. Tick size influences the granularity of price movements and can affect trading strategies that rely on fine-scale price changes.

Lot Size defines the standard trading unit for a contract. The crude oil futures contract on NYMEX trades in lots of 1,000 barrels. Understanding lot size is essential for calculating notional exposure and margin requirements.

Contract Size combines lot size and unit measurement to define the total quantity represented by one contract. A natural gas futures contract on ICE may represent 10,000 MWh, while a power futures contract on EEX might represent 100 MWh. Accurate conversion ensures proper risk assessment.

Pipeline Capacity is the maximum volume of gas that can flow through a pipeline segment. Capacity constraints can create regional price differences, known as congestion. Traders must monitor pipeline nominations and capacity releases to avoid delivery shortfalls.

Transportation Constraints include pipeline bottlenecks, rail availability, and shipping lane restrictions. In LNG markets, vessel availability and charter rates are critical transportation considerations. Transportation constraints can cause price spikes and affect the timing of physical deliveries.

Storage Constraints arise when the available storage facilities for oil, gas, or electricity are limited. Seasonal demand cycles often lead to storage fill-up in winter, prompting higher spot prices. Traders may use storage contracts or storage options to manage these constraints.

Balancing refers to the process of ensuring that supply matches demand in real time, particularly in electricity markets where generation must equal consumption. Balancing markets procure ancillary services such as frequency regulation and reserve capacity.

Balancing Market is a short-term market where system operators procure additional generation or demand reduction to maintain system reliability. Participants submit bids and offers, and the system operator selects the most cost-effective combination to address imbalances.

Imbalance occurs when a participant’s scheduled generation or consumption deviates from the actual real-time delivery. Imbalances are settled at the imbalance price, which may be higher or lower than the day-ahead price, creating financial incentives for accurate forecasting.

Imbalance Price is the price applied to settle the differences between scheduled and actual electricity deliveries. It can be derived from the system operator’s marginal cost of balancing resources, and it often reflects the cost of deploying fast-response generators.

Congestion refers to the situation where transmission capacity is insufficient to carry all scheduled flows. Congestion can cause price differences between nodes, known as nodal price spreads. Traders may engage in congestion-based arbitrage by buying at low-cost nodes and selling at high-cost nodes.

Congestion Management involves the allocation of limited transmission capacity through mechanisms such

as auctioning, first-come-first-served, or merit order dispatch. Understanding congestion rules is vital for participants who submit transmission nominations.

Ancillary Services are support services required to maintain grid reliability, including frequency regulation, voltage control, and spinning reserve. These services are often procured through separate markets and provide additional revenue streams for flexible generators.

Upward Regulation is the procurement of additional generation to address a shortfall in supply, while Downward Regulation reduces generation to avoid oversupply. Participants can submit offers for both upward and downward regulation, earning payments based on the regulation price.

Renewable Certificates such as Guarantees of Origin (GOs) certify that a certain amount of electricity was generated from renewable sources. These certificates can be traded separately from the physical electricity, allowing consumers to claim renewable consumption.

Guarantees of Origin are electronic documents that trace the renewable attribute of electricity from generation to consumption. They are used in compliance schemes such as the EU Renewable Energy Directive and can be bought by retailers to meet renewable portfolio standards.

Carbon Credit represents one tonne of $CO_2$ equivalent emissions permitted under a cap-and-trade system. Carbon credits can be bought and sold, providing an incentive for emission reductions. Energy traders often incorporate carbon pricing into their valuation models.

Emission Allowance is the right to emit a specific amount of greenhouse gases under a regulatory cap. Allowances are allocated or auctioned by regulators, and participants must surrender sufficient allowances to cover their emissions.

Cap-and-Trade is a market-based approach to controlling pollution by setting a cap on total emissions and allowing participants to trade allowances. The price of allowances reflects the marginal cost of abatement, influencing investment decisions in cleaner technologies.

Futures Curve displays the prices of futures contracts across different maturities. The shape of the curve—contango or backwardation—provides insight into market expectations for future supply and demand. Traders analyze the curve to develop calendar spread strategies.

Forward Curve is similar to the futures curve but derived from OTC forward contracts. It may incorporate additional factors such as credit spreads and bespoke delivery points. Forward curves are essential for pricing physical contracts and for risk management.

Curve Modeling involves fitting mathematical functions to observed market prices to generate a smooth representation of the term structure. Common techniques include spline interpolation, parametric models, and stochastic modeling. Accurate curve modeling is crucial for pricing swaps and options.

Volatility measures the degree of price fluctuation over time. In energy markets, volatility can be driven by weather, geopolitical events, and supply disruptions. Traders use volatility to price options and to assess

risk.

Implied Volatility is derived from market prices of options and reflects the market's expectation of future volatility. It is a key input to the Black-Scholes model and can be used to identify mispricings relative to historical volatility.

Historical Volatility is calculated from past price data and provides a statistical measure of price dispersion. Comparing historical and implied volatility helps traders gauge whether options are relatively cheap or expensive.

Risk Metrics such as VaR, Conditional VaR (CVaR), and stress test results quantify potential losses. VaR estimates the maximum loss over a specified horizon at a confidence level, while CVaR measures the average loss beyond the VaR threshold. Stress testing evaluates portfolio performance under extreme but plausible scenarios.

VaR (Value-at-Risk) is typically calculated using parametric, historical simulation, or Monte Carlo methods. For an energy trading desk, a daily VaR of $5 million at 99 % confidence implies that there is a 1 % chance of losing more than $5 million in a single day.

CVaR provides a more conservative risk measure by focusing on tail losses. It is useful for regulatory capital calculations and for internal risk appetite statements.

Stress Testing involves applying extreme market moves—such as a 30 % drop in oil price or a severe winter temperature anomaly—to the portfolio and assessing the resulting P&L impact. Stress testing helps identify vulnerabilities that VaR may not capture.

Scenario Analysis is similar to stress testing but uses a set of predefined scenarios, often based on macroeconomic or geopolitical events. Scenarios may include supply disruptions due to sanctions, sudden policy shifts in renewable subsidies, or natural disasters affecting production.

Trade Capture System records all trade details and integrates with downstream functions such as clearing, settlement, and accounting. A robust trade capture system ensures data integrity, supports auditability, and facilitates regulatory reporting.

OMS (Order Management System) handles order creation, routing, and execution tracking. It provides a single interface for traders to manage their orders across multiple venues and asset classes.

EMS (Execution Management System) focuses on the execution phase, offering advanced algorithmic tools, real-time market data, and performance analytics. EMS and OMS are often integrated to provide end-to-end workflow.

TMS (Trade Management System) extends the OMS/EMS capabilities to include post-trade processes such as confirmation, affirmation, and settlement. It may also include risk analytics and compliance monitoring.

Data Warehouse stores historical trade, market, and risk data for analysis and reporting. A well-designed data warehouse enables efficient back-testing of strategies, regulatory reporting, and performance

attribution.

Market Data Feed provides real-time price, volume, and order book information. Feeds can be sourced from exchanges, data vendors, or directly from exchange APIs. Timeliness and reliability of market data are critical for algorithmic trading and risk monitoring.

Real-Time Data is essential for high-frequency trading, where millisecond latency can affect execution quality. Traders must ensure low-latency connectivity and robust data handling infrastructure.

Historical Data supports model development, back-testing, and scenario analysis. Accurate historical data must be cleaned and adjusted for corporate actions, contract roll-overs, and changes in market conventions.

Pricing Models such as Black-Scholes, Bachelier, and Monte Carlo simulation are employed to value options and complex derivatives. Each model has assumptions about underlying price dynamics, volatility, and interest rates.

Black-Scholes assumes log-normal price distribution and constant volatility, making it suitable for options on financial assets but less accurate for commodities with mean-reverting behavior.

Bachelier assumes a normal distribution of price changes, which can be more appropriate for commodities where prices can be negative, such as electricity in certain markets.

Monte Carlo simulation generates a large number of random price paths to estimate the distribution of derivative payoffs. It is flexible and can incorporate complex features such as path-dependent payoffs, stochastic volatility, and jump processes.

Least-Cost Routing determines the most economical transportation path for a physical commodity, considering pipeline tariffs, freight rates, and capacity constraints. Traders use routing algorithms to minimize logistics costs while meeting delivery obligations.

Optimization techniques such as linear programming and mixed-integer programming are applied to portfolio construction, hedging, and asset scheduling. Optimization models balance risk, return, and operational constraints.

Hedging Strategy involves taking offsetting positions to reduce exposure to price movements. For example, a power producer may enter into a futures contract to lock in the sale price of electricity, thereby reducing revenue volatility.

Swap Spread is the difference between the fixed rate of a swap and the corresponding benchmark rate. In energy markets, swap spreads can reflect liquidity premiums, credit risk, and supply-demand dynamics.

Basis Spread captures the price difference between two related contracts, such as the spread between a regional gas hub and a benchmark like Henry Hub. Basis spreads are monitored to detect regional market imbalances.

Cross-Commodity Basis involves the price relationship between two different commodities, such as the oil-to-gas basis. Traders exploit cross-commodity basis when they anticipate divergent price movements between related markets.

Currency Risk arises when contracts are denominated in a currency different from the trader's reporting currency. Hedging currency exposure often involves FX forwards, options, or cross-currency swaps.

FX Hedge uses foreign exchange derivatives to lock in an exchange rate, protecting against adverse currency movements. For example, a European trader purchasing U.S. Crude oil in USD may hedge the USD exposure with a forward contract.

Settlement Currency is the currency in which the cash settlement of a contract is made. Selecting the appropriate settlement currency can affect the need for additional FX hedges and impact overall transaction costs.

Invoice details the amount payable for a physical delivery, including commodity price, transportation charges, taxes, and any applicable fees. Accurate invoicing is essential for cash flow management and regulatory compliance.

Billing processes aggregate multiple invoices into a consolidated statement, often used by utilities and large industrial consumers who receive frequent deliveries.

Reconciliation is the process of comparing internal records with external statements—such as bank statements, exchange reports, or counter-party confirmations—to identify and resolve discrepancies. Effective reconciliation reduces operational risk and ensures accurate financial reporting.

Dispute Resolution mechanisms are defined in contracts to address disagreements over quantity, quality, or timing of delivery. Common resolution methods include arbitration, mediation, and litigation. Clear dispute clauses help mitigate prolonged legal exposure.

Force Majeure is a contractual clause that excuses performance when extraordinary events—such as natural disasters, wars, or regulatory changes—prevent fulfillment. Traders must assess the likelihood of force-majeure events and consider appropriate contingency plans.

Termination Clause outlines the conditions under which a contract may be ended early, including notice periods and any applicable penalties. Understanding termination rights is crucial for managing exposure to changing market conditions.

Settlement Period defines the time window during which a contract's settlement price is determined. For example, the settlement period for a day-ahead electricity contract may be the delivery day's operating hours.

Settlement Date is the date on which the contractual obligations are fulfilled, either through physical delivery or cash payment. Timely settlement is critical to avoid penalties and maintain market credibility.

Settlement Price is the official price used to calculate cash settlements. It may be derived from a

volume-weighted average of trades during the settlement period or from a specific reference index.

Index Price serves as a benchmark for many derivative contracts. Energy indices often combine prices from multiple hubs, weighted by volume, to reflect broader market conditions.

Index Basket is a collection of underlying assets that together form an index. For example, a natural gas index basket may include prices from TTF, NBP, and Zeebrugge hubs, providing a diversified reference.

Index Methodology describes how an index is constructed, including data sources, weighting scheme, and calculation frequency. Traders must understand the methodology to assess the relevance of the index to their exposure.

Reference Price is the price used to settle a contract, often based on an index or average of spot trades. The reference price may be published by the exchange or a third-party data provider.

Benchmark denotes a standard against which performance or price is measured. Energy benchmarks such as Brent crude or the Dutch TTF gas price are widely used for pricing contracts and assessing market performance.

Physical vs Financial distinguishes contracts that involve actual delivery of the commodity (physical) from those settled in cash (financial). Physical contracts require logistics coordination, while financial contracts simplify settlement but retain exposure to price risk.

Synthetic Exposure is created by combining multiple financial instruments to mimic the payoff of a physical position. For example, a trader may use futures and options to replicate the risk profile of owning a physical gas storage asset.