





# Factors that influence electricity price in the Baltic market

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 Latvenergo =  elektrik



## LATVENERGO – leader in Baltics



### In Estonia

- Market share - 7%
- Number of customers ~90



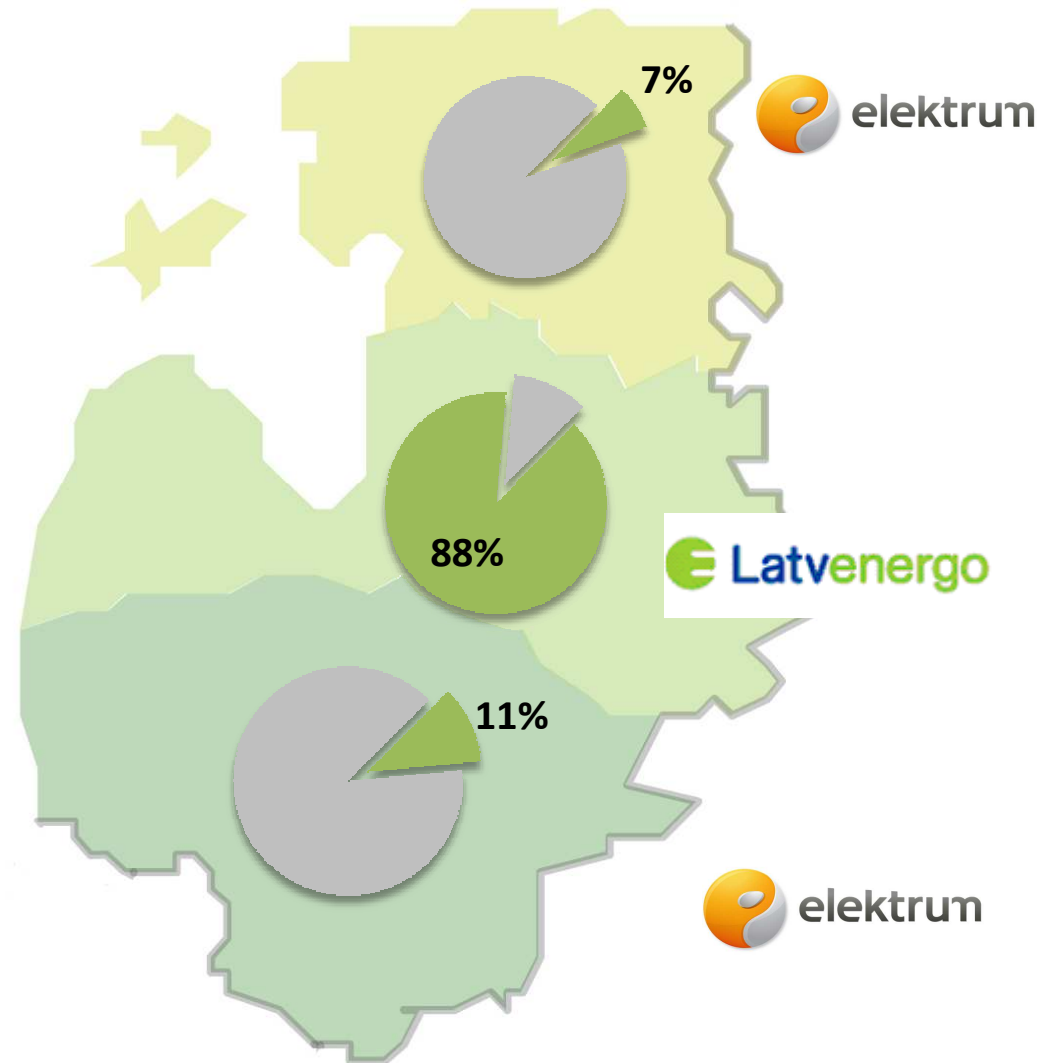
### In Latvia

- Market share - 88%
- Number of customers ~900 th.



### In Lithuania

- Market share - 11%
- Number of customers ~ 900



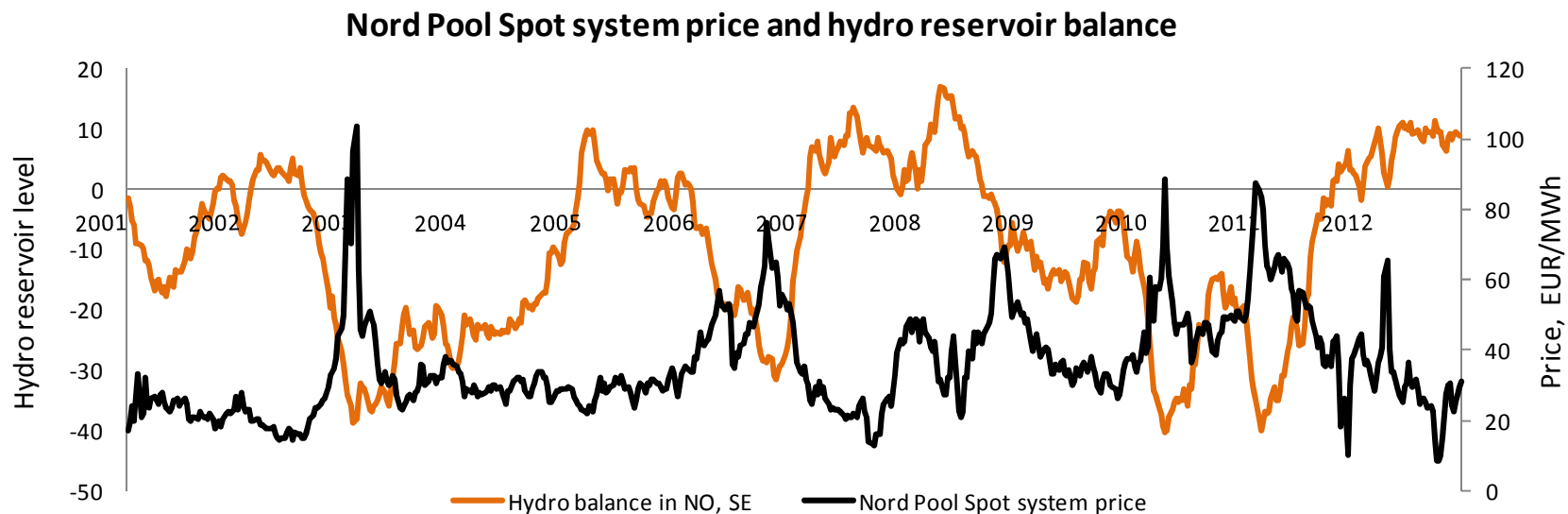
## Main factors that affect electricity market price in the Baltics

- Hydrology
  - Commodity (fuel) prices
  - Economic cycle
  - New generation technologies
  - Market design
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# PRICE DRIVERS IN BALTIC ELECTRICITY MARKET [1]

## HYDROLOGY

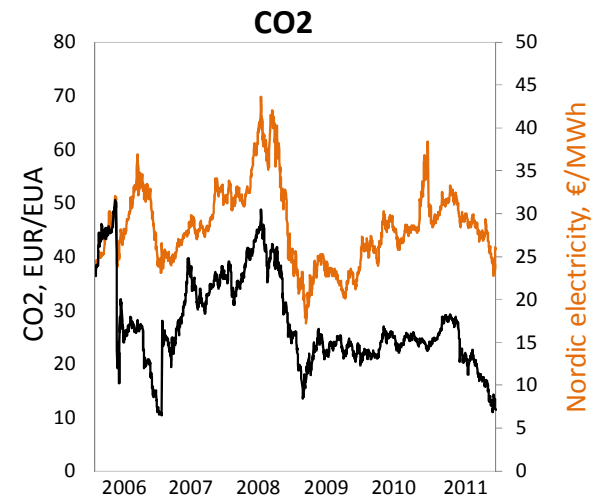
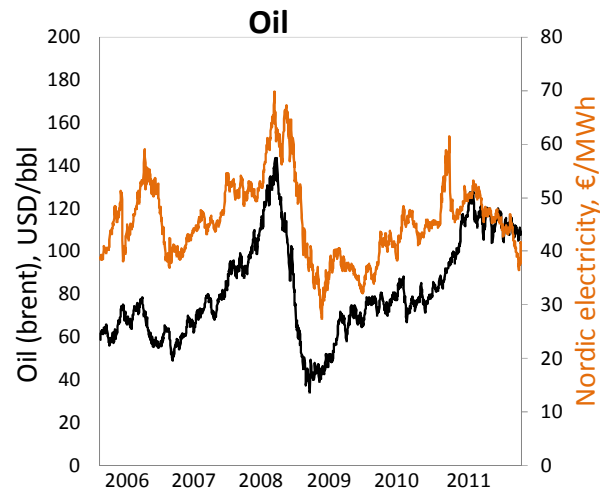
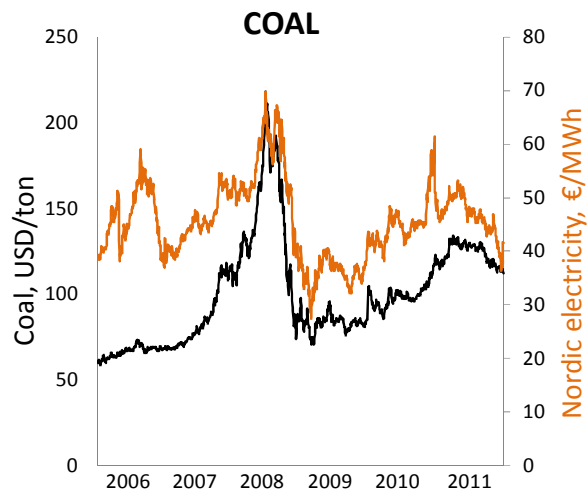
25 TWh Baltic market is being integrated into 400 TWh Nordic market where hydro power plants produce ½ of consumed electricity. Year to year hydro production can variate up to  $\pm 40$  TWh, affecting market price. Baltic market will inherit Nordic price volatility.



## PRICE DRIVERS IN BALTIC ELECTRICITY MARKET [2]

### Commodity prices

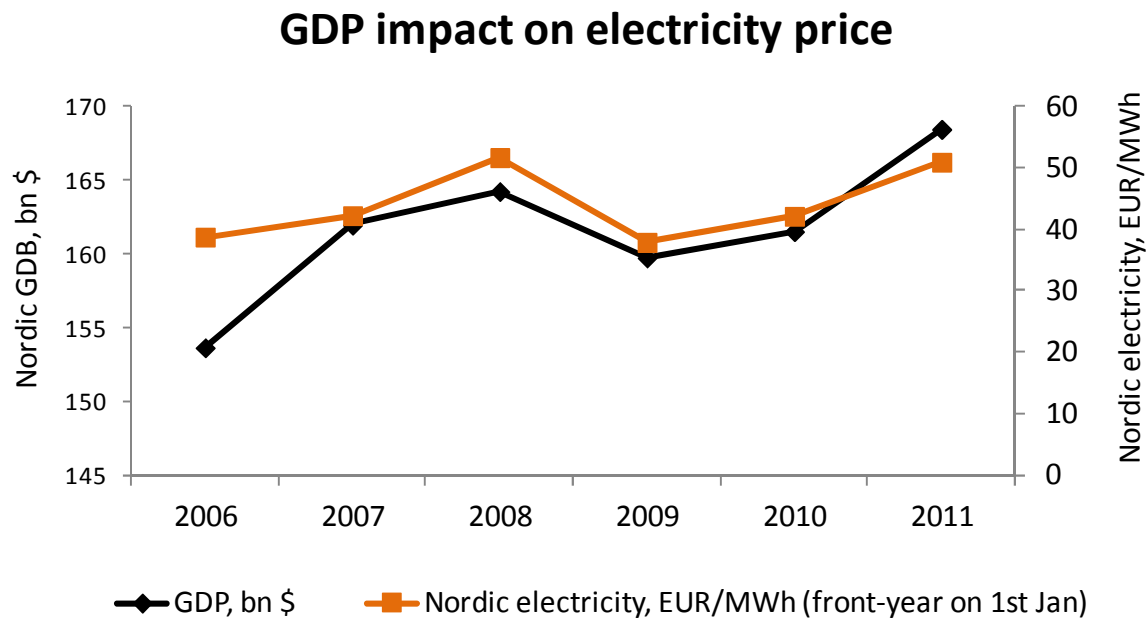
Although hydro and nuclear power plants produce 75% of electricity, market price is largely defined by production costs in conventional fossil fuel (particularly coal) power plants.



# PRICE DRIVERS IN BALTIC ELECTRICITY MARKET [3]

## Economic cycle

Economic activity affects electricity demand and electricity prices.



# NEW TECHNOLOGIES WILL CHANGE THE WHOLESALE MARKET

We are moving from a system dominated by price sensitive, non-intermittent and relatively predictable generation, to a system with low/zero marginal cost, intermittent and less predictable generation

	Coal/ gas	Nuclear	Hydro	Biomass	CCS	Wind	Solar	Wave	Tidal
Price sensitive?	✓	✗	✗	✗	?	✗	✗	✗	✗
Available when needed? (intermittency)	✓	✓	✓	✓	✓	✗	✗	✗	✗
Predictable?	✓	✓	✓	✓	✓	✗	✗	✗	✗

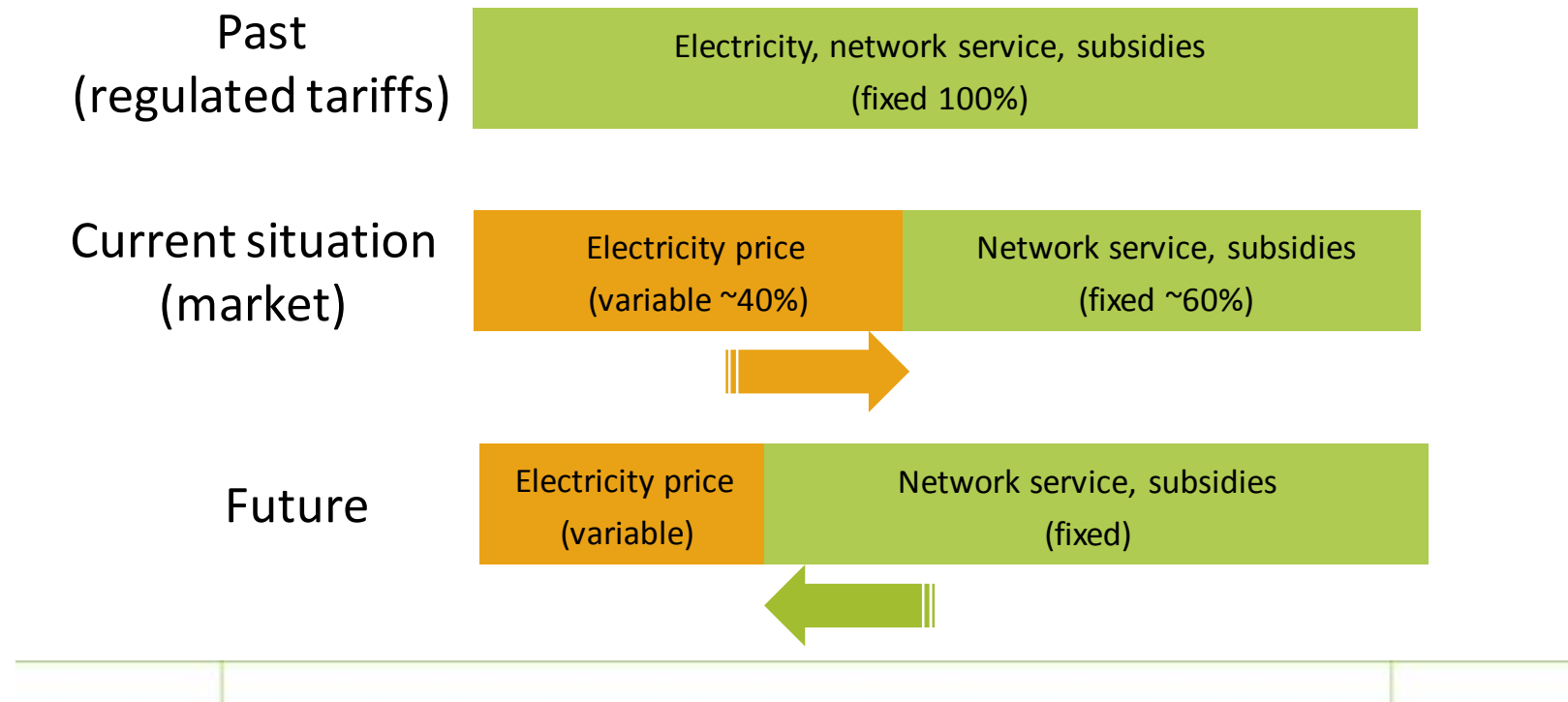
Current world
➔
Future world



## NEW TECHNOLOGIES WILL CHANGE THE WHOLESALE MARKET [2]

Using more low/zero marginal cost generation (wind, biomass, solar) does not mean that consumers pay smaller bill. Components in electricity bill change, subsidy component (capacity payment) increases, electricity component decreases.

### Electricity tariff components

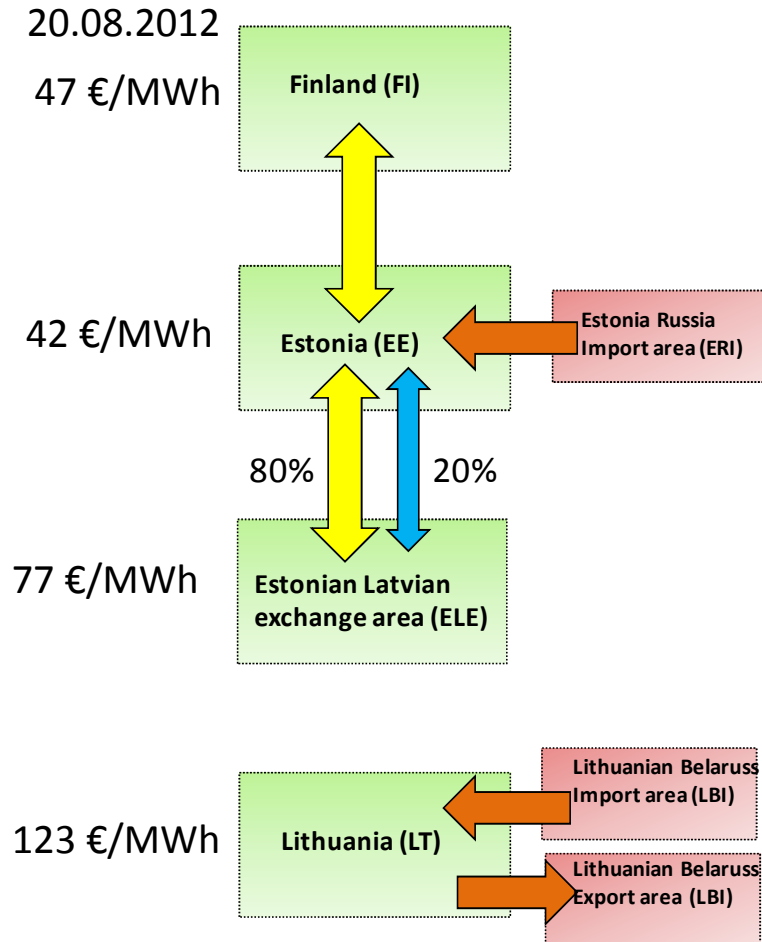


## ½ of generation in Baltic market is “must-run”

- Power plants in Baltics produce 21 TWh/year (2011).
- About ½ of total electricity production (~10 TWh) is “must-run” due to the following reasons
  - State subsidies (wind, cogeneration, biomass, bio gas, solar)
  - Heat and electricity production in heating season (cogeneration)
  - System security (part of Narva power plant production, Elektrenai)
  - Zero marginal cost (Daugava hydro power plants)
- Must-run generation tend to decrease market price, but does not decrease cost of electricity to consumers.

# CURRENT BALTIC MARKET SETUP IS NOT OPTIMAL

## NPS setup in Baltics



- Problem 1: Liquidity very limited in ELE and LT areas (most of the volume in LT area is in the form of “price-independent” bids. There is no any consumption and generation in ELE area)
- Problem 2: NPS ELE and LT price predictability is difficult (this creates high financial risks in trading and increase costs to end-users)
- Problem 3: NPS price levels confusing in ELE and LT (so far ELE and LT prices have been different 99,5% of the time)
- Problem 4: Price difference between ELE and LT indicates the inefficiencies and losses to consumers.

## **CURRENT BALTIC MARKET SETUP IS NOT OPTIMAL [2]**

### **Proposal for improvement**

- Introduce Price Coupling between Estonian and Lithuanian bidding areas from 1st of January 2013 in order to ensure effective and reasonably predictable operations of the Baltic electricity market and consequently lower risks and costs of electricity supply.

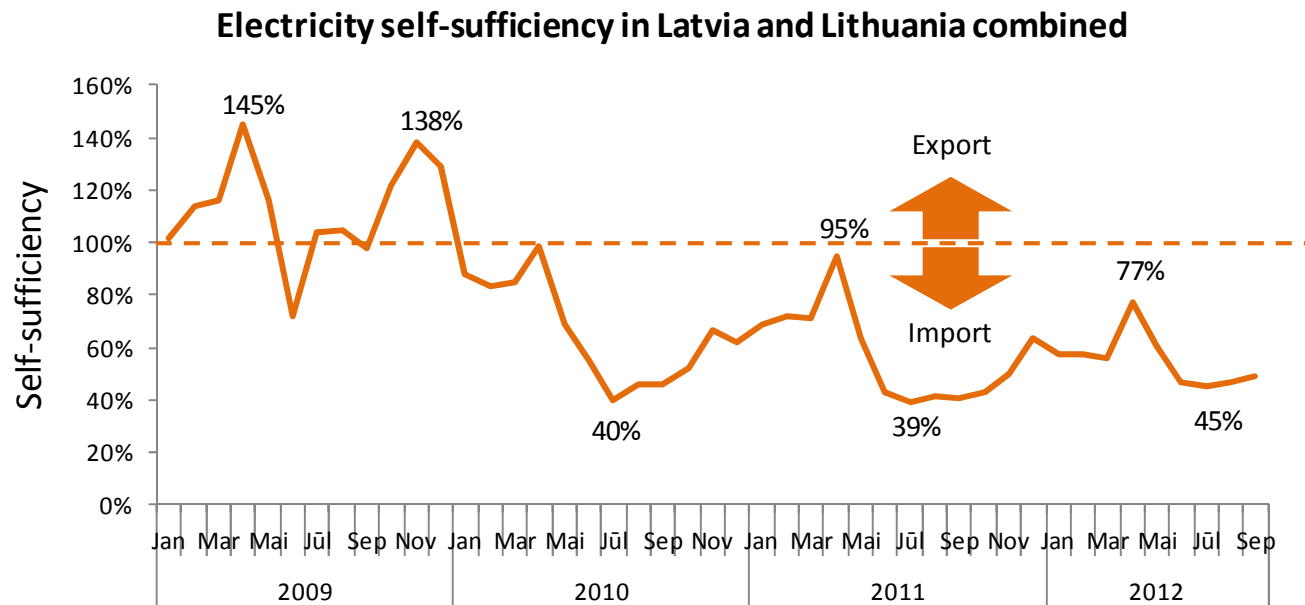
## LACK OF ELECTRICITY PRICE RISK MITIGATION INSTRUMENTS

- EE-LV transmission capacity is critical source of electricity for Latvia and Lithuania as both countries are net importers of electricity.
- Retailers sell electricity to consumers at a fixed price while buying electricity in power exchange at volatile price.
- Today there are no instruments that allow retailers to control electricity procurement costs.
- Currently EE-LV transmission capacity is allocated via weekly explicitly auction (20%) and daily implicit auction (80%)
- Problems:
  - financial risks for retailers and high cost of electricity supply to consumers;
  - New smaller competing suppliers less active due to risks.



# LITHUANIA-LATVIA REGION HAS REACHED UNPRECEDENTED IMPORT PROPORTION

About 60% of electricity generation in Lithuania-Latvia region is from natural gas. High gas price and relatively cheaper import are the main contributors to high deficit.



## LACK OF ELECTRICITY PRICE RISK MITIGATION INSTRUMENTS [2]

### Proposal for improvement

- TSOs should introduce auctioning of entire Estonian-Latvian transmission capacity in the form of Financial Transmission Rights as soon as possible.
- Auctioning should be a possible for longer periods:
  - Monthly auctioning
  - Quarterly auctioning
  - Yearly auctioning
- Financial Contracts for Difference (CfD) in LT area should be introduced as well. But, since CfDs market is not liquid in the Nordic market, CfDs might not be liquid in Baltic market as well.

## Main factors that affect market price in the Baltics

- Hydrology
  - Commodity (fuel) prices
  - Economic cycle
  - New generation technologies
  - Market model
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# Thank you for attention!

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