



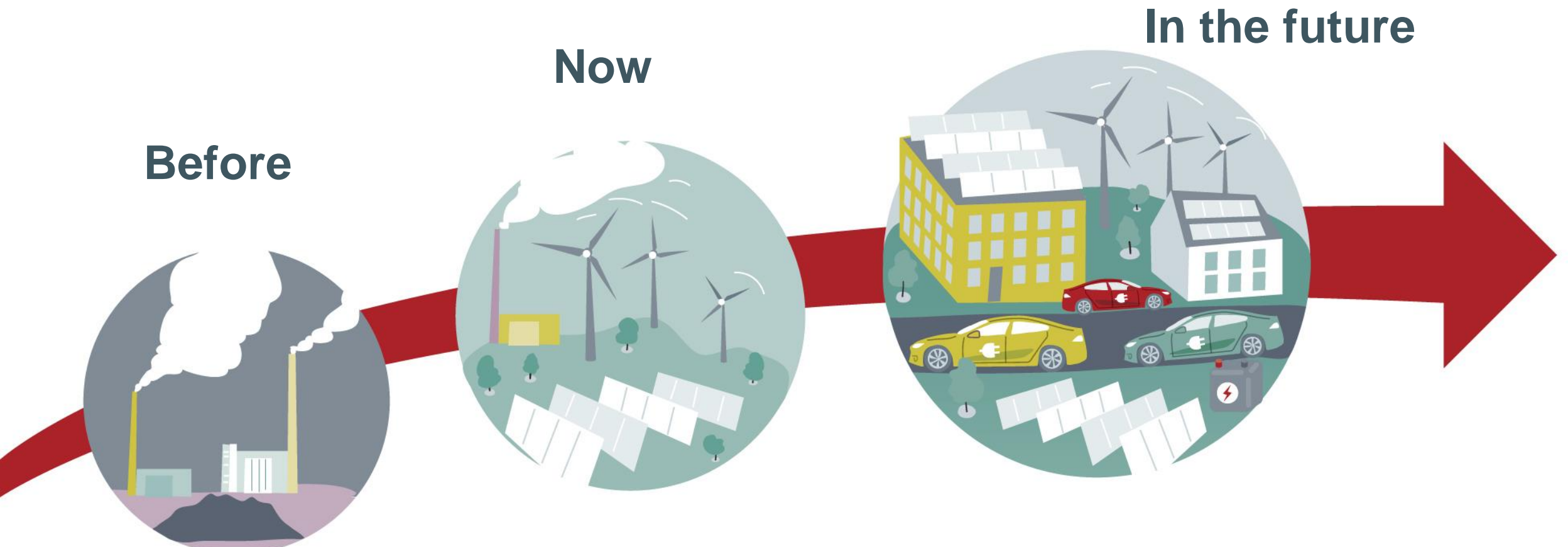
Pyhäjärvi Energy Storage in Mine Event, 5.4.2018

Asta Sihvonen-Punkka, Senior Vice President, Markets

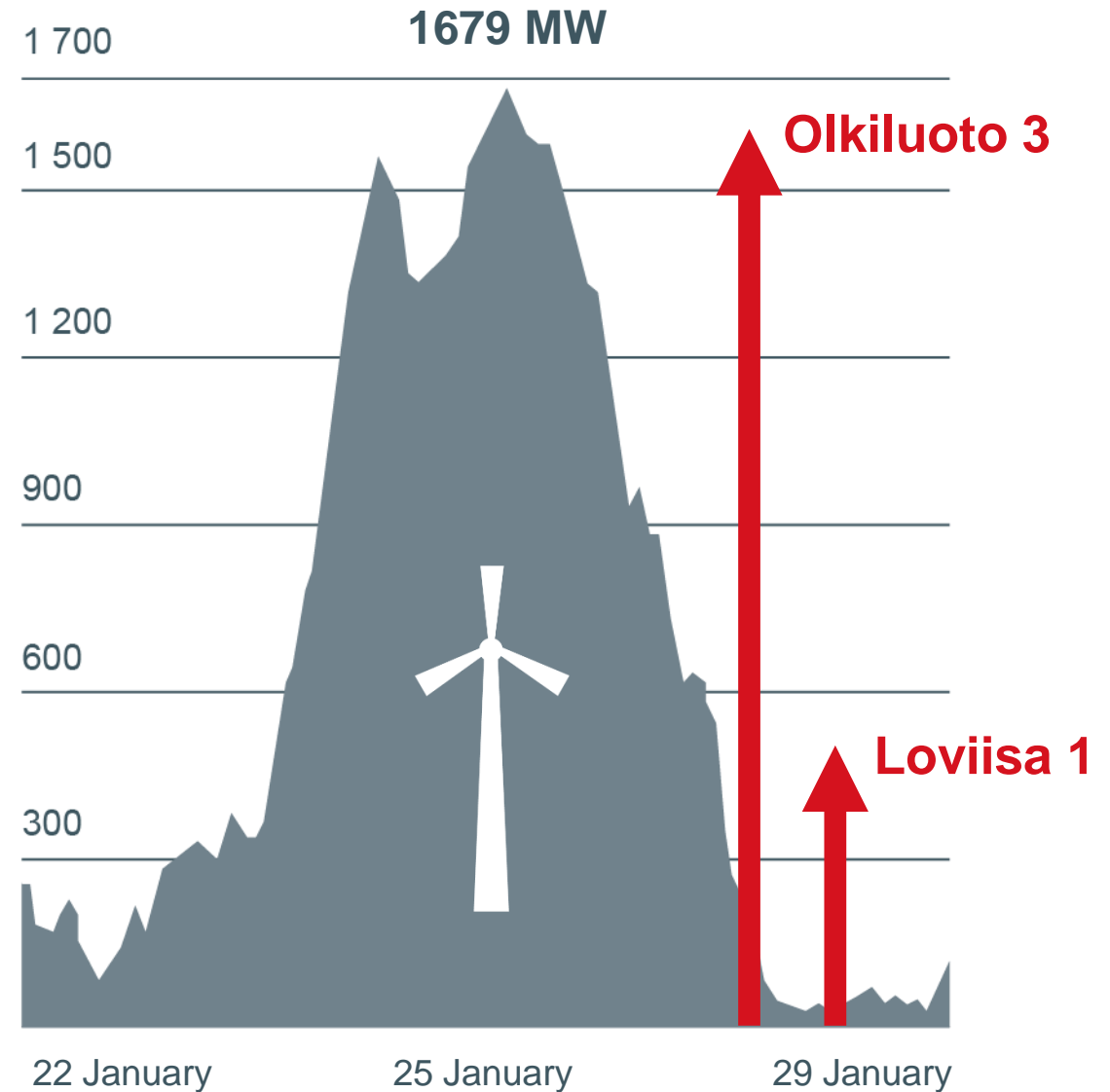
Energy transition and the need for flexibility - Fingrid views

FINGRID

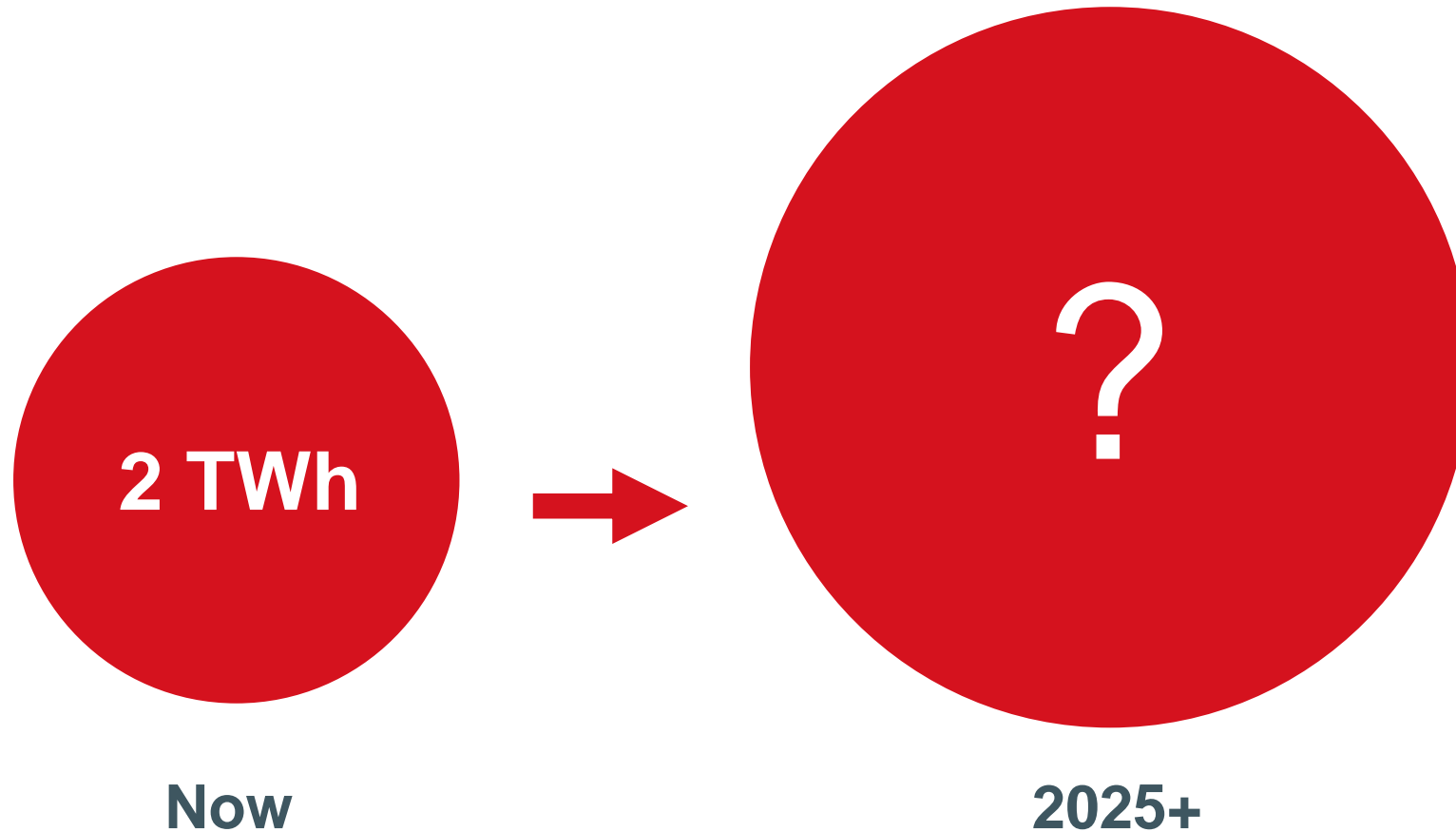
Energy transition changes the traditional ways of consuming and producing electricity



Intermittent generation is increasingly impacting the Finnish electricity system



The need for trading after the day-ahead market will increase



The new flexible resources will be decentralised and diverse



Before







In the future

The Finnish reserve markets

– participation from both supply and demand



	Frequency Containment Reserve for Disturbances: 220–265 MW Nordic countries total: 1,200 MW	Frequency Containment Reserve for Normal Operation: 138 MW Nordic countries total: 600 MW	Automatic Frequency Restoration Reserve: 70 MW Nordic countries total: 300 MW	Joint Nordic Balancing Power Markets
Activated	During major frequency deviations	Continuously available	Available at specific hours	Activated when required
Response time	Seconds	Minutes	Minutes	15 minutes
				

A person is captured mid-air while performing a skateboard trick. They are wearing dark trousers, a dark jacket, and blue sneakers. The skateboard is visible beneath their feet. The background shows a modern building with balconies and windows, slightly out of focus. The text "Who will balance production and consumption in the clean electricity system?" is overlaid in white, bold font across the center of the image.

**Who will balance production
and consumption in the clean
electricity system?**

Towards a cost-efficient, secure and clean electricity system





Thank you!

Fingrid Oyj

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