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Montel Short Term Power Markets
Seminar 2024

Experiences of aFRR Energy Markets in Finland and future market changes in Nordics

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FINGRID

Key figures



14,500
kilometres of
transmission
lines

Transmission reliability
rate of the main grid
99.99995 %

71.7 TWh
transmitted electricity

83.1 %
of total
electricity
transmissions in
Finland



527 personnel



NPS
Personnel
75

NPS
Customers
45

Bidding zone **FI**



Turnover
1,193 M€

Balance sheet
total
2,900 M€

Paid income taxes
30,4 M€

Investments in the
main grid
310 M€



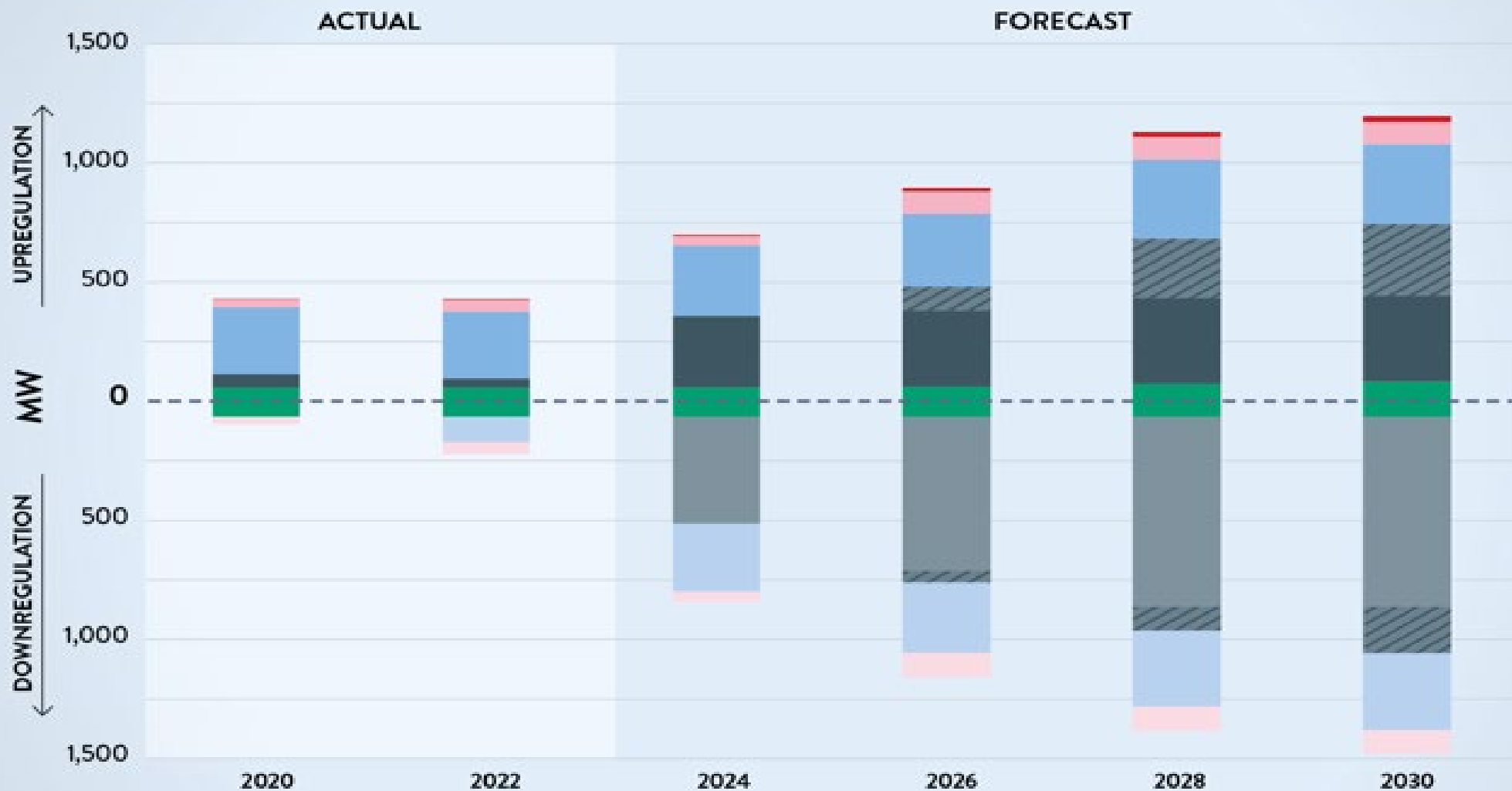
Our values
Open
Fair
Efficient
Responsible



Our vision
The energy system is
clean, reliable and
creates economic
prosperity for Finland.
Fingrid is the cornerstone
of the energy system.

FINGRID

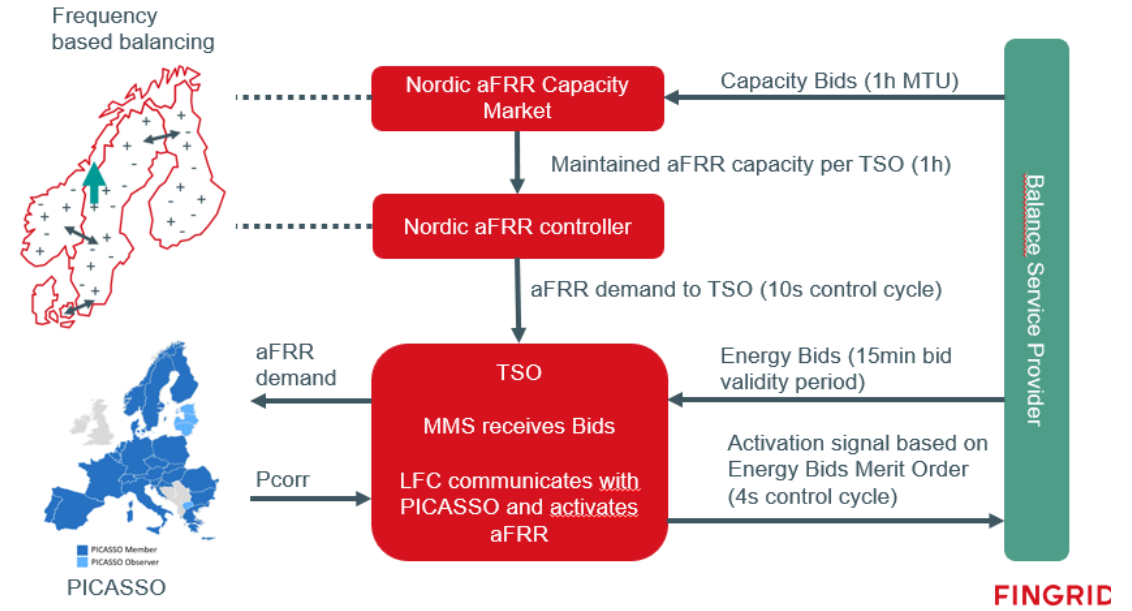
Procurement need of reserve capacity, 2020–2030



- mFRR up
- FCR-D up
- aFRR up
- FCR-N
- mFRR down
- FCR-D down
- aFRR down
- FFR

aFRR Energy Market established 12.6. in Finland

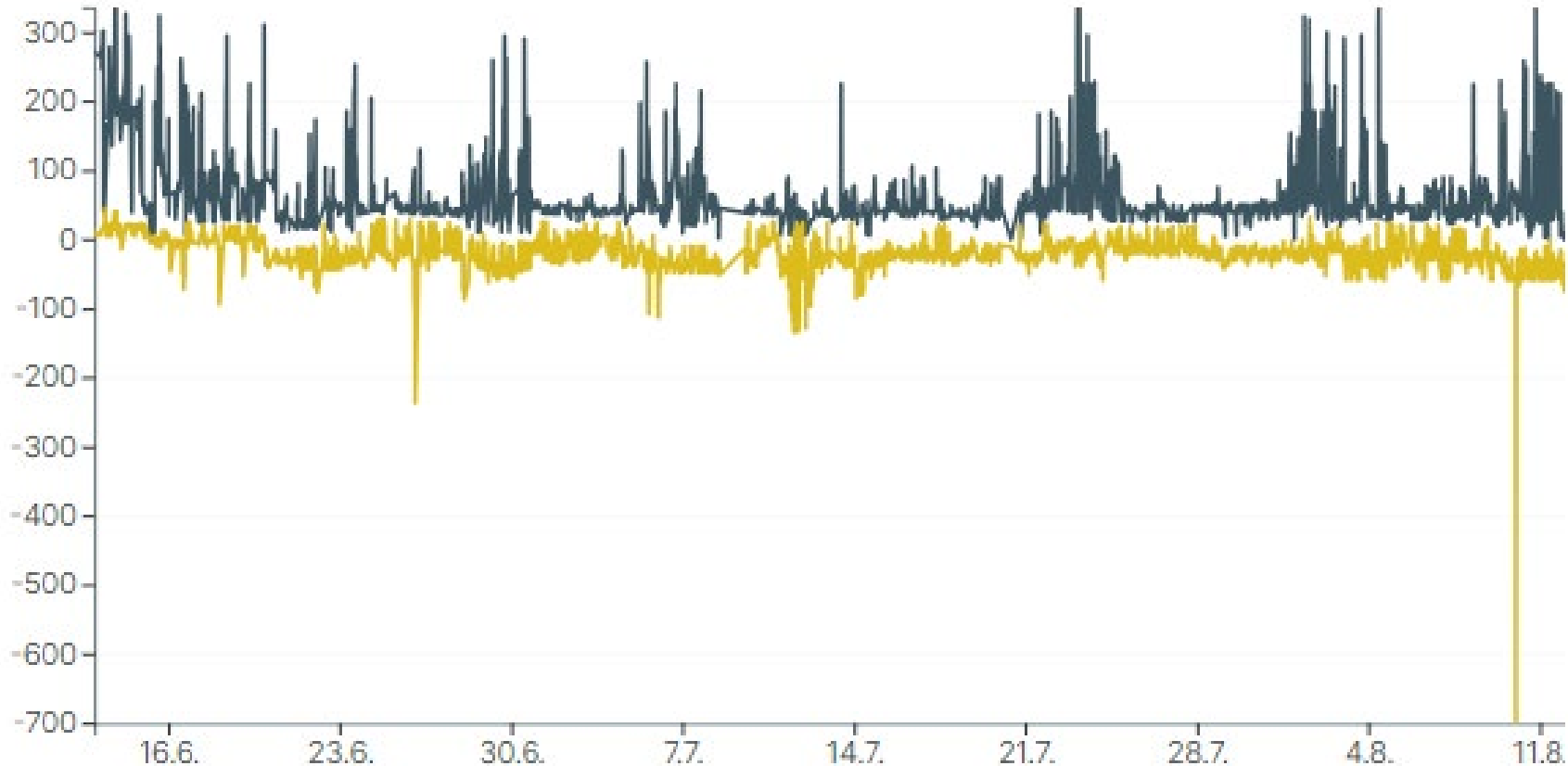
- PICASSO-ready market
- Marginal pricing, 15 min bid validity period
- Voluntary bids allowed
- Energy price included in imbalance pricing
- 10+ BSP's, certified capacity 325 MW
- Outsourced market surveillance



aFRR energy market price

(volume weighted average price per 15min, 13.6.-13.8.)

Voit tarkastella arvoja tarkemmin nollaamalla hiirtä kuvaajan päällä



- Average price
 - Up 69.50 EUR/MWh
 - Down -23.10 EUR/MWh
 - For comparison, FI Day Ahead average price for same period: 20 EUR/MWh
- Notes
 - Each 4 s gets own price, 15 min average values used in imbalance price
 - No reference price
 - European price limits: +/- 15000 EUR/MWh

aFRR energy price included in imbalance price

(data from 13.6.-13.8.)

Reasoning

- Required by EB GL legislation
- Significant share of balancing energy activated in Finland is aFRR
- Balancing the imbalances of uncognested area, when activated to dominating direction (still defined by mFRR only)

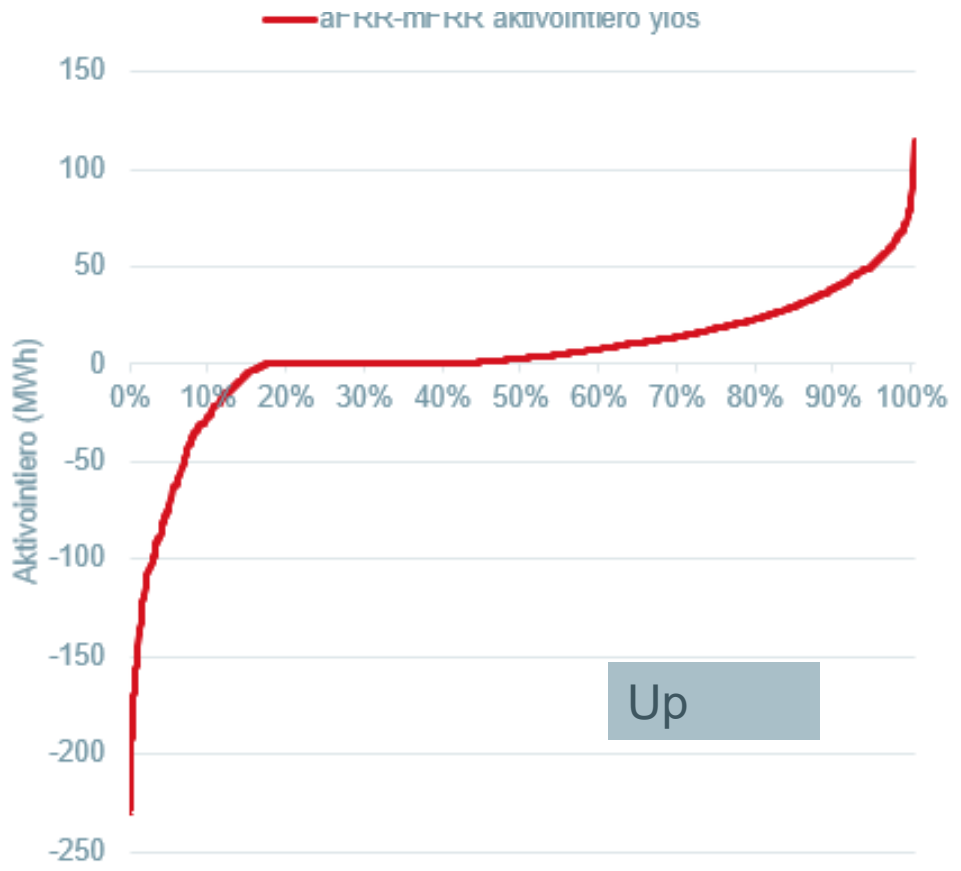
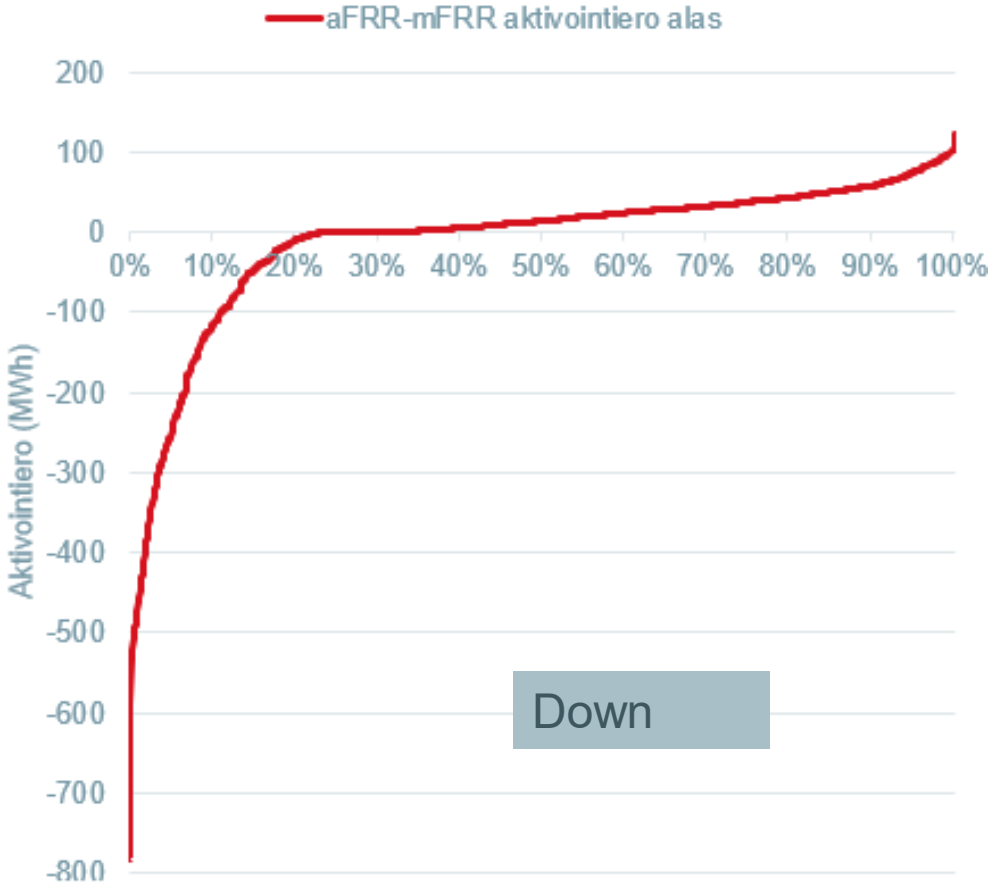
Imbalance price definition (simplification)

- Max/min from volume weighted aFRR price and mFRR marginal price for dominating direction.

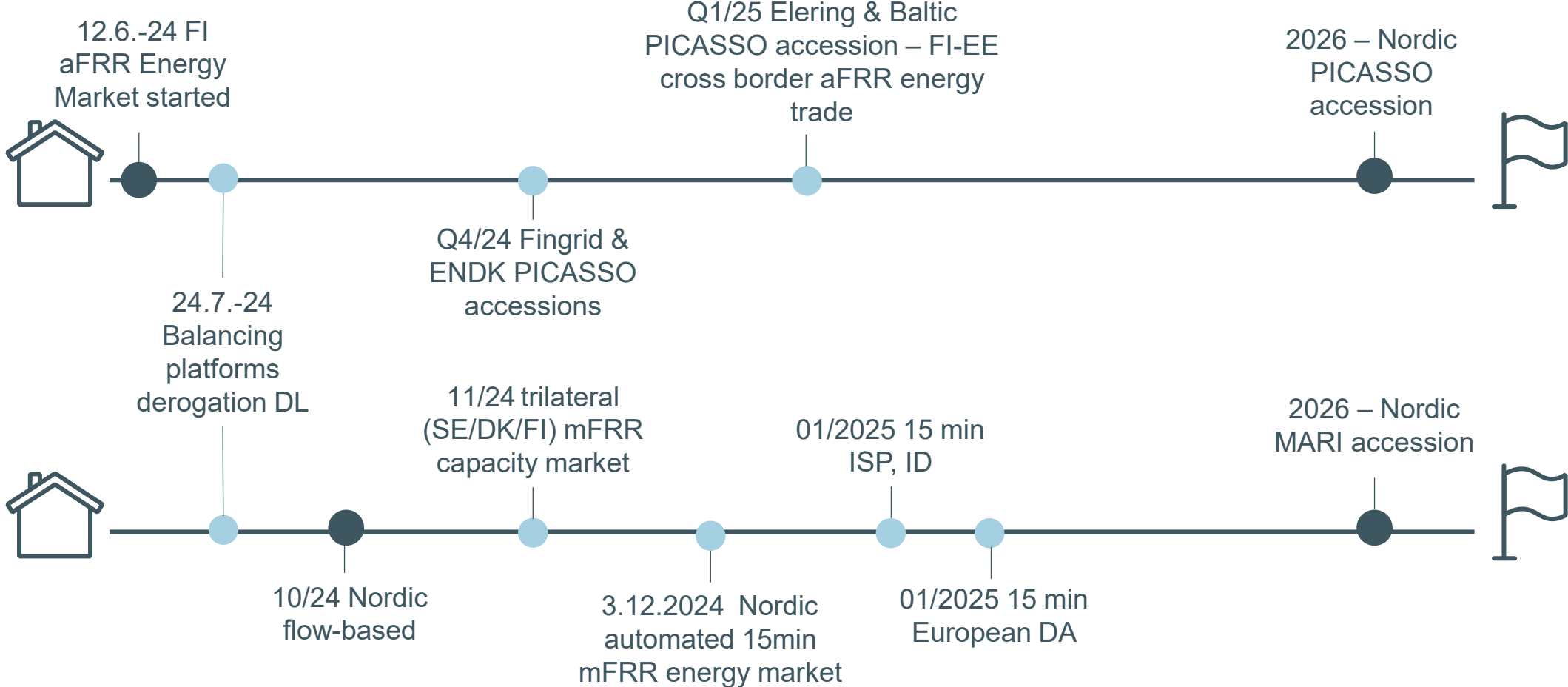
Reserve	Direction	Activated energy 1h avg (MWh)
mFRR	Down	-39.90
	Up	11.38
aFRR	Down	-29.52
	Up	14.74

aFRR defined imbalance price	Share from all hours	Share from hours, that have dominating direction
Down	31 %	80 %
Up	17 %	67 %
Sum	49 %	

aFRR vs. mFRR activation comparison



Year of changes – steps towards European balancing markets



Together towards the brave new short term markets!



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