



GLOBAL MARKETS IN CLEAR VIEW

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# **IRON ORE: INDEX-BASED PHYSICAL PRICING AND SWAPS**

4 March, 2010

# LEGAL DISCLAIMER

## Safe Harbour Statement

### Forward-Looking Statements

*This presentation may contain “forward-looking statements” made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Statements regarding our business that are not historical facts are forward-looking statements that involve risks, uncertainties and assumptions that are difficult to predict. These statements are not guarantees of future performance and actual outcomes and results may differ materially from what is expressed or implied in any forward-looking statement. For a discussion of certain risks and uncertainties that could cause actual results to differ from those contained in the forward-looking statements see our filings with the Securities and Exchange Commission (the “SEC”), including, but not limited to, the “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2008, as filed with the SEC on February 11, 2009. SEC filings are also available in the Investors & Media section of our website. All forward-looking statements in this presentation are based on information known to us on the date hereof, and we undertake no obligation to publicly update any forward-looking statements.*

# WELCOME: IRON ORE INDEX PRICING AND SWAPS

## TODAY'S SESSION

**Mike Davis**  
**Director of Market Development**  
**ICE Futures Europe**

### Content:

- Introduction, ICE Market Role
- Physical pricing evolution: benchmark, spot and term contracts
- Role of Indices in pricing, choices & flexibility
- Index methodology: Platts
- Risk management basics
- Aligning physical and paper index pricing
- Swap basics, pricing and examples
- Role and benefits of Clearing
- Q & A
- Resources

# ICE OVERVIEW: DIVERSE PRODUCTS AND TECHNOLOGY EXPERTISE

## ICE REGULATED FUTURES EXCHANGES

### U.S. & Canada

#### Agricultural

Cocoa  
Coffee  
Cotton  
Sugar  
Orange Juice  
Barley  
Canola

#### Financial

Currency Pairs  
U.S. Dollar Index  
Russell Equity  
Indexes

### EUROPE

Brent Crude  
WTI Crude  
Sour Crude  
Gasoil  
Natural Gas  
Electricity  
Coal  
Emissions  
Iron Ore

## ICE OTC

### OTC Energy

Oil and Refined Products  
Physical and Financial Gas  
Physical and Financial  
Power  
Natural Gas Liquids

### OTC Credit

CDS – indexes, single  
names and structured  
products; ICE Link

## ICE DATA & SERVICES

### MARKET DATA

Real-time prices/screens  
Indices and end of day reports  
Tick-data, time and sales  
Market price validations

### SERVICES

ICE eConfirm  
eCOPS  
Coffee grading facility

## CLEARING HOUSES

ICE Clear U.S., ICE Clear Europe, ICE Clear Canada, ICE Trust & The Clearing Corporation

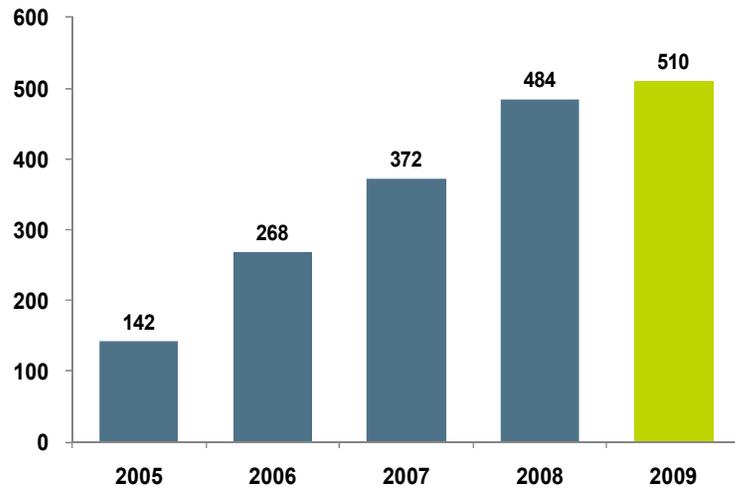
## TECHNOLOGY

- Connect via traditional exchange telecom hubs in U.S., Europe and Asia, via the Internet, co-location and direct connection
- Fastest matching engine for commodity markets, less than 3ms for futures; sophisticated spread implication functionality
- Leading electronic OTC energy markets, including credit filter and cleared/bilateral functionality
- ICE engineers develop and maintain proprietary exchange software and matching engine, front-end GUI and global infrastructure

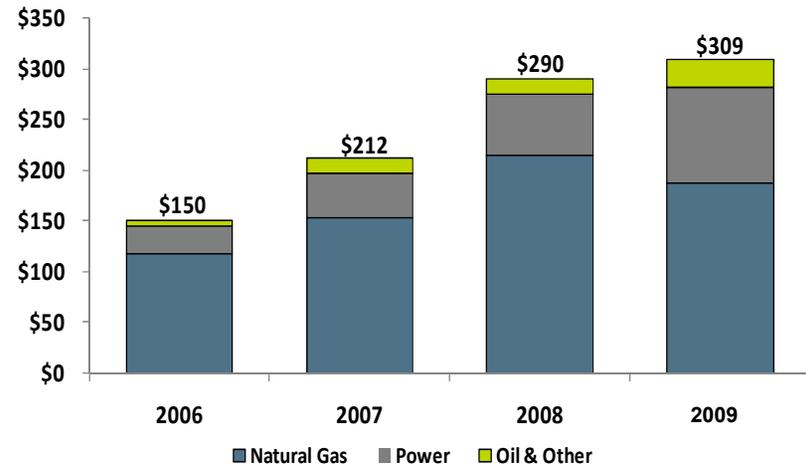


# ICE FUTURES & OTC GROWTH: ENERGY & CREDIT MARKETS, NOW CLEARED IRON ORE

**ANNUAL FUTURES & OTC CONTRACT VOLUME - TOTAL**  
(000s)



**OTC Energy Revenues**  
(millions)



## ENERGY PRODUCTS

- Electronic Markets
- Over 800 products listed for natural gas, power and refined oil products
- Approximately 280 cleared products

## ENERGY CUSTOMERS

- Commercial energy companies 53%
- Banks/Financial institution 21%
- Liquidity providers (prop/algo/funds) 26%



## WHY IS ICE CLEARING IRON ORE?

- ICE believes that Iron Ore and Steel markets represent a natural extension and complement to its commodity, energy, carbon and credit markets and communities of market participants
- ICE has many Iron Ore, Steel and related financial customers already trading ICE markets
- Iron Ore has strong structural comparisons with historical oil markets at it's current state of market development
- ICE has a long history of diversifying into and growing new markets and benchmarks from its original oil and power roots

# IRON ORE: IRON ORE INDEX PRICING AND SWAPS

## INTRODUCTION

Introduction: Context for webcast,  
ICE market role, growing portfolio

- One of a series in Iron Ore; today's rationale



Area C Iron Ore Mine, Western Australia,  
Leighton Contractors

- Purpose behind the webcast: goals
  - Demonstrate the valuable contribution index-based pricing can make to physical and other players, via its flexibility and logic
  - Show how adapting physical contracts to the ability to hedge can control risk, help insure against price shocks, maximise capital efficiency, smooth capital flows, aid budgeting and planning
  - Contribute to dialogue between physical players in Iron Ore and Steel about index-based pricing, hedging and risk management
  - Demonstrate how clearing can neutralise counterparty risk & enhance market liquidity
  - Help to further and grow interest across ICE's Iron Ore trading & financial community
  - Bringing physical and financial together an ICE goal to grow Iron Ore liquidity

# PRICING OF IRON ORE:

## 'BENCHMARK' GIVES WAY TO GROWING SPOT PHYSICAL PRICING

### IRON ORE MARKET STATUS AND EVOLUTION

- Legacy 'benchmark' price universally applied for a full financial year
- Recently market has gone through structural, behavioural changes
  - Consolidation and increasing vertical integration (steel producers and combined iron ore/steel producers)
- Benchmark negotiations more protracted, 2007-2009 strains intense
  - Volatility of more directly felt and short-term market-driven input prices such as coal, energy and freight, volatility in finished prices
  - Together with the operational and financial pressures generally in markets
  - Greater need for shorter-term consensus, spot, market-based pricing
  - Corporate restructuring and consolidation not enough to shift winner/loser cycle
  - High start up costs required to enter such markets

# IRON ORE MARKET STATUS AND EVOLUTION

## 'BENCHMARK' NEGOTIATION TO SPOT, FIXED-FLOATING-FIXED

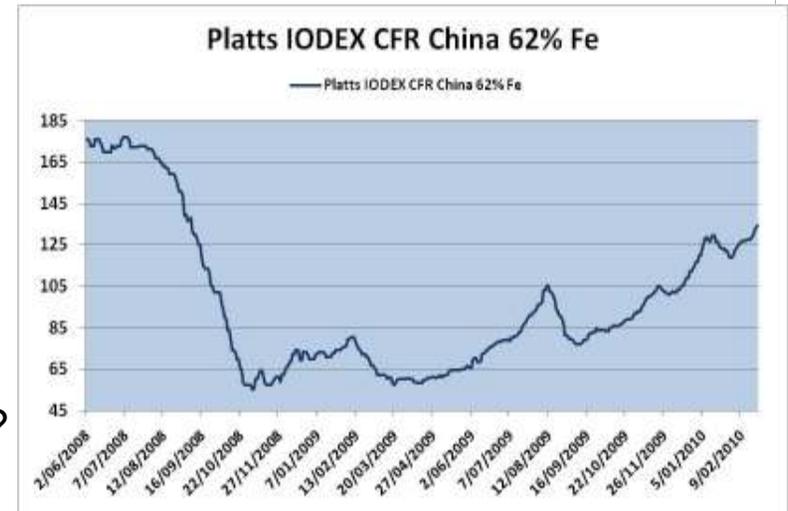
- Benchmark Iron Ore price increasingly problematic, 'too high or low'
- Now itself referencing openly market-priced and growing forward markets
- Revenue and cost pricing cycles had moved significantly, impacting contract stability for fixed longer-term prices
- So more release of spot iron ore material, seeking out more relevant prices on fundamentals than benchmark-negotiated price
- Industry less prepared to grant free call or put options to one side, looking for performance and pricing for genuine forward physical term contracts
- Index prices like Platts allow independent and transparent price for shorter-term basis pricing in iron ore - market-based solution
- Oil and coal market price history similar – entities targeted difference c.f. benchmark (announced or posted) price and spot
- Until recently, Iron Ore largest commodity without mature derivatives market
- ICE Iron Ore swap contract is the world's first cleared Iron Ore contract against Platts index

# INDEX METHODOLOGY: PLATTS

## KEY QUESTIONS

**Francis Browne, Global Managing Editor,  
Steel & Iron Ore, Platts**

- What is Platts IODEX?
- Why is Platts IODEX important to the mining and steel industries?
- When was Platts IODEX first introduced?
- How are Platts IODEX price assessments derived?
- How are Platts IODEX price assessments used?
- What are the Platts IODEX Specifications?
- Why are iron ore prices focused on China?
- Where can I find more details on Platts IODEX assessments methodology?



To read more about Platts iron ore methodology and specifications, please visit:

<http://platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/ironore.pdf>

For more information from Platts editorial staff on Iron Ore, please contact [iron\\_ore@platts.com](mailto:iron_ore@platts.com) or your nearest Platts office

# PRICING OF IRON ORE: BENCHMARK TO SPOT & TERM INDEX PRICING

- **Role for both?** - ‘benchmark’ and index marker prices - Comment and debate around alternatives
- Spot price volatility, benchmark & index divergences
- **Flexibility of indexation** - can have annual term contracts all way to spot price granularity
- Indexation enables forward price discovery & capture for first time
- Spot and forward price transparency, trends & linkages
- Term structure and intermonth spreads
- Index-linked derivative instruments extend forward liquidity, allow financial engineering, reducing gearing of mining companies, allowing new mines or furnaces to maximise capital, efficiency
- Exchange role

## Platts’ 62% Iron Ore CFR N.China and related Steel prices:

Longest-running & first daily 62% Iron Ore Index

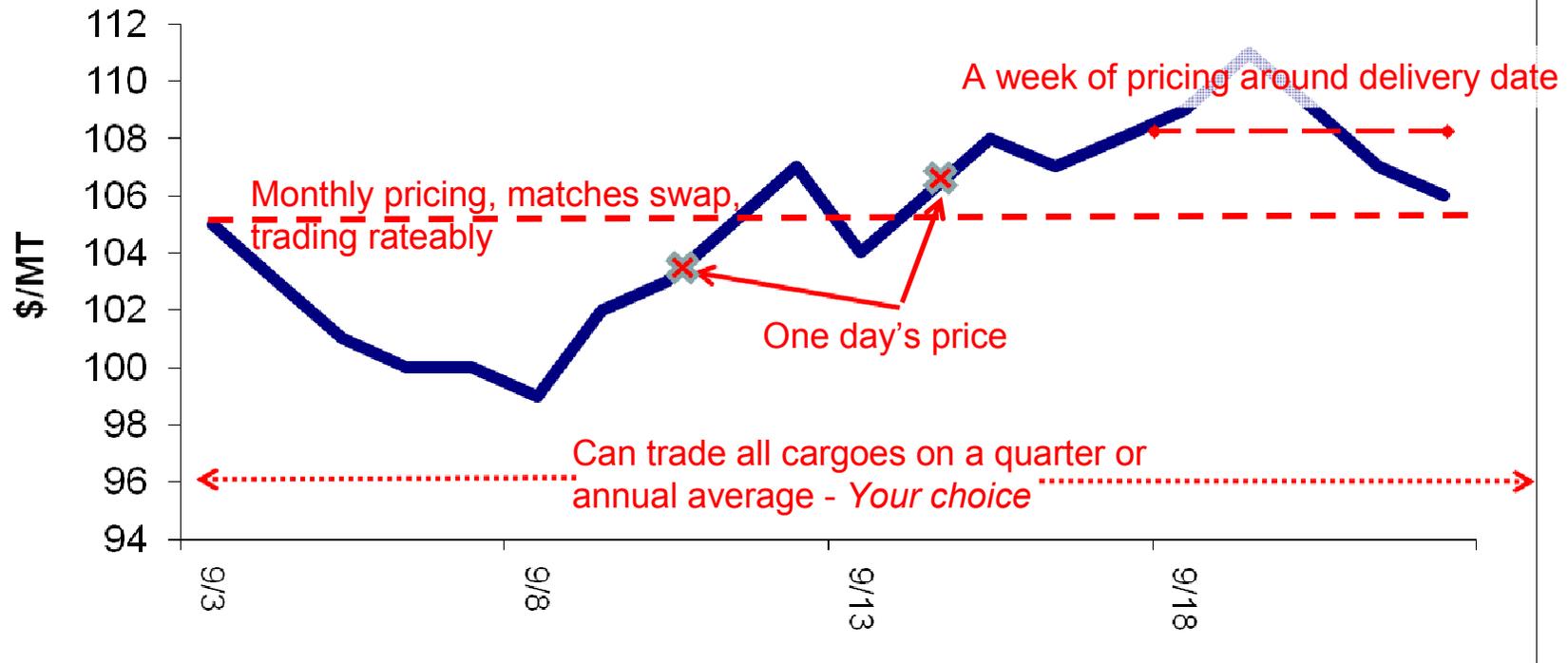


# PRICING OF IRON ORE: SPOT & TERM INDEX PRICING

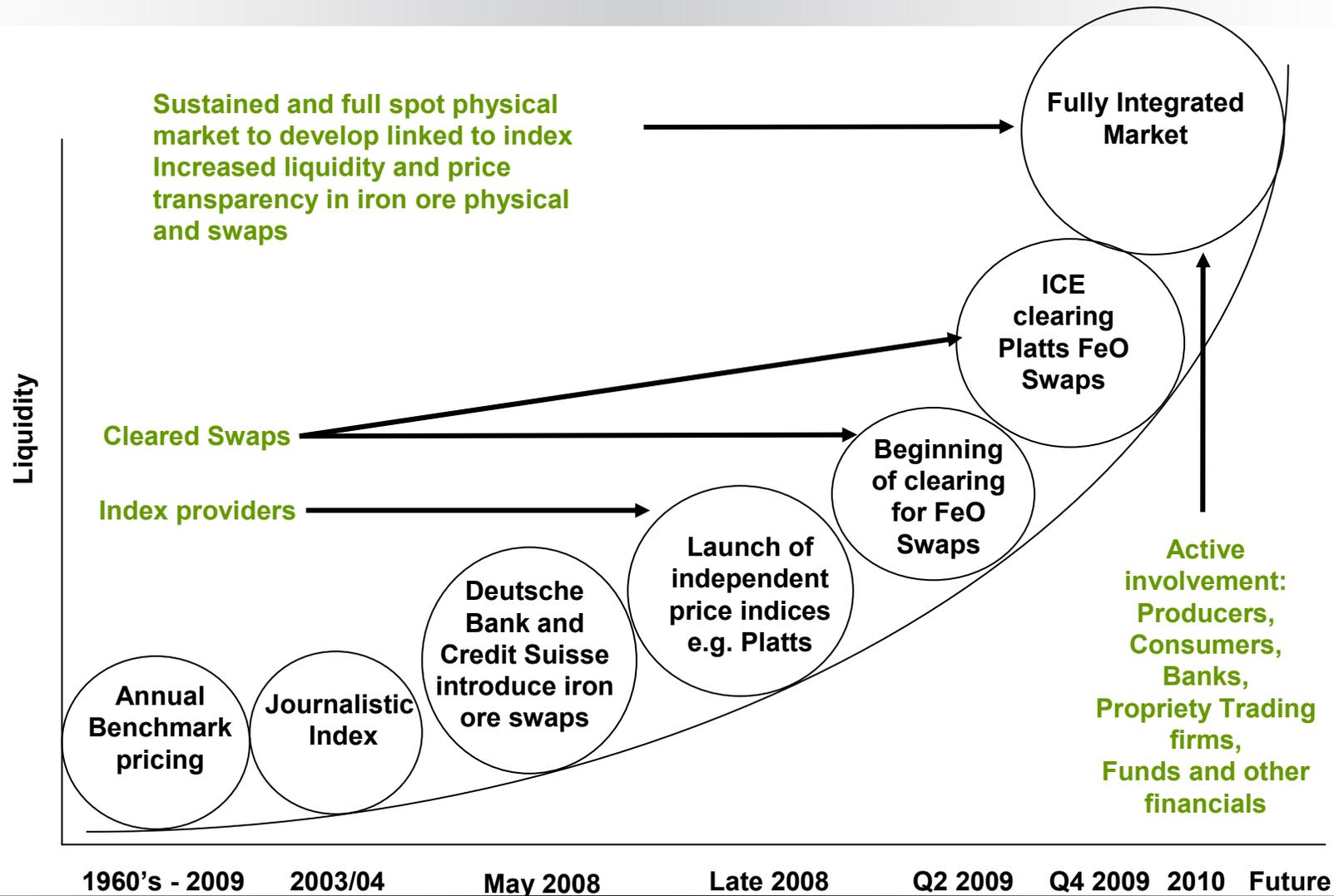
ALL ABOUT CHOICE & FLEXIBILITY (CONTRACT/LOGISTICALLY)

## Platts IODEX Spot 62% prices

Spot or Term Physical Contract allows outsourcing of pricing to Index daily floating price, from one day upwards (for individual cargo), to term average (Month, Quarter, Annual) as you please



# LIKELY EVOLUTIONARY PATH OF IRON ORE PRICING



Source: London Dry Bulk

www.theice.com



# PRODUCER TO CONSUMER: IRON ORE TO STEEL

## THE SCOPE AND NEED FOR INDEX-BASED PRICING



# WHAT ARE THE RISKS?

## a) Price or market risk

- Flat price risk
- Basis risk (Settlement/index risk)
  - Product/specification
  - Geographical
  - Time
- Currency risk etc.

## b) Credit risk

- Counterparty risk (Performance risk)

## c) Operational

- Logistical - weather, freight etc
- Legal/contractual risk

**a) and b) most commonly understood & addressed risks, scope for today**

## BENEFITS: IRON ORE RISK MANAGEMENT & CLEARING

- *Would you like the facility to insure yourself against unexpectedly dramatic price falls/rises?*
- *Would you like to get a price now for Iron Ore in the second half of 2010?*
- *Would you like to be able to buy or sell a forward margin between Iron Ore and Steel?*
- *Would you like to be able to formulate budgets or plan forward knowing what you will be paying on the cost side, or revenue in 2010 or 2011?*
- *Would you like to be able to access capital to open a new mine or furnace by selling forward?*
- *Would you like to be able to trade or hedge price irrespective of your physical delivery constraints or scheduling?*

# INDEX TRANSPARENCY ENABLES RISK MANAGEMENT

## Benefits of Risk Management: Summary

### The value of forward prices and financial contracts:

- Integrated Risk Management enables identification, measurement and adjustment of risk according to an entity's chosen and agreed degree of risk appetite
- In Iron Ore its all about the predictability of costs and revenue, replacing forecasts with achievable forward prices, increasing forward price predictability and capital efficiency, via long term access to capital
- Key is linking physical (term) contracts to forward hedging and trading opportunities – index-linked physical term pricing and related swaps template
- Can adjust the relative impact of price volatility
- Enables more predictable planning and budgetary control
- Protects margins, smoothes revenue and cost flows
- Locks in future cash flow, reduces need for capital reserves against shocks
- Can reduce the cost of capital via improved credit rating
- Managing short-term price fluctuations can make long-term contracts more stable

## SWAP BASICS: WHAT IS A SWAP?



- A financial instrument that allows market participants to capture the value of a particular market at some time in the future

# ANNOUNCING THE ICE CLEARED IRON ORE SWAP



## Iron Ore Swap (Platts) 62% Fe Contract Specifications

Description	Iron Ore Swap (Platts) 62% Fe	Settlement Prices	One tenth of one cent (\$0.001) per Dry Metric Tonne
Contract Symbol	ORE	Last Trading Day	First Business Day following the Settlement period
Contract Size	Per Lot: 1,000 dry Metric Tonnes	Fixed Price	The traded price or the previous day's settlement price
Units of Trading	Contract Size will be expressed as "lots".	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.
Currency	USD and cents	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
Minimum Price Flux	One cent (USD 0.01) per Dry Metric Tonne		

ICE Help Desk: Atlanta + 1 770 738 2101, London + 44 (0) 20 7488 5100 or [ICEHelpdesk@theice.com](mailto:ICEHelpdesk@theice.com)

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



# SWAP CONTRACT

- The exchange of price risk
- A swap is a 'contract for difference'
- It is a means of trading the difference between a fixed price (or on occasion the difference between two index prices), agreed between two counterparties and a floating average or index price, over the agreed period

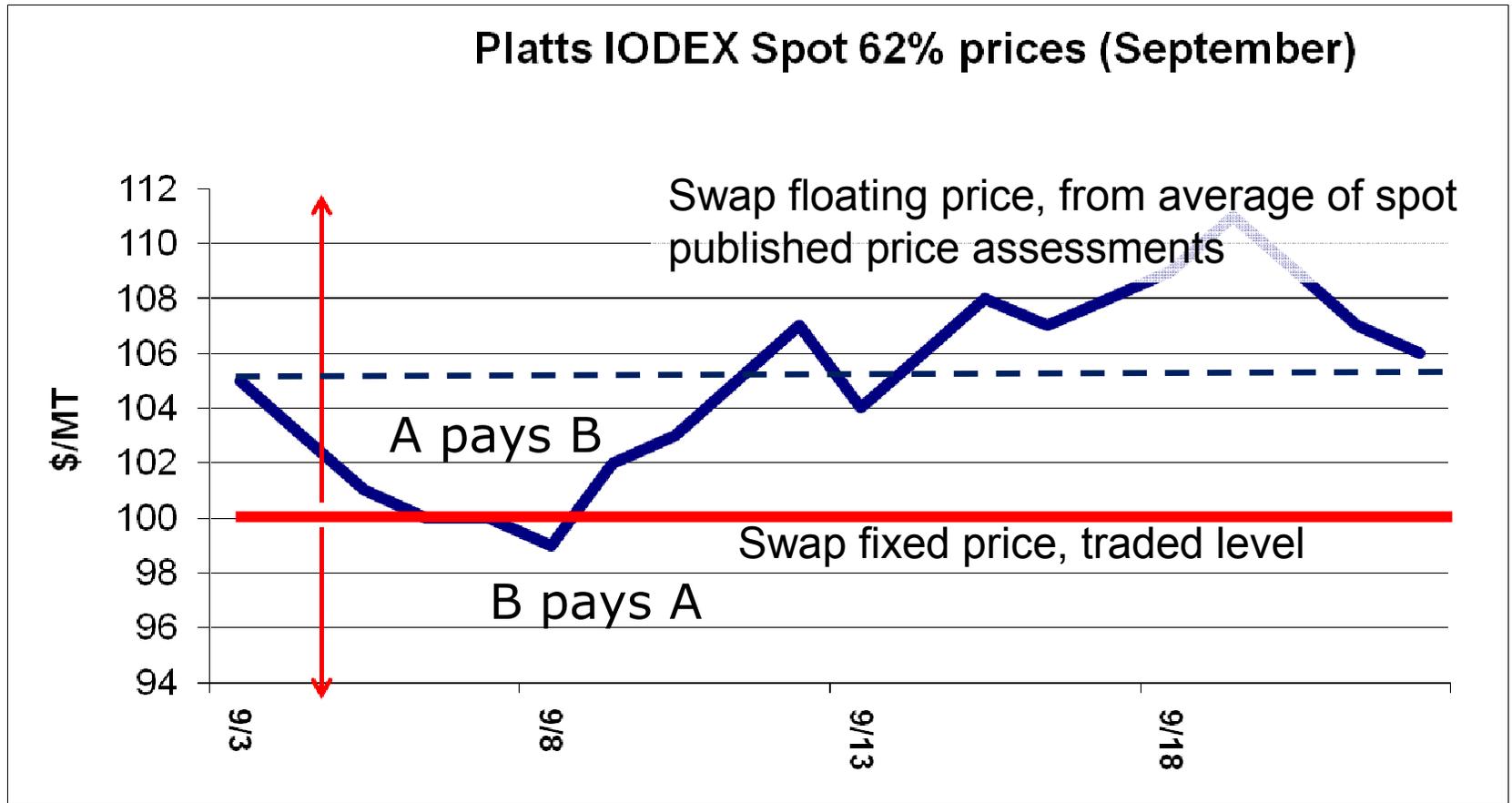
## TO CLARIFY...

- The index is a report of the price of clearly assessable trades of a given market, typically on a spot basis
- The index is a 'floating' price record
- A simple swap is the purchase/sale at a fixed price versus the sale/purchase at a floating price for a future time period

## AN EXAMPLE

- **Index:** IODEX 62% Fe North China  
Published by Platts
- **Volume:** 5,000mt  
Standard volume traded  
Volume can be negotiated
- **Period:** 1-30 Sep 2010  
Flexible
- **Price:** \$100.00dmt
- **Contract:** Company A sells a fixed price swap to Company B and buys the average of the published floating price from Company B

# INDEX PRICING OVER A MONTH



## AT THE END OF THE PRICING PERIOD

- The average of the published price (actual published quotations) is compared to the fixed price
  - In the example \$105.00 average versus \$100.00 fixed
- The volume of the contract is multiplied by the difference
  - 5,000 dmt x \$5.00
- The result is a direct financial payment
  - Company B pays Company A \$25,000

## FUNDAMENTAL NOTIONS

- No 'expiry' date
- Cash flow happens after settlement
- There is price risk

## RATEABLE EXPOSURE

How is exposure built up and unwound..

..with time

An equal volume of the contract is priced each working day (day a price is published)

This corresponds to the pricing profile of many companies *in aggregate* and therefore corresponds to the risk that companies encounter

# FLEXIBILITY OF SWAPS

- Volume
- Timing
- Variety of index

# ICE IRON ORE: ROLE & BENEFITS OF CLEARING

## ICE CLEARING, THE BENEFITS OF A CENTRAL COUNTERPARTY (CCP)

### *ICE Clearing: Why & How?*

- ***Elimination of Counterparty Risk***
  - With the Clearing House as a CCP you are offered the security of futures with the flexibility of OTC markets
  - Margining outsources collateralisation to a guaranteed and financially secure third party
- ***Increased trading opportunities***
  - Clearing eliminates operational distractions/complexity in bilateral credit issues around trading and hedging
  - Participants free 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

# ICE IRON ORE: ROLE & BENEFITS OF CLEARING

## ICE CLEARING, THE BENEFITS OF A CENTRAL COUNTERPARTY (CCP)

- ***Efficient capital flows***
  - Clearing satisfies capital adequacy requirements 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
- ***Streamlining back office operations***
  - Offsets between Exchange-traded and bilateral OTC instruments 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 mark-to-market for OTC markets
  - The lodging of margin ensures a degree of security of performance and payment that cannot be matched by *any* single counterparty
  - For trades booked into ICE, traders that have the ICE GUI will see the deals in their portfolio

# SUMMARY- SWAPS: THE BASICS

- What is swapped (Fixed-for-floating)** → A floating, *as yet unknown*, index price for a fixed swap price
- No immediate payment of “price”** → ‘Strike’ price of swap is compared to eventual published index price
- How do they price?** → Against published average for month
- Cash-settled** → Swap only deals with financial side, not physical requirement
- OTC** → Bilateral arrangement

# SWAPS: THE BASICS, ANOTHER EXAMPLE

AS OF FEBRUARY 2010, SPOT IODEX @ \$134/DMT, RISING

- Term physical contract (yearly) already exists between Shanghai Steel (buyer) and Asia Ore (Seller), based on Platts IODEX
- Term physical contract based on Platts index means that a hedgeable forward price *is* available if/when you want/need one
- Prices monthly on basis, Mean of Platts IODEX (MOPI)
- No basis risk between physical therefore and swap, pricing on Platts index versus that physical
- Shanghai Steel concerned about possible rising Iron Ore prices, want to lock in price at current forward swap offer
- Approach China Bank for swap quotation – offered Q3 2010 Platts IODEX swap at \$130/dmt

# SWAPS: THE BASICS

## Anatomy of a Swap:

- China Bank sells Q3 2010 IODEX swap to Shanghai Steel
- Swap price \$130/dmt for 100,000/dmt pricing monthly
- China Bank/ Shanghai Steel clear swap with ICE to remove Counterparty risk, preserve credit lines

If index price (floating) is above swap price (fixed):

- Seller pays buyer the difference

If index price (floating) is below swap price (fixed): :

- Buyer pays seller the difference

# SWAPS: THE BASICS

## ANATOMY OF A SWAP: MONTHLY RECONCILIATIONS OF Q3 SWAP

- China Bank sells Q3 2010 swap to Shanghai Steel
- Swap price \$130/mt for 100,000/dmt pricing monthly

MONTH	AVERAGE PRICE (\$)	SWAP PRICE (\$)	WHO PAYS
JULY	140	130	China Bank pays Shanghai Steel $\$140-130/\text{dmt} \times 100,000/\text{m} = \$1,000,000$
AUGUST	132	130	China Bank pays Shanghai Steel $\$132-130/\text{dmt} \times 100,000/\text{m} = \$200,000$
SEPTEMBER	128	130	Shanghai Steel pays China Bank $\$130-128/\text{dmt} \times 100,000/\text{m} = \$200,000$

N.B. Whatever floating price, effectively fixed at \$130/dmt (Outright price of swap, still pays market price for physical)

## WHY CLEAR THE *ICE* IRON ORE SWAP?

- ICE Iron Ore clearing swap partner Platts has a 100 year history of benchmark development & stewardship
  - Proven robust, consistent and independent methodology over 100 years
  - Longest continuous *daily* 62% Fe Iron Ore assessment -18 month history v. 7 months for alternative indices
- ICE brings quick and certain confirmation and clearing online in real-time – chimes with Straight-Through Processing
- ICE offers competitive fees and margins
- ICE brings a global pool of energy/financial players - tens of thousands of potential clearing counterparties every day
- ICE offers many linked markets in energy, including Coal & Carbon
- ICE is committed to helping inform and grow this market, responding to customers' express requests for risk tools in Steel & Iron Ore

# GETTING SET UP FOR IRON ORE CLEARING ON ICE

## THREE EASY STEPS: THIS IS ALL YOU NEED TO DO

Contact your local ICE Sales contact listed shortly

1. Complete a one page 'New User Enrolment Form' (NEUF)
  - This form sets up your traders, administrators and risk manager users
  - The form is mailed to your Clearer
2. Your Clearer will check the details and attest that you are an eligible entity to clear via ICE's OTC Clearing platform.
  - Your Clearer creates a clearing account and limits
  - Your Clearer permissions any brokers that you need to act on your behalf
3. Your risk manager allocates accounts to individual traders

That's it, you're ready to go.

# SUMMARY: IRON ORE INDEX PRICING AND SWAPS

## CONCLUSION



Area C Iron Ore Mine, Western Australia,  
Leighton Contractors

### Webcast goals:

- Explain ICE role in growing liquidity in Iron Ore
- Demonstrate the flexibility, transparency and convenience of index-based, market-driven pricing, especially aligned in physical *and* swaps
- Show how index-based pricing enables risk management/hedging
- Explain the basics of swaps, and how they work to control risk
- Demonstrate the benefits of clearing to maximise capital, control risk

# QUESTIONS & ANSWERS: ICE IRON ORE CLEARING

**QUESTIONS & ANSWERS?**

# CLEARING ICE IRON ORE

## MORE INFORMATION

### Additional resources for Iron Ore:

#### Product Information:

- ICE Iron Ore Product Guide  
[https://www.theice.com/publicdocs/ICE\\_Iron\\_Ore\\_Product\\_Guide\\_ENG.pdf](https://www.theice.com/publicdocs/ICE_Iron_Ore_Product_Guide_ENG.pdf)
- Contract Specifications  
<https://www.theice.com/productguide/ProductDetails.shtml?specId=1431>
- Frequently asked questions  
[https://www.theice.com/publicdocs/ICE\\_Iron\\_Ore\\_FAQs\\_ENG.pdf](https://www.theice.com/publicdocs/ICE_Iron_Ore_FAQs_ENG.pdf)
- Frequently asked questions
- Fees  
[https://www.theice.com/publicdocs/Iron\\_Ore\\_OTC\\_Fee\\_and\\_Margin\\_Sheet.pdf](https://www.theice.com/publicdocs/Iron_Ore_OTC_Fee_and_Margin_Sheet.pdf)
- ICE webcast:  
<https://www.theice.com/webcasts.jhtml>

### Clearing House information:

- ICE Clear US  
[https://www.theice.com/clear\\_us.jhtml](https://www.theice.com/clear_us.jhtml)
- Margins (updated regularly):  
[https://www.theice.com/publicdocs/futures\\_us\\_reports/all/ICE%20CLEAR\\_US\\_Margin\\_Requirements.pdf](https://www.theice.com/publicdocs/futures_us_reports/all/ICE%20CLEAR_US_Margin_Requirements.pdf)
- List of Clearing Members  
[https://www.theice.com/clear\\_us\\_members.jhtml](https://www.theice.com/clear_us_members.jhtml)
- ICE Clear notices - circulars  
<https://www.theice.com/notices/ClearUSClearingNotices.shtml>
- ICE Clear US brochure:  
[https://www.theice.com/publicdocs/clear\\_us/ICE\\_Clear\\_US\\_Brochure.pdf](https://www.theice.com/publicdocs/clear_us/ICE_Clear_US_Brochure.pdf)
- Platts Methodology guide:  
<http://platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/ironore.pdf>

# ICE IRON ORE CONTACTS

## ICE SALES CONTACTS/ MORE INFORMATION

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