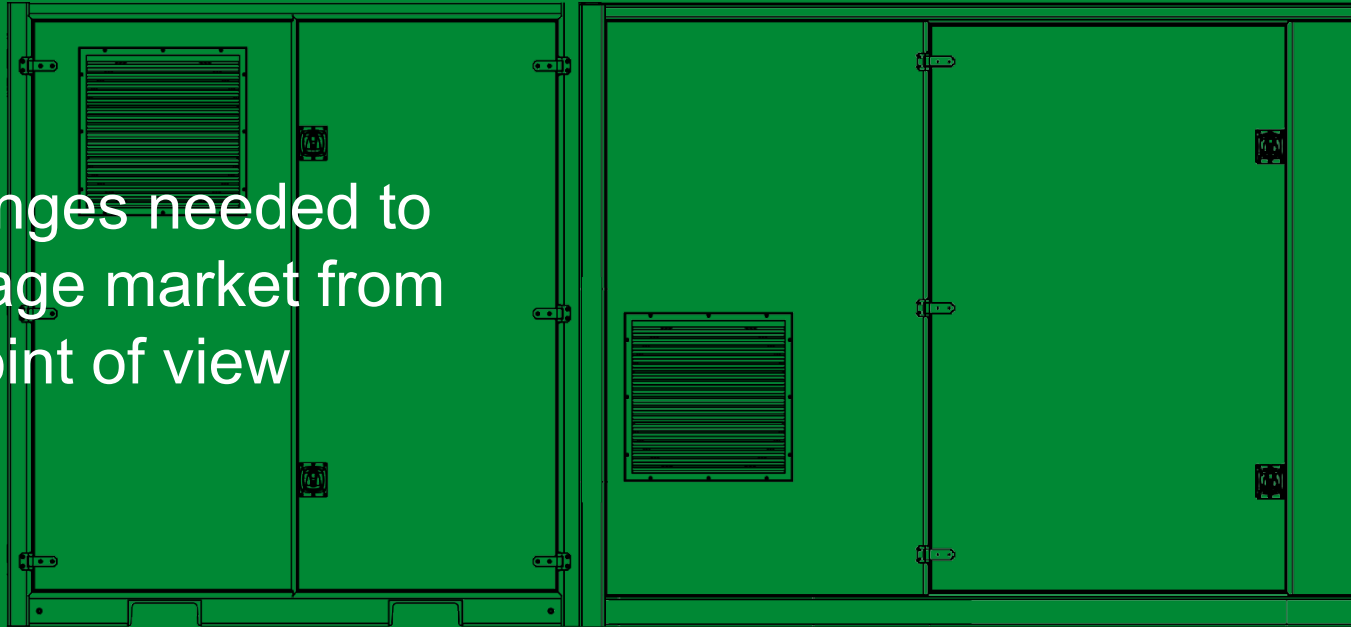


# Regulatory changes needed to launch the storage market from an investor's point of view

Kristjan Kuhi  
Board Member of Eesti Energia



# Our storage projects pipeline



**Businesses**  
15MW



**Power plants**  
40MW



**Industries**  
20MW



**Wind farms**  
140MW



**PV parks**  
80MW



**Households**  
2MW



**Investors**  
420MW

# Benefits of energy storage

- Helps to keep price volatility lower for end consumers
- Helps to use more renewable energy
- Facilitates continued growth of renewable energy investments
- Creates sufficient competition in ancillary services market
- Helps to delay transmission grid company investment

# Energy storage is treated as a regular electricity consumer

Therefore, fees must be paid for both consumed and stored electrical energy, disregarding the fact that most of the energy is fed back into the grid by the storage system and is utilized by the end consumer.

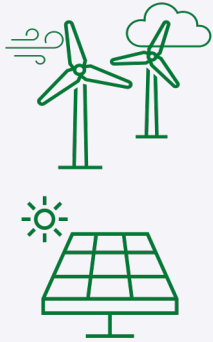
# 8,7 M€

is paid **double**  
with the current  
regulations

Elering currently has approximately 810MW power connection points in development, where storage is planned. If an average 2h batteries will be installed, then there would be 1620MWh of storage by 2027 in Elering's grid alone.

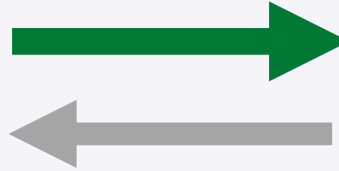
Source: Elering's website

# Example



## Charges for stored energy

Transmission fee	3M€/year	0,5M€/year
Excise tax	0,5M€/year	90k€/year
Renewable energy fee	5,2M€/year	0,9M€/year



Real consumption is **15%** of charged energy

## Charges for discharged energy

Transmission fee	3M€/year	
Excise tax	0,5M€/year	
Renewable energy fee	5,2M€/year	

End consumers pay fees for the same energy that came from the energy storage

# No transmission fee package for energy storage

	<b>10MW 20MWh ESS 1 cycle/day</b>
POI voltage	110kV
Annual charged energy	7300 MWh
Price package until end of 2023	90 k€/year
Price package I	102 k€/year
Price package II	190 k€/year

# Transmission service

Network operators **should fulfill** the obligation of Electricity Market Act §71 (10) to provide the network service necessary for electricity storage, which nets the quantities taken from the network and supplied to the network during the annual storage period (1.04 to 31.3) and identifies the electricity stored and returned to the network during the year quantity.



# Uncertainty about ancillary service markets rules

Frequency markets are opening in Q1 2025, the preparatory works are impacted due to delayed documents:

- Terms and conditions for balancing service provider (FCR, aFRR, mFRR capacity market)
- BRP and BSP implementation guides

# Investors' uncertainty about competition rules

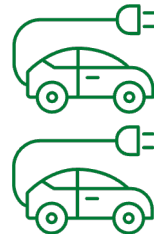
With the change in the EU market design, the Baltic states are given the right to allow TSOs to invest in storage and participate in the electricity market with them for up to 3 years after desynchronization (+ the right to extend this period by another 5 years).

# Future potential of electric vehicles

- Vehicle-to-Grid (V2G) gives new perspective for storage in the future
- It is important to invest in the distribution grid



Currently, Estonia hosts around **5990 EVs**.



Our forecast for 2030 anticipates EVs contributing a total of **750MWh** to vehicle-to-grid integration.

# Intense competition between countries and storage solutions

Thanks to cross-border transmission possibilities the electricity of the cheap hours will be consumed or stored anyhow in Estonia or neighboring countries, therefore countries that adapt regulations fastest will derive the greatest value from it.

# Summary

- Energy storage is treated as a regular electricity consumer
- No transmission fee package for energy storage
- Uncertainty about ancillary service markets rules
- Investors' uncertainty about competition rules
- EVs are coming

Thank you!

