Energy grids and open energy market

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About Elering

- Electricity and gas transmission system operator with the primary task of ensuring a high-quality energy supply to Estonian consumers. We believe the best way to guarantee the SoS for our customers is through well-functioning energy market.

- Elering is fully integrated. All what we did in electricity infra+market, we have copied 5-7 years later in gas and way forward is close sector coupling. Single energy market. Both, wholesale and retail market level.

- We believe infrastructure (hardware) without market (software) is a waste of money. (Estlink2 and Balticconnector examples)
Success story: the Estonian electricity and gas market

- HVDC link (EE-FI) ESTLINK 1, to the market
- Effective day ahead and intraday market coupling
- Electricity data hub

- HVDC link (EE-FI) Estlink 2, to the market
- BALTICCONNECTOR and EE_FI_LV common gas market
- Gas data hub

- Common EE_FI-LV flexibility market platform is coming 2021
- aFRR market is prepared

- Gas 4-TSO Market Integration
- Sector coupling: PtoG
- Clean energy-based, not energy carrier based subsidies

- Data hub’s interlinked ..., retail market harmonization
- FCR market is prepared

2010

2015

2020

2025+
On 1st of January 2020 Regional Gas market got started

- Gas market opened in Finland
- **Common tariff zone** in Finland-Estonia-Latvia
- **Common balancing zone** in Estonia-Latvia

**Market started with high activity:**
- **Balticconnector** fully utilised during the first month towards Finland. Around 1/3 of Finnish gas demand sourced from Baltics (Inčukalns storage)

**Final aim is the 3B+FI common gas market.** Decision on development scenario is taken by end of Q3 2020.
The Economics of Trust

• The EU internal energy market constitutes the integration of EU member states’ gas and electricity markets into one single market based on the free movement of goods, services, capital and persons.

• Can we still trust our neighbours? Or should we restart to build national energy markets? Especially important for the resource adequacy assessment!

• The Economics of Trust. When trust goes down, costs will go up and speed will go down.
Why? 3-step approach for market digitalization

First, Elering’s mission is to ensure security of energy supply to Estonian consumers and to keep lights on.

Second, Elering’s choice is to guarantee it through well-functioning regional energy markets.

Third, to enhance competition on regional power market, we use digital tools.
Why we need energy market digitalization?

2. Bring wholesale market liberalisation benefits to retail customers. Empowerment.
3. Bring energy consumption and micro generation actively on the market. Prosumers
4. Flexibility to manage decentralised, renewable, connected energy system. TSO-DSO platform.
5. Keep energy grid lean! Competition with off-grid.
Elering Energy Market Digitalisation Cluster

provides energy market digital innovations to:
- empower consumers,
- support decarbonisation goals and
- facilitate competition

1. Energy Data Access Alliance
   - Enable consumer access and control over own consumption data
   - integrate Europe’s retail energy markets,
   - increasing competition to ensure the best services for people
   - accelerate the energy transition

2. Flexibility Market Platform
   - Enable distributed flexibility access to all electricity markets
   - lower barriers for distributed flexibility to access electricity markets
   - greater amount of flexibility lowers reserve costs to System Operators

3. Renewable Energy Platform
   - Enables flexible selling and trading of renewable guarantees of origin
   - data about origin of consumed energy is enabler for consumers to make better energy purchasing decisions
   - contributes to decarbonise energy and transportation system based on consumer choice

Main partners: Fingrid, AST, Elektrilevi, Elenia, Empower, Cybernetica, Tampere University, Riga Technical University, Entso-E, European Dynamics
Baltic Sea Offshore Grid Initiative

WHY?
- Regional energy sector have to be fully decarbonised and the Baltic Sea wind plays a key role;
- Many studies (Flex4RES, BEMIP Study of Baltic Offshore Wind) have shown if we are acting together it makes energy transition faster and cheaper for all nations.
- Converter-based production (onshore and offshore) brings instability, we need a stronger and more connected power system.

WHAT?
- The dual purpose, simultaneously as interconnectors between markets and interconnection points for wind farms.
Baltic Sea Offshore Grid Initiative

To start a dialogue „How to prepare grid connections for offshore wind generation“

- **Political Declaration** on Offshore Energy cooperation between Baltic Sea Countries (at least Baltic-Nordic countries)
- **Highlight** Baltic Sea Offshore Grid Initiative in revised BEMIP
- Baltic Sea Offshore Grid Initiative to **conduct pre-feasibility studies** for a joint offshore power network
- **Governments should commit TSO-s** to take a driver seat, TSO-s have the skills, existing cooperation network and the capabilities; Next **TYNDP 2022** (not single project based but integral part of Baltic Sea region power system)
- **Highlight the BEMIP region** in the EU Offshore Wind Strategy
- With the help of **EU** (e.g Just Transition Mechanism, CEF etc)
Thank you!

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