



BNP Paribas Prime Brokerage, Commodity Futures

Clearing Model

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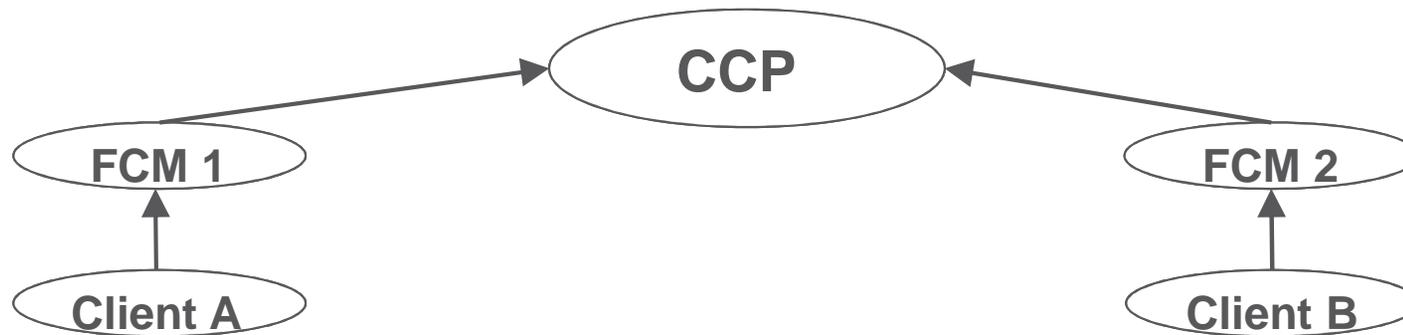
The Futures Commission Merchant “FCM” model

- ❑ Futures Commission Merchants “FCM” is the name by which Futures Clearing Brokers are known in the industry. FCM are providers of execution and clearing services for listed commodity contracts within a regulated environment.
- ❑ An FCM is a firm that acts as agent on behalf of clients by clearing futures and options contracts through the exchange and clearing house mechanism.
- ❑ Futures contracts are traded on an Exchange which offers participants the ability to buy or sell a contract in a particular underlying. Futures are, depending on exchange contracts specifications, cash settled prior to expiration (cover) or physically settled with buyers exercising to take delivery from physical sellers.
- ❑ Futures Exchanges and Clearing Houses allow the physical delivery of the commodity for the amount specified under the futures contract in the month the futures contract settles. This is rare since most futures contracts are closed out / settled financially prior to expiry.
- ❑ Clearing Services: FCM’s are members of the commodity exchanges and clearing houses (aka Central Clearing Counterparty “CCP”) which provide a market where buyers and sellers are matched.



The Futures Commission Merchant “FCM” model

- ❑ A CCP is the entity to which trades are given up and which guarantees performance on trades.
 - Mutualizes losses through a series of safeguards
 - Sets minimum requirements for clearing including levels of safeguards to be funded.
- ❑ Clients face the CCP via the FCM



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The Clearing Mechanism

- ❑ **CCP's set the requirements for the clearing members, mostly FCMs.**
- ❑ **Capital Requirements:** Exchange and CCP membership rules are established requiring clearing brokers to have a minimum capital to join and to maintain adequate capital compared to their level of clearing activity.
- ❑ **Guaranty Funds:** Each CCP has a Guaranty Fund also known as Default Fund which is an available pool of resources to support continuity of the system in case a clearing member is insolvent. The fund is typically made up of member contributions, could have a contribution from the CCP, and other amounts. In addition the Exchange / Clearing house has the power to assess members in case the default fund is exhausted.
- ❑ **Policies & Procedures:** The Exchange / Clearing House establish risk policies and procedures to protect the stability of system particularly in periods of extreme market conditions. The clearing houses have established risk management functions staffed with market and credit risk experts, and with participation by clearing members.
- ❑ **Regulators**
 - In the US, the Commodity Futures Trading Commission is the main regulator of the industry. As an agency of the US Federal Government, the CFTC has broad powers to levy fines and other punishment on members and traders that violate the rules. The CFTC has traditionally been concerned with monitoring market abuse and the protection of customer funds.
 - The National Futures Association (“NFA”) and the various futures exchanges are the self-regulatory organizations in place to protect the participants (investors) from abuse. The NFA also provides guidance to its members and provides mediation and arbitration for resolving investor/member disputes. Exchanges are also Self Regulatory Organizations that regulate their members.



The Clearing Mechanism

❑ Exchange Margining (Initial and Variation)

From a clearer's perspective, there are two risks in futures trading:

- 1) Overnight payment risk that a client will not deliver the Initial Margin requirement for position traded. Today a customer working on derivatives knows the amount of risk he has to pay to the FCM for his activity the day after the trading day (T+1).
- 2) Liquidation risk that in general stems from a customer's default to meet margin calls.
 - To cover these risks Commodity Exchanges / Clearing Houses require the client (through their clearing broker) to post a performance bond (Initial Margin) as a guaranty at the time the position is opened with the Exchange, as well as to cover on an ongoing basis any market losses via further deposits (Variation Margin).
 - Depending on the Exchange, Initial Margin (IM) protects against a 1 or 2 days adverse price move with a confidence interval of 97% to 99%, based on 3 months historical volatility
 - Initial Margin: Required deposit used to limit and cover potential loss on all open positions, Initial margin is set to cover the maximum likely market movement over a 1 or 2-day period (depending on the Clearing Houses). Parameters are set by the Clearing House, according to the methodology used (most common one is Standard Portfolio Analysis of Risk – SPAN - by CME) based on historical behaviour.
 - Variation Margin: A variable amount representing the mark-to-market profit or loss is calculated daily and applied to all open positions. It is calculated by the Exchange based on the Clearing House published settlement price only.



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Bilateral compared to Cleared

Bilateral

- ❑ OTC markets are organized around one or more dealers who make a market by maintaining a bid or offer to other participants. Dealers act as principal.
- ❑ Participants in OTC markets are known as counterparts and rely on each other's own credit worthiness for performance.
- ❑ Terms of a bilateral transaction (volume and tenor) are negotiated at the time of trade execution
- ❑ A swap is the most common OTC trade. It is non-standardized transaction in which two counterparts exchange cash flow streams on defined dates and based on a reference price (e.g., an index price).

Cleared

- ❑ The futures markets operate through various exchanges and clearing houses as the market place and where FCMs act as agent on behalf of their clients.
- ❑ Exchange futures and options are standardized contracts for a specific volume and maturity.
- ❑ Futures contracts are typically financially settled, though some exchanges offer physically settled contracts that allow participants the ability to make or take delivery of the underlying commodity.



Bilateral compared to Cleared

Bilateral

- ❑ OTC trades are typically documented under an ISDA Master agreement, and collateral under a Credit Support Annex with terms negotiated based on the counterpart's own credit appetite
- ❑ The main purpose of the ISDA Master Agreement is to establish common terms to all transactions between two counterparts and allow netting of payments and close-out netting (set-off of futures cash flows) in a termination scenario.
- ❑ Certain events of default are standard under ISDA, other default and termination provisions are negotiated.
- ❑ The ISDA CSA operates under the principal of netting. A typical CSA grid is based on ratings. Collateral is posted based on MTM over the Threshold Amount.

Standard & Poors	Moody's	Threshold
AAA	Aaa	\$45MM
AA- to AA+	Aa3 to Aa1	\$35MM
A- to A+	A3 to A1	\$25MM
BBB- to BBB+	Baa3 to Baa1	\$10MM
BB+ or below	Ba1 or below	Zero (full margin)

Cleared

- ❑ Futures documentation is designed to protect the FCM. The primary objective is to ensure the FCM is safe and able to satisfy its regulatory requirements, and the expectation of the exchanges and clearing houses. For example:
 - ❑ Clearing brokers are responsible to deliver margin obligations to the clearing house for the positions they carry even if the clients fail to pay their margin obligations.
 - ❑ Clearing brokers are responsible for ensuring that their clients stay within approved exchange position limits.
 - ❑ Some standard terms in the FCM agreement may include:
 - Adequate margin
 - Payment to brokers
 - Position limits
 - Pledge of properties
 - Position Liquidation



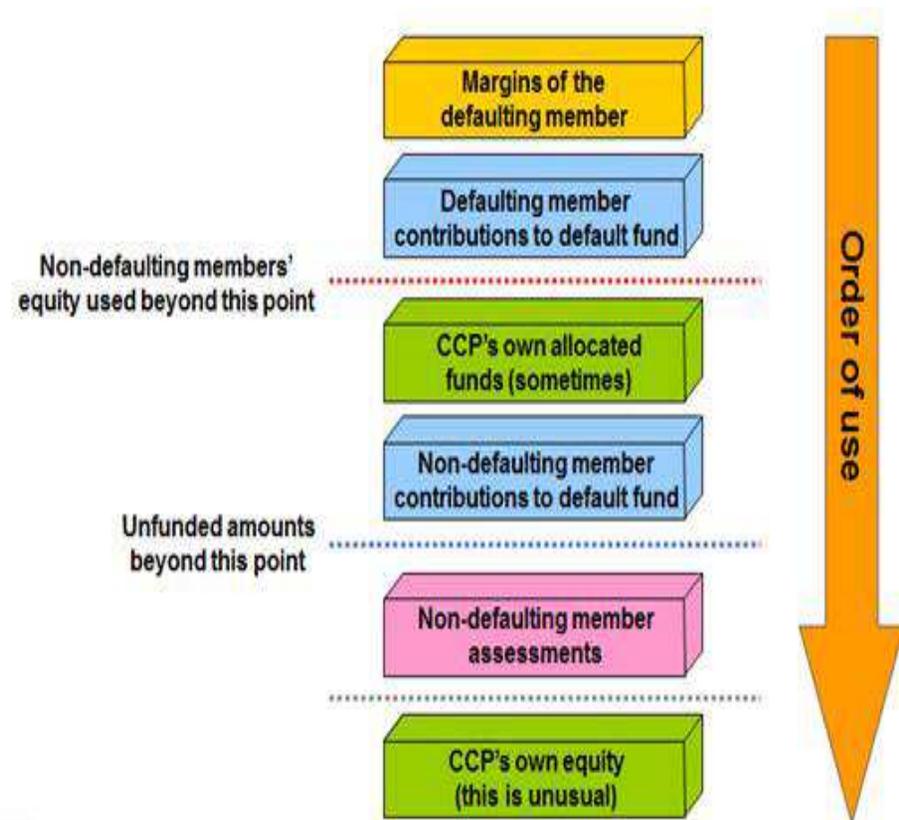
Bilateral compared to Cleared

Bilateral

- ❑ Send counterpart notice of default
- ❑ Upon an event of default, counterpart may be allowed a cure period to remedy and avoid a termination
- ❑ Once a default is confirmed, the non-defaulting party will designate an early termination date which can be same day or as soon as practical
- ❑ Methods for calculating the final termination amount will be specified as negotiated in the ISDA Schedule, most common methods are “Loss” and “Market Quotation.”
- ❑ Termination is determined on a net basis which results in a final claim.
- ❑ Depending on level of seniority, unsecured creditors are last.

Cleared

- ❑ Futures participants are exposed to credit risk of their FCM.
- ❑ In the event of an FCM default, CCP’s have established safeguards “Guaranty Fund” to protect the system. Below is a typical set-up:



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Regulation and Customer Protection Rules

☐ Registration

- The Commodity Exchange Act requires all FCMs to register as such, unless they qualify for an exemption.

☐ Oversight of registrants by Self-Regulatory Organizations (“SRO”)

- All registered FCMs are required to be members of the National Futures Association (NFA), and may also be members of one or more designated commodity exchanges. The NFA and the commodity exchanges are self-regulatory organizations that are required to enforce CFTC-approved financial and reporting requirements for their members.

☐ Segregation of Customer funds

- All customer funds for trading must be separately accounted for and kept apart from the FCM’s own funds.
- Except as may be allowed by CFTC rule or order, customer funds in separate categories must also be separately accounted for, and kept apart for customer funds in different categories (U.S. futures, non-US futures, and cleared swaps)”
- Segregated accounts in each category must be titled for the benefit of the FCM’s customers. In US Bankruptcy Customer funds in segregation have a bankruptcy preference in the event of FCM insolvency.
- Segregated funds in non-US bankruptcy are afforded the protections in the jurisdictions where the bankruptcy is filed. These protections could differ from the protection in US-bankruptcy.

☐ Disclosure

- Before FCMs may open a commodity futures account for a customer, a statement describing the risks inherent in futures trading and alerting a customer to consider carefully whether it is in a financial position to take such risks, must be signed.
- FCMs are now required to post a firm specific Disclosure Document on their websites.



Regulation and Customer Protection Rules

Reporting to Customers

- Statements confirming the transactions and showing the net gain or loss from any offsetting positions.

Record Keeping

- Rigorous record keeping that must be open to inspection by the CFTC, the National Futures Association, and the Department of Justice.

Supervision

- Each CFTC registrant, except an associated person who has no supervisory duties, must diligently supervise the handling by its partners, officers, employees, and agents of all commodity interest accounts carried, operated, advised, or introduced by the registrant and all other activities of such persons relating to its business as a CFTC registrant.



Regulation and Customer Protection Rules

- ❑ Commodity Futures Trade Commission (“CFTC”) passed the following enhanced rules on customer protection:
 - Segregation of customer funds
 - Provide customers appropriate notice of risk of trading futures
 - Provide customers appropriate notice of risk of the FCM.
 - Ensure FCMs are monitoring and managing risks effectively
 - Safeguard Capital and Liquidity of the FCM
 - Continued Audits by the CFTC and the SRO’s to monitor the activity of the FCM’s.

- ❑ Segregation of funds: Customer funds need to be segregated and not in any way comingled with funds belonging to the FCM. In addition, an FCM is expressly prohibited from using the collateral of one customer to margin, secure or guarantee the trade or contracts of another customer.
 - Part of this rule requires the FCM to maintain an adequate Residual Interest in its customers accounts to protect all its customers in the event of a double default.

- ❑ Expanded risk disclosures require FCMs that in addition to the standard risk disclosures regarding futures trading, customers are informed that funds on deposit with the FCM are not insured by the Securities Investor Protection Corp, and customers are not guaranteed by the DCO (Clearing House) in the event of an FCM default.

- ❑ FCMs are required to provide customers general information about their activities, significant business and product lines, material risks faced by the FCM, legal matters, financial information including proprietary accounts, OTC transactions, and unsecured lines of credit.



Regulation and Customer Protection Rules

- ❑ **The standards for firms that audit FCMs has been raised.**
- ❑ Financial information made public on the FCM's website including the firms daily customer segregation activity, a summary of the FCM's adjusted, net and excess capital for the most current 12 months, the most current certified annual report, and the 1FR report for the current 12 month period.
- ❑ Auditing firms must be registered with the Public Company Account Oversight Board ("PCAOB"), and the governing body of the FCM must ensure that the accounting firm engaged is duly qualified to perform the audit of the FCM – Factors include knowledge of the industry requirements, regulations, as well as depth of their staff.
- ❑ FCMs are required to adopt a Risk Management Program that takes into account the risks to which the FCM is subject to including: operations, capital, customer segregation, and to develop appropriate controls around such risks.
- ❑ Enhancement of the CFTC's and SRO's ability to monitor the FCMs requiring an enhanced supervisory program on controls, the application of PCAOB auditing standards, and periodic review of this program by the CFTC.
- ❑ Enhancement to acknowledgement letter from Depositories that agree to provide the CFTC with read-only electronic access to view accounts that hold customer funds. These accounts can be reviewed at any reasonable time. This information is also available to the DSRO.



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BNPP Offering – Legal entity structure

It has become increasingly important to understand the credit quality of your FCM counterparties and the contractual, legal and regulatory protections covering your assets.

Fact 1

All our clients face a highly rated and well-capitalized counterparty:

- BNP Paribas Prime Brokerage is capitalized at \$3.65Bn

Fact 2

Our parent company, BNP Paribas (A+/A1), guarantees every entity involved in our clearing business:

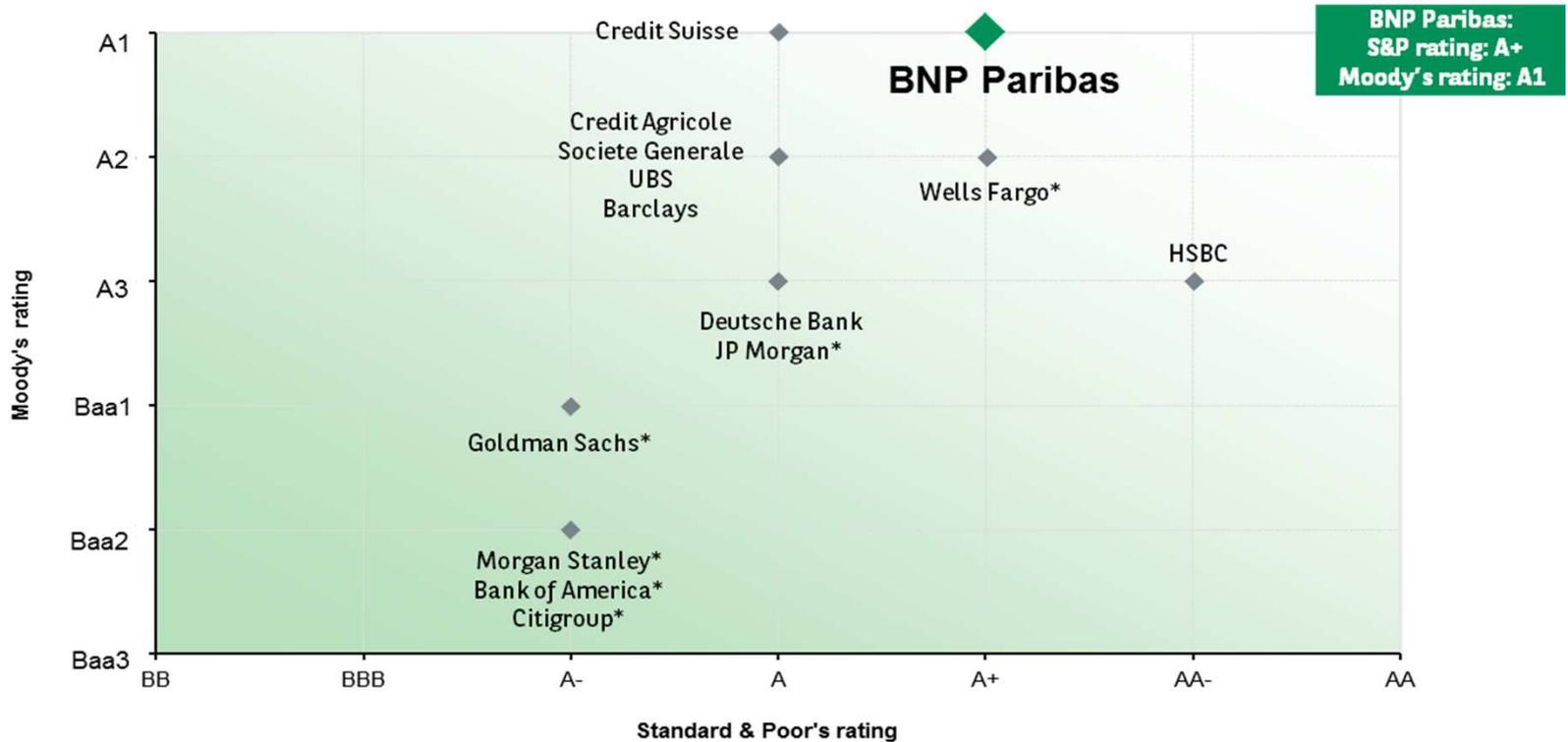
- Clearing accounts with BNP Paribas Prime Brokerage benefit from an umbrella guaranty.



BNP Paribas Credit Rating versus Peers

A Strong Counterparty for Today's Markets

With confirmed credit ratings of A+/A1, BNP Paribas maintains its position on the top of the curve, bringing large scale robustness, solidity and confidence to our clients in challenging market conditions.



Source: BNP Paribas, Bloomberg, May 11th, 2015. For S&P, rating for Long Term Foreign Issuer Credit is quoted. For Moody's, rating for Senior Unsecured Debt is quoted. For Fitch, rating for Senior Unsecured Debt is quoted. A credit rating (i) is subject to downward revision, suspension or withdrawal at any time by the assigning rating organisation, (ii) does not take into account market risk or the performance-related risks of the investment, and (iii) is not a recommendation to buy, sell or hold securities. Non exhaustive list of banks.
 *denotes holding company as main issuer of senior debt



BNPP Offering – Services

Commodity Futures is a leading provider of global execution, clearing, and financing solutions for listed Commodity Futures, Options, and OTC Cleared contracts within a regulated environment

■ Execution Services

- 24 hour Voice Execution Desk (NY, London, Singapore)
- Electronic Trading via Dedicated Direct Market Access (DMA) with Global Trade Support teams

■ Clearing Services

- Global Clearing memberships for Exchange Listed Futures & Options, as well as Cleared OTC products.
- Comprehensive Clearing platform for hedging needs on all major global exchange traded products, notably: Agriculture, Energy, Metals, & Freight.

■ Margin Finance Solutions

- Standalone Margin Financing Facility to support Initial and Variation Margin Requirements:
 - NY Branch (Americas).

Clients

- ✓ Producers
- ✓ Consumers
- ✓ Refiners
- ✓ Traders
- ✓ Utilities
- ✓ Shipping and Transportation
- ✓ Financial Institutions
- ✓ Industrials



Global Offering for Execution, Clearing, & Financing Solutions



BNPP Offering – Margin Financing

Margin Financing Description

- Margin financing is a special purpose loan provided by BNP Paribas, New York Branch
- **Benefits:**
 - Provides clients with incremental liquidity
 - Offers an alternative funding mechanism for its margin requirements
 - Can be used to meet collateral requirements (both initial and variation margin) for Futures and OTC clearing activities
 - Allow cash management flexibility and the convenience of not having to wire funds to BNP Prime Brokerage to meet daily margin calls
- The loan is documented under a Margin Finance Agreement (“MFA”) executed between client and BNP Paribas New York branch. Certain language in the MFA may be negotiated

Operations

- Margin calculation is provided on a daily basis by BNPP Prime Brokerage based on new positions (initial margin) and change in value of existing positions (variation margin).
- Option to either fund the margin requirements or draw from the margin finance facility provided by the BNPP
- Daily usage of the margin facility easily reported on their clearing account statement.
- Margin financing is not used to finance realized losses which must be cleared up on a monthly basis

Margin Financing Description

Indicative Terms	
Purpose	■ Special Purpose Loan to be utilized to meet collateral requirement for listed products
Borrower	■ Client
Lender	■ BNP Paribas, New York Branch (“BNP NYB”)
Guarantor	■ As applicable
Facility	■ \$(discretionary) uncommitted facility
Tenor	■ Evergreen
Security	<ul style="list-style-type: none"> ■ PBI (BNPP Prime Brokerage) has a first priority security interest in Customer Accounts and all Contracts and any other property held in the PBI Customer Accounts ■ BNP NYB has a second priority security interest in Customer Accounts and all Contracts and any other property held in the PBI Customer Accounts
Reps / Warranties / Covenants	■ Standard for facilities of this type
Base Rate	■ Base rate is based upon daily quoted 3 month Libor
Pricing	■ Pricing: discretionary
Interest Payments	■ Interest for the loan is charged and invoiced by the lender on a monthly basis



Supported Exchanges and Clearing Houses

	Clearing House	Exchange	Voice Execution	DMA	Products	
AMERICAS	ICE Futures U.S.	ICE Futures U.S.	●	●	Cocoa, Coffee, Sugar, Cotton	
	CME Clearing US	CBOT	●	●	Corn, Soybean, Wheat, Ethanol	
		COMEX	●	●	Metals	
		CME	●	●	Weather, FX	
		DME	●	●	Oman Crude Oil	
		NYMEX	●	●	Oil, refined products, Nat Gas, Coal, Power, Cocoa, Coffee, Cotton, Sugar, Emissions	
	MGEX	MGEX	●	●	Wheat	
	CC&G	IDEX		●	Power	
	EUROPE	CME Clearing Europe	CMECE			Agri, Biofuel, Oil and refined products, Nat Gas, Petrochem, Freight, Metals Swaps
		ECC	CEGH		●	Natural Gas
EEX				●	Power, Natural Gas, Emissions, Coal	
ICE-ENDEX (ICE Clear Europe from Oct13)				●	Power, Natural Gas	
EPEX Spot				●	Power	
HUPX				●	Power	
POWERNEXT				●	Natural Gas	
PXE				●	Power	
ICE Clear Europe		ICE Futures Europe	●	●	Crude Oil and refined products, Natural Gas, Coal, Power, Emissions	
		ICE Futures U.S. Energy Division		●	U.S. Nat Gas, Electric Power Swaps, Physical Environmental Forwards and Options	
LCH Clearent Ltd		ENCLEAR		●	Forward Freight Agreements, Coal, Emissions, Iron Ore, Steel ...	
		LME	●	●	Metals	
		NODAL			Power, Natural Gas	
		NYSE Liffe / London	●	●	Cocoa, Robusta Coffee, White Sugar	
LCH Clearent SA		NYSE Liffe / Paris	●	●	Corn, Rapeseed, Wheat	
MEFF	MEFF		●	Power		
NASDAQ OMX	NORD POOL			Power, Natural Gas, Emissions		
ASIA PAC	MDEX	MDEX	●		Wheat, Corn, Soybean	
	SGX DC	SGX DT			Rubber, Fuel Oil, Metals	
		SGX Asia Clear			Iron Ore, Coal, Freight, Oil products, Rubber	
	TOCOM	TOCOM			Metals, Rubber, Crude Oil and Refined products	
	NZX Clearing	NZX Clearing			Dairy Derivatives	



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