

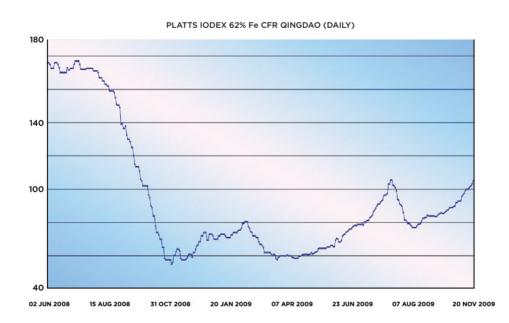
# Iron Ore

# **PRODUCT GUIDE**

# ICe

IntercontinentalExchange now lists a cleared Platts OTC Iron Ore swap based on 62% Fe content fines CFR China. Initially this contract is listed as a cleared-only OTC swap, which is originated in the brokered markets.

This guide is intended to provide those interested in trading and hedging iron ore essential background on iron ore markets and the contract ICE has made available for market participants. Additional information is available through the resources highlighted in this guide.





AREA C IRON ORE MINE, WESTERN AUSTRALIA, LEIGHTON CONTRACTORS

2009/10 - Japan and Korea, as well as most developed and developing countries.

#### GLOBAL IRON ORE AND STEEL MARKETS

Iron ore is the primary raw material used in the production of steel and — combined with steel — constitutes the world's second largest commodity bloc by value, after crude oil. At least 800 million tonnes of iron ore are produced annually, whilst production of finished steel probably accounts for about 1.1 billion tonnes of production a year, emphasizing the scale of these closely-linked markets.

#### **IRON ORE SPECIFICATIONS AND TYPES**

Iron ore is categorised by dint of where it is produced and priced, and by its ferrous content, expressed as a percentage.

The largest producing countries are Australia, Brazil, India, South Africa and China. Major consuming countries include China — with approximately 60% of global steel production in

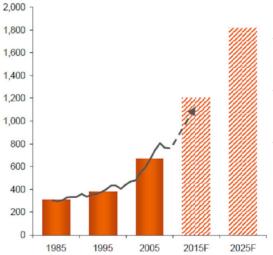
The 62% ferrous content grade has attracted liquidity in swaps, but a large spectrum of iron ore fines are produced and mined from as low as 30% for some of the lower-quality Chinese material to above 60% at the high end. The most merchantable grades lie between 58% and 65%, with key markers at 58%, 62%, 63.5% and 65%. There is a degree of correlation between prices in the 58% to 65% range, but the most linear pricing and consuming relationships lies between 60% and 63.5% ferrous content.

A simple way to look at iron ore is that it starts as fines (heavy grains, like sand), is turned into pig iron, which in combination with coking (metallurgical) coal, and energy can then produce crude (liquid) steel, which is finished (rolled) into either in long (e.g. Rebar) or flat (Hot Rolled Coil) form. Steel comes in many hundreds of specifications depending upon the requirements for the finished product. It is an alloy, or a combination of metals whereas iron ore is a mineral.

#### PRICE RELATIONSHIPS

Iron ore's relationship with steel prices, with

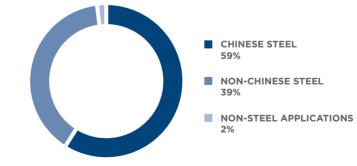
#### SEABORNE IRON ORE DEMAND (MT)



- Short to medium term uncertainty will always exist
- Steel is a critical input as nations industrialise and urbanise
- China and other emerging economies are expected to continue to drive long term demand growth

Source: BHP Billiton estimates

GLOBAL IRON ORE END MARKETS BASED ON IRON CONTENT, 2009E



Includes seaborne and domestic iron ore markets. Source: Mineral Information Institure, International Iron and Steel Institute, Barclays Capital Equity Research estimates

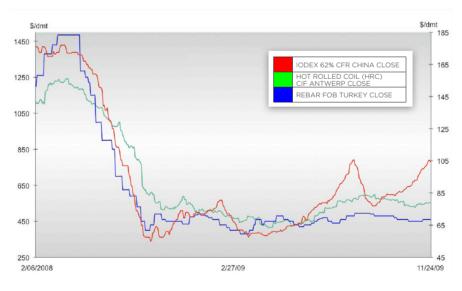
energy — Coal especially — and freight which transports it, is obvious. The relationship between the most important global crude oil benchmark and iron ore may not be the first to come to mind, but as a host to the two leading crude oil benchmarks, the logic of ICE's entry into iron ore is underscored in the following chart:





#### Source: Platts

More directly, relational pricing can exist between iron ore and steel (known as the "metal spread") and iron lump to steel (the "hot metal spread"). These 'lumps' are the intermediate stage between iron ore and pig iron.



#### Source: Platts

#### IRON ORE MARKET STATUS AND EVOLUTION

Historically, iron ore has traded under long-term contracts based on a benchmark price, negotiated annually. This approach was established under the first major agreement between a buy-side consumer of iron ore - a steel producer - and a sell-side iron ore producer - a mining company. Historically, in an environment of generally lower and less volatile prices, that agreement was then considered to have set prices for the remainder of the year, which was typically based on the Japanese fiscal years of March 31st to April 1st.

However the markets have seen great structural and behavioural changes in recent years, both the consolidation and increasing vertical integration of steel producers and combined iron ore and steel producing entities, aligned with higher volatilities in price than was generally the case in former years.

Benchmark negotiations between major iron ore producers in Australia, India and Brazil especially, and consuming entities in Japan formerly, but more recently dominated by China had already become more protracted, but over the 2007-2009 period the strains in the former system have become intense. The volatility of more directly and short-term market-driven input prices such as coal, energy and freight, together with the operational and financial pressures generally in markets in these years have brought the need for shorter-term consensus, market-based pricing more sharply into relief in iron and steel markets. Corporate restructuring and consolidation itself has not been enough to remove the consequent winner/loser cycle where high start up costs are required to enter such markets.

The benchmark iron ore price has become increasingly unworkable for a proportion of the market, either so high relative to the input costs that consumers have felt justified in walking away from contracts agreed under conditions that look very different in hindsight under varying market conditions, or so low that producers struggled to see how revenue could cover their costs which rose irrespective of benchmark prices for revenue stream agreed before those input prices had risen. In short, revenue and cost pricing cycles had moved significantly, impacting contract stability for those longer-term prices.

Faced with such developments, market participants have turned increasingly to the release of spot iron ore material, preferring to seek out prices that are more relevant to fast moving price fundamentals than those that existed at the time of the most recent benchmark-negotiated price. The emergence of price assessors such as Platts in iron ore and steel markets gives such participants an independent and transparent price for shorter-term basis pricing in iron ore, as a market-based solution to the benchmark issue.

This is not the first time a market has seen such a development. The oil markets saw similar developments in the 1970's as new spot markets emerged to challenge existing long-lasting but inflexible practices which had become increasingly unworkable and unsustainable. Forward or derivative markets, increased forward and spot price transparency, independent index price agency providers and the emergence and growth of a number of new spot markets were all part of those complementary processes in oil as traded volumes grew.

Until the emergence of such swaps as the ICE iron ore swap, and for the above reasons, iron ore has been effectively the world's largest commodity without a derivatives market. The ICE iron ore swap contract is the world's first cleared iron ore contract against Platts index methodology.

#### INDEX EVOLUTION AND PLATTS PHYSICAL METHODOLOGIES

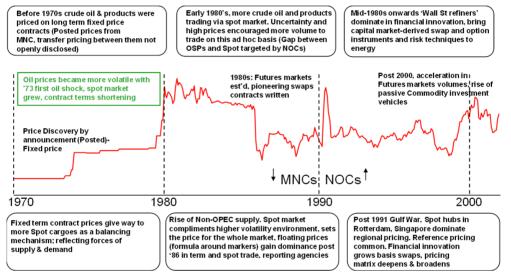
Platts has been assessing prices in the metals markets for more than 35 years, drawing on the tradition of its parent company, The McGraw-Hill Companies, which has covered the metals markets for over 75 years. Platts saw the fast-paced evolution of iron ore from an annual to spot market and was the first publisher to begin assessing pricing on a daily basis in June 2008. Since then, Platts has rapidly expanded its offerings for the iron ore market, which now include flat price assessments for 62% Fe and 63.5/63% Fe grades, high-grade 65% and a low-grade 58% Fe grade, as well as a daily 1% per Fe content differential for iron ore fines 60-63.5% to help clarify the normalization process. Platts also publishes daily freight netbacks based on the most liquid routes to five basis origins. A forward curve assessing the daily bid/offer and trade values in the over the counter swaps market for iron ore has also been recently introduced.

For more information on the iron ore price assessments and methodology, see: http://www.platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/ironore.pdf

#### FUTURE INDEX AND BENCHMARK SCENARIOS: THE OIL EXAMPLE

We've already seen a few hints that iron ore might be looking a little similar in structure to the evolving oil markets of the late 1970's/early 1980's. The hot metal spread is similar in concept to oil 'crack spreads' in the sense that they represent a pricing and processing differential between a raw and a finished product. Many integrated producers are more concerned with processing margin than flat price inputs in themselves. That is very similar to conditions in oil pricing and markets.

#### HOW DID MODERN CRUDE OIL MARKETS EVOLVE?



#### **IRON ORE AND BENCHMARKS**

If iron ore follows a similar path to other commodity (and energy) markets, the 62% Fe grade may become an important benchmark for relational pricing of other iron ore grades or even of finished products that relate to it.

If that is the case, 58% and 65% iron ore may trade at negative and positive differential respectively to 62%, and steel may trade as a positive differential to it in time.

#### What exactly is a Benchmark, and how do they function?

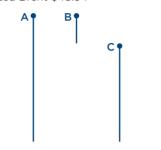
- Benchmarks provide a standard industry reference point which is fair, market related, transparent and understood by all participants
- · Benchmarks facilitate business by providing a focal point for differential pricing of related commodities
- Benchmarks enable:
  - Hedging: (offsetting a price exposure with an equal and opposite exposure)
  - Price transparency: (discovery/dissemination of prices in real-time)

This is how it works in oil around the Dated Brent physical benchmark:

- Market development around a single physical grade
- Other grades trade as a diff to the main contact
- Benchmark sets the underlying
   market price
- Differentials are agreed due to quality, location, availability
- Liquidity and transparency of core benchmark means pricing discussion can move to differentials



B Dated/Forcados diff. \$2.65C Dated Brent \$48.54



- Risk management tools develop around the benchmark
- Used for hedging and risk management volume and transparency grows
- Benchmark is a pool of core liquidity for trading of a wide range of physical grades
- Conditions: benchmarks must be liquid, transparent, fair, represent the true value of the commodity methodology clearly understood

#### EVOLVED RISK MANAGEMENT: INSTRUMENTS, PROCESSES, BENEFITS

# What are the issues that participants faced in markets before the availability of risk management tools like the ICE iron ore swap? Every market follows its own path, but some statements hold true in general:

Markets without forward instruments or derivatives tend to lack forward transparency or price discovery. Until the evolution of forward markets takes place, a degree of doubt about realisable forward costs, revenue, or margins between them exists. Forward or derivative markets do not forecast what physical or spot prices might be forward in time, they merely represent a transactable value with other market participants for a forward price that may or may not change as that time approaches. That is the nature of price variability, or volatility, which forward market participants are seeking to either transfer or capture in their trading and hedging.

Using the same pricing basis in time, and index for both physical and hedge increases hedge reliability and confidence with no 'basis risk' between physical and hedge, or derivative. In other words if you have Platts-related physical pricing, and a Plattsrelated hedge such as the ICE iron ore swap, their prices move together, because the same index is pricing the same thing in time. They go up together in price or down together. This means that when hedging forward sales of iron ore with a short position, if prices in fact rise, any falls in value for your hedge are directly compensated by an increase in your physical production revenue, and inventory. Asking some simple questions can illustrate where we are in iron ore markets:

#### What is the price for iron ore in the second half of 2010?

Maybe it will be what the benchmark price in 2010 arrived at, or maybe that will be irrelevant by then. You might have to sell spot material to find out. If you buy or sell an ICE iron ore swap for that period, the fixed price of the swap will represent the effective price for that forward point in time.

# Would you like to be able to buy or sell a forward margin between iron ore and steel for a forward period, say the first half of 2010?

Markets with linked physical pricing and forward instruments, like oil ('Crack spreads' between major refined products and crude oil), coal, or natural gas ('Spark spreads' between power and the gas used to generate it) can lock down such margins either as a seller or as a buyer.

In markets with developed risk management tools like the ICE iron ore swap, you can do this for a quarter or a year at a time on an average price basis. Alternatively, perhaps a 'bullet' price at the end of a chosen period, for a quarter, or for individual months or seasons at a time.

Would you like to be able to access capital to open a new mine or smelter by selling forward some of your potential revenue against those forward CapEx or upgrade costs, rather than have to find that investment capital out of cash, or reduce your gearing generally by releasing capital in physical inventory?

Financial institutions in developed markets have long been able to construct such arrangements, using financially-settled instruments like the ICE iron ore swap.

# Would you like the facility to hedge or insure yourself against unexpectedly dramatic price falls or rises by locking revenue or cost forward in common with other related markets to which you're exposed?

The availability of derivative hedges such as the ICE iron ore swap cannot necessarily reduce or eliminate volatility in prices, but they can mitigate or remove the financial consequences of such price volatility.

# Would you like to be able to trade or hedge price irrespective of your physical delivery constraints or scheduling, by splitting physical delivery timing requirements and the financial consequences of price changes in time or level?

This may be possible with a properly constructed hedge using the financially-settled instruments such as the ICE iron ore swap.

# ALL OF THE ABOVE ARE POTENTIAL BENEFITS OF EFFECTIVE RISK IDENTIFICATION, MEASUREMENT AND ADJUSTMENT UNDER AN INTEGRATED RISK MANAGEMENT PROGRAMME, USING TOOLS SUCH AS THE ICE IRON ORE SWAP.

#### SUMMARY

#### Benefits of the Risk Management

- Risk Management approaches enable identification, measurement and adjustment of forward exposure according to an entity's chosen and agreed degree of risk appetite
- Transparency in forward pricing and achievable investment returns
- · Can adjust relative impact of price volatility
- · Protects margins, smooths revenue and cost flows
- · Improves predictability of long term access to capital, enables investment
- Locks in future cash flow, reduces need for capital reserves against shocks
- The ability to manage short-term price fluctuations can make long-term contracts more stable

#### THE ICE IRON ORE PRODUCT OFFERING

DESCRIPTION	IRON ORE SWAP (PLATTS) 62% FE
CONTRACT SYMBOL	ORE
CONTRACT SIZE	PER LOT: 1,000 DRY METRIC TONNES
UNITS OF TRADING	CONTRACT SIZE WILL BE EXPRESSED AS "LOTS"
CURRENCY	USD AND CENTS

MINIMUM PRICE FLUX	ONE CENT (USD 0.01) PER DRY METRIC TONNE
SETTLEMENT PRICES	ONE TENTH OF ONE CENT (\$0.001) PER DRY METRIC TONNE
LAST TRADING DAY	FIRST BUSINESS DAY FOLLOWING THE SETTLEMENT PERIOD
FIXED PRICE	THE TRADED PRICE OR THE PREVIOUS DAY'S SETTLEMENT PRICE
FLOATING PRICE	IN RESPECT OF DAILY SETTLEMENT, THE FLOATING PRICE WILL BE DETERMINED BY ICE USING PRICE DATA FROM A NUMBER OF SOURCES INCLUDING SPOT, FORWARD AND DERIVATIVE MARKETS FOR BOTH PHYSICAL AND FINANCIAL PRODUCTS.
FINAL SETTLEMENT	IN RESPECT OF FINAL SETTLEMENT, THE FLOATING PRICE WILL BE A PRICE IN USD AND CENTS PER METRIC TONNE BASED ON THE AVERAGE OF THE RELEVANT HIGH/LOW DAILY QUOTATIONS PUBLISHED IN 'PLATTS METAL ALERT' (PMA) UNDER THE HEADING 'IODEX: IRON ORE FINES 62% FE CFR NORTH CHINA' FOR EACH DAY DURING THE DETERMINATION PERIOD. ICE WILL USE AN AVERAGE OF THE DAILY PUBLISHED PRICES OVER THE CALENDAR MONTH TO DERIVE THE FINAL CASH SETTLEMENT PRICE. IF A SINGAPORE PUBLIC HOLIDAY SHOULD FALL ON WHAT WOULD OTHERWISE BE THE FINAL MONTHLY PUBLICATION DAY, THE FINAL DAY'S QUOTATION WILL BE PUBLISHED ON PMA ON THE LAST.

#### ICE CLEARING, THE BENEFITS OF A CENTRAL COUNTERPARTY

#### ICE OTC Clearing: Why and How?

#### Elimination of Counterparty Risk

- OTC clearing virtually eliminates Counterparty Risk associated with traditional bilateral trade. The Clearing House acts as a central counterparty for all trades. Thus, clearing offers the security of futures-style risk management with the flexibility of OTC markets
- Margining removes the daily rigor of back office processes associated with bilateral trade via Letters of Credit (LC's). It outsources collateralisation to a guaranteed and financially secure third party
- By carrying both sides of the transaction, the systemic risk is naturally diversified, whilst conservative volatility-based margining provided by the Clearing House creates security for all involved

#### Increased trading opportunities

- Deferring to cleared business eliminates operational distractions and complexity related to bilateral credit issues around trading and hedging. The focus can thus be entirely on market risk
- Participants benefit from the fact that OTC Clearing trades are centrally cleared, freeing the use of bilateral credit lines opening up a larger and broader universe of market participants, including those who might otherwise be excluded irrespective of keenness of price

#### Efficient capital flows

- Clearing satisfies increasingly rigorous capital adequacy requirements from demanding regulators and policymakers, reducing operating capital needs
- A trader who has reached his own desk limits in capital terms, but who sees a promising trading opportunity, can add additional exposure with no further credit exposure, if the marginal OTC position is sent for clearing, rather than added to a bank's or energy house's own net credit position

#### Streamlining back office operations

- Offsets between Exchange-traded and bilateral OTC instruments to a single Clearing House instead allow reduced capital reserve requirements and margin, reduced confirmation errors, and other back office bottlenecks
- Clearing contributes settlement values, aiding price discovery and risk monitoring via objective fair-value mark-to-market for OTC markets
- The lodging of initial and variation margin through Clearing Houses ensures a degree of security of performance and payment that cannot be matched by even the most highly secure single counterparties in the universe of bilateral OTC trade

#### WHY CLEAR WITH ICE?

#### Global market synergies

- If you are trading ICE Oil futures such as Brent, WTI and Gasoil, it makes sense to also clear strongly correlated instruments
  offering related OTC bilateral exposure to such global benchmarks through the same clearing house and thus get the benefit
  of direct cross-margining and offsets across screen-traded and bilateral markets, for the most efficient and operationally
  simple employment of capital in trading and hedging energy
- Companies actively trading the energy complex across diverse derivative products in Brent, WTI, Gas and Emissions will thus significantly benefit from related efficiencies across Trade Capture, Confirmation, Margining and Reconciliation

#### State of-the-art cross-margining optimises capital efficiency

- Margin offsets between screen-traded futures and bilaterally matched OTC markets of up to 95% are available to ICE Clear customers in markets such as oil inter-commodity spreads
- Back office processes are simplified and reconciliations easier to process via a single regionally-based clearing house that handles ICE on-screen trade and clearing of related OTC instruments
- ICE' settlement curves used for margining such bilateral instruments are independently and directly sourced from a pool of established major trading entities, and considered highly reliable for margining purposes establishing true fair value

#### CONCLUSION: ICE IRON ORE SWAPS

ICE believes that iron ore and steel markets represent a natural extension and complement to its existing commodity and energy markets and communities of market participants. We look forward to engaging with both existing and new customers amongst financial, industrial and proprietary trading entities in iron ore globally.

#### Why should a market participant trade or clear the ICE iron ore swap?

- The ICE iron ore swap represents a popular and relevant price for global iron ore, much of which flows into China to provide a key raw material for the largest producer and consumer of steel
- The Platts methodology is a proven, robust approach which is used throughout some of the largest and most valuable commodity markets globally
- ICE hosts a global online community of financial, industrial, commercial and proprietary traders and hedgers running into tens of thousands

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#### ABOUT ICE

IntercontinentalExchange® (NYSE: ICE) operates leading regulated exchanges, trading platforms and clearing houses serving the global markets for agricultural, credit, currency, emissions, energy and equity index markets. ICE Futures Europe® hosts trade in half of the world's crude and refined oil futures. ICE Futures U.S.® and ICE Futures Canada® list agricultural, currency and Russell Index markets. ICE® offers trade execution and processing for the credit derivatives markets through Creditex® and ICE Link, respectively, and CDS clearing through ICE Trust™. A component of the Russell 1000® and S&P 500 indexes, ICE serves customers in more than 50 countries and is headquartered in Atlanta, with offices in New York, London, Chicago, Winnipeg, Calgary, Houston and Singapore. www.theice.com

#### LEADING ELECTRONIC TRADING PLATFORM

ICE's electronic trading platform provides rapid trade execution and is one of the world's most flexible, efficient and secure commodities trading systems. Accessible via direct connections, telecom hubs, the Internet or through a number of front-end providers, today, ICE offers a 3 millisecond transaction time in its futures markets – the fastest in the industry. ICE's platform is scalable and flexible – which means new products and functionality can be added without market disruption. ICE offers numerous APIs for accessing futures and OTC markets, including a FIX API.

#### INTEGRATED ACCESS TO GLOBAL DERIVATIVES MARKETS

ICE's integrated marketplace offers futures and OTC, cleared and bilateral products on a widely-distributed electronic platform that provides quick response times to participants' needs, the changing market conditions and evolving market trends.

#### TRANSPARENCY

Price transparency is vital to efficient and equitable markets. ICE offers unprecedented price transparency and ensures that full depth of market is shown. Trades are executed on a first-in/first-out basis, ensuring fair execution priority. ICE also displays a live ticker of all deal terms and maintains an electronic file of all transactions conducted in its markets.

#### ICE FUTURES EUROPE REGULATION vs ICE FUTURES U.S.

ICE Futures Europe is a Recognised Investment Exchange in the UK, supervised by the Financial Services Authority under the terms of the Financial Services and Markets Act 2000. As a consequence, the ICE platform supports an orderly, regulated futures market thanks to its wide availability, open participation and complete documentation of all orders. ICE operates its sales and marketing activities in the UK through ICE Markets which is authorized and regulated by the Financial Services Authority as an arranger of deals in investments and agency broker.

#### ICE OTC REGULATION

ICE operates its OTC electronic platform as an exempt commercial market under the Commodity Exchange Act and regulations of the Commodity Futures Trading Commission, (CFTC). The CFTC generally oversees the trading of OTC derivative contracts on the ICE platform. All ICE participants must qualify as eligible commercial entities, as defined by the Commodity Exchange Act, and each participant must trade for its own account, as a principal.

As an exempt commercial market, ICE is required to comply with the access, reporting and record-keeping requirements of the CFTC. ICE's OTC business is not otherwise subject to substantive regulation by the CFTC or other U.S. regulatory authorities. Both the CFTC and the Federal Energy Regulatory Commission have view-only access to the ICE trading screens on a real-time basis.

#### **GETTING INVOLVED**

To learn more about ICE markets, products, and services, view a list of ICE Education programs or download a copy of the ICE capabilities brochure. To contact ICE, choose from a complete list of ICE contacts or call ICE Futures Europe.

A complete list of specifications is available at: https://www.theice. com/productguide/productDetails.action?specId=909

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