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# ENERGY COMMUNITY WEBINAR SERIES

## Electricity Market and Trading

**16 April 2020**

**Arben Kllokoqi, Electricity Expert, Energy Community Secretariat**



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## In focus for this webinar

- Key features of electricity market design
- Market as platform to manage risks
- Trade lifecycle and functions it involves
- Attracting liquidity
- State of play of markets in the Energy Community
- Target for regional integration

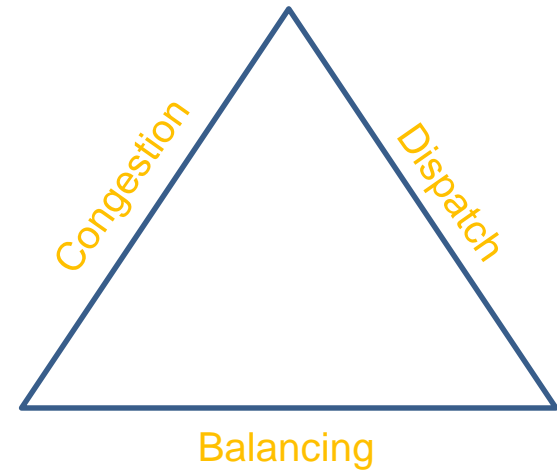


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# Key features that define the electricity market design

- **how it deals with network constrains**
- **balancing responsibility**
- **dispatch policy and contractual relations**



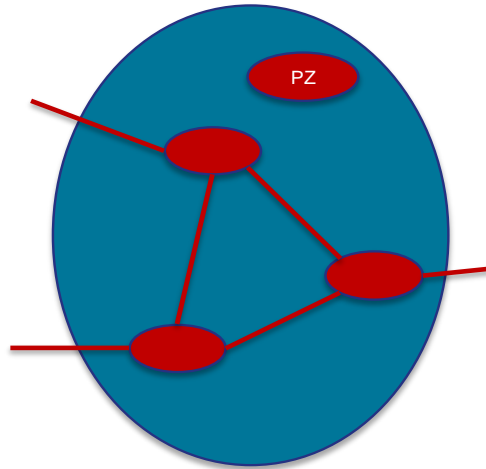


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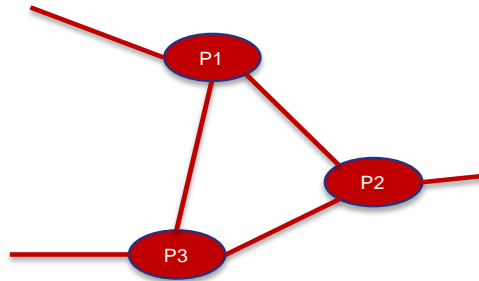
# Design addressing congestion

Zonal pricing



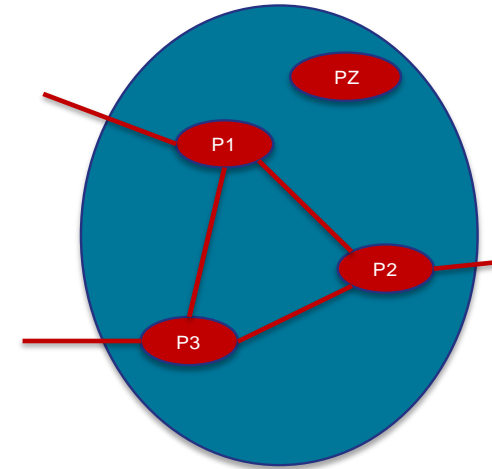
*Consideration of cross-zonal capacity with other zones*

Nodal pricing



*Consideration of constraints between the nodes*

Hybrid (nodal zones)



*Consideration of cross-zonal capacity with other zones, in addition to nodal pricing*

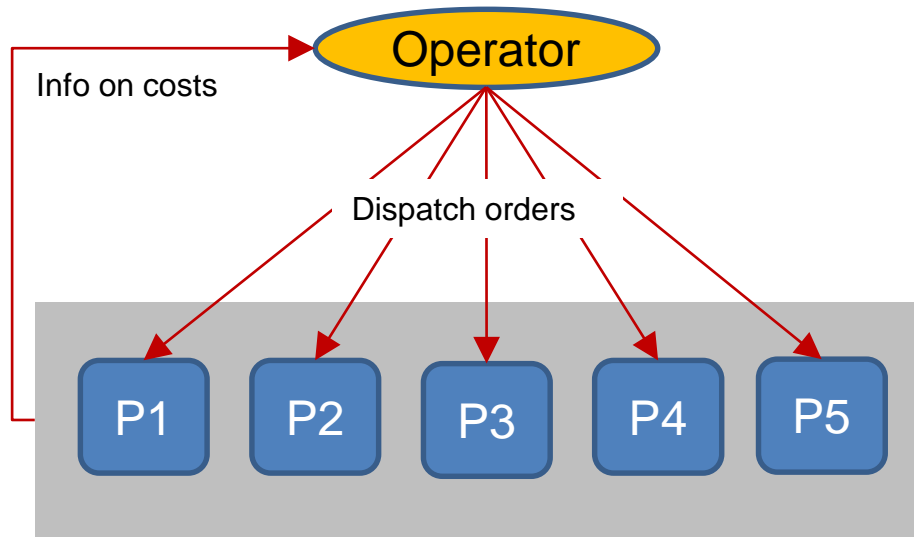


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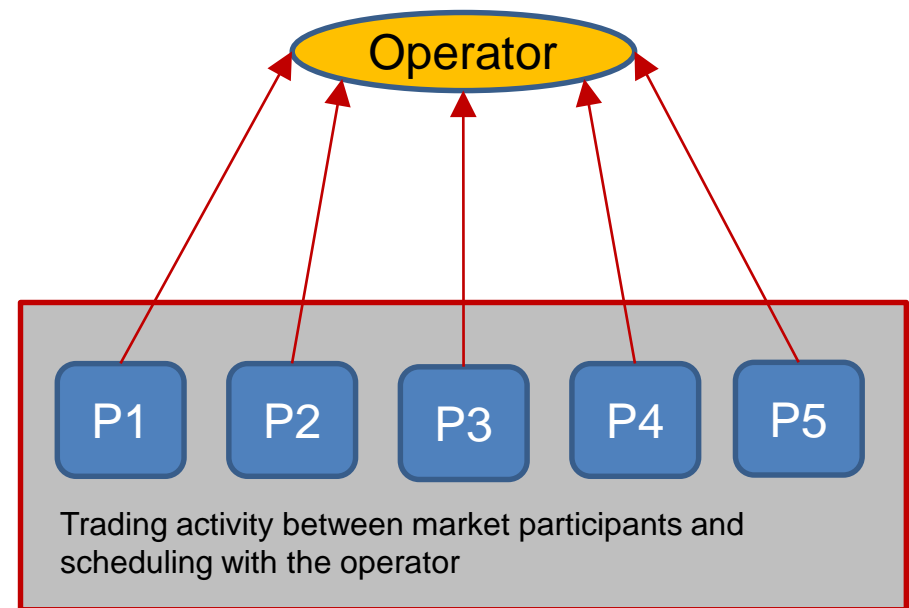


# Design addressing dispatch

Central dispatch



Self dispatch

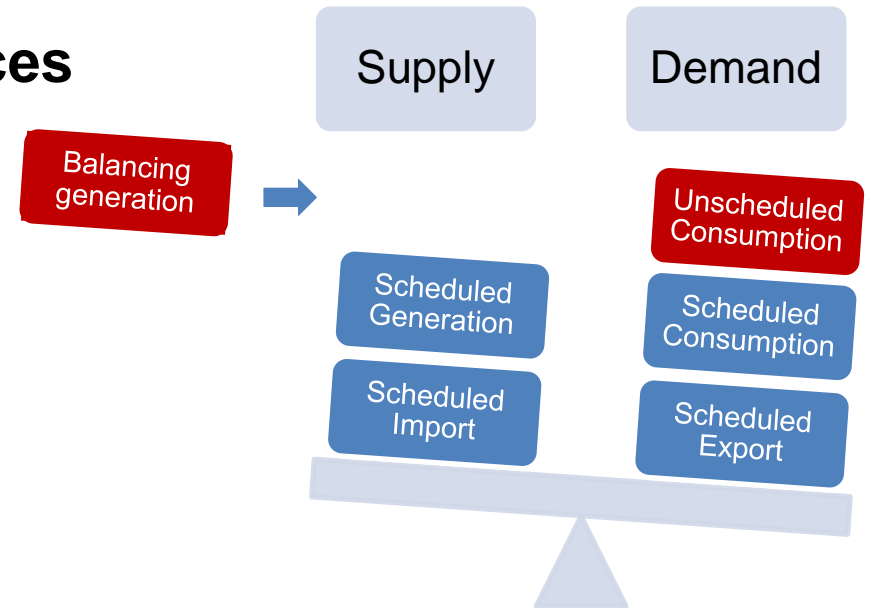




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## Design addressing balancing

- **Balancing:**
  - Procurement of reserves
  - Mandatory provision of services
- **Balancing responsibility**
  - Part of overall system costs
  - Financial responsibility (imbalance settlement)





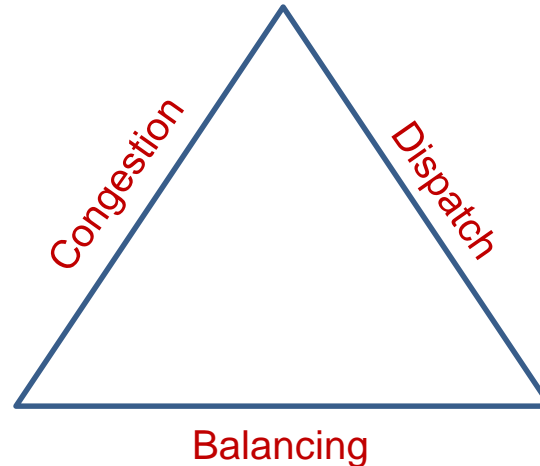
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## European markets (incl. also EnC)

Zonal market –  
competition within the  
zone

Cross-zonal capacity  
allocation for regional  
integration



Self dispatch (de-  
centralised operational and  
investment decision)

Bilateral trading combined  
with centralised DAM/IDM

Market based  
procurement of  
balancing services

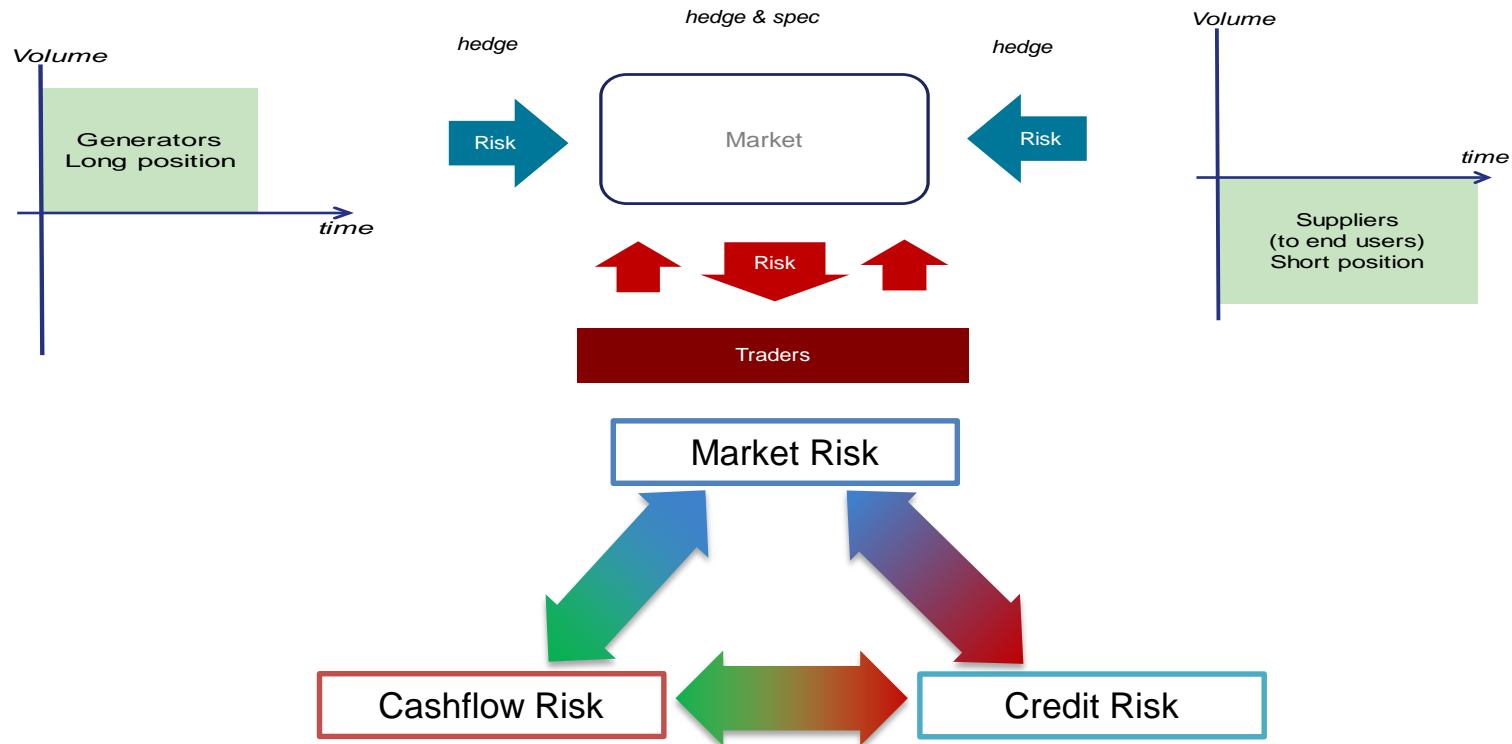
Financial balancing  
responsibility



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# Market is a platform to manage risks





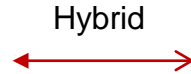


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# Market places & ways of trading

**Bilateral trading**  
(bilateral credit arrangements)



**Exchange**  
(centrally executed & cleared contracts)

**Bilateral execution**  
Structural/bespoke contracts



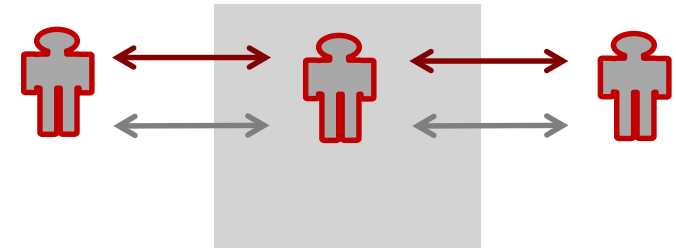
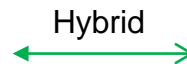
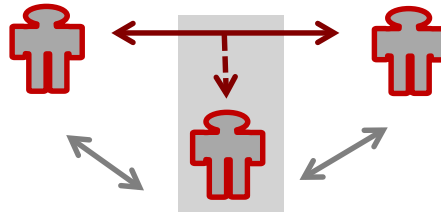
**Continuous trading (Forward and ID)**

Standard contracts / products

**Auctions**

Hourly DAM and ID

**OTC**  
Brokers via screen / phone  
Standard contracts





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## 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 delivery into specific market/TSO (or underlying market if financial)
- Margining and settlement with the Clearing House



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# OTC in Europe

- Trayport (Global Vision – GV) is an amalgamation of brokers platforms (including PXs)
- Prices not transparent for general public
- Standard bilateral contracts (Master agreement)
  - EFET/GTMA contracts (physical) / ISDA contract (financial)
  - Margining exchanged bilaterally
  - Execution on screen/phone
- LEBA – association of brokers
  - Reports on volume traded <https://www.leba.org.uk/pages/index.cfm>

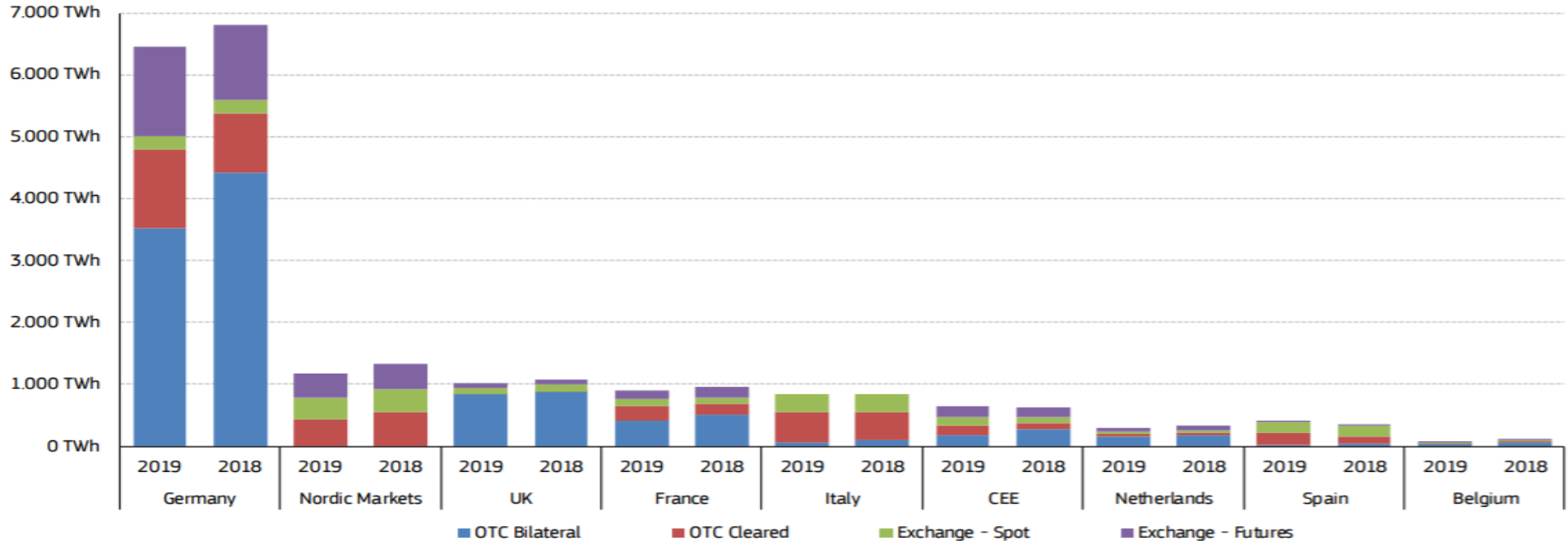
The screenshot displays a complex financial trading interface with multiple data tables. The tables are organized into sections for different commodities: Gas, Coal, and UK Power. Each table lists various market metrics such as 'City', 'Bid', 'Ask', 'Last', and 'Volume'. The data is presented in a grid format with columns for different time periods or contract types. The interface also includes a search bar and various navigation controls.



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# Where does it happen?



Source: Platts, wholesale power markets, Trayport, London Energy Brokers Association (LEBA) and DG ENER computations



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## Inside trading firms: functions

### *Front office*

- Analysts
- Traders
- Originators
- Operations

### *Middle office*

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

### *Back office*

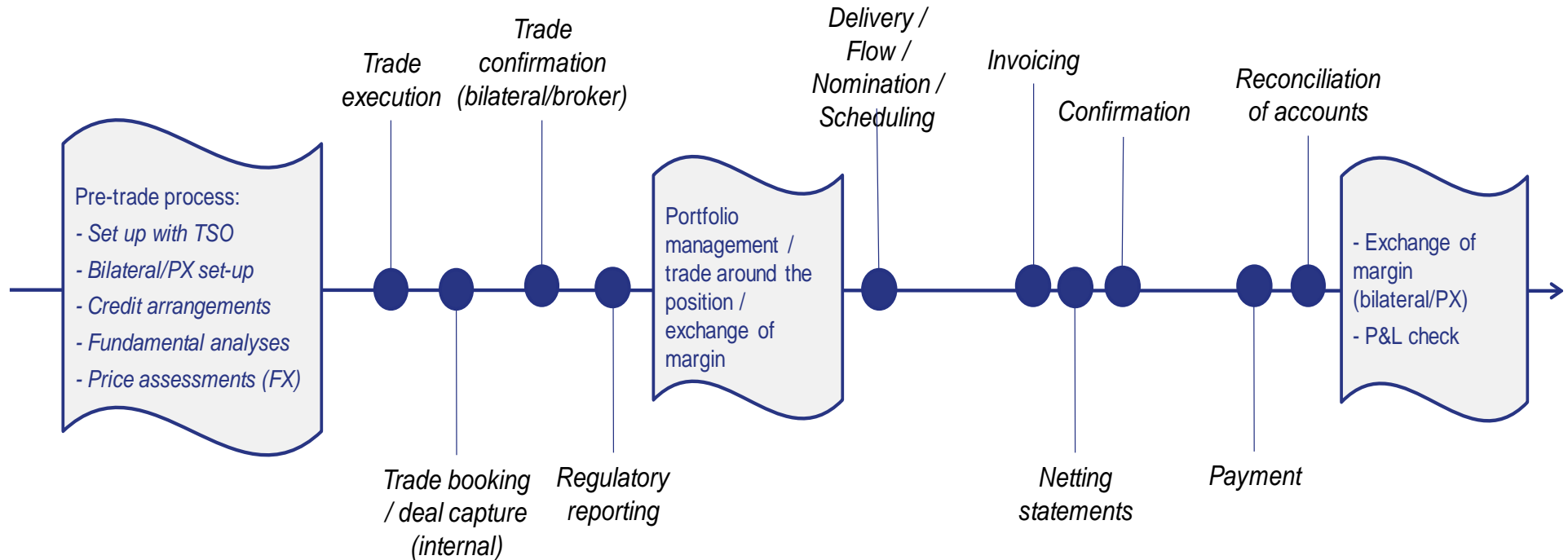
- Treasury
- Finance /Accounting
- Tax department

Legal / Regulatory / Compliance





# Trade lifecycle





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## Trade lifecycle – trade in embryo

- **Trading desk / trader is given a risk mandate**
- **Analysts assess supply and demand conditions, network capabilities, constraints, weather forecasts, hydrological forecast (based on previous years)**
  - Also any information on new investments, or other information that might affect fundamentals for the coming period
- **Credit team sets up credit arrangements (margining; bilateral or centrally)**
- **Trader makes price assessment – forward curves (expectation where the price is expected to be, expected/target P&L), other prices (gas, coal, CO<sub>2</sub>, etc.)**

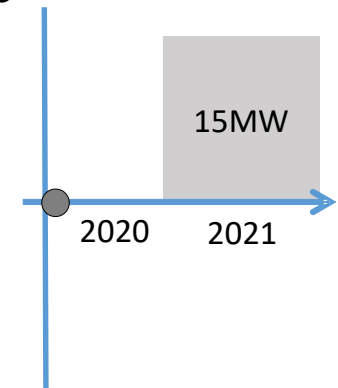


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## Trade lifecycle – trade execution

- **Considering limitations and assessments made, the trader chooses the product and venue (including volume, price & direction)**
  - Check the screen to buy 15 MW of Cal21 Base, delivery @ DE
- **Once the trade is executed it is booked in the internal system**
- **Settlement/confirmation team confirms the trade with the broker and the counterparty**
- **Executed trade is reported (REMIT/EMIR)**
- **P&L team calculates the P&L at the end of the day**
- **Market risk updates the risk mandate**
- **Credit team - margin updates**





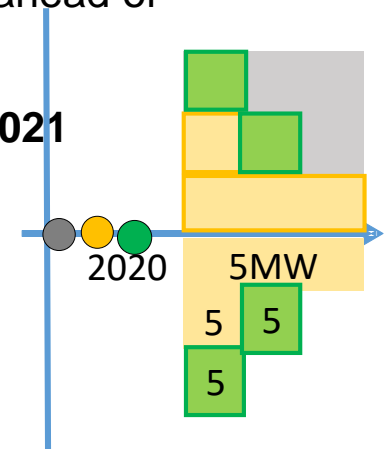


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# Trade lifecycle – portfolio management

- Trader has a long position of 15MW of Cal21 Base, delivery @ DE
- Based on price assessments, fundamental analyses and any limitations, it may:
  - Sell part or all 15MW as Cal21 Base product
  - Wait until close to delivery and sell Month-ahead, Quarter-ahead, Day-ahead or Intraday ...
- It chooses to sell 5MW as Cal21 Base, delivery @ DE and 5MW as Q1 2021
- Later it sells another 5MW as Q1 2021 Base and 5MW Q2 2021



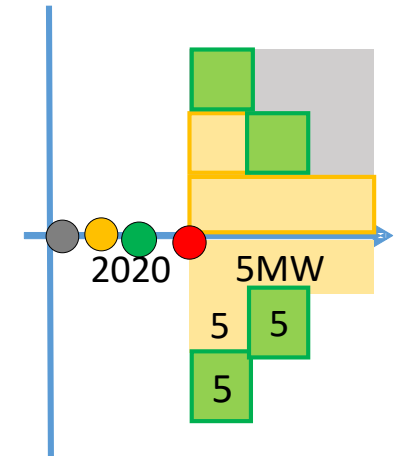


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## Trade lifecycle – delivery

- Q1 2021 is flat but needs to be delivered
- Delivery involves nomination with the TSOs – this case with German TSOs
  - 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



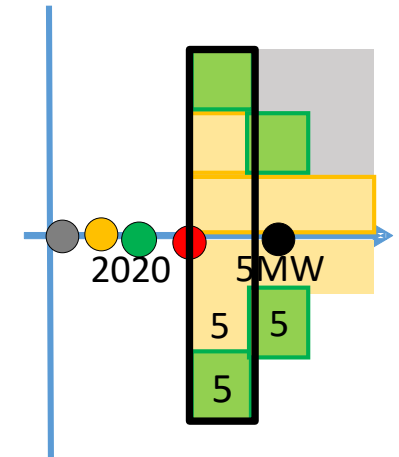


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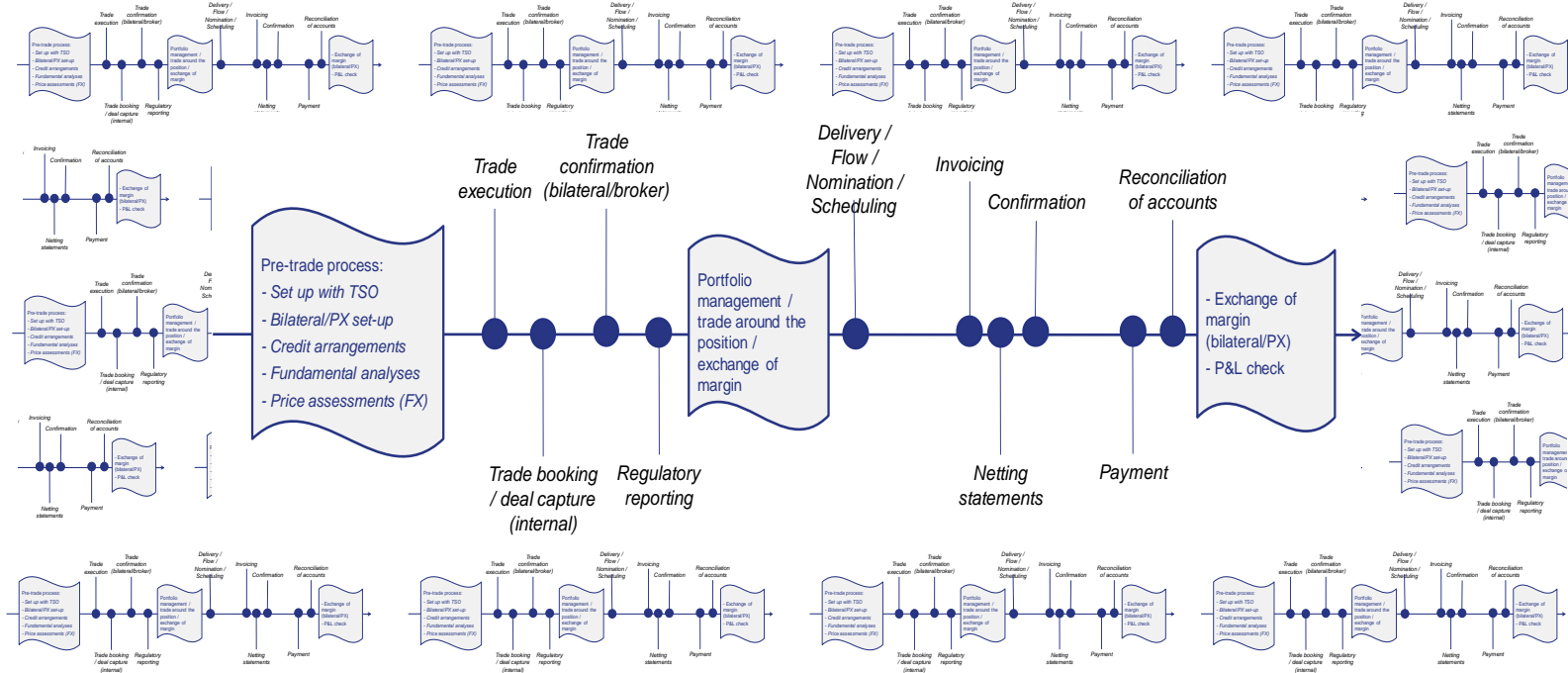
## Trade lifecycle – financial settlement

- 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 team updates the exposure





# A drop into a pool!





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## 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**





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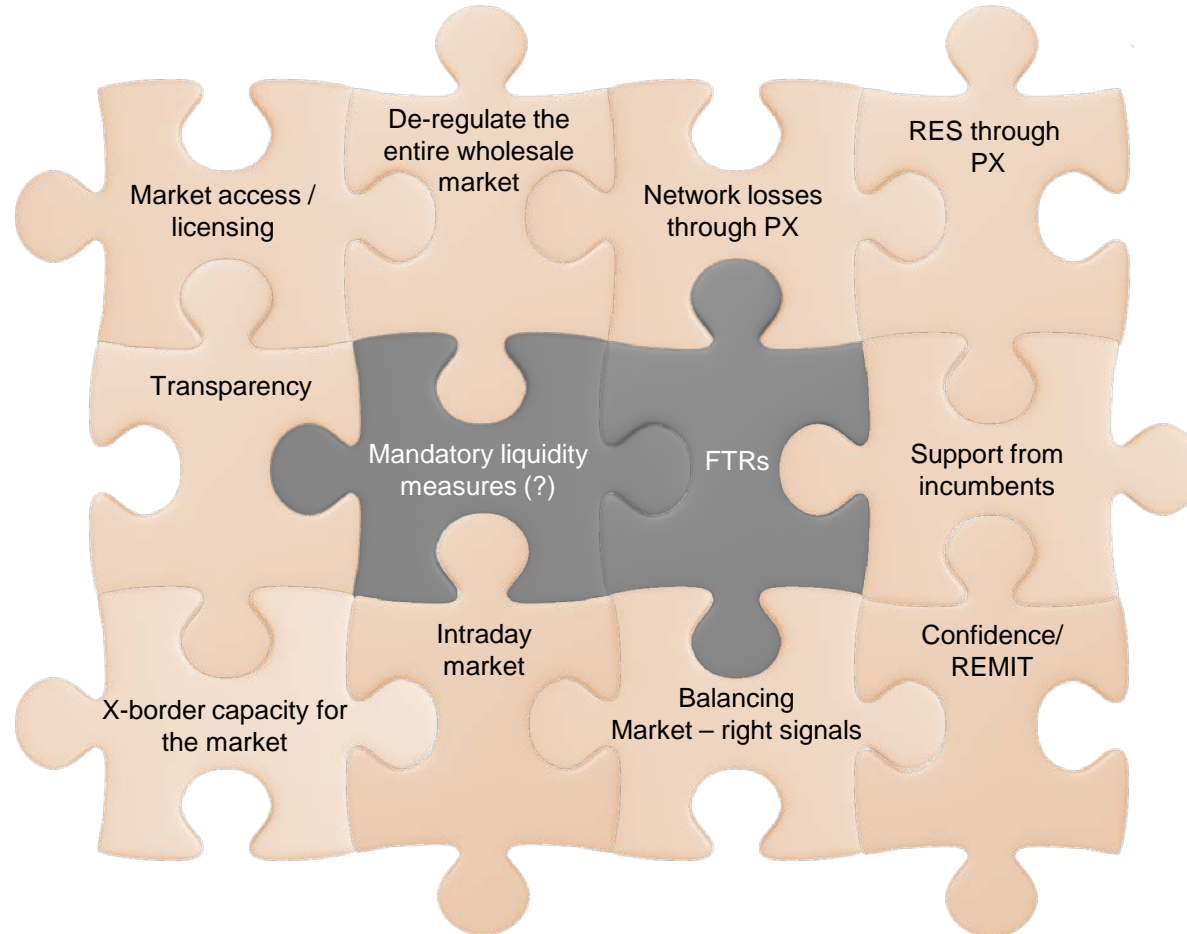
# Evolution towards a liquid market



*Evolution*



*Revolution*





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# Markets in CPs



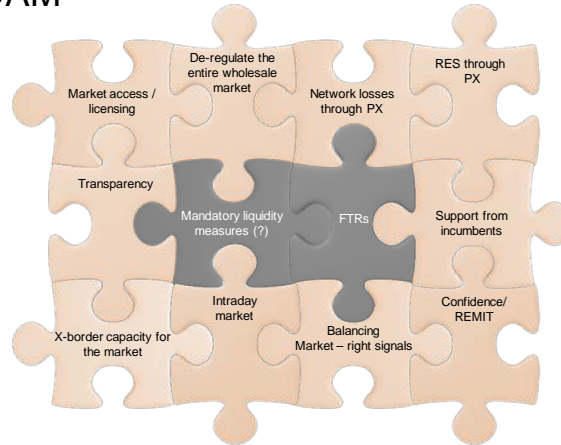
Wholesale markets de-regulated but captured via PSO  
WB6 is characterised with intra-group/company trade (gen->supplier)

MN stands the best  
Others burdensome licensing regime  
KS applies mutual recognition and reciprocity

RS stands the best, followed by MN and BiH  
AL & MK just above 50%  
The rest below

CCC lacks the governance and regulatory monitoring – no clear methodology

DAM-PX only in RS and UA  
Network losses generally procured in the market  
RES and PSO in UA go through the DAM



UA functional IDM  
Other CPs, intraday activity is allowed by H-1  
No ID activity in MD and GE

Incumbents not very active in the market  
More than 50% (in some cases up to 90%) of portfolio is via intragroup transfers  
Little or no volume listed in the market (mainly related to import/export)

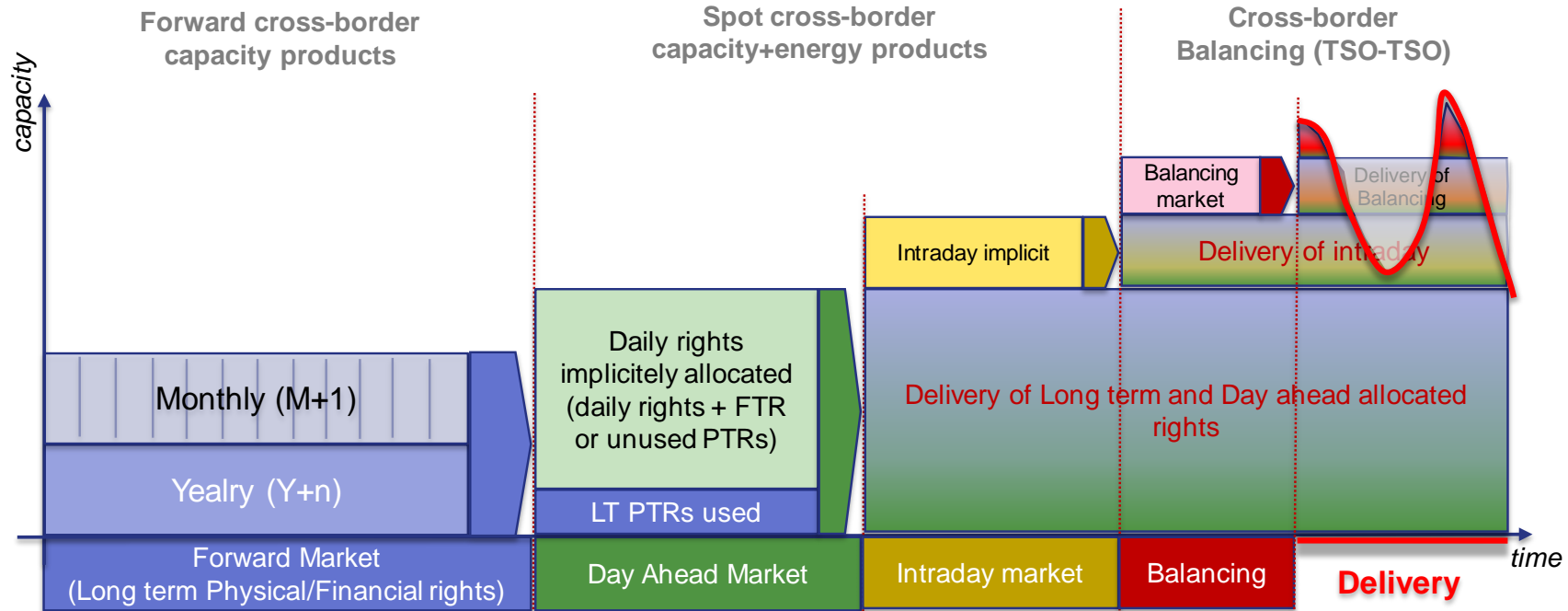
Concerns regarding market abusive practices in UA, MD and AL  
REMIT under transposition  
Strong/independent regulators are needed

BiH stands the best  
Little market activity on provisions of balancing services (mainly on energy)  
Imbalance prices based on market index/methodology/based on balancing



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# Regional integration – mirroring EU



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.

Continuous 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 FOR YOUR ATTENTION

[Arben.Kllokoqi@energy.community.org](mailto:Arben.Kllokoqi@energy.community.org)

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