Market places & ‘Lifecycle of a trade’

Arben Kllokoqi
Electricity Expert
Energy Community Secretariat
Few years after …
European electricity target model

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

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

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

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

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

Countinuous 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...
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
  - 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
Market & trading: it is all about risks!

Generators (Long position)

Risk

Supplier (to end users) (Short position)

Risk

Cashflow Risk

Credit Risk

Traders

Market Risk

Market
Behind each trade there is a motive directly linked with commercial incentive but influenced by the risk appetite

- **Hedging**: Trading activity to reduce the risk of adverse price movements in an asset, i.e. reduce market exposure

- **Speculating**: Trading activity with the expectation of price movements that will create a financial gain, i.e. taking position expecting with the expectation that the price will move in certain direction

- **Arbitrage**: Simultaneous purchase and sale to profit from a difference in the price, for example locational arbitrage
Market places & ways of trading

**Bilateral trading**
*(bilateral credit arrangements)*

- Bilaterally
  - Structural/bespoke contracts

**Exchange**
*(centrally cleared contracts)*

- Continuous trading
  - Standard contracts
  - Auctions
    - Hourly day-ahead products
    - Intraday too, in some cases

**OTC**

- Brokers via screen or phone
- Standard contracts
Key trading terminology

- Contract specification is shown on the screen
- Quantity and prices
  - **Bid** is the price at which certain market participants are willing to buy
  - **Ask** is the price at which certain market participants are willing to sell
- Putting Bid/Ask on the screen – *initiator*
- Clicking on Bid/Ask – *aggressor*
- The result of trade execution is:
  - Taking short (sold) or long (purchased) position, or
  - Offsetting a previously taken position
PXs in Europe

• Most (if not all) are members of Europex [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**
  
  - Reports on volume traded
  
  [https://www.leba.org.uk/pages/index.cfm](https://www.leba.org.uk/pages/index.cfm)
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
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, constraints, weather forecasts, hydrological forecast (also 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 choses 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 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 Cal18 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 – delivery from TSOs’ perspective

- **Both counterparties to the trade send the nomination to the TSO**
  - Usually is the net position of many trades between themselves
  - Nominations should match, otherwise the TSO will not accept or apply the lesser rule

- **Position of each market participant should be flat**
  - Open position may be allowed for example from long-term nominations to day-ahead or even intraday (depends from TSOs rules)
  - Imbalances can be a result of non-flat nomination (as a trader no gen. or cons. assets)

- As a generator, the nomination with the counterparties should match, however the nominated position is then checked against actual production
  - The difference is the imbalance
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 (bilateral/broker)

Trade booking / deal capture (internal)

Portfolio management / trade around the position / exchange of margin

Delivery / Flow / Nomination / Scheduling

Invoicing

Netting statements

Payment

Reconciliation of accounts

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

Regulatory reporting
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

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Thank You!

Arben.Kllokoqi@energy-community.org