Market places & ‘Lifecycle of a trade’

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Few years after …
European electricity target model

Forward cross-border capacity products
- Monthly (M+1)
- Yearly (Y+n)
- Forward Market (Long term Physical/Financial rights)

Allocation of forward rights on a long-term basis through auctions as PTRs or FTR (tradable rights with UIOSI). Single allocation office for capacity allocation.

Spot cross-border capacity products
- Daily rights implicitly allocated (daily rights + FTR or unused PTRs)
- LT PTRs used
- Day Ahead Market

Price coupling - auction mechanism managed by PXs with capacity module. Flow-based or NTC-based.

Cross-border Balancing (TSO-TSO)
- Delivery of Long term and Day Ahead allocated rights
- Intraday implicit
- Intradafter market
- Balancing

Exchange of balancing products offered by MPs
- Delivery of intraday

Real-time reserve activation, re-dispatch, countertrading...

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In focus

1 - Regulatory framework (from EU to Energy Community)

2 - When did it [trading] start?

3 - Electricity as commodity

4 - What is trading?

5 - Market places & ways of trading

6 - Main trading functions

7 - Lifecycle of a trade

8 - Long vs short

9 - Trading between markets [cross-border trading]
Other with significant impact:
- Climate Policies
- RES support
- Capacity support mechanisms
- Infrastructure regulation
- etc.

Energy Community Treaty
Berlin Process (WB6)
Brief history

- **Energy trading markets**
  - Since the growth of oil spot markets in the late 1970s

- **In Europe**
  - Liberalisation of the energy markets played crucial role
  - Started in UK with unbundling and privatization
  - Spread throughout as a top-down approach, i.e. through legislative packages

- **Coal trading has also developed**

- **Trading of carbon emissions**
  - The creation of the EU ETS
Being a tradable good

- **To be traded widely on market places**
  - Same, uniform and standardized = a commodity
  - Other energy commodities: crude oil, natural gas, coal, electricity, etc.

- **Electricity as a commodity - It can’t get more uniform and more standardized**
  - Cannot be stored*
  - Price correlated with other energy commodities
  - Peculiar transportation – network losses

- **Oil is the biggest energy commodity market**
** Tradable contracts**

- **Product specification is linked to:**
  - Place of delivery
  - Time/period of delivery (tenor)
  - Optionality

- **Primary source of energy implies the product – technology**
  - Nuclear / coal / gas = base
  - Gas / oil / hydro = flexibility (peak /hourly)
  - Wind /PV / must-run river = intermittent

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**Diagram:**
- Forward
  - Volume
  - Delivery
  - Time
- Spot
  - Volume
  - Delivery
  - Time
- Traded
What is trading?

- Generators (Long position)
- Suppliers (to end users) (Short position)
- Traders
- Market

Risk: 
- Hedge
- Spot

Time:
- Volume

[Diagram showing the interaction between energy market participants and market conditions]
Market places & ways of trading

Bilateral trading

(bilateral credit arrangements)

Bilaterally

Structural/bespoke contracts

OTC

Brokers via screen or phone

Exchange

(centrally cleared contracts)

Continuous trading

Standard contracts

Auctions

Hourly day-ahead products
Intraday too, in some cases
PXs in Europe

- Most (if not all) are members of Europex [http://www.europex.org/members/](http://www.europex.org/members/)
- Almost every country in EU has a PX for DA auctions and futures (derivatives)
- Counterparty is Clearing House/PX
- Transparent for general public (price, volume and products)
- From **next week** products up to few years ahead
  - For example Cal 18 traded at HUPX
- For **delivery into specific market/TSO (underlying market if financial)**
  - Delivered at Hungarian TSO (MAVIR) or settled against HU DAM/HUPX
- **Margining and settlement with the Clearing House**
  - Cleared through ECC (HUPX clearing house)
OTC in Europe

- Trayport (Global Vision – GV) is an amalgamation of brokers platforms [https://www.trayport.com/uk/home](https://www.trayport.com/uk/home)
  - Not transparent for general public – can be bought as read only
- **Standard bilateral contracts (Master agreement)**
  - EFET/GTMA contracts (physical)
  - ISDA contract (financial)
  - Margining exchanged bilaterally
  - Set-up with the broker
  - Execution on screen/phone
- Trayport is used by PXs too
- **LEBA – association of brokers**
OTC price reports

- OTC price data is obtained by subscription to a market report published by a price reporting agency
  - Platts
  - ICIS Heren
  - Argus Media
- Daily reports with prices and market news
Trading from inside the trading firms

**Front office**
- Analysts
- Traders
- Originators
- Operations

**Middle office**
- Credit
- Market
- Product control (P&L)
- Settlement
- Reporting

**Back office**
- Treasury
- Finance /Accounting
- Tax department
- Legal / Regulatory / Compliance

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Training course “Energy Markets and Trading” – Vienna, 7 December 2017
Trade lifecycle – getting ready

**Entering new market**

*internal*
1. Business case
2. Market assessment
3. Legal and Regulatory assessment

*external*
4. License with the Regulator- if needed
5. Balance Responsible Party with the TSO to be able to use transmission network
6. PX/Clearing House registration
7. Bilateral arrangements
Trade lifecycle – trade in embryo

- Each desk / trader is given a risk mandate – exposure allowed to take … say for a year ahead products
- Analysts look at supply and demand conditions, network capabilities, constrains, weather forecasts, hydrological forecast (based on previous years)
- Also any information on new investments, or other information that might affect fundamentals for the coming year
- Credit team sets up credit arrangements (margining; bilateral or centrally)
- Trader makes price assessment – forward curves (expectation where the price is expected to trade, expected/target P&L)
Trade lifecycle – trade execution

• Considering potential limitations and assessments made, the trader chooses the product and venue (including volume, price & direction)
  – Check the screen to buy 15 MW of Cal18 Base, delivery @ MAVIR:
  – If a price is offered on screen (by an initiator) – the traders clicks and executes the purchase (he is the aggressor), or
  – He puts a bid at a the price x and waits for an aggressor

• Once the trade is executed it is booked in the system (deal capture)

• Settlement/confirmation team confirms the trade with the broker and the counterparty (via electronic platform, email or fax …)

• Executed trade is reported (REMIT/EMIR)

• P&L team calculates the P&L at the end of the day

• Market risk may update the risk mandate on daily basis if high price volatility
  • Potential margin updates
Trade lifecycle – portfolio management

• Trader has a long position of 15MW of Cal18 Base, delivery @ MAVIR

• Based on price assessments, fundamental analyses and any limitations, it may:
  • Sell part or all 15MW as Cal12 Base product
  • Wait until close to delivery and sell Month-ahead, Quarter-ahead, Day-ahead or Intraday …

• It chooses to sell 5MW as Cal18 Base, delivery @ MAVIR and 5MW as Q1 2018

• Later it sells another 5MW as Q1 2018 Base and 5MW Q2 2018
Trade lifecycle – delivery

- Q1 2018 is flat but needs to be delivered
- Delivery involves nomination with the TSOs – this case with MAVIR
  - Take delivery of 15MW from CPs X and Y
  - Deliver to CPs A and B
  - Nomination is done usually on D-1 before 2pm (x-border nomination is different) – by the Operation team
- The remaining opening position is traded quarter/month/week ahead and/or day-ahead and intraday
Trade lifecycle – financial settlement

• Few days after the delivery month, the invoices are issued by counterparties (or PXs)

• Trading firms apply netting of payments so netting statements are exchanged and final payment/direction is confirmed by middle office

• Treasury team ensures the payment is made (cash transfer)

• Accounting confirm the records – daily reconciliation of accounts

• After the payment credit exposure changes – credit updates the exposure
Recap of the trade lifecycle

Pre-trade process:
- Set up with TSO
- Bilateral/PX set-up
- Credit arrangements
- Fundamental analyses
- Price assessments (FX)

Trade execution
Trade confirmation (bilateral/broker)

Trade booking / deal capture (internal)
Regulatory reporting

Portfolio management / trade around the position / exchange of margin

Delivery / Flow / Nomination / Scheduling

Confirmation
Netting statements

Payment

Invoicing

Reconciliation of accounts

- Exchange of margin (bilateral/PX)
- P&L check
Result is …

- **Building up position:**
  - Long, bought electricity for future delivery so you need to sell it before the delivery comes
    - You are effectively a ‘generator’
    - You expected that price will go up in shorter term market
    - You were bullish
  - Short, sold electricity for future delivery so you need to buy it before the delivery comes
    - You are effectively a ‘supplier’ to end users
    - You expected that price will go down in shorter term market
    - You were bearish
- **Have an offset position**
From one zone to another; cross-border trading

Forward cross-border capacity products

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Price coupling - auction mechanism managed by PXs with capacity module. Flow-based or NTC-based.

Countinous mechanisms with complementary auctions (PXs+capacity) Flow-based or NTC-based

Exchange of balancing products offered by MPs

Real-time reserve activation, re-dispatch, countertrading...
Thank You!

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