

WTI Crude Oil Futures



Crude Oil Derivatives (Brent and WTI) are amongst the top 5 traded products in the Commodities market space.

Cash settled WTI Crude Oil Futures contracts with a contract size of **100 barrels** shall be available for trading on NSE from 15th May 2023 onwards.

Crude oil is an unrefined petroleum product composed of hydrocarbon deposits and other organic materials. A type of fossil fuel, crude oil can be refined to produce usable products such as gasoline, diesel and various forms of petrochemicals. It is a non-renewable resource, which means that it can't be replaced naturally at the rate we consume it and is therefore a limited resource.

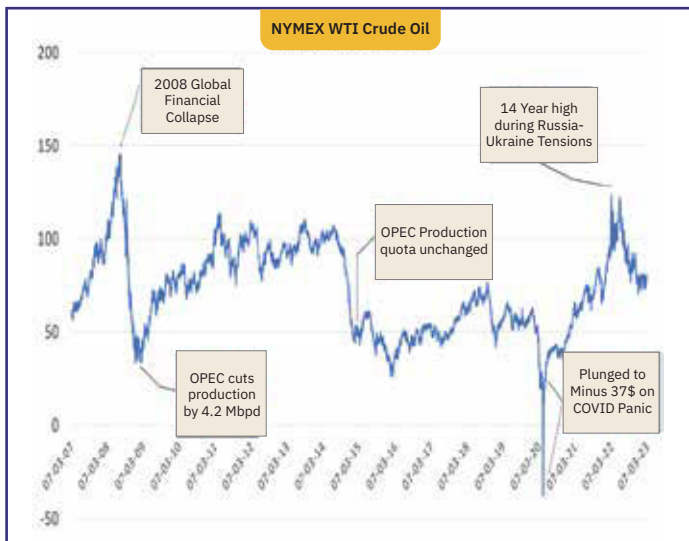
WTI (West Texas Intermediate) Crude Oil is a specific grade of Crude oil and one of the main three benchmarks

in oil pricing, along with Brent and Dubai Crude.

WTI is known as a light sweet oil because it contains between 0.24% and 0.34% sulfur, making it “sweet”, and has a low density, making it “light”.

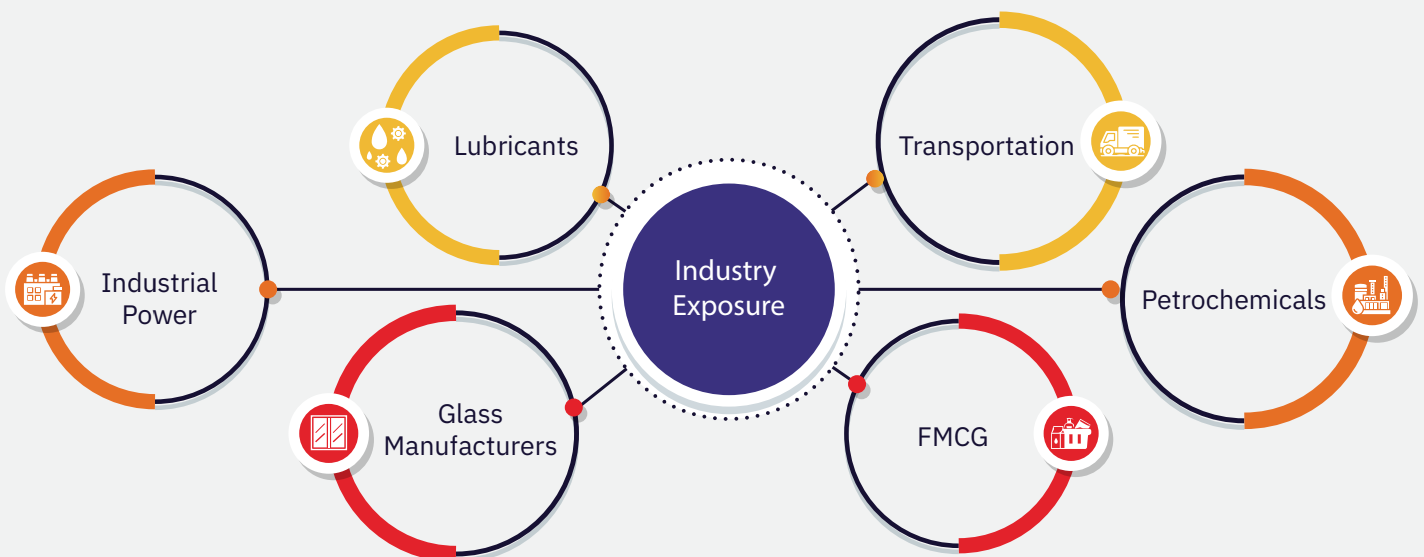
WTI is the main oil benchmark for North America as it is sourced from the United States, primarily from the Permian Basin and Texas. It then travels through pipelines where it is refined in the Midwest and the Gulf of Mexico. The main delivery point for physical exchange and price settlement for WTI is Cushing, Oklahoma.

India is 3rd largest consumer of crude oil in the world, after United States and China.



Factors affecting market Fundamentals

- US Crude Inventories
- Economic Factors: recession, inflation, crisis
- Speculation, Hedging & Investment
- Geopolitical Actions
- Weather Conditions
- OPEC & Non-Opec Decisions & Broadcasts
- Global Economic Growth & Trade Policies

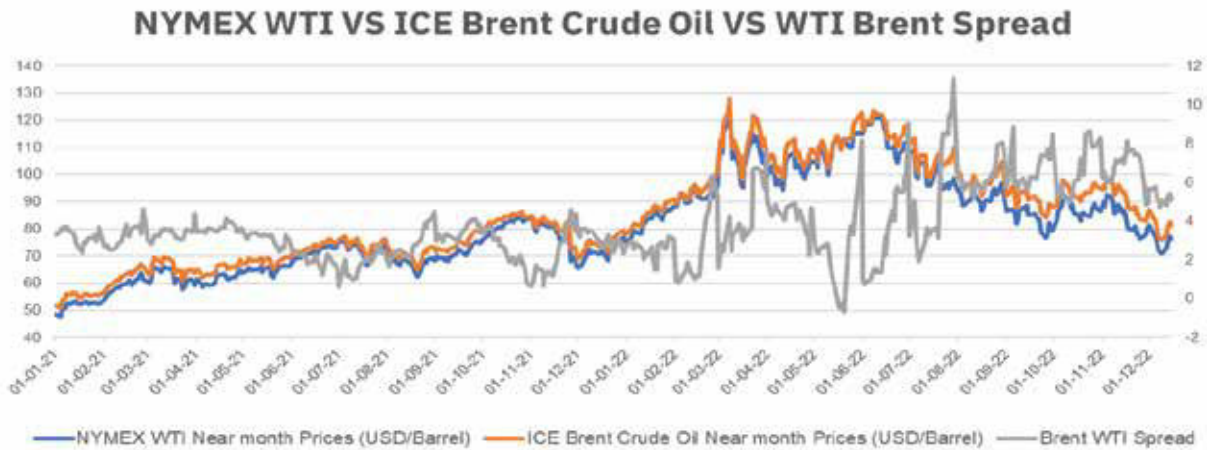


NSE WTI Crude Oil Futures Specifications:

Instrument & Symbol	Futures Contract (FUTENR) WTICRUDE
Trading Unit	100 Barrel
Tick Size / Quotation	₹ 1 per Barrel
Contract Cycle	Monthly Contracts
Profit / Loss Per Tick	₹ 100
Settlement	Cash Settled
Due Date Rate (DDR) / Final Settlement Price (FSP)	<ul style="list-style-type: none"> • Due date rate (FSP) shall be the settlement price, in Indian rupees, of the New York Mercantile Exchange's (NYMEX) Crude Oil (CL) front month contract on the last trading day of the NSE WTI Crude Oil contract. • The last available RBI USDINR reference rate will be used for the conversion. • The price so arrived will be rounded off to the nearest tick.

Volatility Matrix

	CY 2021		
	NYMEX WTI	ICE BRENT	BRENT WTI SPREAD
Annual Volatility	34.54%	31.92%	167.79%
Avg Daily Volatility	2.17%	2.01%	10.57%
	CY 2022		
Annual Volatility	47.32%	46.14%	386.22%
Avg Daily Volatility	2.98%	2.90%	24.33%



Key Benefits of Trading at NSE



NIL Exchange Transaction Charges



Brent WTI Spread Trading possible on a single platform



Fungibility of Collateral across segments



WTI Crude Oil being a globally traded contract, creates arbitrage opportunities between NSE and other exchanges

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NSE

Natural

Gas Futures



The Henry Hub Natural Gas futures contract is one of the most traded natural gas futures contracts in the world due to its price transparency and robust liquidity.

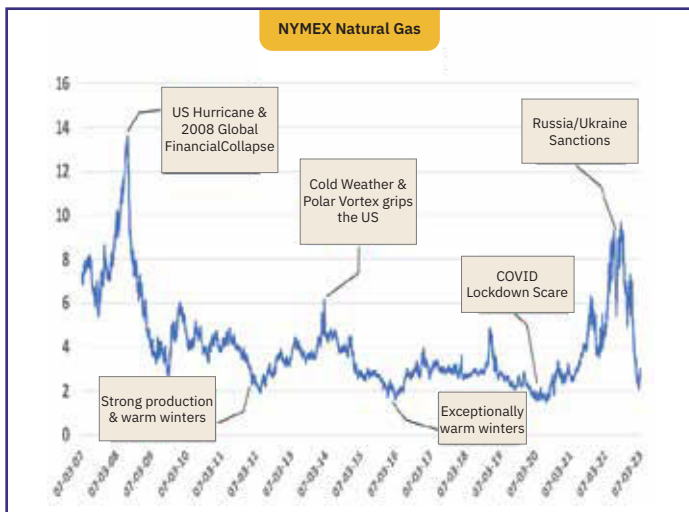
Cash settled Natural Gas Futures contracts with a contract size of **1250 mmBtu** shall be available for trading on NSE from 15th May 2023 onwards.

Natural Gas is found in deep underground rock formations or associated with other hydrocarbon reservoirs in coal beds and as methane clathrates.







Natural gas is used mainly in the industrial, commercial, transportation, and household sectors. Natural gas is an essential energy source, and its demand is continuously increasing globally.

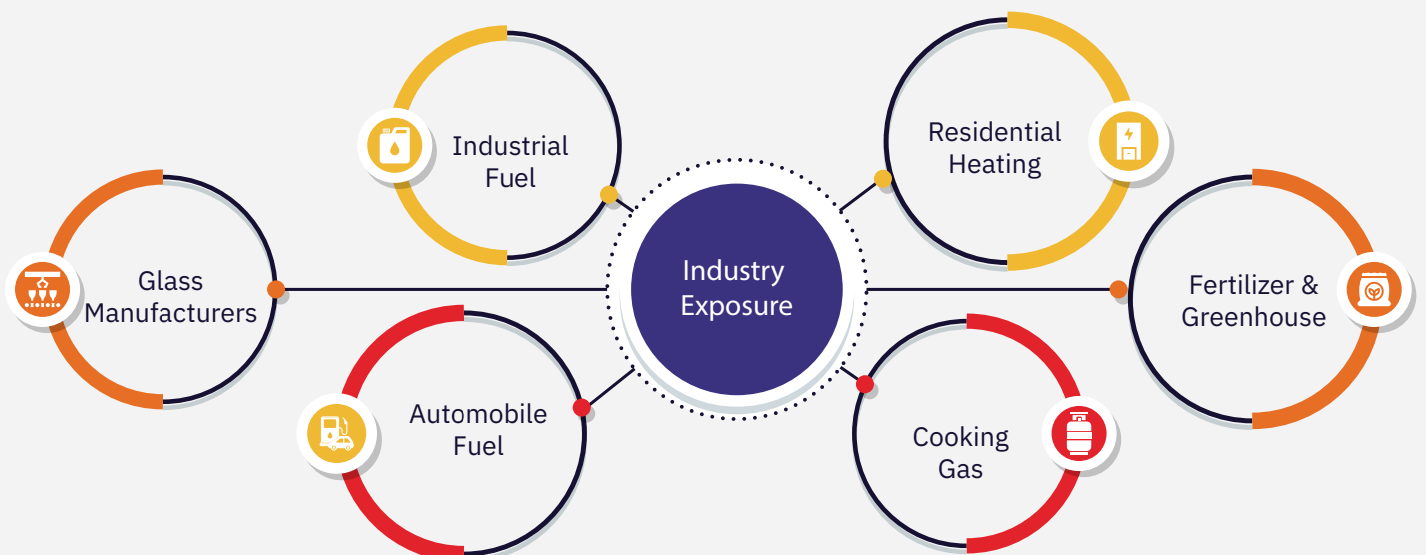
Henry Hub is a natural gas pipeline located in Louisiana, USA, which serves as a benchmark for natural gas pricing in the United States and around the world. It is the delivery point for natural gas futures contracts traded on the New York Mercantile Exchange (NYMEX).

India has been witnessing a steady decline in production because of limited availability of gas that can be extracted economically, thus consumption growth has been satisfied through liquefied natural gas (LNG) imports whose share in the country's natural gas consumption is approx. 50%. Hence, Natural Gas in India has strong linkages to the Global Natural Gas prices.



Factors affecting market Fundamentals

-  International Gas Inventories
-  Economic Factors: recession, inflation, crisis
-  Speculation, Hedging & Investment
-  Geopolitical Actions
-  Weather Conditions
-  Industrial & Residential Demand



NSE Natural Gas Futures Specifications:

Instrument & Symbol	Futures Contract (FUTENR) NATURALGAS
Trading Unit	1250 mmBtu
Tick Size / Quotation	₹ 0.10 (10 Paise) per mmBtu
Contract Cycle	Monthly Contracts
Profit / Loss per Tick	₹ 125
Settlement	Cash Settled
Due Date Rate (DDR) / Final Settlement Price (FSP)	<ul style="list-style-type: none"> • Due date rate (FSP) shall be the settlement price, in Indian rupees, of the New York Mercantile Exchange's (NYMEX)# Natural Gas (NG) front month contract on the last trading day of the NSE Natural Gas contract. • The last available RBI USDINR reference rate will be used for the conversion. • The price so arrived will be rounded off to the nearest tick.

Volatility Matrix

Calendar Year	2021	2022
Annual Volatility	55.35 %	83.51 %
Avg Daily Volatility	3.48 %	5.26%



Key Benefits of Trading at NSE



NIL Exchange Transaction Charges



Fungibility of Collateral across segments



Since Natural Gas Futures is traded in multiple exchanges across the globe, one may find attractive arbitrage opportunities

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Circular

Department: COMMODITY DERIVATIVES	
Download Ref No: NSE/ COM/ 56370	Date: April 14, 2023
Circular Ref. No: 14/ 2023	

All Members,

Introduction of Futures contracts on underlying WTI Crude Oil and Natural Gas (Henry Hub) in Commodity Derivatives Segment

Exchange is pleased to inform its members that having received approval from SEBI, Futures contracts on underlying WTI Crude Oil and Natural Gas (Henry Hub) would be available for trading in Commodity Derivatives segment with effect from May 15, 2023.

In this reference, Exchange notifies details of contract specifications which are as follows:

Commodity Name	Annexure No.
WTI Crude Oil Futures	A
Natural Gas (Henry Hub) Futures	B

For any queries related to Risk Management, Clearing and Settlement, members are requested to contact NSE Clearing Limited.

**For and on behalf of
National Stock Exchange of India Limited**

**Aarti Surve
Chief Manager**

Toll Free No	Email id
1800-266-0050 (Option 1)	msm@nse.co.in

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Annexure – A

Contract Specifications: WTI Crude Oil Futures

Instrument Type	FUTENR
Product	WTI CRUDE OIL FUTURES
Symbol	WTICRUDE
Description	WTICRUDEYYMMM
Contract Listing	Monthly contracts. Details as per the launch calendar.
Contract Commencement Day	As per the contract launch calendar
Last Trading Day	As per the contract launch calendar
Trading	
Trading Period	Mondays through Fridays
Trading Session	Monday - Friday 9:00 AM to 11:30 / 11:55 PM* * Based on US daylight saving time period
Trading Unit	100 Barrels
Quotation / Base Value	₹ per Barrel
Maximum Order Size	10,000 Barrels
Tick Size (Minimum Price Movement)	₹ 1
Daily Price Limit	The base price limit shall be 6%. In case the daily price limit of 6% is breached, then after a cooling off period of 15 minutes, the daily price limit will be relaxed upto 9%. In case price movement in international markets is more than the maximum daily price limit (currently 9%), the same may be further relaxed in stages of 3% beyond the maximum permitted limit and informed to the Regulator immediately.
Initial Margin	Minimum margin based on volatility category or based on SPAN whichever is higher.
Extreme Loss Margin	1%
Additional and / or Special Margin	In case of additional volatility, an additional margin (on both buy & sale position) and/ or special margin (on either buy or sale position) at such percentage, as deemed fit; will be imposed in respect of all outstanding positions
Maximum Allowable Open Position	For a member collectively for all clients: 48,00,000 barrels or 20% of the market wide open position, whichever is higher for all the Crude Oil contracts combined together.

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	For individual clients: 4,80,000 barrels or 5% of the market wide open position, whichever is higher for all the Crude Oil contracts combined together.
Quality Specifications	Light Sweet Crude Oil confirming to the following quality specification: Sulfur 0.42% by weight or less, API Gravity: Between 37 degree – 42 degree
Due Date Rate (Final Settlement Price)	Due date rate (FSP) shall be the settlement price, in Indian rupees, of the New York Mercantile Exchange's (NYMEX)# Crude Oil (CL) front month contract on the last trading day of the NSE WTI Crude Oil contract. The last available RBI USDINR reference rate will be used for the conversion. The price so arrived will be rounded off to the nearest tick. For example, on the day of expiry, if NYMEX Crude Oil (CL) front month contract settlement price is \$75.40 and the last available RBI USDINR reference rate is 82.7150, then DDR for NSE WTI Crude oil contract would be Rs. 6237 per barrel (i.e. \$75.40 * 82.7150 and rounded off to the nearest tick). #A market division of Chicago Mercantile Exchange Inc. ("CME Group")
Settlement Mechanism	The contract would be settled in Cash

Contract Launch Calendar

(For the contracts expiring in 2023)

Contract Month	Contract launch date	Contract expiry date
June 2023	15 th May 2023	16 th June 2023
July 2023		19 th July 2023
August 2023		21 st August 2023
September 2023		19 th September 2023
October 2023		19 th October 2023
November 2023	22 nd May 2023	17 th November 2023
December 2023	19 th June 2023	18 th December 2023

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(For the contracts expiring in 2024)

Contract Month	Contract launch date	Contract expiry date
January 2024	July 2023	January 2024
February 2024	August 2023	February 2024
March 2024	September 2023	March 2024
April 2024	October 2023	April 2024
May 2024	November 2023	May 2024
June 2024	December 2023	June 2024
July 2024	January 2024	July 2024
August 2024	February 2024	August 2024
September 2024	March 2024	September 2024

* The specific dates of launch and expiry will be announced before the launch of 2024 contracts based on the announcement of the holiday list of NYMEX (CME Group).

* The launch calendar may undergo some changes based on the announcement and revision in the holiday list of NSE and NYMEX (CME Group) respectively.

Kindly refer latest circular issued by Exchange / Clearing Corporation for updated Margins, Position Limits and Expiry Dates etc.

Annexure-B

Contract Specifications: Natural Gas (Henry Hub) Futures

Instrument Type	FUTENR
Product	NATURAL GAS (HENRY HUB) FUTURES
Symbol	NATURALGAS
Description	NATURALGASYMMM
Contract Listing	Monthly contracts. Details as per the launch calendar.
Contract Commencement Day	As per the contract launch calendar
Last Trading Day	As per the contract launch calendar
Trading	
Trading Period	Mondays through Fridays
Trading Session	Monday - Friday 9:00 AM to 11:30 / 11:55 PM* * Based on US daylight saving time period
Trading Unit	1250 mmBtu

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Quotation / Base Value	₹ per mmBtu
Maximum Order Size	60,000 mmBtu
Tick Size (Minimum Price Movement)	₹ 0.10 (10 paise)
Daily Price Limit	The base price limit shall be 6%. In case the daily price limit of 6% is breached, then after a cooling off period of 15 minutes, the daily price limit will be relaxed upto 9%. In case price movement in international markets is more than the maximum daily price limit (currently 9%), the same may be further relaxed in stages of 3% beyond the maximum permitted limit and informed to the Regulator immediately.
Initial Margin	Minimum margin based on volatility category or based on SPAN whichever is higher.
Extreme Loss Margin	1%
Additional and / or Special Margin	In case of additional volatility, an additional margin (on both buy & sale position) and/ or special margin (on either buy or sale position) at such percentage, as deemed fit; will be imposed in respect of all outstanding positions
Maximum Allowable Open Position	For a member collectively for all clients: 6,00,00,000 mmBtu or 20% of the market wide open position, whichever is higher. For individual clients: 60,00,000 mmBtu or 5% of the market wide open position, whichever is higher.
Quality Specifications	Natural Gas meeting the specifications set forth in the FERC approved tariff of Sabine Pipe Line Company.
Due Date Rate (Final Settlement Price)	Due date rate (FSP) shall be the settlement price, in Indian rupees, of the New York Mercantile Exchange's (NYMEX)# Natural Gas (NG) front month contract on the last trading day of the NSE Natural Gas contract. The last available RBI USDINR reference rate will be used for the conversion. The price so arrived will be rounded off to the nearest tick. For example, on the day of expiry, if NYMEX Natural Gas (NG) front month contract settlement price is \$6.935 per mmBtu and the last available RBI USDINR reference rate is 82.7150, then DDR for NSE Natural Gas contract would be Rs. 573.60 per mmBtu (i.e. \$6.935 * 82.7150 and rounded off to the nearest tick.) #A market division of Chicago Mercantile Exchange Inc. ("CME Group").
Settlement Mechanism	The contract would be settled in Cash

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Contract Launch Calendar

(For the contracts expiring in 2023)

Contract Month	Contract launch date	Contract expiry date
June 2023	15 th May 2023	27 th June 2023
July 2023		26 th July 2023
August 2023	26 th May 2023	28 th August 2023
September 2023	28 th June 2023	26 th September 2023
October 2023	27 th July 2023	26 th October 2023
November 2023	29 th August 2023	27 th November 2023
December 2023	27 th September 2023	26 th December 2023

(For the contracts expiring in 2024)

	Contract launch date	Contract expiry date
January 2024	October 2023	January 2024
February 2024	November 2023	February 2024
March 2024	December 2023	March 2024
April 2024	January 2024	April 2024
May 2024	February 2024	May 2024
June 2024	March 2024	June 2024

* The specific dates of launch and expiry will be announced before the launch of 2024 contracts based on the announcement of the holiday list of NYMEX (CME Group).

* The launch calendar may undergo some changes based on the announcement and revision in the holiday list of NSE and NYMEX (CME Group) respectively.

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