ENERGY

# Light Sweet Crude Oil (WTI) Futures and Options

The world's most liquid crude oil benchmark.

# How the world advances

CME Group



As the world's leading and most diverse derivatives marketplace, CME Group is where the world comes to manage risk. CME Group exchanges offer the widest range of global benchmark products across all major asset classes, including futures and options based on interest rates, equity indexes, foreign exchange, energy, agricultural commodities, metals, weather and real estate. CME Group brings buyers and sellers together through its CME Globex electronic trading platform and its trading facilities in New York and Chicago. CME Clearing, an industry-leading central counterparty clearing provider, offers clearing and settlement services for exchange-traded and over-the-counter derivatives. Together, CME Group's products and services ensure that businesses everywhere can substantially mitigate counterparty credit risk in both on-exchange and over-the-counter derivatives markets.

# **The Energy Marketplace**

In 2008, NYMEX became part of CME Group. Together, we offer the most extensive and liquid energy complex in the world, including Light Sweet Crude Oil (WTI), Natural Gas (Henry Hub), petroleum and electricity products. Many of our contracts are benchmarks that set the price for these resources worldwide. From the world's largest industrial companies to financial institutions, our diverse universe of participants clear an average daily volume of 1.9 million energy contracts every day on CME Globex, through CME ClearPort or on our trading floor — making CME Group the world's leading energy marketplace.

# Key Crude Oil and Refined Product Contracts

#### **Futures**

- » Light Sweet Crude Oil (WTI) (CL)
- » E-mini Light Sweet Crude Oil (WTI) (QM)
- » Brent Crude Oil Last Day (BZ)
- » Brent (ICE) Calendar Swap (CY)
- » WTI Brent (ICE) Bullet Swap (BY)
- » Dubai Crude Oil Calendar Swap (Platts) (DC)
- » Heating Oil (HO)
- » RBOB Gasoline (RB)
- » European Gasoline Euro-bob Oxy NWE Barges Swap (7H)
- » New York Harbor Ultra-Low Sulfur Diesel (ULSD) (LH)
- » Gulf Coast ULSD (Platts) Up-Down Spread Swap (LT)
- » Gulf Coast No. 6 Fuel Oil 3.0% (Platts) Swap (MF)
- » Singapore Fuel Oil 180 cst Swap (UA)
- » Singapore Gasoil Swap (Platts) (SG)

#### Options

- » Light Sweet Crude Oil (WTI) (LO)
- » Light Sweet Crude Oil (WTI) Average Price (AO)
- » Light Sweet Crude Oil (WTI) Look-Alike (LC)
- » Light Sweet Crude Oil (WTI) 1 Month Calendar Spread (WA)
- » Light Sweet Crude Oil (WTI) Daily (CD)
- » Brent Crude Oil (OS)
- » Brent Look-Alike Crude Oil (BE)
- » Brent Crude Oil Average Price (BA)
- » Brent Crude Oil Last Day Financial 1 Month Calendar Spread (9C)
- » WTI Brent Crude Oil Spread (BV)
- » Heating Oil (OH)
- » Heating Oil Average Price (AT)
- » New York Harbor Gasoline Blendstock (RBOB) (OB)
- » RBOB Gasoline Average Price (RA)
- » Gasoil Average Price (F7)



# A History of Light Sweet Crude Oil (WTI) Futures and Options

Every day, around the world, virtually around the clock, Light Sweet Crude Oil (WTI) futures and options markets average 1,000,000 contracts traded that translates to one billion barrels of oil. Whether traded on the CME Globex electronic trading platform, on the trading floor in New York or cleared through CME ClearPort, WTI futures and options represent vital price risk management opportunities for global crude oil suppliers and consumers. However, this was not always the case.

Prior to the disruptive price shocks of the 1970's, oil prices were generally stable, following traditional, less complicated, supply/demand economics. During the 1970's, geopolitical issues like the 1973 Yom Kippur War and the Iranian Revolution of 1979 injected radical uncertainty into the market and shattered price stability, leading to continuing price increases throughout much of the 1970's and into the early 1980's. Concurrently, U.S. government price and allocation controls effectively prevented the market from responding naturally to any weakness in demand, allowing oilproducing nations to keep upward pressure on prices until controls were lifted in early 1981. Over the next two years, the market began responding to supply and demand,

resulting in newfound price volatility. Seeing a new need in the market, the New York Mercantile Exchange (NYMEX), now a part of CME Group, introduced an innovative tool to provide the oil industry with an effective hedge against price volatility — WTI futures.

Within three years of contract launch, overproduction by the Organization of Petroleum Exporting Countries (OPEC) dropped oil prices from \$32.00 a barrel to \$9.75 in just five months. As a result, more and more institutions turned to the WTI contract as a risk management tool. In the press, Exchange-price quotes began to take precedence over previously accepted price quotations.

Five years later, when Iraq invaded Kuwait in August of 1990, the risk of war threatened to cut off nearly one quarter of the world's oil supply. Prices soared and trading on the Exchange rallied as oil producers and buyers sought to sustain appropriate levels of risk management in a time of extreme uncertainty.

Since 2004, global production capacity has expanded continuously, but oil prices have experienced a secular rise as a wealthier world economy's appetite for crude oil outpaces this expansion. Yet this → WTI futures and options represent vital price risk management opportunities.

secular market trend has been punctuated by dramatic swings. The financial crisis of 2008, along with the ensuing global recession, brought about the sharpest recorded decline in demand for crude oil. Likewise, massive political unrest across the Middle East in 2011 has led to greater volatility and unpredictability. In times of uncertainty, the market flocks to WTI, and steady increases in contract volume have further reinforced WTI's function as a global benchmark for crude oil prices. As crude oil markets continue to experience these changes, the value of hedging with WTI futures has never been greater.

# When the World Asks, "What's the Price of Crude Oil?" WTI is the Answer.

WTI (West Texas Intermediate — a light sweet crude oil stream) consists of a blend of several U.S. domestic streams of light sweet crude oil. The delivery point in Cushing, Oklahoma, is a vital transshipment point with many intersecting pipelines, storage facilities and easy access to refiners and suppliers. Crude oil flows inbound to Cushing from all directions and outbound through dozens of pipelines. Naturally, this strategic position led to WTI's development as a significant physical market price reference well before the Exchange listed crude oil futures in 1983.

As a pricing mechanism for physical delivery of crude oil in North America, WTI is firmly rooted in the physical market. Because of the unique immediacy, breadth, and depth of pricing and inventory data supplied by the U.S. government, and because onshore North American production has been a key driver of growing global crude oil supply over the past decade, no other crude oil benchmark more accurately reflects the supply and demand dynamics of the market.

In the U.S. market, physical crude oil is typically bought and sold in increments of 1,000 barrels for delivery via pipeline each day of the month, with the standard commercial contract specifying 1,000 barrels per day for the entire month. Consequently, our futures contract size of 1,000 barrels is a convenient unit that is tailor-made for standard U.S. commercial transactions, offering a nearly instantaneous price convergence between the futures and physical markets. This one-to-one correspondence is why our WTI contract continues to be the most liquid benchmark for the global price of oil. Approximately 20 million barrels per day of North American crude oil sales are priced using our WTI contract as the benchmark — ensuring it remains the most efficient hedging tool for hundreds of international commercial oil companies.

Additionally, in the international crude oil market, physical oil is transported from sources as near as Mexico and as far as Saudi Arabia in large cargo ships, whose capacity ranges from smaller cargoes of approximately 500,000 barrels to the largest cargoes of 4 million barrels in ships called Ultra-Large Crude Carriers. Typically, these oil cargo transactions are hedged using tools directly derived from the price of our WTI contract, which allows commercial oil companies to lock in their price for imported oil in varying size increments. The Exchange futures contract provides a basic unit of account in increments of 1,000 barrels, which gives companies the ability to customize the size of their futures position to match the size of their import cargo. Further, there is a highly liquid over-the-counter (OTC) derivatives market that is tied to the deep liquidity of our WTI futures contract, allowing market participants to manage their oil price risk with customized OTC cleared instruments.

WTI's centrality to these markets means that its forward price curve, aggregating futures prices up to nine years forward in time, is a mainstay reference on individual, organizational and macroeconomic scales. It enables individual investors to strategically diversify investment portfolios, refiners and other operations using oil as a direct input to anticipate supply-demand fluctuations, and economists to calibrate the value of national oil reserves.



## **Crude Oil Month-End Settlement Price**

# Who Uses the Crude Oil Futures Market?

A WTI futures contract is the most liquid, transparent oil-trading instrument available to the industry today. Oil is traded worldwide and the market can be affected by events anywhere at anytime. To help manage that risk, market participants can trade WTI contracts on CME Globex virtually 24 hours a day. OTC traders can also have the security of clearing privately negotiated transactions through CME ClearPort.

The versatility and wide acceptance of the benchmark futures contract serves the diverse and complex needs of an array of crude oil marketplace participants, including:

# Commercial Enterprises with a Direct Stake in the Price of Oil

The contract can be a valuable hedging instrument. As a safegaurd against falling cash market prices, producers, traders and marketers can sell futures to lock in prices for future delivery, protecting the value of future crude oil sales.

# Other Oil Industry Participants

WTI futures can be used as a hedging instrument to shift exposure to price risk. Refiners, traders, and marketers will buy futures to protect against their exposure to rising cash market prices.

# **Professional Energy Traders**

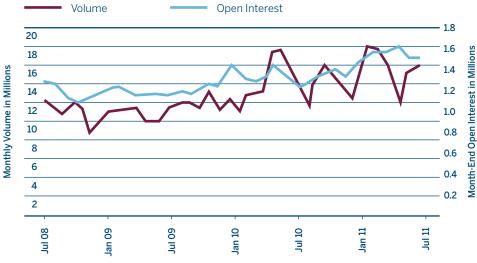
Trading listed heating oil and unleaded gasoline contracts in tandem with crude oil futures can lock in the "crack spread," or the theoretical cost of the refining margin between crude oil and refined products. The Exchange also offers options contracts on the heating oil/crude oil and gasoline/crude oil crack spreads, as well as on each individual futures contract.

# **Investors and Speculators**

With no intention of buying or selling actual commodities, investors and speculators try to make money by buying futures contracts at a low price and selling back at a higher price or by selling futures contracts at a high price and buying back lower. However, they also take on the risk that prices may change to their disadvantage.



#### **Crude Oil Monthly Volume and Month-End Open Interest**





# The Benefits of Trading WTI with CME Group

# Increasing Flexibility with Exchange of Futures for Physicals

To allow market participants to more easily manage crude oil price risk, the Exchange provides a trading instrument to complement the futures contract known as Exchange of Futures for Physicals (EFP). An EFP allows the exchange of a futures position for a physical position in the underlying cash market. Such a contract is optimal to deliver or receive crude oil from a specifically desired counterparty, that does not necessarily conform to the delivery location or grade specification of our WTI futures contract. EFPs, which can benefit both sides of a transaction, account for most of the deliveries made against the futures contract. Rather than accepting a randomly matched partner, as would occur through normal clearing procedures, EFPs allow traders to choose their trading partners while retaining anonymity in the market at large.

# Safe and Secure – Central Counterparty Clearing

We lead the industry in providing a comprehensive set of riskmanagement services — giving you the security and confidence market participants need to operate, invest and grow. For every trade completed on our Exchange — whether on the floor, on the screen or using off-exchange transactions cleared through CME ClearPort — CME Clearing acts as the counterparty to every trade to substantially mitigate counterparty credit risk and virtually guarantee the financial soundness of both parties. By being at the center of every transaction, we can protect everyone's interest and ensure the integrity of the marketplace.

## **KEY ADVANTAGES OF CME CLEARING**

#### **Central Counterparty Guarantee**

Whether you trade live on the floor, electronically on CME Globex or clear privately negotiated trades through CME ClearPort, your credit risk is substantially mitigated as CME Clearing becomes the buyer to every seller and the seller to every buyer.

#### \$8 Billion in Safety and Soundness\*

In more than 100 years of trading, CME Clearing has never had a default or a loss of customer funds resulting from failure of a clearing firm.

#### Segregation of Customer Funds

Your funds are not subject to creditor claims against your clearing firm should it become financially unstable or insolvent, and can be transferred to another clearing firm if needed.

#### **Performance Bond Requirements**

All of our customers are required to put up a "good faith deposit," or performance bond, to cover the maximum likely loss a position could suffer. In turn, our clearing member firms must post to CME Clearing at least the maintenance performance bonds for all positions carried.

#### **Twice Daily Mark-To-Market Process**

Accumulation of debts/losses is limited and transparency is achieved as CME Clearing marks your futures and options positions to market twice daily.

#### 24-Hour Monitoring by an Experienced Risk-Management Team

A global team of clearing and auditing professionals uses a variety of sophisticated tools to carefully observe risk 24 hours a day, seven days a week.

\* Financial safeguards and collateral levels cited are as of Dec. 31, 2010.

# WTI Options: Versatility Defined

# Expanding Risk Management Opportunities with Crude Oil Options

WTI options, introduced in 1986, provide yet another hedging instrument for oil traders to increase their flexibility in managing business risk.

The Exchange offers many types of crude oil options, but in the most liquid variety, the holder of an options contract has the right, but not the obligation, to buy or sell a futures contract at a specified time in exchange for a one-time payment, or premium. The seller of an option, on the other hand, has an obligation to buy or sell a futures contract, if a holder of an option chooses to exercise it.

All varieties of options exist in two basic forms: calls and puts. A call gives the holder the right, but not the obligation, to buy futures at a specific price (the strike or exercise price) within a specific period of time. A put gives the holder the right, but not the obligation, to sell futures at a specific price for a specific period of time.

Buying a call or a put is similar to purchasing an insurance policy: in return for a one-time, up-front premium, the buyer obtains protection against a futures contract's price risk for the designated time period. To protect against the risk of a price increase, the hedger would purchase a call; to protect against a price decrease, a put would be purchased.

An options seller (or writer) performs a function similar to that of an insurance company. He collects the premium and is obligated to perform, should a buyer exercise the option. If options expire without being exercised, the options seller profits by the amount of the premium.

If prices are expected to rise, a trader can buy a call, which, for example, would give a refiner the ability to buy farther forward to meet his crude oil acquisition requirements, while averting the risk of a price increase.

If crude oil prices are expected to fall, a trader may consider puts, which permit the holder to sell forward crude oil production, protecting his selling price in the event of a market price decline.

Unlike futures, which must either be liquidated or held to delivery, the holder of an options contract has a third alternative: if the futures price does not move enough to make exercising the option worthwhile, or moves in the opposite direction, the holder may choose to allow his options contract to expire worthless and is otherwise able to participate fully in any favorable price move.

# WTI options provide another hedging instrument for flexibility in managing business risk.

# A Diverse Options Slate for Diverse Hedging Needs

Because of the sheer size of the crude oil market and the WTI benchmark's central position within it, the Exchange offers a sophisticated array of option varieties. Each augments the flexibility of various hedging activities, while affording speculators a maximum breadth of strategies to participate in an enormously liquid market.



## WTI Options Complex Monthly Average Daily Volume and Month-End Open Interest

## CRUDE OIL OPTIONS FOR MAXIMUM FLEXIBILITY

### **European-Style WTI Options**

Also known as look-alike or "vanilla" options, this simplest variety of standard options:

- » may be exercised into cash settlement upon expiration only
- » is priced based on the underlying contract's expected price upon expiration
- » tends to trade at a discount to American-style options
- » if settled financially, protects the writer from any unexpected exercise into futures by the holder

## American-Style WTI Options

A more flexible variant of the European type, this standard option:

- » may be exercised into its underlying physically settled WTI futures contract prior to expiration
- » affords the opportunity to earn interest on premiums recovered from early exercise
- » is the more widely traded standard crude oil option type
- » permits hedgers with a physical oil position to respond more rapidly to price fluctuations

### **Average Price WTI Options**

Often labeled Asian or arithmetic Asian options, this type of option:

- » may be financially settled into its underlying WTI calendar swap only at expiration
- » is priced based on its underlying contract's expected average price over one month
- » reduces volatility risk and often trades at a discount to American-style options
- » mirrors the oil industry's daily commercial activities across the month prior to expiration

## **Options on WTI Futures Strips**

Sometimes referred to as swaptions or "one-timers", this option variety:

- » may be exercised into its underlying financially settled futures contracts only at expiration
- » is priced based on the average price of an underlying strip of contracts spanning several months
- » costs less than buying separately expiring options for each month at the same strike price
- » enables producers and consumers operating on a multi-period time horizon to lock in a single premium and strike price

### **Calendar Spread WTI Options**

Also called time spread options, this highly popular type of option:

- » may be exercised into its underlying futures positions only at expiration
- » is priced based on the spread between two underlying WTI futures positions, one long and one short, on a nearby and a more distant month
- » enables market participants to bet on growth, contraction or inversion of the spread
- allows commercial participants in the oil industry to hedge against the costs of inventory storage based on divergent expectations for short- and long-term supply-demand fluctuations.

#### Crack Spread WTI Options

Named for the "cracking" process that converts crude oil into refined products, this option type:

- » may be exercised into its underlying futures positions only at expiration
- » is priced based on the spread between one underlying WTI futures and one underlying refined product futures position, one long and one short, for the same contract month\*
- » like calendar spread options, enables market participants to bet on growth, contraction or inversion of the underlying spread
- » provides refineries with a hedging tool to protect their profit margins, based on divergent expectations of supply-demand fluctuations for crude oil versus refined products

## Short-Term WTI Options

A low-cost solution for targeting specific nearby points in time, this variant of the European option:

- » may be cash settled upon expiration only
- » expires up to five business days forward following the first cycle week, with a new contract listed another five business days forward listed in its place
- » provide a flexible, secure alternative to OTC trades that capitalize on sudden market movements
- » enables physical market participants to respond nimbly to natural disasters and geopolitical disruptions

\*Refined product contracts typically terminate ten days after the associated crude oil contract.

# **WTI Contract Specifications**

## Light Sweet Crude Oil Futures

Code	CL						
Venue	CME Globex, CME ClearPort, Open Outcry (New York)						
Hours (All Times are New York Time/ET)	CME Globex and CME Clearport: Sunday – Friday 6:00 p.m. – 5:15 p.m. (5:00 p.m. – 4:15 p.m. Chicago Time/CT) with a 45-minute break each day beginning at 5:15 p.m. (4:15 p.m. CT) Open Outcry: Monday – Friday 9:00 a.m. – 2:30 p.m. (8:00 a.m. – 1:30 p.m. CT)						
Contract Unit	1,000 barrels						
Pricing Quotation	U.S. dollars and cents per barrel						
Minimum Fluctuation	\$0.01 per barrel						
Termination of Trading	Trading in the current delivery month shall cease on the third business day prior to the twenty-fifth calendar day of the month preceding the delivery month. If the twenty-fifth calendar day of the month is a non-business day, trading shall cease on the third business day prior to the last business day preceding the twenty-fifth calendar day. In the event that the official Exchange holiday schedule changes subsequent to the listing of a Crude Oil futures, the originally listed expiration date shall remain in effect. In the event that the originally listed expiration day is declared a holiday, expiration will move to the business day immediately prior.						
Listed Contracts	Year and the next five years; in addition, the June and December contract months are listed beyond the sixth year. Additional months will be added on an annual basis after the December contract expires, so that an additional June and December contract would be added nine years forward, and the consecutive months in the sixth calendar year will be filled in. Additionally, trading can be executed at an average differential to the previous day's settlement prices for periods of two to 30 consecutive months in a single transaction. These calendar strips are executed during open outcry trading hours.						
Settlement Type	Physical						
Trading at Settlement (TAS)	Trading at settlement is available for spot (except on the last trading day), 2nd, 3rd and 7th months and subject to the existing TAS rules. Trading in all TAS products will cease daily at 2:30 p.m. Eastern Time. The TAS products will trade off of a "Base Price" of 0 to create a differential (plus or minus 10 ticks) versus settlement in the underlying product on a 1 to 1 basis. A trade done at the Base Price of 0 will correspond to a "traditional" TAS trade which will clear exactly at the final settlement price of the day.						
Delivery	<ul> <li>(A) Physical delivery shall be made F.O.B. at any pipeline or storage facility in Cushing, Oklahoma, with pipeline access to TEPPCO, Cushing storage or Equilon Pipeline Company LLC, Cushing Storage. Delivery shall be made in accordance with all applicable Federal executive orders and all applicable Federal, State and local laws and regulations.</li> <li>(B) At buyer's option, such delivery shall be made by any of the following methods: (1) By interfacility transfer ("pumpover") into a designated pipeline or storage facility with access to seller's incoming pipeline or storage facility. (2) By in-tank transfer of title to the buyer without physical movement of product; if the facility used by the seller allows such transfer, or by in-line transfer or book-out if the seller agrees to such transfer.</li> </ul>						
Grade and Quality Specifications	Physical delivery shall consist of light, sweet crude oil that meets the requirements of the TEPPCO domestic common stream designation, with maximum sulfur content of 0.42% or less using ASTM D-4294, and gravity between 37 and 42 degrees API using ASTM D-287. The complete specifications can be viewed in the CME Rulebook under section 200.12.						
Rulebook Chapter	200						
Exchange Rule	These contracts are listed with, and subject to, the rules and regulations of NYMEX.						

## Light Sweet Crude Oil Option

Contract Name	Light Sweet Crude Oil Option
Underlying Futures	Light Sweet Crude Oil Futures (CL)
Product Symbol	LO
Venue	CME Globex, CME ClearPort, Open Outcry (New York)
Hours (All Times are New York Time/ET)	CME Globex and CME Clearport: Sunday – Friday 6:00 p.m. – 5:15 p.m. (5:00 p.m. – 4:15 p.m. Chicago Time/CT) with a 45-minute break each day beginning at 5:15 p.m. (4:15 p.m. CT) Open Outcry: Monday – Friday 9:00 a.m. – 2:30 p.m. (8:00 a.m. – 1:30 p.m. CT)
Contract Unit	A Light Sweet Crude Oil Put (Call) option traded on the Exchange represents an option to assume a short (long) position in the underlying Light Sweet Crude Oil futures traded on the Exchange.
Price Quotation	U.S. dollars and cents per barrel
Option Style	American
Minimum Fluctuation	\$0.01 per barrel
Expiration of Trading	Trading ends three business days before the termination of trading in the underlying futures contract.
Listed Contracts	Crude oil options are listed nine years forward using the following listing schedule: consecutive months are listed for the current year and the next five years; in addition, the June and December contract months are listed beyond the sixth year. Additional months will be added on an annual basis after the December contract expires, so that an additional June and December contract would be added nine years forward, and the consecutive months in the sixth calendar year will be filled in.
Strike Prices	Twenty strike prices in increments of \$0.50 per barrel above and below the at-the-money strike price, and the next 10 strike prices in increments of \$2.50 above the highest and below the lowest existing strike prices for a total of at least 61 strike prices. The at-the-money strike price is nearest to the previous day's close of the underlying futures contract. Strike price boundaries are adjusted according to the futures price movements.
Settlement Type	Exercise into Futures
Rulebook Chapter	310
Exchange Rule	These contracts are listed with, and subject to, the rules and regulations of NYMEX.

## WTI Average Price Option

Underlying Futures	Light Sweet Crude Oil Futures (CL)							
Product Symbol	AO							
Venue	CME ClearPort, Open Outcry (New York)							
Hours (All Times are New York Time/ET)	<b>CME ClearPort:</b> Sunday – Friday 6:00 p.m. – 5:15 p.m. (5:00 p.m. – 4:15 p.m. Chicago Time/CT) with a 45-minute break each day beginning at 5:15 p.m. (4:15 p.m. CT) <b>Open Outcry:</b> Monday – Friday 9:00 a.m. – 2:30 p.m. (8:00 a.m. – 1:30 p.m. CT)							
Contract Unit	On expiration of a call option, the value will be the difference between the average daily settlement price during the calendar month of the first nearby underlying Light Sweet Crude Oil futures and the strike price multiplied by 1,000 barrels, or zero, whichever is greater. On expiration of a put option, the value will be the difference between the strike price and the average daily settlement price during the calendar month of the first nearby underlying Light Sweet Crude Oil futures and the strike price and the average daily settlement price during the calendar month of the first nearby underlying Light Sweet Crude Oil futures multiplied by 1,000 barrels, or zero, whichever is greater.							
Price Quotation	U.S. dollars and cents per barrel							
Option Style	Average Price – non early exercisable option							
Minimum Fluctuation	\$0.01 per barrel							
Expiration of Trading	Trading ends the last business day of the calendar month.							
Listed Contracts	72 consecutive months							
Strike Prices	Twenty strike prices in increments of $0.50 (50¢)$ per barrel above and below the at-the-money strike price, and the next 10 strike prices in increments of $2.50$ above the highest and below the lowest existing strike prices for a total of at least 61 strike prices. The at-the-money strike price is nearest to the previous day's close of the underlying futures contract. Strike price boundaries are adjusted according to the futures price movements. In addition, options trading can be conducted in strike price increments of $0.50 (50¢)$ per barrel above and below the lowest existing strike prices for a total of at least 61 strike prices. The at-the-money strike price is nearest to the previous day's close of the underlying futures contract. Strike price boundaries are adjusted according to the futures price movements. In addition, options trading can be conducted in strike price increments of $0.01$ .							
Settlement Type	Financial							
Rulebook Chapter	341							
Exchange Rule	These contracts are listed with, and subject to, the rules and regulations of NYMEX.							

## WTI Look-Alike Option

Underlying Futures	Light Sweet Crude Oil Futures (CL)							
Product Symbol	LC							
Venue	CME Globex, CME ClearPort, Open Outcry (New York)							
Hours (All Times are New York Time/ET)	CME Globex and CME Clearport: Sunday – Friday 6:00 p.m. – 5:15 p.m. (5:00 p.m. – 4:15 p.m. Chicago Time/CT) with a 45-minute break each day beginning at 5:15 p.m. (4:15 p.m. CT) Open Outcry: Monday – Friday 9:00 a.m. – 2:30 p.m. (8:00 a.m. – 1:30 p.m. CT)							
Contract Unit	On expiration of a call option, the value will be the difference between the settlement price of the underlying Light Sweet Crude Oil futures and the strike price multiplied by 1,000 barrels, or zero, whichever is greater. On expiration of a put option, the value will be the difference between the strike price and the settlement price of the underlying Light Sweet Crude Oil futures multiplied by 1,000 barrels, or zero, whichever is greater.							
Price Quotation	U.S. dollars and cents per barrel							
Option Style	European							
Minimum Fluctuation	\$0.01 per barrel							
Expiration of Trading	Trading ends three business days before the termination of trading in the underlying futures contract.							
Listed Contracts	The current year and the next five years. A new calendar year will be added following the termination of trading in the December contract of the current year.							
Strike Prices	Strike prices will be in dollars and cents per barrel, so long as they are greater than or equal to zero.							
Settlement Type	Financial							
Rulebook Chapter	550							
Exchange Rule	These contracts are listed with, and subject to, the rules and regulations of NYMEX.							

## WTI Calendar Spread (1, 2, 3, 6, 12 Month) Option

Underlying Futures	Light Sweet Crude Oil Futures (CL)
Product Symbol	WA, WB, WC, WM, WZ
Venue	CME Globex*, CME ClearPort, Open Outcry (New York)
Hours (All Times are New York Time/ET)	CME Globex and CME Clearport: Sunday – Friday 6:00 p.m. – 5:15 p.m. (5:00 p.m. – 4:15 p.m. Chicago Time/CT) with a 45-minute break each day beginning at 5:15 p.m. (4:15 p.m. CT) Open Outcry: Monday – Friday 9:00 a.m. – 2:30 p.m. (8:00 a.m. – 1:30 p.m. CT)
Contract Unit	A WTI Calendar Spread put option on the Exchange represents an option to assume a short position in the first expiring Light Sweet Crude Oil futures in the spread and a long position in the second expiring Light Sweet Crude Oil futures in the spread on the Exchange. A WTI Calendar Spread call option represents an option to assume a long position in the first expiring Light Sweet Crude Oil futures in the spread and a short position in the second expiring Light Sweet Crude Oil futures in the spread traded on the Exchange.
Price Quotation	U.S. dollars and cents per barrel
Option Style	European
Minimum Fluctuation	\$0.01 per barrel
Expiration of Trading	Trading shall cease on the last business day immediately preceding the expiration of the first expiring futures contract in the spread.
Listed Contracts	One-month calendar spreads are available for each underlying Light Sweet Crude Oil futures spread. Additionally, spreads are available for any combination of the first four months; one-month spreads during the first 60 listed months; the closest March/March, June/June, September/September, and all one-year December/December spreads; and all June/December, December/June, spreads through the third nearby June and fourth nearby December.
Strike Prices	Ten strike prices in increments of \$0.05 per barrel above and below the at-the-money strike price, and the next five strike prices in increments of \$0.10 a barrel above the highest and below the lowest existing strike prices for a total of at least 31 strike prices. Strike price boundaries are adjusted according to futures price movements.
Settlement Type	Excercise into Futures
Rulebook Chapter	390
Exchange Rule	These contracts are listed with, and subject to, the rules and regulations of NYMEX.

\* 2, 3, 6, and 12 Month Options are available only on CME Clearport and for open outcry trading.

## **Daily Crude Oil Option**

Underlying Futures	Light Sweet Crude Oil Futures (CL)
Product Symbol	CD
Venue	CME ClearPort, Open Outcry (New York)
Hours (All Times are New York Time/ET)	<ul> <li>CME ClearPort: Sunday – Friday 6:00 p.m. – 5:15 p.m. (5:00 p.m. – 4:15 p.m. Chicago Time/CT)</li> <li>with a 45-minute break each day beginning at 5:15 p.m. (4:15 p.m. CT)</li> <li>Open Outcry: Monday – Friday 9:00 a.m. – 2:30 p.m. (8:00 a.m. – 1:30 p.m. CT)</li> </ul>
Contract Unit	A Daily Crude Oil put option traded on the Exchange represents the cash difference between the strike price and the settlement price of the first nearby settlement price of Light Sweet Crude Oil futures multiplied by 1,000 barrels, or zero, whichever is greater. A Daily Crude Oil call option traded on the Exchange represents the cash difference between the settlement price of the first nearby settlement price of Light Sweet Crude Oil futures and the strike price multiplied by 1,000 barrels, or zero, whichever is greater.
Price Quotation	U.S. dollars and cents per barrel
Option Style	European
Minimum Fluctuation	\$0.01 per barrel
Expiration of Trading	The contract expires at the close of the business day it was initially listed on.
Listed Contracts	Trading in Daily Crude Oil option contracts shall be conducted each business day. Trading shall be commenced on the day fixed by resolution of the Board of Directors.
Strike Prices	Prices shall be quoted in dollars and cents per barrel.
Settlement Type	Financial
Rulebook Chapter	833
Exchange Rule	These contracts are listed with, and subject to, the rules and regulations of NYMEX.

# Accessing the Security of CME Group Energy Markets

There are three ways to access the security of our Energy markets: on CME Globex, on CME ClearPort and on the New York Trading Floor. Whatever your preferred platform, CME Group brings together a world of participants and provides them with the security of centralized clearing. With a broad base of trading partners, we offer the liquidity and volume you need to manage your crude oil risk. Further, when you trade or use our OTC clearing services, you are protected by the mitigation of counterparty credit risk, the cornerstone of our markets for more than 100 years.

# CME Globex for Electronic Trading

CME Globex is the world's leading electronic trading platform, providing access to the broadest array of futures and options products available on any exchange. Customers trade on CME Globex around the globe and virtually around the clock. It also offers:

- » High-speed trade execution
- » Vast capabilities to facilitate the most complex and demanding trading
- » Direct market access and central counterparty clearing
- » Fairness, transparency and anonymity
- » Global distribution and international hubs

The platform is continuously enhanced to serve customers high-speed, high-volume capacity, improved options capabilities and a range of new products.

# CME ClearPort for Clearing OTC Transactions

CME ClearPort is a comprehensive set of flexible clearing services for the global OTC market. Launched in 2002 to provide centralized clearing services and mitigate risk in the energy marketplace, CME ClearPort now clears transactions across multiple asset classes around the world. With OTC clearing through CME ClearPort, you can continue to conduct business offexchange, but you gain the advantages of security, efficiency and confidence.

# Trading Floor for Exchange Traded Transactions

Traditional open outcry trading of Energy contracts is available on our trading floor in New York. The trading floor is also host to our highest concentration of options trading liquidity.

# **Real-Time Quotes**

A smart opportunity is a click away. Create a free account to view real-time quotes at **cmegroup.com/energyquotes**.

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# Calculate and Control Your WTI Crude Oil Price Risk Now

Smart resources are available to get you started trading WTI futures and options:

- » Basics of Trading
- » Market Commentary
- » Webinars
- » Market Data
- » Technical Analysis

Find educational resources at cmegroup.com/education.

For more information on crude oil products, visit **cmegroup.com/wti** or contact the Energy and Metals hotline at **+1 212 299 2301**.

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All matters pertaining to rules and specifications herein are made subject to and are superseded by official CME, CBOT and NYMEX rules. Current rules should be consulted in all cases concerning contract specifications.

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