

ECC

European
Commodity
Clearing



CO₂



Coal

Power



Gas



- Clearing Challenges within the integrated European Energy Markets-

Maik Neubauer, European Energy Exchange AG
Warsaw 5th December 2007

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- Status Quo within European Energy Markets
- The European Commodity Clearing AG
- Challenges in Clearing & Settlement within the Energy Complex
- Conclusions

Status Quo within the European Energy Markets (I)

- Nearly eight years after the implementation of the European guidelines for the harmonization of the European electricity/gas markets, the energy markets in Europe are still relatively heterogeneous – but in the process of developing into an integrated European market
- Numerous national energy exchanges, MTFs and regional OTC markets exist and split the total liquidity
- Trading volumes and cross-border business are increasing, especially in continental Europe
- Wholesale prices on the spot and future markets are increasingly converging in the European landscape
- Financial players such as Banks and Hedge Funds are entering the Energy Markets

Status Quo within the European Energy Markets (II)

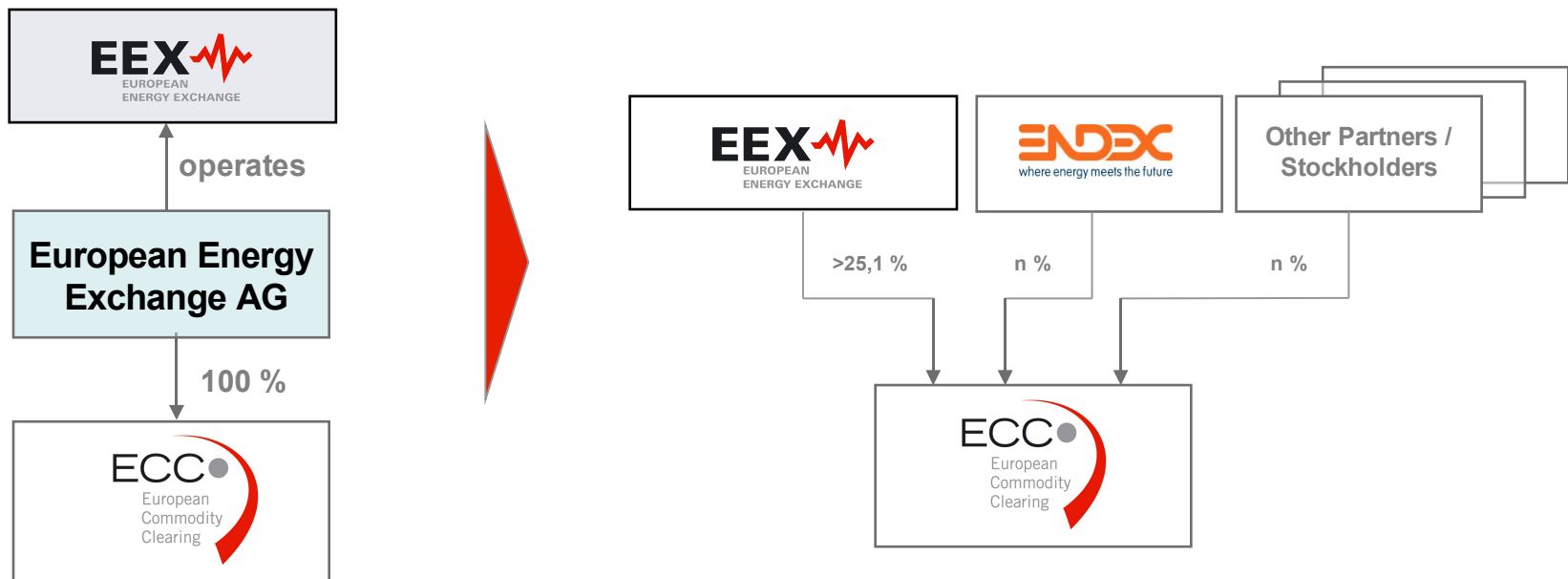
- The volatility on the energy trading markets is constantly rising
- Necessity for an efficient mitigation of the resulting counterparty risk has increased (“Enron Risk”)
- A standardized European clearing solution with focus on the energy markets has been lacking up to now
- With the spin-off of the European Commodity Clearing AG (ECC) , the European Energy Exchange created an energy-related Clearing House
- The ECC is also available to other Exchanges and trading platforms as an independent Clearing House

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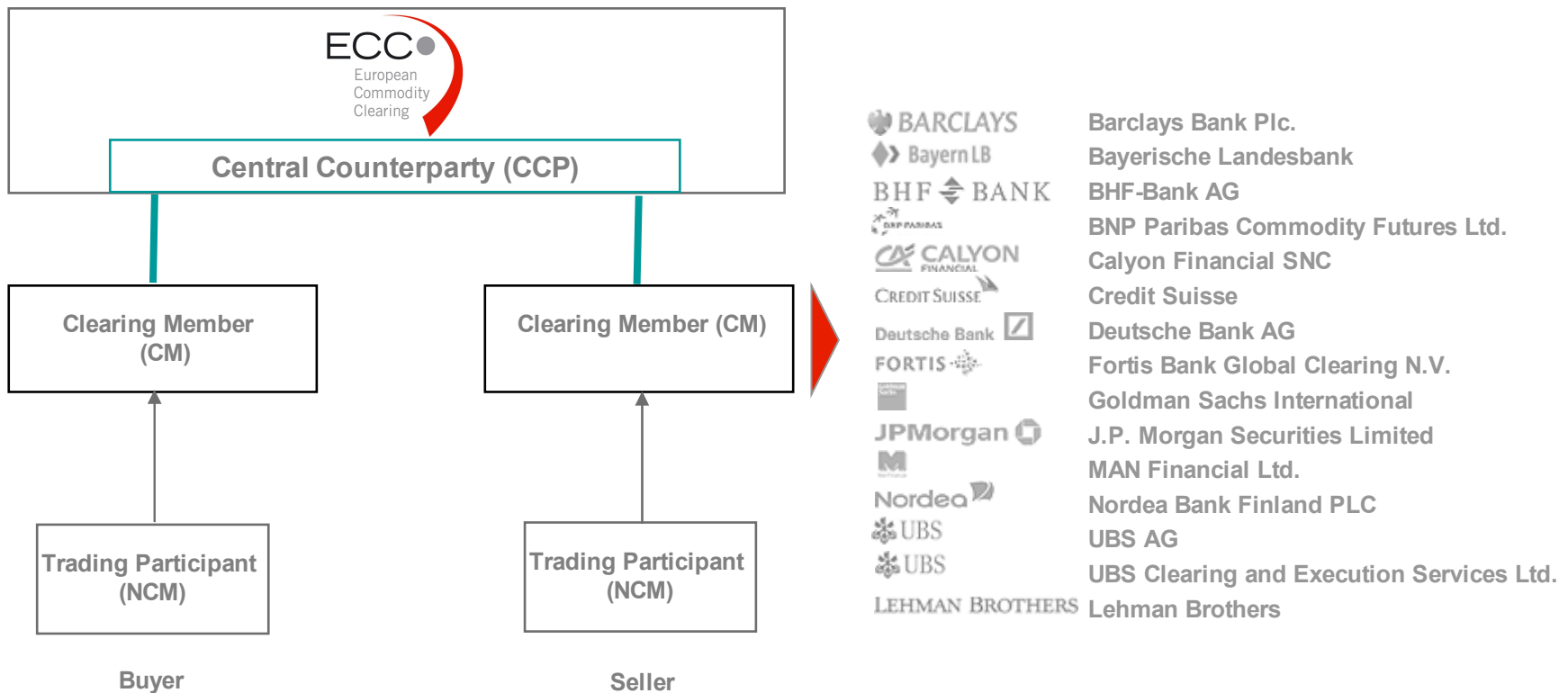
ECC Shareholder Structure

- The Endex European Energy Derivatives Exchange N.V., Amsterdam, became the first European partner of the ECC.
- Further negotiations with other potential partners regarding co-operation in clearing and settlement are currently being pursued.
- In the future, a possible reduction of the EEX shares to 25% as well as a European corporate governance structure is envisioned.



The ECC AG as the central counterparty in the European energy market

- The clearing structure of ECC AG is based on the structures of international financial markets for the clearing and settlement and demonstrates a high level of financial stability through its clearing banks.



ECC Multi Commodity Clearing House

ENDEX¹:

Dutch Power

Dutch (TFF) Gas

ENDEX¹:

Belgian Power

Belgian (Zeebrugge) Gas²

French Power Futures

Coal Futures API 2 (ARA)

Coal Futures

API 4 (RB, South Africa)²



EUA

Europe-wide trading

**German Power
German Gas**

Austrian Power

Swiss Power

¹ Products cleared via European Commodity Clearing (ECC), subsidiary of EEX ² Planned for 2008

² API 2 and API 4 are used under license from Argus Media Limited/The McCloskey Group Limited. All copyrights and database rights in the API 2 and API 4 indices belong exclusively to Argus Media Limited/The McCloskey Group Limited. All rights reserved.

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Energy Clearing in Europe Separated Clearing in Europe

ICE TRADE THE WORLD™

Power: UK
Nat Gas: UK
Emissions:
EUA
Coal: API

LCH.CLEARNET

Power: UK, F
Nat Gas: UK
Emissions:
EUA
Coal: API

NORD POOL

Power: Nordic
Emissions: EUA,
CER

NOS

Power: Nordic, D

ECC
European
Commodity
Clearing

Power: D, NL, B, F,
CH, A
Nat Gas: D, NL
Emissions: EUA, CER
Coal: API

EX eurex

Emissions:
EUA, CER

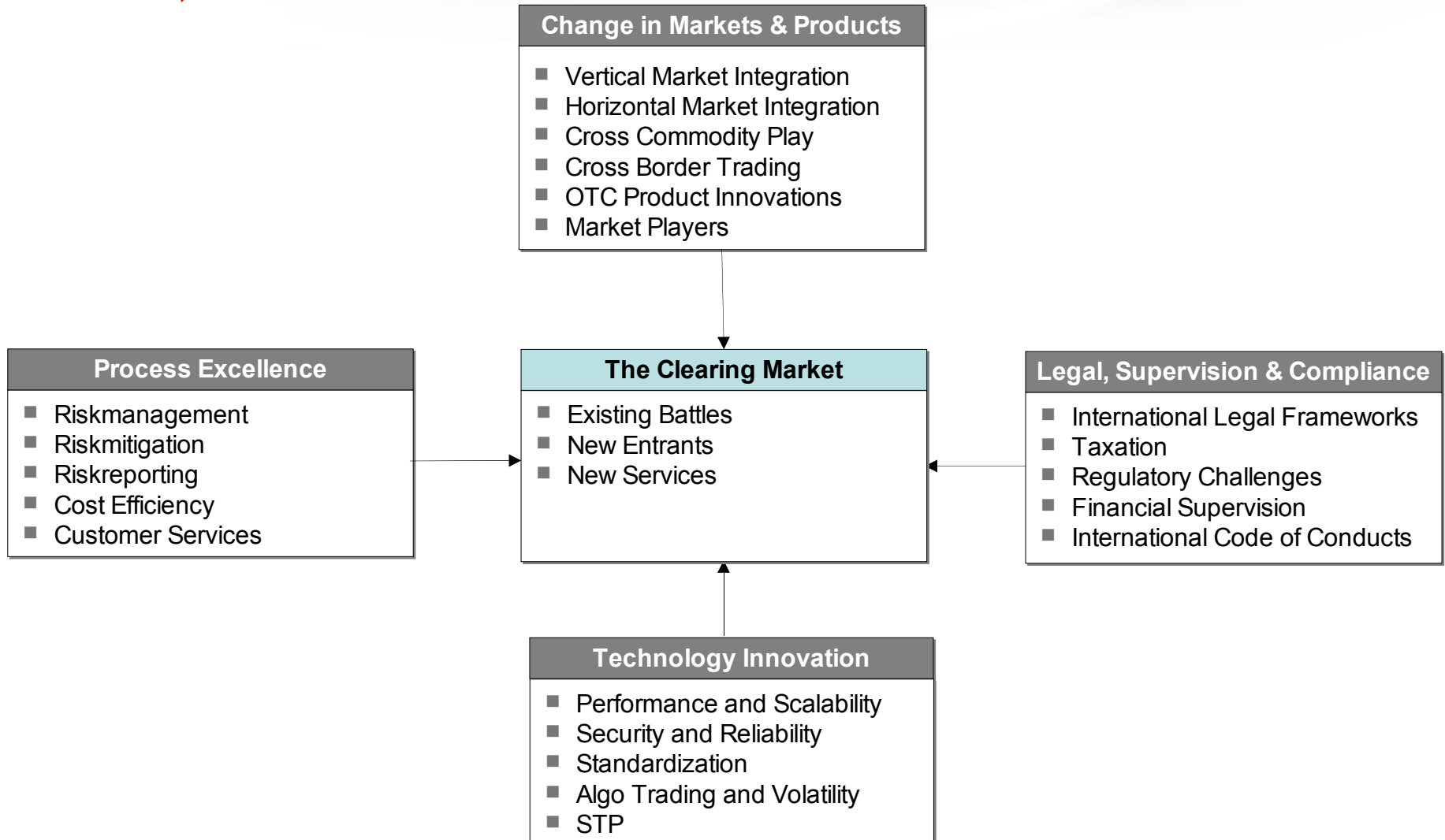
UNIVC
CLEARING & SETTLEMENT Cesky Site map

Power: CZ

omiclear

Power: E, P

Challenges in Clearing & Settlement



Challenges in Clearing & Settlement

Change in Markets & Products

- The European Energy Markets are in the process of integration and harmonization
- New products and Asset classes are entering the scene very rapidly
- Clearing Houses have to cope with the physical and cash settlement procedures
- New players are entering the market
(Compliance Players, Utilities → Financial Players, Prop. Traders; Hedge Funds)
- The Liquidity and the Volatility increases → Risk increases
- Demand for efficient Riskmanagement and Clearing Solutions



Challenges

- Vertical Market Integration – Services for new Products and Asset classes
- Horizontal Market Integration – Clearing Houses have to expand into new geographical markets due to the increasing demand for cross border trading and cross margining
- Cross Margining Capabilities becomes an important topic and the way to release required capital resources and deposits
- OTC Product Innovations – Clearing Houses have to set up efficient financial engineering processes to speed up the introduction of new products into their processes and systems

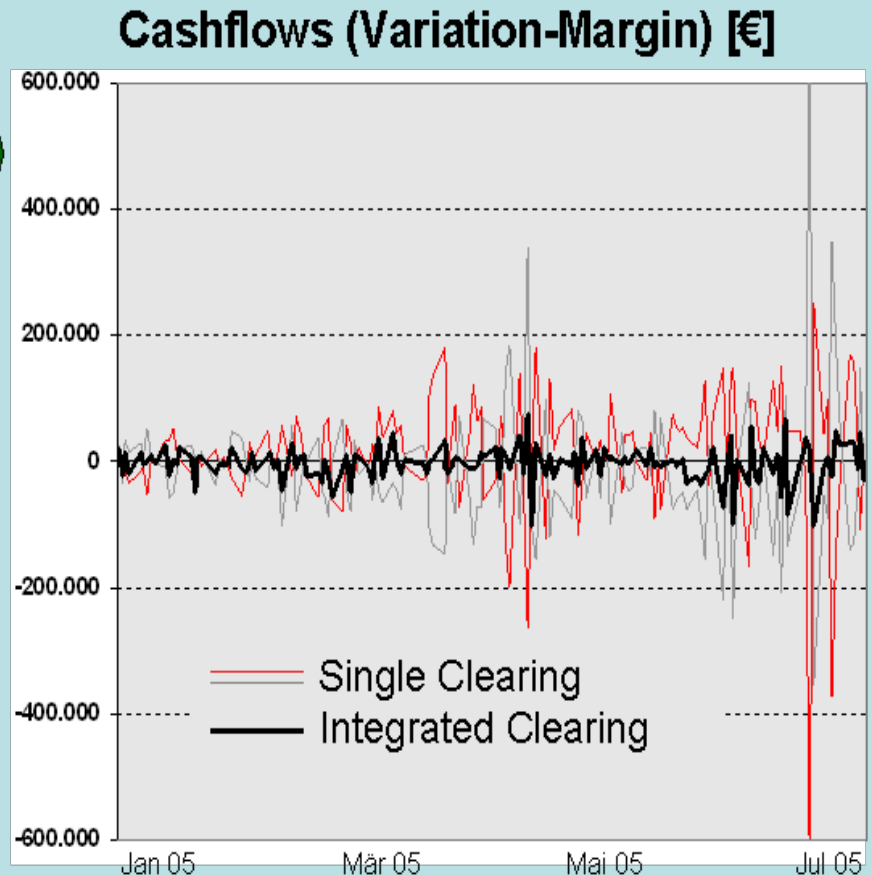
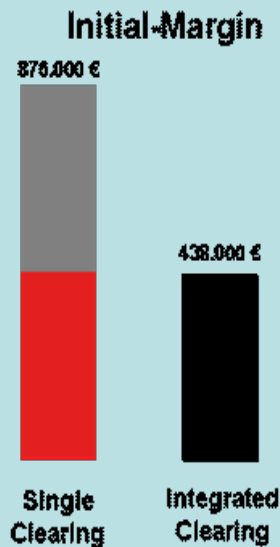
Challenges in Clearing & Settlement

Process Excellence

- Clearing already is one of the most important parts in the Energy Trading value chain
- Active Riskmitigation
- STP Initiatives - Rec
- Communication betw
- New Customer Serv

- Clearing Houses will activities and to redu
- Efficient Riskmitigati
 - Operation F
 - Intraday Ma
 - Efficient Ris
- Cross-Margining Sys
- New Customer Serv
 - Limit Syste
 - Intra-Day M
 - Pre-Deal Li
 - Decision M

Portfolio
25 MW Sell French Power
25 MW Buy Germany Power



Challenges in Clearing & Settlement

Technology Innovations

- Operational Efficiency, Processing Costs and STP depends on efficient IT Platforms
- Volatility and Trading Volumes will rise due to Automatic and Algo-Trading
- Hedge Funds and Prop.Trader will bring more Liquidity into the markets
- Standardisation is and will remain one of the critical aspects



Challenges

- Clearing Houses will have to optimize their IT-Platforms regarding performance, scalability, security
- Platforms have to be reliable and should help to minimize operational risk events
- Drive towards standardization of messages (e.g. FIXML and EFET Initiatives) for the exchange of Trading, Riskmanagement, Confirmation and Invoicing information
- IT improvements will drive the STP Initiatives against T+0 and real-time processes
- Innovations in Information Technology will be the basis for new Customer Services
- Innovations in Information Technology will be the basis for efficient Intra-Day-Risk Management Systems

Challenges in Clearing & Settlement

Legal, Supervision & Compliance

- Cross Border Clearing & Settlement involves different Legal Jurisdictions, Tax Systems and Supervising Authorities
- Clearing is Riskmanagement -> Riskmanagement is Banking -> Clearing requires Banking Licenses
- High requirements regarding capital adequacy, financial stability, internal Riskmanagement rise
- Operational Riskmanagement is the key for staying alive
- Clearing Houses have to be prepared for market spikes and unanticipated market movements
- Counterparty Riskmanagement will be important regarding new market entrants

Challenges

- Clearing Houses have to watch the international developments in Banking and Energy Law very closely
- Clearing Houses have to handle important data about trading positions, risk profiles, open interest profiles
- Central Role of Clearing Houses requires efficient and close supervisory processes within the national and international context
- Clearing Houses will have to install efficient processes for handling system breakdowns and defaulting of a counterparty
- Active internal Riskmanagement procedures and reporting processes have to be in place
- Energy Clearing Houses have to cope with regulations which have been initiated in the equities and derivatives area (MiFID, EU Clearing Code of Conduct etc.)

Challenges in Clearing & Settlement

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- Clearing
 - **CEBS Guidelines** – Committee of European Banking Supervisors, especially in the areas of: outsourcing, stress testing and Riskmanagement

- High risk
- Operational
- Clearing
 - **EU Clearing Codex** from November 2006 – The ECC AG has issued a code of conduct which has only been binding for the equity market. It covers areas of price and service transparency, finances & accounting

- Counterparty
 - Committee on Payment and Settlement Systems (CPSS) has issued the 'Recommendations for Central Counterparties' – Riskmanagement

- Clearing
 - Communication with international associations and advice should be cultivated on an ongoing basis. In 2007, the ECC AG will be working with the Clearing Houses (**EACH**).

- Clearing and defaulting of a counterparty

- Active internal Riskmanagement procedures and reporting procedures

- Energy Clearing Houses have to cope with regulations which have been developed in the equities and derivatives area (MiFID, EU Clearing Code of Conduct)

Recommendations for CCP

1. Legal Risk
2. Participation Requirements
3. Management of Credit Exp.
4. Margin Requirements
5. Financial Resources
6. Default Procedures
7. Custody and Investment

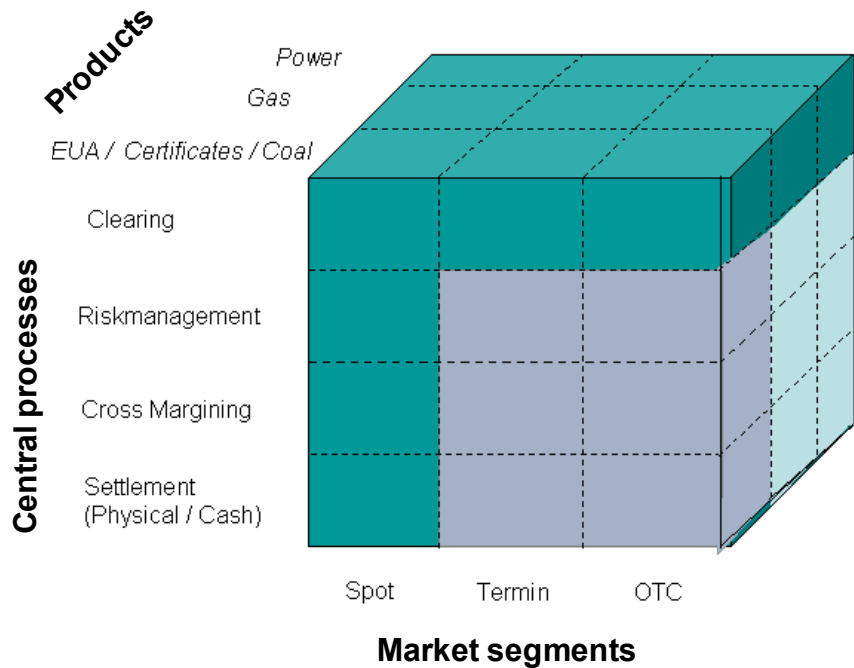
Risks

8. Operational Risk
9. Money Settlements
10. Physical Deliveries
11. Links between CCPs
12. Efficiency
13. Governance
14. Transparency
15. Regulation

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Added Value for the participants through integrated clearing and riskmanagement



- Counterparty risk is transferred to the clearing house.
- Integrated clearing saves liquidity and capital (cross-margining).
- Automated and standardized processes facilitate the clearing of trades on the trading participants' side as well.
- Use of synergy effects allows for low transaction fees.
- Integrated risk management protects participants from systematic risks due to intransparency and default risks.

The Future in Clearing & Settlement

- The European Energy Markets (Power, Gas, Emissions) will integrate
- Gas and Emissions will be international markets
- There is no need for multiple Clearing Houses in Europe. Two or three well-capitalized and well-positioned offerings, each clearing a range of products, with some overlap between them will be a perfect solution.
- These remaining players may have clearing-links to international clearing houses e.g. in US or Asia
- The integration of physical and cash settlement procedures will be a critical success factor for Energy Clearing Houses
- Riskmanagement will be the driver of Process improvements and Technological Innovations
- The Energy Clearing Houses have to act under a complex set of international rules and regulations and will follow the developments within the global financial markets