









CRUDE PALM OIL
HEDGING PRICE RISK

MCX
METAL & ENERGY
Trade with Trust



Palm oil (also known as dendê oil, from Portuguese) is an edible vegetable oil derived from the mesocarp (reddish pulp) of the fruit of the oil palms, primarily the African oil palm Elaeis guineensis, and to a lesser extent from the American oil palm and the maripa palm Attalea maripa.

Palm oil is naturally reddish in colour because of a high beta-carotene content. It is not to be confused with palm kernel oil derived from the kernel of the same fruit, or coconut oil derived from the kernel of the coconut palm. The differences are in colour (raw palm kernel oil lacks carotenoids and is not red), and in saturated fat content; palm mesocarp oil is 41% saturated, while palm kernel oil and coconut oil are 81% and 86% saturated respectively.

Along with coconut oil, palm oil is one of the few highly saturated vegetable fats and is semi-solid at room temperature. Like other vegetable oils, palm oil contains no significant amounts of cholesterol.

Palm oil is a common cooking ingredient in the tropical belt of Africa, southeast Asia and parts of Brazil. Its use in the commercial food industry in other parts of the world is widespread because of its lower cost and the high oxidative stability (saturation) of the refined product when used for frying.

Source: USDA, FAO

HISTORY

Human use of oil palms may date as far back as 5,000 years; in the late 1800s, archaeologists discovered a substance that they concluded was originally palm oil in a tomb at Abydos dating back to 3,000 BCE. It is believed that Arab traders brought oil palm to Egypt.

Palm oil has long been recognized in west and central African countries, and is widely used as cooking oil. European merchants trading with west Africa occasionally purchased palm oil for use as cooking oil in Europe. Palm oil became a highly sought-after commodity by British traders, for use as an industrial lubricant for machinery during Britain's Industrial Revolution.

Palm oil formed the basis of soap products, such as Lever Brothers' (now Unilever) "Sunlight" soap, and the American Palmolive brand. By around 1870, palm oil constituted the primary export of some west African countries, such as Ghana and Nigeria, although this was overtaken by cocoa in the 1880s.

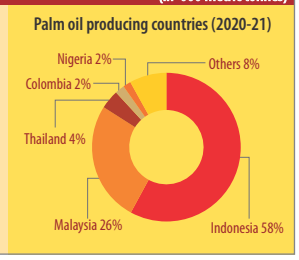
Source: American Journal of Biochemistry, Journal of Food Lipids

GLOBAL BALANCE SHEET

Palm oil producing countries

(in '000 metric tonnes)

	2016-17	2017-18	2018-19	2019-20	2020-21
Indonesia	36,000	39,500	41,500	42,500	43,500
Malaysia	18,858	19,683	20,800	19,255	19,600
Thailand	2,500	2,780	3,000	2,800	3,100
Colombia	1,099	1,627	1,631	1,529	1,559
Nigeria	990	1,025	1,130	1,220	1,280
Other	5,758	5,922	6,074	5,897	6,054
Total	**65,267**	**70,537**	**74,135**	**73,201**	**75,093**

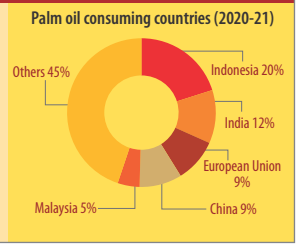


Source: USDA

Palm oil consuming countries

(in '000 metric tonnes)

	2016-17	2017-18	2018-19	2019-20	2020-21
Indonesia	9,125	11,565	13,721	14,645	15,050
India	9,250	9,170	9,295	8,078	8,680
European Union	6,900	6,950	6,960	6,900	7,100
China	4,750	5,100	7,012	6,433	6,920
Malaysia	2,622	3,238	3,522	3,573	3,575
Others	28,896	30,873	31,897	32,494	33,573
Total	**61,543**	**66,896**	**72,407**	**72,123**	**74,898**

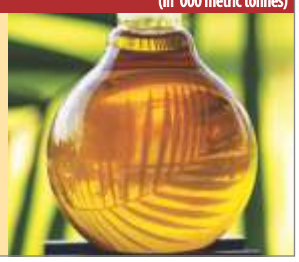


Source: USDA

Palm oil ending stocks

(in '000 metric tonnes)

	2016-17	2017-18	2018-19	2019-20	2020-21
Indonesia	2,110	3,079	2,663	4,280	3,880
Malaysia	2,016	2,529	2,500	1,760	1,510
European Union	608	591	864	1,516	1,141
India	890	528	1,143	663	583
China	307	495	247	500	450
Other	4,065	4,404	4,666	3,996	3,873
Total	**9,996**	**11,626**	**12,083**	**12,715**	**11,437**

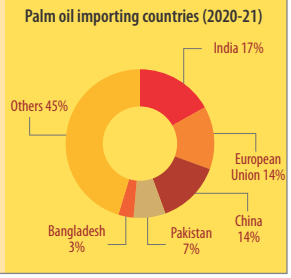


Source: USDA

Palm oil importing countries

(in '000 metric tonnes)

	2016-17	2017-18	2018-19	2019-20	2020-21
India	9,341	8,608	9,710	7,398	8,400
European Union	7,217	7,079	7,349	7,639	6,800
China	4,881	5,320	6,795	6,719	6,900
Pakistan	3,075	3,093	3,175	3,275	3,450
Bangladesh	1,347	1,637	1,569	1,510	1,650
Others	20,329	20,910	21,903	21,355	22,518
Total	46,190	46,647	50,501	47,896	49,718

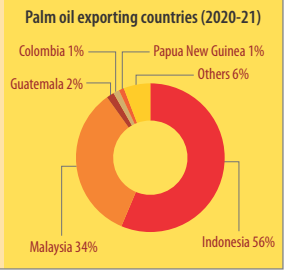


Source: USDA

Palm oil exporting countries

(in '000 metric tonnes)

	2016-17	2017-18	2018-19	2019-20	2020-21
Indonesia	27,633	26,967	28,279	26,249	28,850
Malaysia	16,313	16,472	18,362	17,212	17,275
Guatemala	718	800	828	757	850
Colombia	502	697	677	611	675
Papua New Guinea	664	684	720	565	570
Other	3,061	3,038	2,906	2,948	2,971
Total	48,891	48,658	51,772	48,342	51,191



Source: USDA

INDIA: PALM OIL BALANCE SHEET

(in metric tonnes)

Domestic palm oil

Marketing year (Nov–Oct)	Consumption	Production
2016-17	93,50,000	2,30,000
2017-18	92,70,000	2,40,000
2018-19	98,05,000	2,00,000
2019-20	91,60,000	2,00,000
2020-21	86,80,000	2,00,000

Source: USDA

(in metric tonnes)

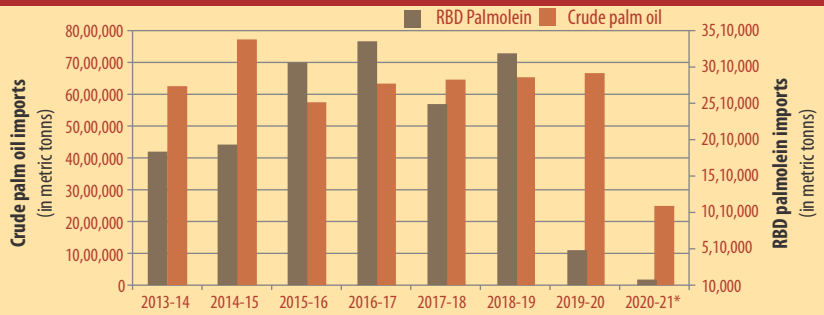
Indian palm oil imports

Marketing year (Nov–Oct)	RBD Palmolein	Crude palm oil
2014-15	16,59,070	77,24,077
2015-16	26,23,002	57,49,231
2016-17	28,70,928	63,35,321
2017-18	21,35,780	64,60,043
2018-19	27,30,881	65,34,693
2019-20	4,21,340	66,66,331
2020-21*	21,601	24,89,105

*Nov'20-Feb'21 | Source: SOLVENT EXTRACTORS' ASSOCIATION OF INDIA

(in metric tonnes)

Indian palm oil imports



*Nov'20-Feb'21 | Source: SOLVENT EXTRACTORS' ASSOCIATION OF INDIA

PRICE RISK MANAGEMENT

Risk management techniques are critical for participants such as importers, refiners, traders and stockists. Modern techniques and strategies, including market-based risk management financial instruments such as 'CPO Futures', offered on the MCX platform can improve efficiencies and consolidate competitiveness through price risk management. The importance of risk management cannot be overstated; the government too has set up high-level committees to suggest steps for fulfilling the objectives of price discovery and price risk management

FACTORS INFLUENCING THE MARKET

International factors

- Indonesia and Malaysia are the major producing and exporting nations. Adverse weather conditions for palm output have an effect on the prices. Wide fluctuations in the currencies of Indonesia and Malaysia also affect palm prices.
- Indonesian and Malaysian government policies related with export tax have an effect on the prices.
- Since soyoil competes with palm oil in the global vegetable oil market, hence global production, consumption and ending stocks of soya bean and other oilseeds have direct bearing on prices.
- Crude oil movement also affects prices, as significant rise in energy prices lead to demand for alternate fuels like biofuel. Vegetable oils are also used in the production of biofuel.

Domestic factors

- Rupee movement
- Ending stocks.
- Domestic oilseed production
- Policies related.
- Economy. Well-being of final consumer

FACTS ON HEDGING

- Understand one's risk profile and appetite while formulating clear hedging objectives.
- Hedging can shield the revenue stream, profitability, and balance sheet against adverse price movements.
- Hedging can maximize shareholder value.
- Common avoidable mistake is to book profits on the hedge while leaving the physical leg open to risk.
- Hedging also significantly lowers distress costs in adverse circumstances.
- A well-designed hedging strategy enables corporations to reduce risk. Hedging does not eliminate risk; it merely helps to manage risk.
- To gain the most from hedging, it is essential to identify and understand the objectives behind hedging and get a clear picture of one's risk profile.

on commodity derivatives exchanges. The role of commodity futures in risk management consists of anticipating price movement and shaping resource allocations, and achieving these ends can be met through hedging.

How much volatility risk are you exposed to?

- Crude palm oil futures witnessed annualized price volatility of around 27% in 2020.
- Which means, an importer in the palm oil business, with an annual turnover of 100 crores was exposed to a price risk of 27 crore in 2020.
- Hedging enables manage the risk associated with such volatility.

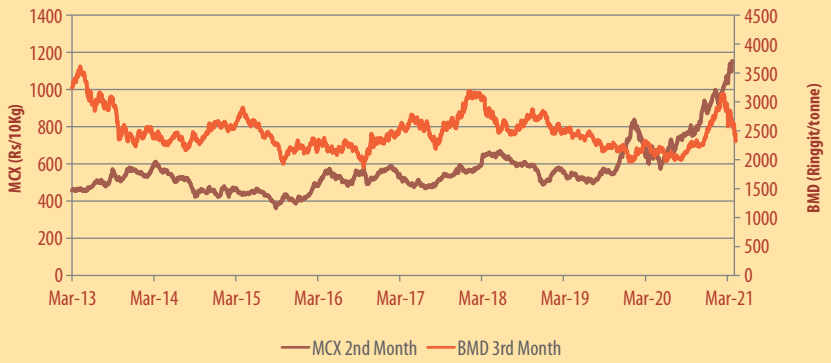
HEDGING MECHANISM

Hedging is the process of reducing or controlling risk. It involves taking equal and opposite positions in two different markets (such as physical and futures market), with the objective of reducing or limiting risks associated with price fluctuations. It is a two-step process, where a gain or loss in the physical position due to changes in price will be offset by changes in the value on the futures platform, thereby reducing or limiting risks associated with unpredictable changes in price. In the international arena, hedging in palm oil futures specifically takes place in Bursa Malaysia Derivative (BMD) Exchange. In recent times, CME Group has also come up with dollar-denominated palm oil futures.

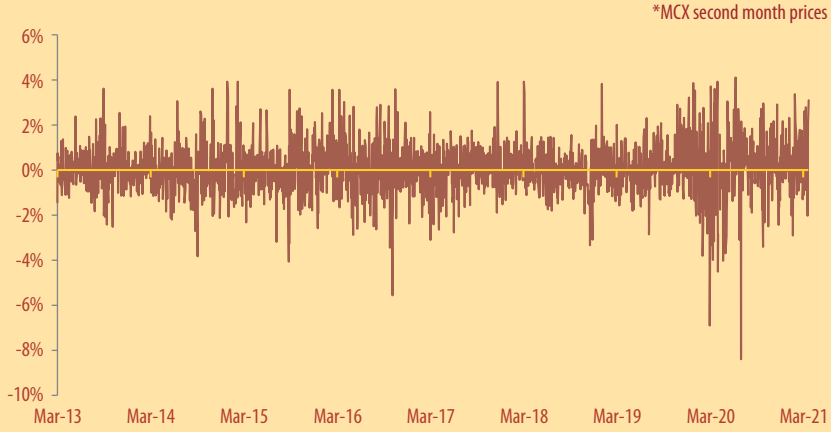
IMPORTANCE OF HEDGING

Hedging is critical for stabilizing incomes of corporations and individuals. For these stakeholders reducing risks may not always improve earnings, but a failure to manage risks will directly affect their long-term incomes. To gain the most from hedging, it is essential to identify and understand the objectives behind hedging. A good hedging practice, hence, encompasses efforts on the part of companies to get a clear picture of their risk profile and benefit from hedging techniques.

Price movement



Daily average volatility of Crude Palm Oil*



Year	2014	2015	2016	2017	2018	2019	2020	2021#
Avg. annual volatility	15.75%	15.36%	19.79%	15.01%	13.57%	16.14%	27.30%	22.55%

#till 22 Mar., 2021

HEDGING STRATEGY: BUYERS

- Buyers can buy their yearly requirements in a futures contract by paying a margin of only 5 % and lock their price for the entire year.
- They can keep on importing palm oil round the year and square off corresponding positions in futures.
- Even if the prices go up, they do not incur any loss because they profit from futures market, which offsets their increased cost of import.

HEDGING STRATEGY: SELLERS

- The sellers can sell their estimated quantity in advance at MCX and lock their price; if the price falls, they are not bothered, because they profit from the futures market.
- The sellers have both options—either to deliver at MCX on contract maturity or to sell their produce in the local physical market and square off their corresponding position in the futures market. If the price falls, the loss in the physical market is compensated by profits in the futures market.



HEDGING ILLUSTRATION

Example 1 (Going short)

Assume an edible oil refiner ABC Solvent has contracted 1,000 metric tonnes (MT) of crude palm oil in October. By hedging, the refiner can lock in a price for their stock in October itself and protect themselves against the possibility of falling prices while they receive their shipment and refine it before finally making it fit to be sold in the market. The spot price of CPO in October is ₹500/10 kg and the price of MCX December 201X contract is ₹510/10kg. ABC Solvent sells (short) 100 lots of MCX December 201X contracts in October at ₹510. They pay only 5% of the contract value as initial margin to the exchange for entering a position in the futures market.

Falling prices: CPO prices fall in December. The refiner sell their stock in the physical market for ₹480/10 kg and take an opposite position in the futures market by buying (long) 100 lots of MCX December 201X contract at ₹485/10 kg.

TIME	CASH	FUTURES
October 201X	Spot market at ₹500/10 kg	Sells 100 lots (of each 10 MT contract) of MCX December 201X at ₹510/10 kg
December 201X	Sells 1000 MT of CPO at ₹480/10 kg	Buys 100 lots of MCX December 201X at ₹485/10 kg
Result	A potential loss of ₹20 per 10 kg	Gained ₹25/ 10 kg
Thus, ABC Solvent protected themselves from the falling prices with an effective selling price of ₹505/10 kg (₹480 + 25).		

Rising prices: CPO prices rise in December. The refiner sell their stock in the physical market for ₹520/10 kg and takes an opposite position in the futures market by buying (long) 100 lots of MCX December 201X contract at ₹525/10 kg.

TIME	CASH	FUTURES
October 201X	Spot market at ₹500/10 kg	Sells 100 lots (of each 10 MT contract) of MCX December 201X at ₹510/10 Kg
December 201X	Sells 1000 MT of CPO at ₹520/10 kg	Buys 100 lots of MCX December 201X at ₹525/10 kg
Result	A potential gain of ₹20 per 10 kg	Lost ₹15/ 10 kg
Thus, ABC Solvent protected themselves from unintended market volatility with an effective selling price of ₹505/ 10 kg (₹520 - 15).		

Example 2 (Going long)

Assume an FMCG comapny; ABC Sons requires 1000 tonnes of palm oil in April for biscuit manufacturing. By hedging at the start of year (when the company gets the order), the company can lock in the price and protect itself against the possibility of rising prices while they remain focused on their primary business of manufacturing consumer goods without worrying about the volatility in palm oil prices.

The spot price of CPO in January 201X is ₹500/ 10 kg and the price of MCX CPO April 201X contract is ₹510/ 10 kg. ABC Sons buys (long) 100 lots of MCX CPO futures April contract. They pay only 5% of the contract value as initial margin to the exchange for entering a position in the futures market.

Rising prices: Suppose CPO prices rise in April. ABC Sons buys CPO in the physical market for ₹530/10 kg and square-off its position in the futures market; by selling (short) 100 lots of MCX April 201X contract at ₹540/10 kg.

TIME	CASH	FUTURES
January 201X	Spot market at ₹500/10 kg	Buys 100 lots (of each 10 MT contract) of MCX April 201X at ₹510/10 kg
April 201X	Buys 1000 MT of CPO at ₹530/10 kg	Sells 100 lots of MCX April 201X at ₹540/10 kg
Result	A potential loss of ₹30 per 10 kg	Gained ₹30/ 10 kg
Thus, ABC Sons protected themselves from rising prices with an effective buying price of ₹500/ 10 kg (₹530-30).		

Falling prices: Suppose CPO prices fall in April. ABC Sons buys CPO in the physical market for ₹480/10 kg and square-off its position in the futures market; by selling (short) 100 lots of MCX April 201X contract at ₹490/10 kg.

TIME	CASH	FUTURES
January 201X	Spot market at ₹500/10 kg	Buys 100 lots (of each 10 MT contract) of MCX April 201X at ₹510/10 kg
April 201X	Buys 1000 MT of CPO at ₹480/10 kg	Sells 100 lots of MCX April 201X at ₹490/10 kg
Result	A potential gain of ₹20 per 10 kg	Loss of ₹20/ 10 kg
Thus, ABC Sons protected themselves from unintended market volatility with an effective buying price of ₹500/ 10 kg (₹480 + 20).		

CONTRACT SPECIFICATIONS OF CRUDE PALM OIL

Symbol	**CPO**
Description	CPOMMMYY
Contract Listing	Contracts are available as per the Contract Launch Calendar.
Contract Start Day	1st day of contract launch month. If 1st day is a holiday then the following working day.
Last Trading Day	Last calendar day of the contract expiry month. If last calendar day is a holiday then the preceding working day.
TRADING	
Trading Period	Mondays through Fridays
Trading Session	Monday to Friday: 9:00 am to 09:00 pm
Trading Unit	10 MT
Quotation/Base Value	₹/10 Kg
Price Quote	Ex- Kandla, exclusive of Sales tax / GST
Maximum Order Size	200 MT
Tick Size (Minimum Price Movement)	10 paise
Daily Price Limits	DPL shall have two slabs - Initial and Enhanced Slab. Once the initial slab limit of 4% is reached in any contract, then after a period of 15 minutes, this limit shall be increased further by enhanced slab of 2%, only in that contract. The trading shall be permitted during the 15 minutes period within the initial slab limit. After the DPL is enhanced, trades shall be permitted throughout the day within the enhanced total DPL of 6%.
Initial Margin*	Minimum 10% or based on SPAN whichever is higher
Extreme Loss Margin	Minimum 1%
Additional and/ or Special Margin	In case of additional volatility, an additional margin (on both buy & sell side) and/ or special margin (on either buy or sell side) at such percentage, as deemed fit; will be imposed in respect of all outstanding positions.
Maximum Allowable Open Position	For individual clients: 90,000 MT For a member collectively for all clients: 9,00,000 MT or 15% of the market wide open position, whichever is higher. Near Month Limits For individual clients: 22,500 MT For a member collectively for all clients: 2,25,000 MT
DELIVERY	
Delivery Unit	10 MT (with tolerance limit of 250 Kgs) which means that if the seller delivers any quantity between 9.75 MT to 10.25 MT, it will be construed as adequate discharge of his delivery obligation of 10 MT, though he will get the value only for actual quantity delivered by him.
Delivery Period Margin	Delivery period margins shall be higher of: **a.** 3% + 5 day 99% VaR of spot price volatility Or **b.** 25%
Delivery Centre(s)	Within Kandla municipal limits
Quality Specifications	Crude Palm Oil of good merchantable quality in bulk and unbleached.
Refractive Index at 50 C	1.4491 to 1.4552

CONTRACT SPECIFICATIONS OF CRUDE PALM OIL...*continued*

Specific Gravity @ 42 C	0.895 to 0.897
Iodine value (Wij's method)	45 – 56
Saponification value	195 – 205
Unsaponifiable matter	Not more than 1.2%
FFA by wt.	Not more than 5.0%
Moisture	Not More than 0.25%
Due Date Rate (Final Settlement Price)**	For contracts where Final Settlement Price (FSP) is determined by polling, unless specifically approved otherwise, the FSP shall be arrived at by taking the simple average of the last polled spot prices of the last three trading days viz., E0 (expiry day), E-1 and E-2. In the event the spot price for any one or both of E-1 and E-2 is not available; the simple average of the last polled spot price of E0, E-1, E-2 and E-3, whichever available, shall be taken as FSP. For the purpose of spot price the 'actual user condition' of the commodity will be considered.
Delivery Logic	Both Option

*Note: Please refer to the exchange circulars for latest contract specifications | Genuine hedgers having underlying exposure that exceed the prescribed OI limits given in the contract specifications can be allowed higher limits based on approvals | * The Margin Period of Risk (MPOR) shall be in accordance with SEBI Circular no. SEBI/HO/CDMRD/DRMP/CIR/P/2020/15 dated January 27, 2020. For applicable minimum MPOR, refer latest circulars issued by MCXCCL from time to time. | For all the applicable margins, refer the latest circulars issued by the Exchange or Multi Commodity Exchange Clearing Corporation Limited (MCXCCL) from time to time. | ** As per SEBI directive SEBI/HO/CDMRD/DRMP/CIR/P/2016/90 dated Sep 21, 2016*

DELIVERY AND SETTLEMENT PROCEDURE OF CRUDE PALM OIL

Delivery logic	**Both Option**
Tender day	1st working day after expiry of contract
Tender and delivery period	1st to 2nd working days after expiry of the contract.
Buyer's and Seller's Intention	On the contract expiry day by 12:00 noon seller will submit copies of relevant documents as a proof of holding stock at the time of giving his intention.
Dissemination of the information on delivery intention on TWS	On the contract expiry day by 1.00 p.m.
Delivery Period Margin	Delivery period margins shall be higher of: **a.** 3% + 5 day 99% VaR of spot price volatility Or **b.** 25%
Delivery Period Margin Exemption	Sellers are exempted from payment of all types of margins, if goods are tendered as Early Pay In with all the documentary evidences. However, MCXCCL shall continue to collect mark to market margins from Sellers.
Taxes, Duties, Cess and Levies	Ex- Kandla, exclusive of Sales tax/ Local taxes/ GST wherever applicable is to be paid by the seller to the sales tax/GST authorities on all contracts resulting in delivery. Accordingly the buyer will have to pay the taxes/GST to the seller at the time of settlement. In case of sales tax exemption, such exemption certificate should be submitted before settlement of the obligation. Incidence of customs duty payable whether concessional or otherwise will be in seller's account. In case of Inter-State movement, Buyer has to submit requisite forms, else pay taxes as applicable.
Due Date Rate	The Due Date Rate (DDR) shall be arrived at by taking the simple average of the last three trading days polled spot prices, viz., E_{-0}, E_{-1}, & E_{-2} (E-Expiry date). In the event of the spot prices for any one of E_{-1} and E_{-2} not being available the spot price of E_{-3} would be used for arriving at the

DELIVERY AND SETTLEMENT PROCEDURE OF CRUDE PALM OIL..continued

	average. In case spot prices are not available for both E_{-1} and E_{-2}, then the average of E_{-0} and E_{-3} (two days) would be taken. If all the three days' prices, viz., E_{-1}, E_{-2} and E_{-3} are not available, then only one day's price, viz., E_{-0} will be taken as the DDR. For the purpose of spot price the 'actual user condition' of the commodity will be considered.
Warehouse/Storage Tank, Insurance	-Borne by the seller upto commodity pay-out date -Borne by the Buyer after commodity pay-out date
Delivery Center	Within Kandla municipal limits
Delivery of Goods	Each delivery shall be in multiples of minimum delivery lots and shall be designated for only one delivery center and one location in such center. The goods delivered through CCRL Repository Account should be valid as per contract specifications from the MCXCCL approved quality certifying agency/s. Delivery once submitted cannot be withdrawn or cancelled or changed, unless so agreed by the MCXCCL. Goods tendered under delivery shall be in conformity with the contract specifications.

REGULATORY BOOSTS FOR HEDGERS

1. **Income tax exemption for hedging**. The Finance Act, 2013, has provided for coverage of commodity derivative transactions undertaken in recognized commodity exchanges under Section 43(5) of the Income Tax Act, 1961, in line with the benefit available to transactions undertaken in recognized stock exchanges. This effectively means that business profit/loss can be offset by loss/profit undertaken in commodity derivatives transactions. This enhances the attractiveness of risk management on recognized commodity derivative exchanges and incentivizes hedging.
   Hedgers are no longer forced to undertake physical delivery of commodities to prove that their transactions are for hedging and not 'speculation.'
2. **Evening trading permitted**. The market is operational during both morning and evening, and thus participants can take part in price discovery when global markets are active.
3. **Limit on open position as against hedging**. This enables hedgers to take positions to the extent of their exposure on the physical market and they are allowed to take positions over and above the prescribed position limits on approval by the exchange.
4. **Early pay-in**. If a hedger makes an early pay-in of commodity, he is exempted from paying all applicable margins.

A comprehensive Hedge Policy Document is available at:
https://www.mcxindia.com/docs/default-source/market-operations/trading-surveillance/reports/hedgepolicy.pdf?sfvrsn=2

Hedging Quote

Glencore is exposed to price movements for the inventory it holds and the products it produces which are not held to meet priced forward contract obligations and forward priced purchase or sale contracts. Glencore manages a significant portion of this exposure through futures and options transactions on worldwide commodity exchanges or in over the counter (OTC) markets, to the extent available.

-Glencore Annual Report, 2020



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