

EVALUATION OF THE NORDIC FORWARD MARKET FOR ELECTRICITY

Presentation NordREG workshop 7.12.2016

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Basis for my approach

- ▶ Efficient Nordic power market (physical and financially)
- ▶ Statkraft's position and experiences
- ▶ Reflections based on NRAs challenges and assumed need/wishes from market participants
- ▶ Will try to address the asked question: "How to evaluate hedging possibilities in the Nordic power market"

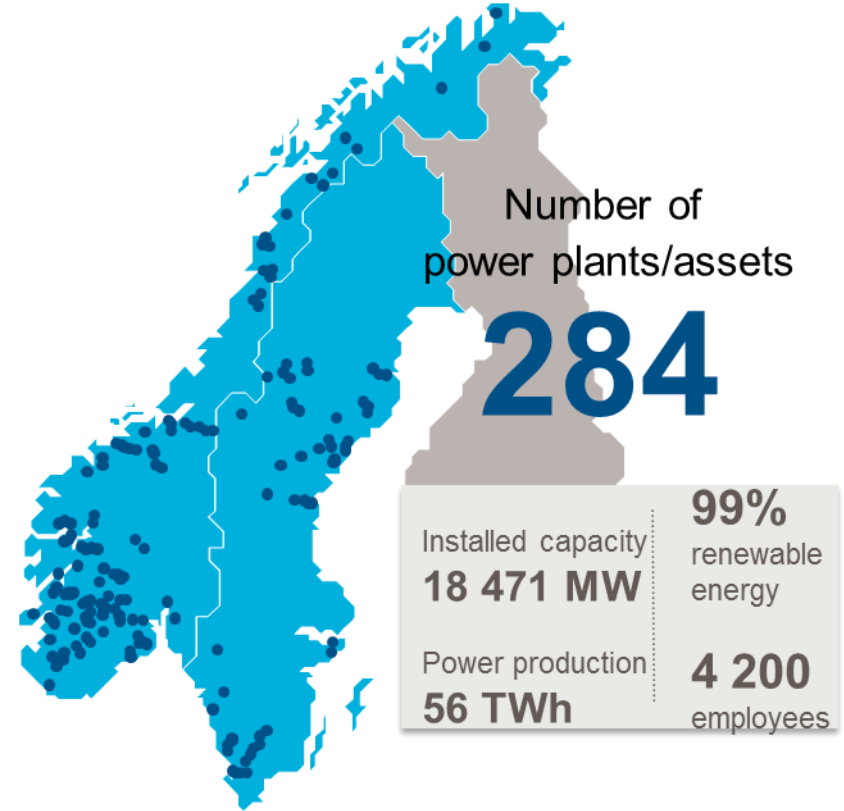
Disclaimer:

- EC group report not fully read
- My views not anchored within Statkraft

Statkraft an atypical market participant regarding hedging requirements

Asset based hedging:

- > Generation capacity in all Norwegian bidding areas and in 3 of Sweden 4 areas
- > Well diversified (to be a mainly hydro power company) both regarding the various hydrological conditions and temporary bottlenecks creating different price areas
- > Long term bilateral contracts and financial contracts used for hedging purposes
- > Evaluate risk and profit for whole portfolio before entering new contracts (bilateral or through organized markets)

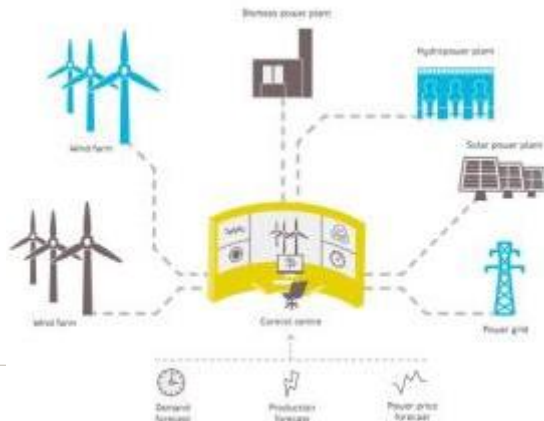


Trading & Origination in Statkraft

Why relevant in a hedging context:

- > Helps fundamental market participants with risks, included area price risk (i.e. wind producer & industrial consumers)
- > Traders/Originators needs to reduce risks (i.e. price area) to maintain trading opportunities
- > Liquidity important for right prices

Statkraft Virtual power plant concept



- Nordic Trading and Customers
- Distributed Energy
- Continental Trading
- Global carbon
- South East Europe



TRADING & ORIGATION

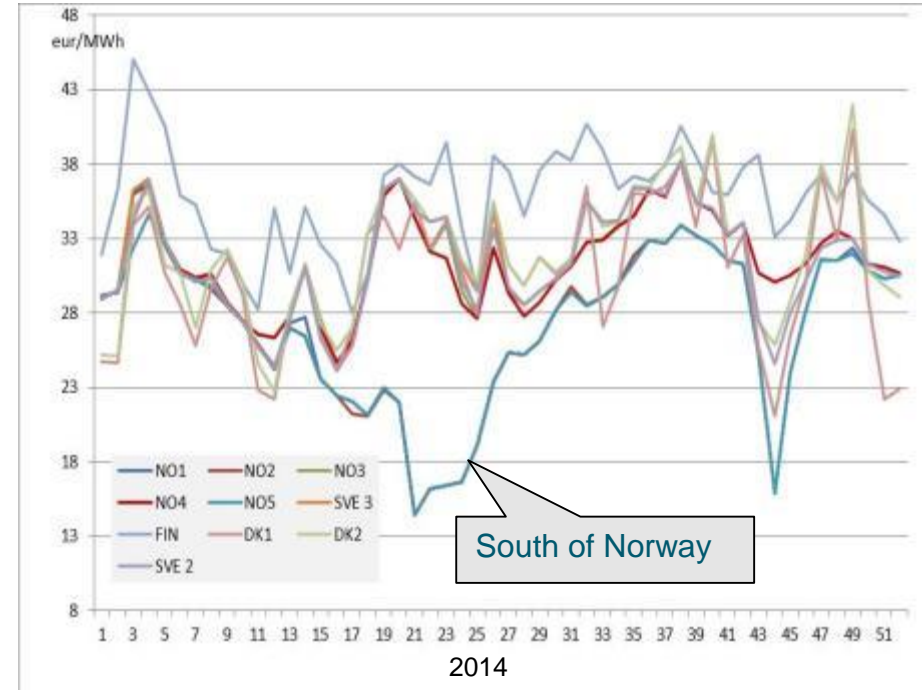
Statkraft engages in extensive trading in energy. This trading is based on standardized and customized contracts for power, gas, steam, oil, renewable energy certificates and CO₂ certificates. These operations are run from offices in Amsterdam, Beograd, Bucharest, Düsseldorf (trading), London, Oslo, Sofia, Tirana and Istanbul.

2 106 contracts per trading day
524 480 contracts per year

Time frame from 1 hour to 15 years

Some basic hedging challenges ref. price area

- > More sellers needing risk reduction than buyers (suppliers to a large extent covered through low or no exposure in end users contracts)
- > Low liquidity in EPADs reduces ability to sell price area risk reduction and also efficient pricing
- > We experience that the new potential investors do not want price area risk
- > Experiences with changing bidding areas reduces trust and liquidity for EPADs



How to evaluate hedging possibilities in the Nordic power market for concerned bidding zones

Possible approaches:

- ▶ Ask relevant parties
- ▶ Liquidity, bid-ask spreads etc from exchange and OTC brokers on relevant product (EPADs) – which should be available
- ▶ Possible correlation between required (in liquid, or non existing) product and possible other tradeable products covering hedging need
 - Historical data (correlation) not necessarily relevant for future situation (grid reinforcement etc)

Wishful thinking

- ▶ Can EPADs be stimulate and be relevant for market participants?



THANK YOU



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