



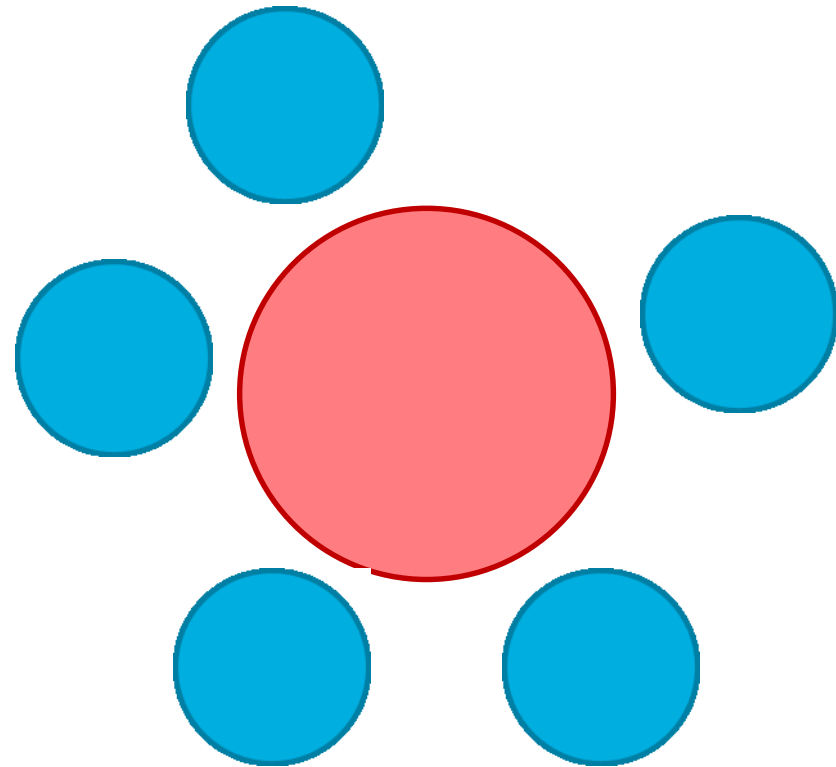
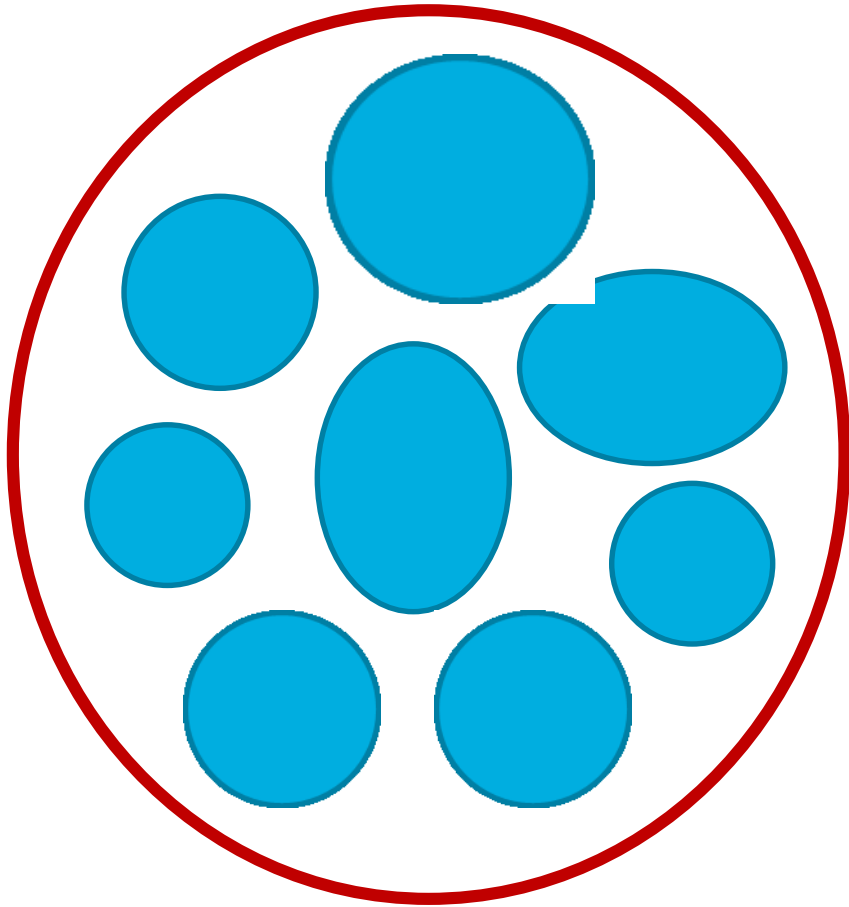
Financial markets in the Nordics

Andrea Stengel, Energy Norway

Who is Energy Norway

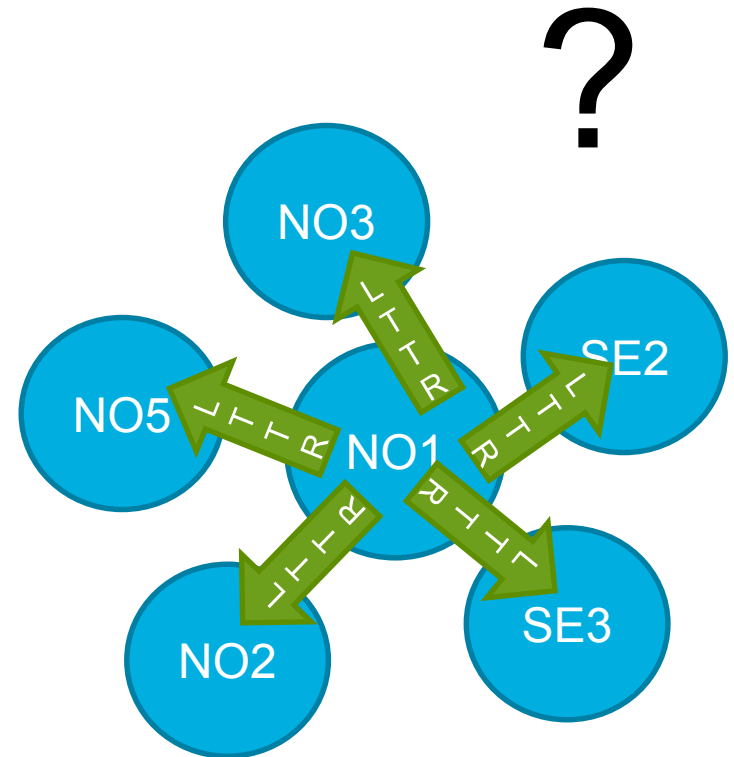
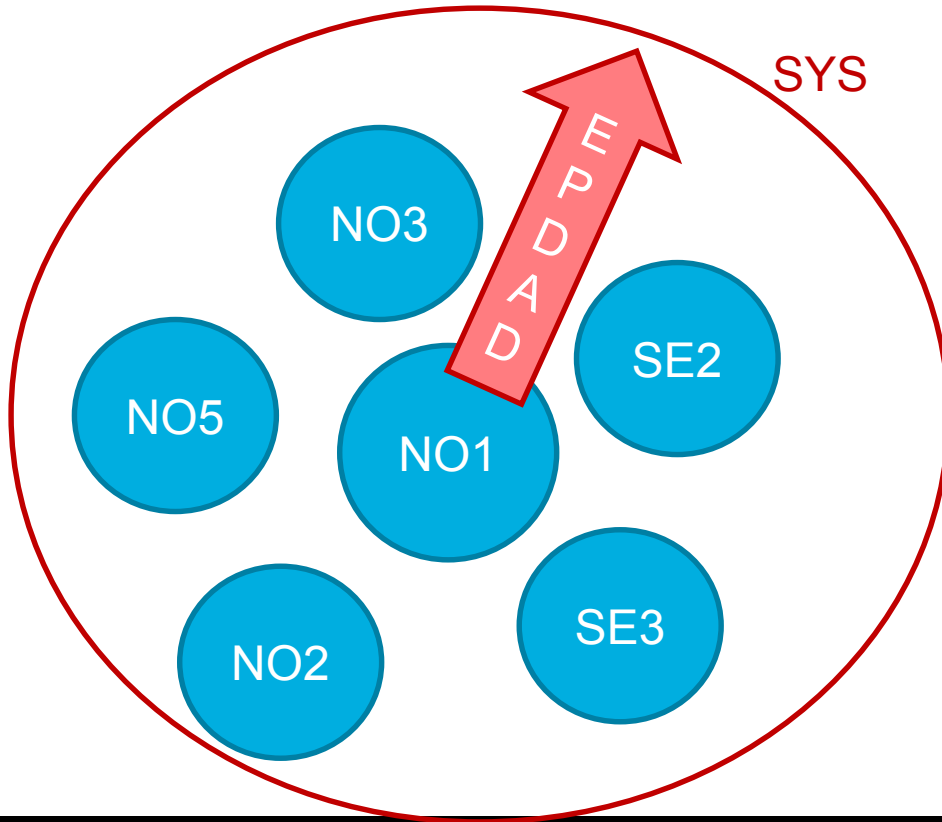
- Energy Norway is the industry association of the Norwegian power producers, retailers and distribution grid operators with about 270 members
 - Energy Norway's members each year produce nearly 130 TWh, which is about 99 per cent of all power production in Norway
 - Our members have approximately 2.5 million grid customers, which is about 91 per cent of Norway`s grid customers.

The starting point: our spot market



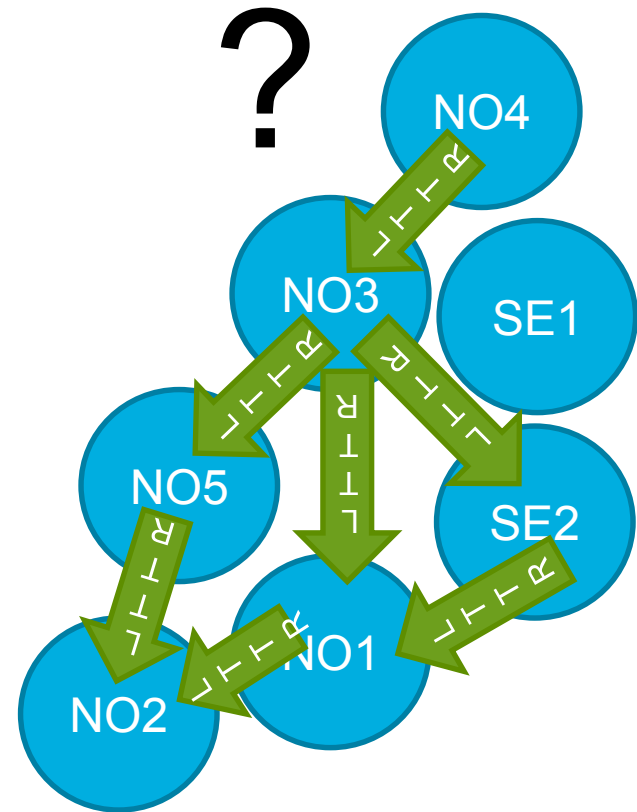
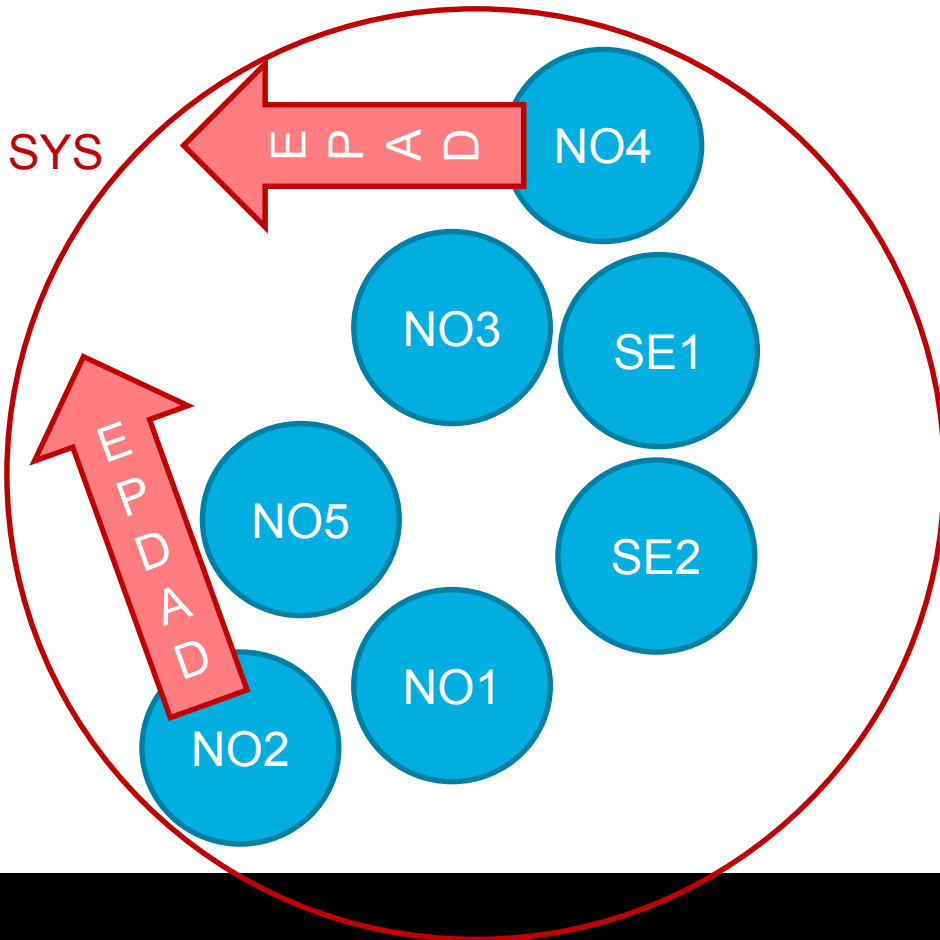
Some practical considerations

How to hedge a small producer in NO1 with some consumption in the same price area?



Some practical considerations

How to hedge a producer with production in NO 4 with retail customers NO 2?



Draft Harmonized Allocation Rules (HAR) for LTTRs

Practical consequences for producers and retailers with hedging needs:

- LTTRs are not 100% firm: there is a "Day Ahead Firmness Deadline" and a "Long Term Firmness Deadline"
- Currently there are just PTR UIOSI or FTR options – there is no product directly comparable to our obligations
- Obligated to follow the European auction schedule
- The volume will always be limited to that initially auctioned out
- Obligated to use the Single Allocation Platform

EPADS are more suited for our hedging needs

- EPADs are more suited for our hedging needs than LTTRs, even though the EPAD market is not functioning perfectly
- Conclusion: improve the EPAD market instead of introducing new products

Improve the price area design

- Create balanced price areas that lead to a functioning spot market and that can support a functioning EPAD market
 - Price areas need to contain a balance of producers and consumers and a high enough share of flexible production
 - Price area borders need to be stable
 - Market parties need to have the confidence that no overnight changes to the price area borders will happen

If more TSO action is needed – support EPADs

- **Two principles:**
 - The TSO has to keep its neutrality – the TSO shall have no preference for specific market outcomes
 - The cost for the TSO needs to be known and limited – cost will be passed over to tariff payers i.e. producers and consumers
- **Auction out a market maker role:**
 - Companies bid in an auction to offer spreads for EPADs
- **Support EPAD auctions:**
 - Simultaneous auctions of EPAD products, where there TSO steps in under certain conditions, if there is no price cross

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