

LOW SULFUR FUEL OIL OPTIONS HANDBOOK

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History of Options

Options have long served as instruments of risk management, with their conceptual origins traceable to ancient contractual arrangements. One frequently cited example concerns Thales, the ancient Greek philosopher and mathematician, who reportedly used his astronomical knowledge to anticipate a strong olive harvest and secured, in advance and at relatively low cost, the right to use olive presses. Although this “right of use” did not constitute a standardized contract in the modern sense, it already reflected the core logic of an option: paying a relatively small amount to secure a future choice.

In the 1630s, as tulip trading flourished across the Netherlands, early option-like contracts gained traction in transactions between wholesalers and growers. However, in the absence of unified regulation and effective mechanisms to guarantee performance, the collapse of the tulip market in 1637 caused substantial losses for many market participants. In 1872, the prominent American financier Russell Sage pioneered over-the-counter (OTC) options trading in the United States. Following the sharp decline in wheat prices on the Chicago Board of Trade (CBOT) in 1932, the U.S. Commodity Exchange Act of 1936 prohibited both exchange-traded and OTC options on commodities, bringing the development of the options market largely to a standstill.

A major turning point came in 1973. Under the organization of the CBOT, the Chicago Board Options Exchange (CBOE) was established and became the first exchange to offer standardized, exchange-traded options. This marked the beginning of the modern era of options trading, characterized by greater uniformity, standardization, and regulatory oversight. To avoid a recurrence of the problems associated with the tulip episode, the CBOE introduced a dedicated clearing institution, which substantially reduced the risk of default by option writers. Around the same period, Fischer Black and Myron Scholes developed the Black-Scholes model, providing an important theoretical foundation for option pricing and further accelerating the growth of the options market.

The development of the U.S. options market encouraged other countries to establish their own options exchanges. In February 1976, the Sydney Stock Exchange introduced options contracts. Shortly after its creation in 1978, the European Options Exchange (now known as Euronext Amsterdam following a series of mergers) launched an options clearing center in partnership with the options and stock exchanges in Sydney and Chicago. The trading of stock options soon spread across Europe. Exchanges in Brussels, Geneva, Basel, Zurich, and the London International Financial Futures and Options Exchange (LIFFE) subsequently introduced options on equities, bonds, and currencies, contributing to the rapid expansion of options trading. At the same time, CBOT, the Chicago Mercantile Exchange (CME), and the New York Mercantile Exchange (NYMEX) brought options trading into agricultural products, energy, and other commodities, significantly advancing the development of commodity options.

With the establishment of options markets in the United States, the United Kingdom, Japan, Canada, Singapore, the Netherlands, Germany, Australia, Hong Kong SAR, and other jurisdictions, options trading expanded beyond its initial concentration in equities to

encompass commodities, financial securities, foreign exchange, and other underlying assets. The global options market has thus become increasingly diversified.

Overview of China's Low Sulfur Fuel Oil Futures Market

I. Trading

In 2025, a total of 37,277,666 lots of Low Sulfur Fuel Oil futures were traded on the Shanghai International Energy Exchange (hereinafter referred to as INE or the Exchange), representing a year-on-year increase of 5.87%. Turnover reached RMB 1303.76 billion, down 11.22% year-on-year, and year-end open interest stood at 165,950 lots, down 2.79% compared with the previous year. The highest monthly volume occurred in June at 3,773,140 lots, while the lowest was recorded in February at 2,200,411 lots. The highest month-end open interest was observed in November (170,720 lots), and the lowest in April (118,187 lots).

Monthly Trading of INE Low Sulfur Fuel Oil Futures in 2025

Month	Volume (1,000 lots)	YoY Change (%)	Turnover (RMB billion)	YoY Change (%)	Month-End Open Interest (1,000 lots)	YoY Change (%)
Jan	2735.1	-23.08	112.837	-24.42	131.6	-22.96
Feb	2200.4	-1.99	86.384	-10.44	125.7	-15.22
Mar	3150.3	4.64	113.469	-14.71	119.2	-34.63
Apr	3500.3	13.88	120.408	-14.41	118.2	-21.00
May	2768.6	2.17	96.513	-15.63	122.8	-22.67
Jun	3773.1	62.24	140.292	45.07	123.3	-11.21
Jul	3262.8	12.53	117.937	-4.69	123.9	10.68
Aug	2854.7	-11.15	99.846	-24.66	126.2	-16.32
Sep	3475.3	-12.98	118.477	-24.75	124.4	-9.31
Oct	2819.4	0.08	90.157	-20.98	152.2	-2.69
Nov	3288.6	24.05	104.608	-0.34	170.7	30.87
Dec	3448.9	27.01	102.829	-2.20	166.0	15.65
Total	37277.8	5.87	1303.755	-11.22	—	

Source: INE

II. Delivery

In 2025, a total of 25,516 lots of Low Sulfur Fuel Oil futures were delivered on the Shanghai International Energy Exchange (INE), equivalent to 255,160 metric tons of physicals, with a delivery value of RMB 905.86 million. The highest delivery volume occurred in August (4,165 lots or 41,650 metric tons), while the lowest was recorded in February (834 lots or 8,340 metric tons).

Delivery of INE Low Sulfur Fuel Oil Futures in 2025

Month	Volume	YoY Change	Delivery Amount	YoY Change
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	(lots)	(%)	(RMB million)	(%)
Jan	837	-46.69	34.6769	-34.43
Feb	834	-70.45	35.0530	-70.88
Mar	2200	-15.81	86.2180	-24.77
Apr	2407	73.92	86.8927	39.99
May	4165	8.38	151.5644	-12.32
Jun	2200	344.44	77.4620	283.55
Jul	1309	-52.78	49.5195	-58.14
Aug	3998	43.25	139.6901	18.91
Sep	1157	21.41	39.6967	-4.20
Oct	1300	-56.01	43.8223	-71.13
Nov	3091	113.17	100.0557	67.57
Dec	2018	-65.30	61.2059	-74.02
Total	25516	-13.40	905.8575	-29.81

Source: INE

III. Price Correlation

In 2025, the correlation coefficient between the settlement price of the main contracts of INE Low Sulfur Fuel Oil futures and the Low Sulfur Fuel Oil spot price was beyond 0.99, indicating strong alignment between China's futures markets and spot-market developments.

Underlying Asset	Low Sulfur Fuel Oil Futures contract (10 metric tons)
Contract Type	Call option and put option
Contract Size	1 LU contract
Price Quotation	RMB yuan/metric ton
Minimum Price Fluctuation	0.5 yuan/metric ton
Daily Price Limit	Same as that for the underlying futures contract
Listed Contracts	Option contracts will be listed for the nearest two consecutive months and, when the open interest of the underlying futures contract, after daily clearing, has reached a specific threshold to be separately announced by INE, for later months on the second trading day thereafter
Trading Hours	9:00 a.m. to 11:30 a.m., 1:30 p.m. to 3:00 p.m., and other hours specified by INE
Last Trading Day	The fifth-to-last trading day of the month before the delivery month of the underlying futures contract, subject to adjustment by INE in case of a national holiday and other special circumstances
Expiration Date	Same as the last trading day

Strike Price	The range of strike price is the previous trading day's settlement price of the underlying futures contract plus or minus 1.5 times the current day's price limit. The strike price interval is 20 yuan/metric ton if strike price $\leq$ 2,000 yuan/metric ton; 50 yuan/metric ton if 2,000 yuan/metric ton < strike price $\leq$ 5,000 yuan/metric ton; 100 yuan/metric ton if strike price > 5,000 yuan/metric ton
Option Style	American. Buyers may submit an exercise request during trading hours on any trading day before the expiration date, and an exercise or abandonment request before 3:30 p.m. on the expiration date
Contract Symbol	Calls: LU-Contract Month-C-Strike Price Puts: LU-Contract Month-P-Strike Price
Listing Exchange	Shanghai International Energy Exchange (INE)

The Basics

I. Underlying

The underlying of an option contract refers to the assets that the buyer of the option contract has the right to buy (sell) and the seller has the obligation to sell (buy). The underlying of an INE Low Sulfur Fuel Oil option contract is an INE Low Sulfur Fuel Oil futures contract.

II. Contract Type

Option contracts include call options and put options.

A call option is an option which entitles the buyer to buy, and obligates the seller to sell, the underlying futures contract at a predetermined price in a specified period of time in the future.

A put option is an option which entitles the buyer to sell, and obligates the seller to buy, the underlying futures contract at a predetermined price in a specified period of time in the future.

III. Contract Size

The trading unit of option contracts is “lot.” Option contracts should be traded in whole numbers of one lot.

IV. Price Quotation

An option contract has the same price quotation as the underlying futures contract.

V. Minimum Price Fluctuation

The minimum price fluctuation of an option contract refers to the minimum allowable price movement of the option contract.

VI. Daily Price Limit

An option contract is subject to the same daily price limit as the underlying futures contract.

Daily price limit = the previous day’s settlement price of the underlying futures contract × the current day’s price limit percentage for the underlying futures contract.

VII. Contract Month

The contract month of an option contract refers to the delivery month of the underlying futures contract.

VIII. Last Trading Day and Expiration Date

The last trading day of an option contract is the final trading day on which the option contract may be traded.

The expiration date of an option contract is the final trading day on which the buyer may exercise its right.

IX. Strike Price

The strike price of an option contract is the price, specified in the option contract, at which the buyer has the right to buy or sell the underlying in a specified period of time in the future.

The strike price interval is the gap between two adjacent strike prices of an option contract.

The Exchange may adjust the strike price interval and strike price range to reflect market conditions.

X. Option Style

Options are classified into American-style, European-style, and other styles prescribed by the Exchange. The buyer of an American-style option may exercise the option on any trading day before and up to the expiration date; the buyer of a European-style option may exercise the option only on the expiration date.

Low Sulfur Fuel Oil options are American style.

XI. Contract Symbol

The contract symbol of an option contract is composed of the contract symbol of the underlying futures contract, contract month, the call or put code, and strike price.

Key Requirements for Low Sulfur Fuel Oil Options

Trading Requirements

Members, Overseas Special Participants (OSPs), and overseas Intermediaries should be fully prepared in terms of IT systems, options-related rules, risk management, and staff before engaging in options trading.

I. Trading Code

Non-FF Members, Overseas Special Non-Brokerage Participants (OSNBPs), and Clients intending to trade options should use the same trading code as that used for futures trading. Those without a trading code should apply for a trading code in accordance with relevant rules on futures trading of the Exchange.

II. Request for Quote

A market maker system may be introduced for options trading. Non-FF Members, OSNBPs, and Clients may request for quote (“RFQ”) from market makers. The Exchange will determine and announce the eligible contracts for, and the frequency of, RFQs, and may adjust them based on market conditions.

FF Members, Overseas Special Brokerage Participants (OSBPs), and Overseas Intermediaries should manage their Clients’ RFQs and require them to submit reasonable RFQs.

III. Premium

The price of an option contract refers to the premium of the option contract per quotation unit.

“Premium” refers to the payment made by an option buyer in exchange of the rights under the option.

IV. Trading Order

Trading orders for option contracts include limit orders, market orders, and other orders prescribed by the Exchange. A limit order and a market order may be accompanied by the instruction of either “fill or kill (FOK)” or “fill and kill (FAK)”.

The Exchange may adjust the types of trading orders for option contracts according to market conditions and announce them.

V. Maximum Order Size

The maximum size of limit order for Low Sulfur Fuel Oil options is 100 lots, and the maximum size of market order for Low Sulfur Fuel Oil options is 30 lots.

The Exchange may prescribe and adjust the maximum order size according to market conditions and announce the adjusted value.

VI. Listing of Option Contracts

Option contracts will be listed in accordance with the following rules:

- (i) The listing date of option contracts for a new month should be set out in the contract;
- (ii) The option contracts to be listed should consist of one at-the-money (ATM) contract and several in-the-money (ITM) contracts and out-of-the-money (OTM) contracts;
- (iii) Following the listing of an option contract for trading, the Exchange will, in accordance with the rules of the option contract, list option contracts for the same month but at new strike prices based on the price limit and previous settlement price of the underlying futures contract, until market close on the trading day before the expiration date.
- (iv) The Exchange will determine and announce the listing reference price of an option contract.

An ATM option refers to an option contract the strike price of which is equal or close to the previous settlement price of the underlying futures contract. If the average of two adjacent strike prices is equal to such settlement price, the higher strike price will be the strike price of the ATM option. An ITM option refers to a call (put) option the strike price of which is lower (higher) than that of the ATM option. An OTM option refers to a call (put) option the strike price of which is higher (lower) than that of the ATM option.

VII. Close-Out of Option Contracts

An option contract can be closed out by liquidation, exercise, or abandonment.

Liquidation refers to the method by which an option seller or buyer closes out his option contract by taking a reverse position in an option contract with the same size, underlying futures contract, contract month, expiration date, option style, and strike price as the one he intends to close out.

Exercise refers to the method by which an option buyer closes out his option contract by buying or selling the underlying futures contract at the strike price in accordance with applicable rules.

Abandonment refers to the method by which an option buyer closes out his option contract by not exercising the rights granted by the option upon its expiration.

Exercise Requirements

I. Methods of Exercise and Fulfillment by Clients

The exercise and fulfillment of option contracts by a Non-FF Member, OSNBP, or Client should be made at the Exchange following relevant trading procedures. The Exchange also provides the Member Service System and the Overseas Intermediary Service System as backup channels for submitting exercise and abandonment requests on behalf of Clients. The former system is available to FF Members and OSBPs; the latter is available to Overseas Intermediaries.

II. Time of Exercise and Fulfillment

An option buyer may submit an exercise or abandonment request within the time period specified by the Exchange.

An option seller is obligated to fulfill his option contract. Once a buyer exercises his option, the seller should buy or sell the specified quantity of the underlying futures contract at the strike price stated in the option contract.

The Exchange may adjust the time limit for submitting exercise and abandonment requests on the expiration date of an option contract.

III. Assignment

Upon passing the time limit for submitting exercise requests, the Exchange will assign exercise requests on a random and unbiased basis.

IV. Establishment of Futures Positions upon Exercise and Fulfillment

Upon exercise and fulfillment of a call option, the option buyer will hold a long position in the underlying futures at the strike price and the option seller will hold a short position in the underlying futures at the same strike price.

Upon exercise and fulfillment of a put option, the option buyer will hold a short position in the underlying futures at the strike price and the option seller will hold a long position in the underlying futures at the same strike price.

V. Automatic Exercise

For an option contract for which no exercise or abandonment request has been submitted by the specified time limit, the Exchange will:

- (i) automatically exercise it, if it is a call option with a strike price lower than the settlement price of the underlying futures contract on that day;
- (ii) automatically exercise it, if it is a put option with a strike price higher than the settlement price of the underlying futures contract on that day; or
- (iii) treat it as abandoned, if it does not meet the conditions above.

VI. Netting

A Non-FF Member, OSNBP, or Client may request for the netting of its long and short positions in the same option contract held under the same trading code. The positions thusly offset are deducted from the current day's open interest for that option contract and added to the contract's trading volume.

An option buyer may request for the netting of his long and short futures positions obtained upon the exercise of options under the same trading code, or the netting of such futures positions against his existing futures positions to the extent of the former. The positions thusly offset are deducted from the current day's open interest for that futures contract and added to the contract's trading volume.

An option seller may request for the netting of his long and short futures positions obtained upon the fulfillment of options under the same trading code, or the netting of such futures positions against his existing futures positions to the extent of the former. The positions thusly offset are deducted from the current day's open interest for that futures contract and added to the contract's trading volume.

The time limit and method of submitting these requests will be separately announced by the Exchange.

VII. Funding Requirements for Exercise

When submitting an exercise request, an option buyer should have a sufficient funds balance to cover the margin required by the resulting futures positions.

Clearing Requirements

I. Payment of Premium and Margin

In an option trade, the buyer pays the premium but not the trading margin, while the seller receives the premium and needs to pay the trading margin.

When an option buyer establishes a position, he will pay a premium equaling the amount needed to establish that position; when an option buyer closes a position, he will receive a premium equaling the amount needed to close that position.

When an option seller establishes a position, he will receive a premium equaling the amount needed to establish that position; when an option seller closes a position, he will pay a premium equaling the amount needed to close that position.

When an option seller establishes a position, the Exchange will collect a trading margin from him at the margin rate for the option contract applicable at the time of clearing on the previous trading day; when the option seller closes a position, the Exchange will release the trading margin for the corresponding option contract.

II. Collection of Margin and Fees

At the time of clearing on a trading day, the Exchange will collect trading margin from option sellers based on the settlement price of the option contract and underlying futures contract on that day, as well as trading fees and exercise (fulfillment) fees from option buyers and sellers based on the number of contracts traded and exercised (fulfilled). The Exchange will then either credit or debit their Members' clearing deposit through a single funds transfer based on the net amount of receivables and payables.

The Exchange will determine and announce its fee rates and may adjust such fee rates to reflect market conditions.

III. Settlement Price

The settlement price of an option contract will be determined by the following method:

- (i) The theoretical price of the option contract as determined by the Exchange based on its implied volatility will be treated as its settlement price on any trading day other than the last trading day;
- (ii) The formula for the settlement price on the last trading day is as follows:

Settlement price of a call option = Max (settlement price of the underlying futures contract – strike price, minimum price fluctuation);

Settlement price of a put option = Max (strike price – settlement price of the underlying futures contract, minimum price fluctuation);

- (iii) The Exchange may adjust the settlement price of the option contract if the price of the option contract is clearly unreasonable.

The implied volatility of an option contract refers to the price volatility of the underlying futures contract given by the option pricing model based on the market price of the option contract.

IV. Treatment of Positions and Funds upon Exercise or Abandonment

Following an exercise or abandonment of an option contract, the Exchange will, at the time of clearing, deduct the corresponding position from the respective account of the option buyer and option seller, and release the option seller's trading margin for such position.

Futures positions established by the exercise (or fulfillment) of an option contract on a given day will not be included in the calculation of the settlement price for that day.

Risk Control Requirements

I. Risk Control

The Exchange implements margin requirement, price limit, position limit, trading limit, large trader position reporting, forced liquidation, and risk warnings to manage the risks of options trading.

II. Margin Requirement

Margin is required for options trading. The trading margin rate applicable to an option seller is the higher of:

- (i) Settlement price of the option contract $\times$ contract size of the underlying futures contract + trading margin for the underlying futures contract $- (1/2) \times$ out-of-the money amount of the option contract; and
- (ii) Settlement price of the option contract $\times$ contract size of the underlying futures contract + $(1/2) \times$ trading margin for the underlying futures contract.

Where:

Out-of-the-money amount of a call option contract = $\text{Max} (\text{strike price} - \text{settlement price of the underlying futures contract}, 0) \times \text{contract size of the underlying futures contract}$;

Out-of-the-money amount of a put option contract = $\text{Max} (\text{settlement price of the underlying futures contract} - \text{strike price}, 0) \times \text{contract size of the underlying futures contract}$.

The Exchange may set different trading margin rates for different combinations of options positions.

III. Price Limit

Options trading is subject to price limit. The limit prices for an option contract are calculated as follows:

- (i) Upper limit price = the previous settlement price of the option contract + previous settlement price of the underlying futures contract $\times$ upper limit rate for the underlying futures contract;
- (ii) Lower limit price = $\text{Max} (\text{previous settlement price of the option contract} - \text{previous settlement price of the underlying futures contract} \times \text{lower limit rate for the underlying futures contract}, \text{the minimum price fluctuation of the option contract})$.

IV. Limit-Locked Market

A Limit-Locked Market for an option contract refers to the situation where, within five minutes prior to the close of a trading day, there are only bid (ask) orders at the limit price

without any ask (bid) orders at such price, or all ask (bid) orders are instantly filled without deflecting the price from the limit price, and the last price is the same as the upper (lower) limit price.

If an option contract's settlement price of the previous trading day is equal to or less than the current-day price limit and, within five minutes before the close of a trading day, there are only ask orders at the lower limit price but no bid orders at such price, or during such time any bid order is instantly filled without deflecting the price from the lower limit price, then the Exchange will not treat the situation as a Limit-Locked Market.

If a same-direction Limit-Locked Market occurs for three consecutive trading days with respect to an option contract, the Exchange will not implement forced position reduction unless it believes there is an abnormal circumstance.

V. Suspension of Trading

An option contract will be suspended from trading when trading of the underlying futures market is suspended.

If an option contract is suspended from trading for a whole day on the last trading day, the last trading day and expiration date of the option contract will be postponed to the next trading day.

VI. Adjustment of Margin and Price Limit

The trading margin and price limit for an option contract will be adjusted to the extent that those for the underlying futures contract are adjusted.

VII. Position Limit

Options trading is subject to position limit. Position limit for an option contract refers to the maximum position set by the Exchange that can be held by a Non-FF Member, OSNBP, or Client in the option contract.

If a Client has obtained multiple trading codes from different FF Members, OSBPs, or Overseas Intermediaries, the combined size of its open positions under all these trading codes should not exceed the position limit for Client imposed by the Exchange.

Position in option contracts will not be aggregated with that in futures contracts for the purposes of position limit. Position limit for an option contract changes over the different time periods in its lifecycle. These time periods coincide with those for the underlying futures contract.

The open position of a Non-FF Member, OSNBP, or Client in an option contract should not exceed the position limit set by the Exchange. The Exchange will determine and announce the position limit for an option contract and may adjust it to reflect market conditions.

If a Non-FF Member, OSNBP, or Client, upon the exercise of an option, holds positions in the underlying futures contract exceeding the applicable position limit, the Exchange will take actions in accordance with applicable rules.

Position limits for Non-FF Members, OSNBPs, and Clients engaging in hedging, arbitrage trading, and market making will be subject to the applicable rules of the Exchange.

VIII. Calculation of Options Positions

The options positions held by a Non-FF Member, OSNBP, or Client are calculated as follows:

- (i) Longs positions in call options with the same underlying asset + short positions in put options with the same underlying asset;
- (ii) Long positions in put options with the same underlying asset + short positions in call options with the same underlying asset.

IX. Trading Limit

The Exchange may apply trading limit to option contracts in accordance with the *Risk Management Rules of the Shanghai International Energy Exchange*.

X. Large Trader Position Reporting

Large trader position reporting is in effect for options trading. The reporting threshold and the required submissions are governed by the *Risk Management Rules of the Shanghai International Energy Exchange*.

XI. Forced Liquidation

Options trading is subject to forced position liquidation. The Exchange will impose forced position liquidation on a Member or Client if:

- (i) a Member's clearing deposit balance on any internal ledger at the Exchange, whether for its own account or for one it provides clearing services to, falls below zero and the Member fails to meet the margin requirement within the specified time limit;
- (ii) the open position held by a Non-FF Member, OSNBP, or Client has exceeded the applicable position limit;
- (iii) there is a violation of the Exchange's rules that warrants forced liquidation;
- (iv) there is any emergency that warrants forced liquidation; or
- (v) there is any other circumstance that necessitates forced liquidation.

The principles and procedures for forced liquidation in relation to options trading are governed by the *Risk Management Rules of the Shanghai International Energy Exchange*.

XII. Risk Warning

Risk warnings are in effect for options trading. When and how risk warnings will be issued are governed by the *Risk Management Rules of the Shanghai International Energy Exchange*.

Information Management Requirements

I. Options Trading Information

Options trading information refers to the options market data and trading related statistics generated from options trading on the Exchange, various announcements / circulars / notices issued by the Exchange, and any other information whose disclosure is required by the China Securities Regulatory Commission (CSRC).

II. Ownership of Options Trading Information

The options trading information is the property of, centrally managed and published by, the Exchange. The Exchange may operate and manage such information independently, in partnership with a third party, or through a third party. Without the approval of the Exchange, no organization or individual may publish options trading information or use it for any commercial purpose.

III. Publication of Options Trading Information

The Exchange publishes different levels of real-time, delayed, daily, weekly, monthly, and annual options market data, various statistics, and historical data of option contracts.

Real-time market data refers to market data published concurrently with trading activities during trading hours. Delayed market data refers to market data published at a certain interval behind real-time market data. Market data mainly include contract symbol, last price, price change, trading volume, open interest and the change thereof, bid price, ask price, bid volume, ask volume, settlement price, opening price, closing price, high price, low price, and previous settlement price, among others.

Daily options trading information is published after the close of each trading day, mainly including: contract symbol, opening price, high price, low price, closing price, previous settlement price, settlement price, price change, trading volume, open interest and the change thereof, turnover, delta, implied volatility, and exercise volume.

Delta is the ratio of the price change of an option contract to the price change of the underlying asset. Exercise volume refers to the quantity of option contracts that are closed out by exercise.

Weekly options trading information is published after the close of the final trading day of each week, mainly including: contract symbol, weekly opening price, high price, low price, weekly closing price, weekly settlement price, price change (difference between the closing price at the end of the current week and the settlement price at the end of the previous week), trading volume, open interest and any change thereof (difference between the open interests at the end of the current week and the previous week), turnover, and exercise volume.

Monthly options trading information is published after the end of the final trading day of each month, mainly including: contract symbol, monthly opening price, high price, low price, month-end closing price, price change (difference between the closing price at the end of the current month and the settlement price at the end of the previous month), open interest and

any change thereof (difference between the open interests at the end of the current month and the previous month), month-end settlement price, trading volume, turnover, and exercise volume.

Yearly options trading information is published after the end of the final trading day of each year, mainly containing:

- (i) the total trading volume and turnover for all option products, and the trading volume and turnover for each product; and
- (ii) the total exercise volume for all option products and the exercise volume for each product.

The Exchange may adjust the content of the annual information to be released as it deems necessary.

Investor Eligibility Requirements

I. Individual Clients

When an account-opening institution applies for a trading code or trading access for an individual Client with respect to an option product that has investor eligibility requirements, such individual Client should meet the following criteria:

- (i) having full capacity for civil conduct;
- (ii) having basic knowledge about futures trading and an understanding of the market rules;
- (iii) having records of no fewer than 20 simulated futures or options trades from at least 10 days of trading on Mainland futures exchanges; or having no fewer than 10 trades in futures, options or other centrally cleared derivatives at a Mainland trading venue in the past three years; or having no fewer than 10 trades in futures, options or other centrally cleared derivatives in the past three years on overseas exchanges regulated by competent futures regulatory authorities that have signed an MOU on regulatory cooperation with the CSRC;
- (iv) having an available balance of no less than RMB 100,000 or its equivalent in foreign currency in his or her margin account on each of the five consecutive trading days before applying for the trading code or trading access;
- (v) having no material adverse integrity records, having not been banned from futures market by any competent regulatory authority, and having not been restricted or prohibited from engaging in futures trading by any laws, regulations, ministry-level rules, or rules of the Exchange; and
- (vi) meeting any other conditions required by the Exchange.

II. General Institutional Clients

When an account-opening institution applies for a trading code or trading access for a general institutional client with respect to an option product that has investor eligibility requirements, such general institutional Client should meet the following criteria:

- (i) having the corresponding personnel with basic knowledge about futures trading and an understanding of the market rules;
- (ii) having records of no fewer than 20 simulated futures or options trades from at least 10 days of trading on Mainland futures exchanges; or having no fewer than 10 trades in futures, options or other centrally cleared derivatives at a Mainland trading venue in the past three years; or having no fewer than 10 trades in futures, options or other centrally cleared derivatives in the past three years on overseas exchanges regulated by competent futures regulatory authorities that have signed an MOU on regulatory cooperation with the CSRC;

- (iii) having an available balance of no less than RMB 100,000 or its equivalent in foreign currency in its margin account on each of the five consecutive trading days before applying for the trading code or trading access;
- (iv) having sound internal control, risk management and other relevant rules on futures trading;
- (v) having no material adverse integrity records, having not been banned from futures market by any competent regulatory authority, and having not been restricted or prohibited from engaging in futures trading by any laws, regulations, ministry-level rules, or rules of the Exchange; and
- (vi) meeting any other conditions required by the Exchange.

III. Exemptions

- (i) If a Client already has trading access to any product subject to investor eligibility requirements (“eligibility-restricted product”) listed on another Mainland trading venue and applies for a trading code of or the trading access to the Exchange, an account-opening institution may waive the basic knowledge and trading experience requirements. In addition, if the Client is already trading an eligibility-restricted product and the available funds balance required by that product is no lower than what is required by the product the Client is currently applying for, then the available funds balance requirement may also be waived.

The Client needs to provide supporting materials for the above-mentioned qualifications.

- (ii) An account-opening institution should make full use of existing information and assessment results. For a Client who has already passed the eligibility assessment and obtained trading access to a product listed on the Exchange, the account-opening institution may skip an assessment item that was examined before and automatically grant the Client access to other products listed on the Exchange. However, a funds balance review should be conducted if the new product the Client intends to trade has a higher available balance requirement than the products it currently has access to.
- (iii) Unless otherwise stated by laws, regulations, ministry-level rules, and the rules of the CSRC, an account-opening institution may waive the basic knowledge, trading experience, or available funds balance requirements when applying for a trading code or trading access to an eligibility-restricted product on the behalf of a Client, if the Client:
 1. is a professional investor as defined in the *Measures for the Administration of Securities and Futures Investors Suitability*;
 2. has trading access to an eligibility-restricted product and is applying for access to the same product at a different account-opening institution;

3. has the records for executing trades in futures, options, or any centrally cleared derivatives at a Mainland trading venue on no fewer than 50 trading days within the past year, or a Recognized Overseas Trading Record; or
4. is among other types of trader specially recognized by the Exchange such as market maker and Special Institutional Client.

How Options Hedging Works: Theory and Practice

I. Options Hedging in Theory

Hedging with Low Sulfur Fuel Oil futures means selling or buying Low Sulfur Fuel Oil in the futures market at the same time as buying or selling it in the spot market, with the goal of avoiding adverse price changes in the spot market through an offsetting position in futures.

There are broadly two types of price risk: a future price decrease or a future price increase. Low Sulfur Fuel Oil manufacturers are worried about the former, which will erode their profits; Low Sulfur Fuel Oil processors are worried about the latter, which will drive up their costs. Accordingly, the two most basic forms of hedging with Low Sulfur Fuel Oil futures are the short hedge and the long hedge.

Futures hedging is relatively simple but it also has some shortcomings. For example, when the futures price moves strongly against a trader, the trader faces the risk of margin calls that create financial stress.

Unlike futures hedging, options hedging will not expose buyer to the risk of margin calls, regardless of how the price of Low Sulfur Fuel Oil changes. In addition to this protection against price risks, option buyers have the opportunity to profit from a favorable price movement, at the cost of the premium. The option sellers, by contrast, receive the premium but assumes the obligation to perform; when the price of the underlying asset moves against the option sellers' position, the sellers may be required to post additional margin.

II. Options Hedging in Action

A shipping company enters into an agreement to purchase 1000 metric tons of Low Sulfur Fuel Oil to be delivered one month later at the then prevailing price. The current spot price of Low Sulfur Fuel Oil is 4,000 yuan/metric ton. Concerned about a potential price increase, the firm decides to establish a long hedge.

Actions for Futures and Options Hedging

Type	Strategy	Action
Futures hedging	Buying futures contracts	Long 100 lots of Low Sulfur Fuel Oil futures contract to be delivered in two months, at the price of 4,100 yuan/metric ton.
Options hedging	Buying call options	Long 100 lots of call options with the strike price of 4,100 yuan/metric ton and the underlying of Low Sulfur Fuel Oil futures contracts deliverable in two months, at the cost of 250 yuan/metric ton in premium.

1. Assuming the spot and futures prices rise to 4,500 and 4,600 respectively a month later:

Futures hedging:

Profit or loss from the spot position: $4,000 - 4,500 = -500$ yuan/metric ton

Profit or loss from the futures position: $4,600 - 4,100 = 500$ yuan/metric ton

Total profit or loss: 0 yuan/metric ton

Actual buying price: 4,000 yuan/metric ton

Options hedging:

Profit or loss from the spot position: $4,000 - 4,500 = -500$ yuan/metric ton

Profit or loss from the options position (upon exercising the options): $4,600 - 4,100 - 250 = 250$ yuan/metric ton

Total profit or loss: $250 - 500 = -250$ yuan/metric ton

Actual buying price: $4,000 + 250 = 4,250$ yuan/metric ton

2. Assuming the spot and futures prices fall to 3,500 and 3,600 respectively in a month:

Futures hedging:

Profit or loss from the spot position: $4,000 - 3,500 = 500$ yuan/metric ton

Profit or loss from the futures position: $3,600 - 4,100 = -500$ yuan/metric ton

Total profit or loss: 0 yuan/metric ton

Actual buying price: 4,000 yuan/metric ton

Options hedging:

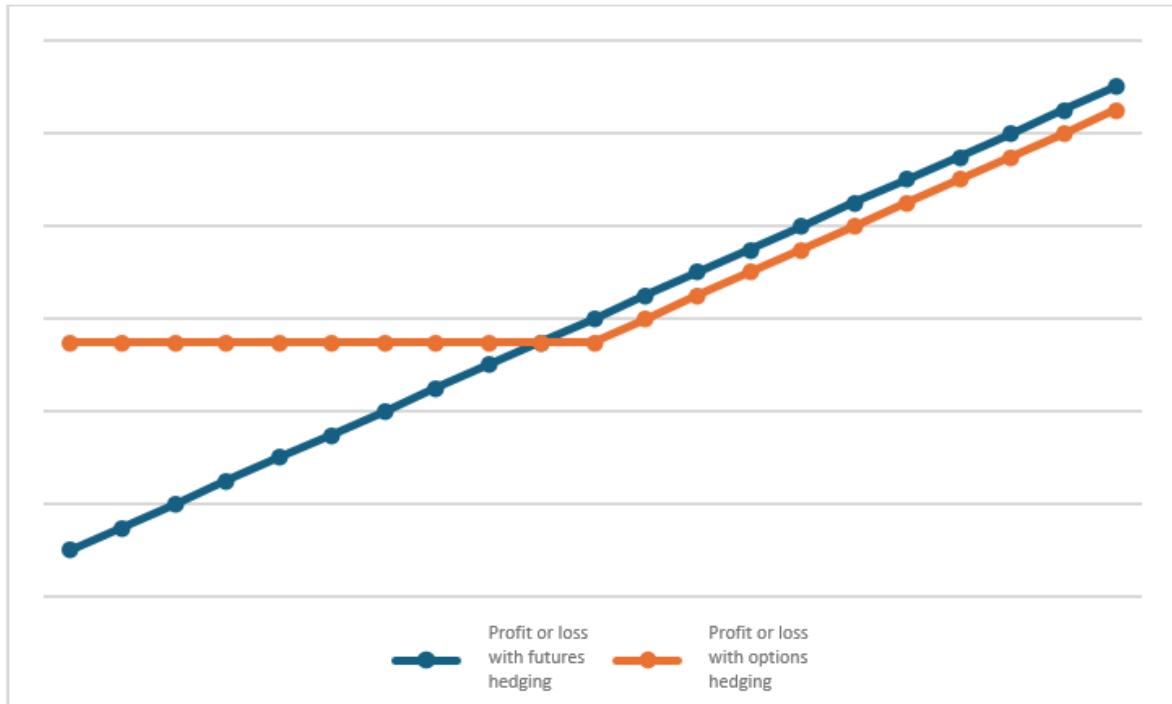
Profit or loss from the spot position: $4,000 - 3,500 = 500$ yuan/metric ton

Profit or loss from the options position (upon abandoning the options): premium loss = -250 yuan/metric ton

Total profit or loss: $500 - 250 = 250$ yuan/metric ton

Actual buying price: $4,000 - 250 = 3,750$ yuan/metric ton

Figure 1: Futures Hedging vs. Options Hedging



Characteristics of Futures and Options Hedging

Instrument	Futures	Options
Rights and obligations of buyer and seller	Reciprocal	Non-reciprocal, i.e., the buyer has the right to buy or sell the underlying asset at the agreed price, while the seller is obligated to fulfill the option contract
Effect	Buyer locks in the price but is unable to profit from favorable price movements in the future	Buyer locks in the price and needs to pay a premium, but has the opportunity to make extra profits; seller achieves risk management goals through spot market transaction
Margin	Required from both the buyer and the seller	Required from the seller only
Profit or loss before expiration date	Linear relationship between profit and loss	Non-linear relationship between profit and loss
Hedging range	Perfect hedge	Option combination can offer hedge within a certain price range and reduce the cost of hedging