

Flexibility in Energy System

Aalto Energy Forum

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Background

- Senior Strategy Manager in Fortum
- Graduated from TKK (Aalto) 2006
- Doctoral Studies in LUT

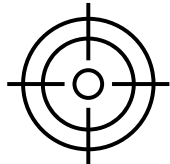


Power Distribution
Business



Fortum Fiksu

Fortum
spring



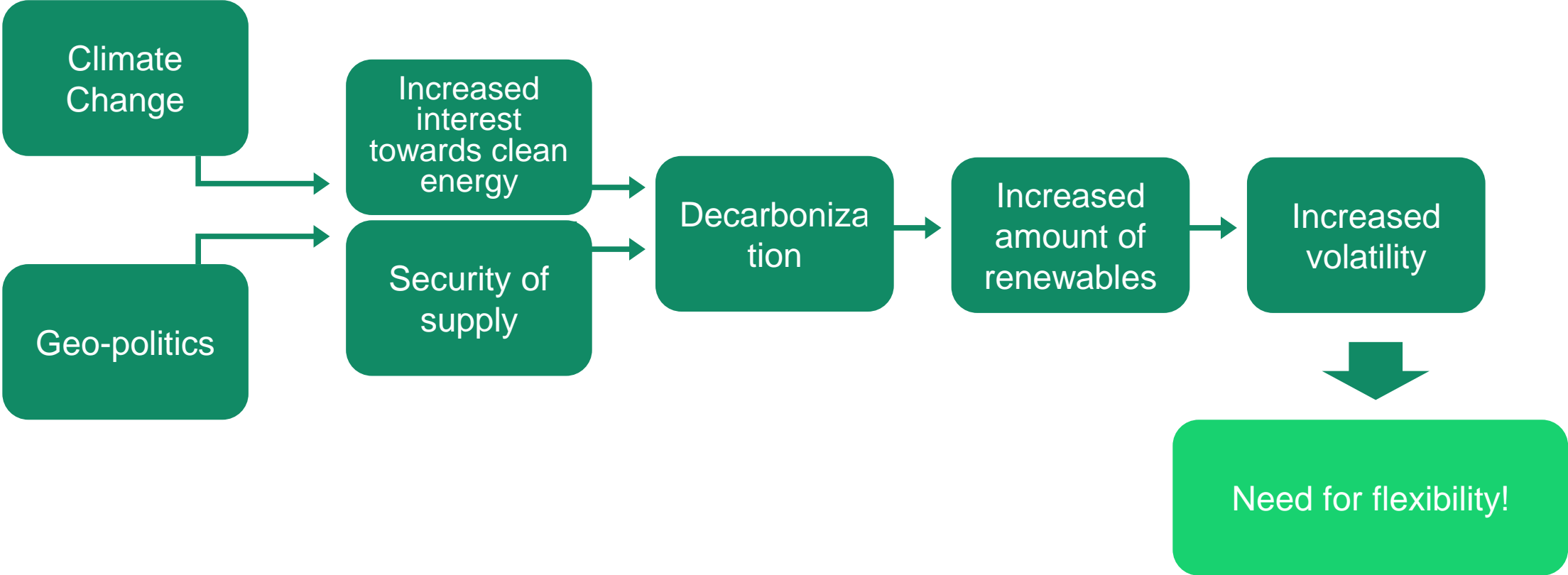
Strategy



But Who Are You?

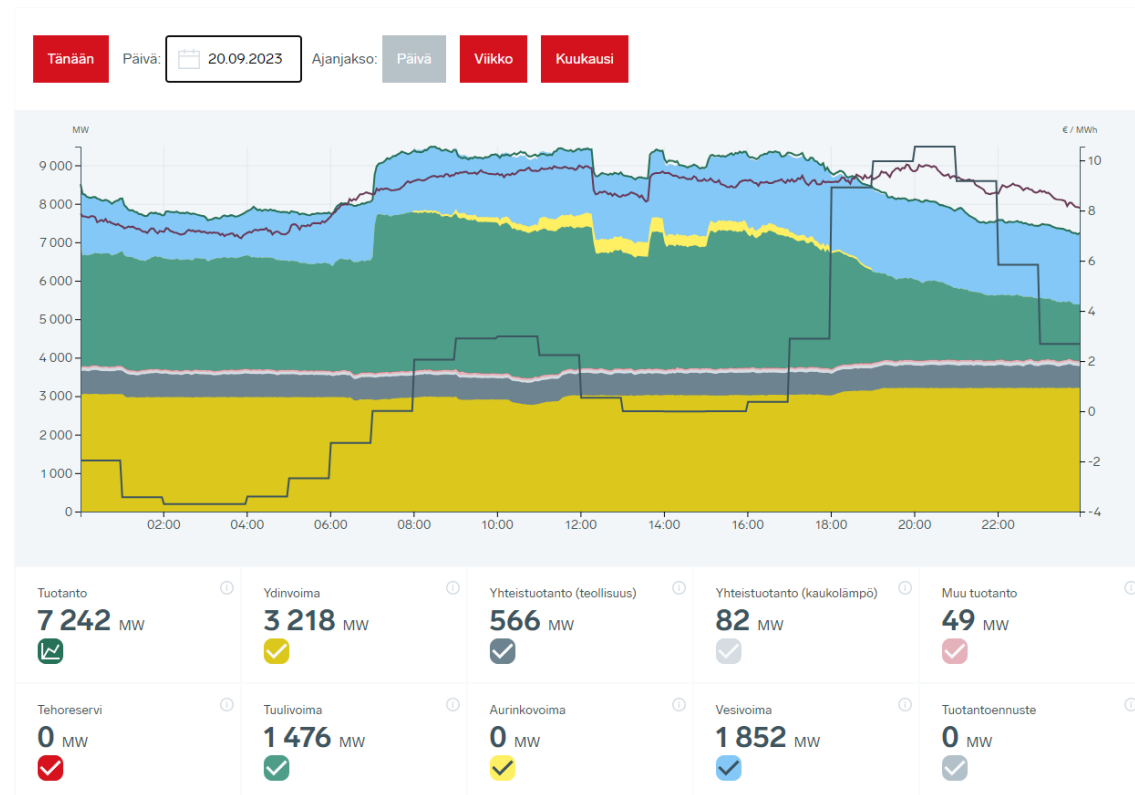
What is flexibility (in energy sector)?

Climate Change And Geo-political Situation Drives Heavily Decarbonization

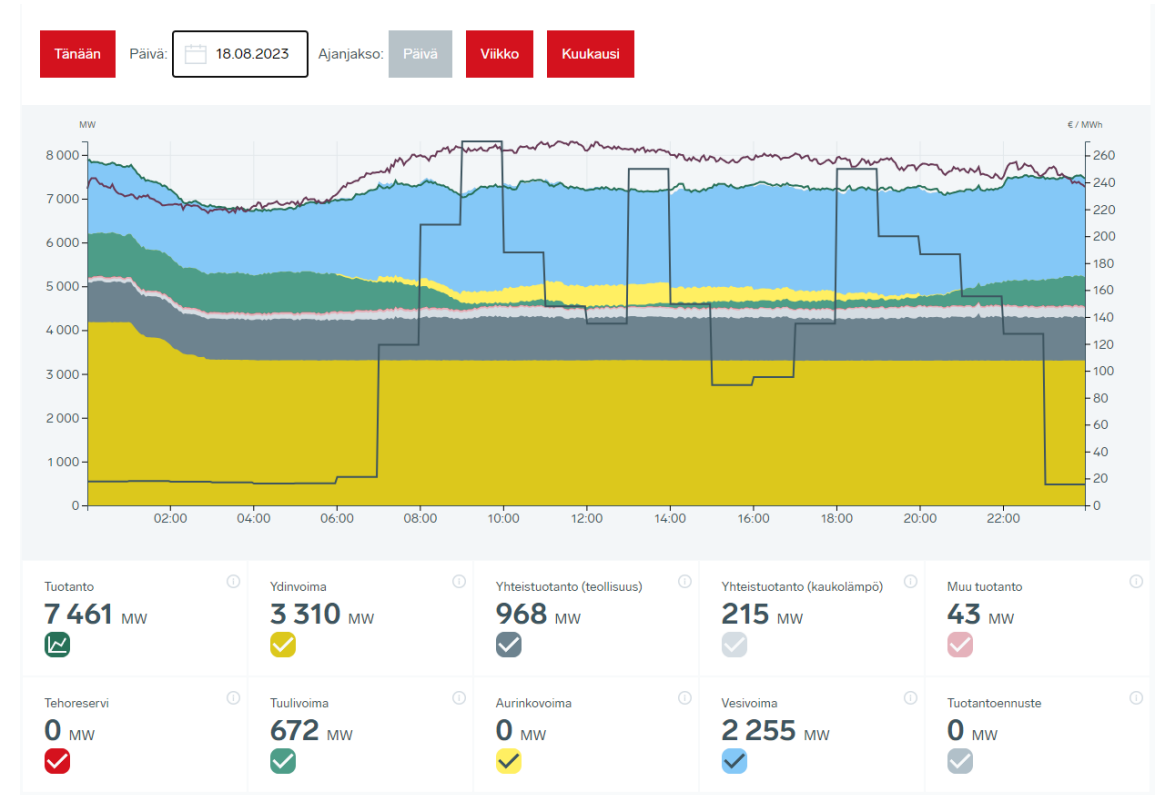


Not all production is the same!

Yesterday

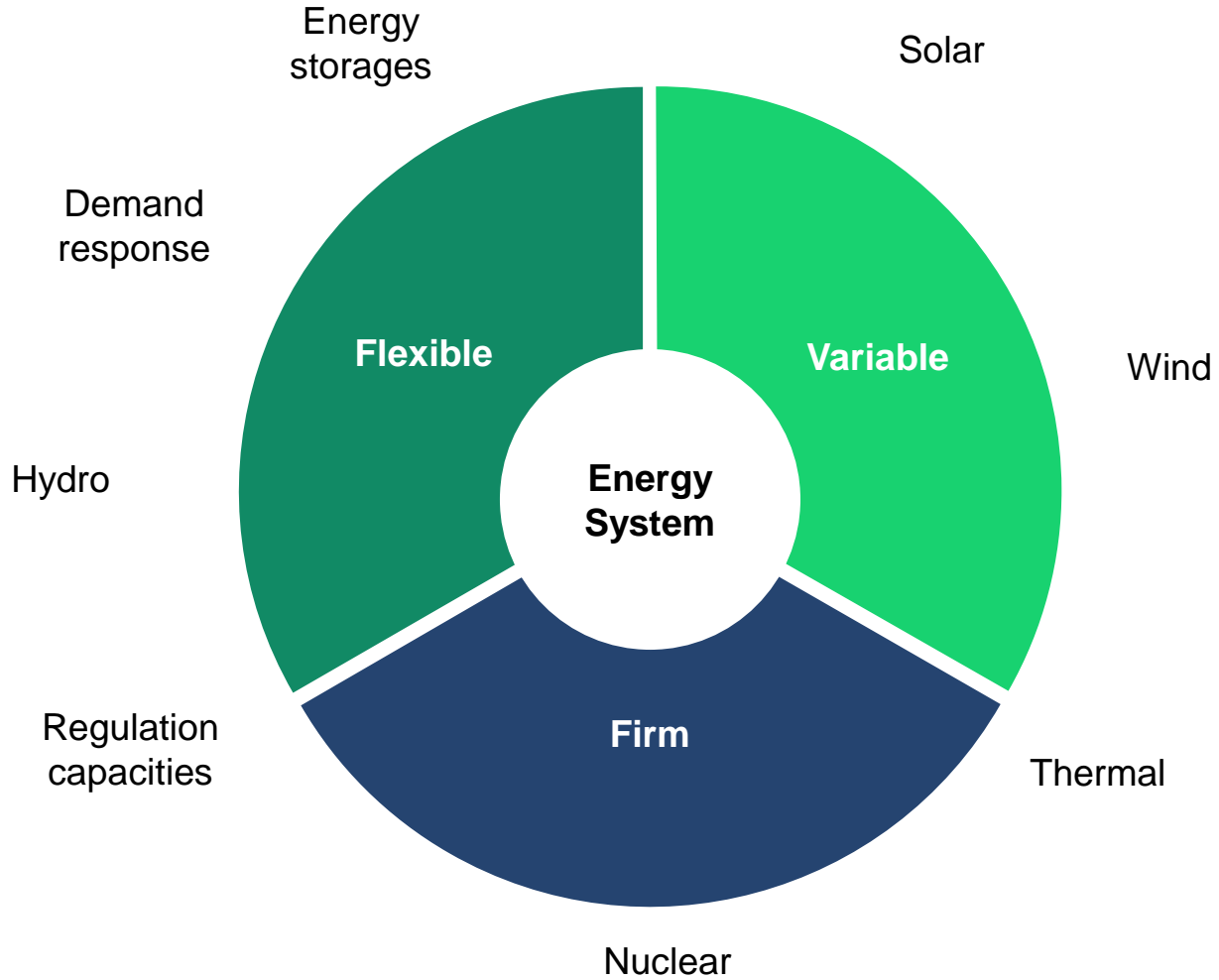


18.8.2023



Source: Fingrid

How to optimize this?



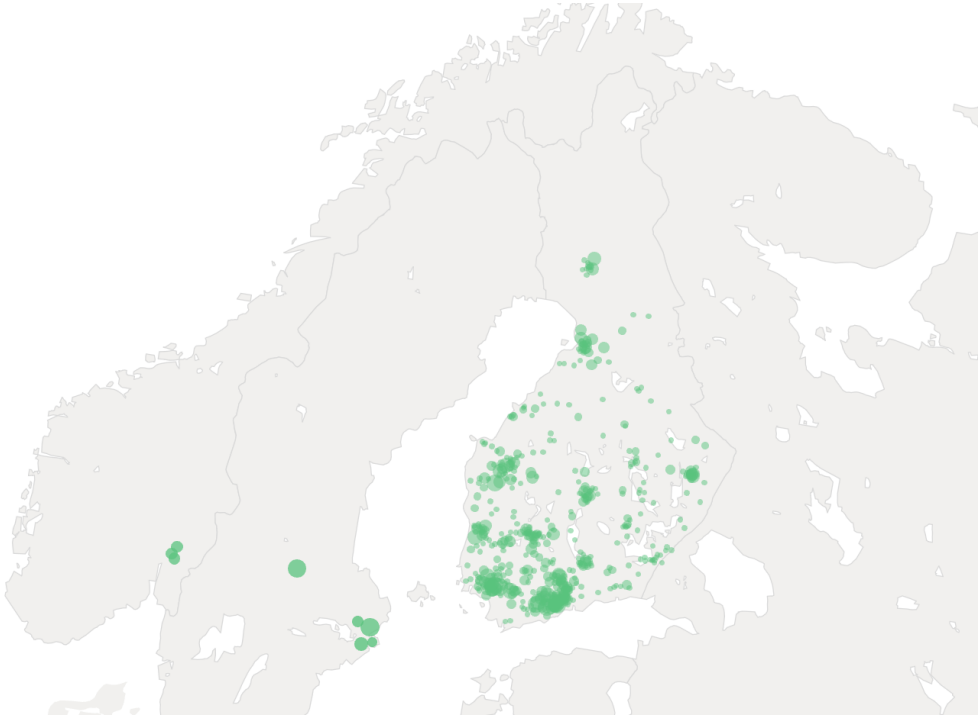
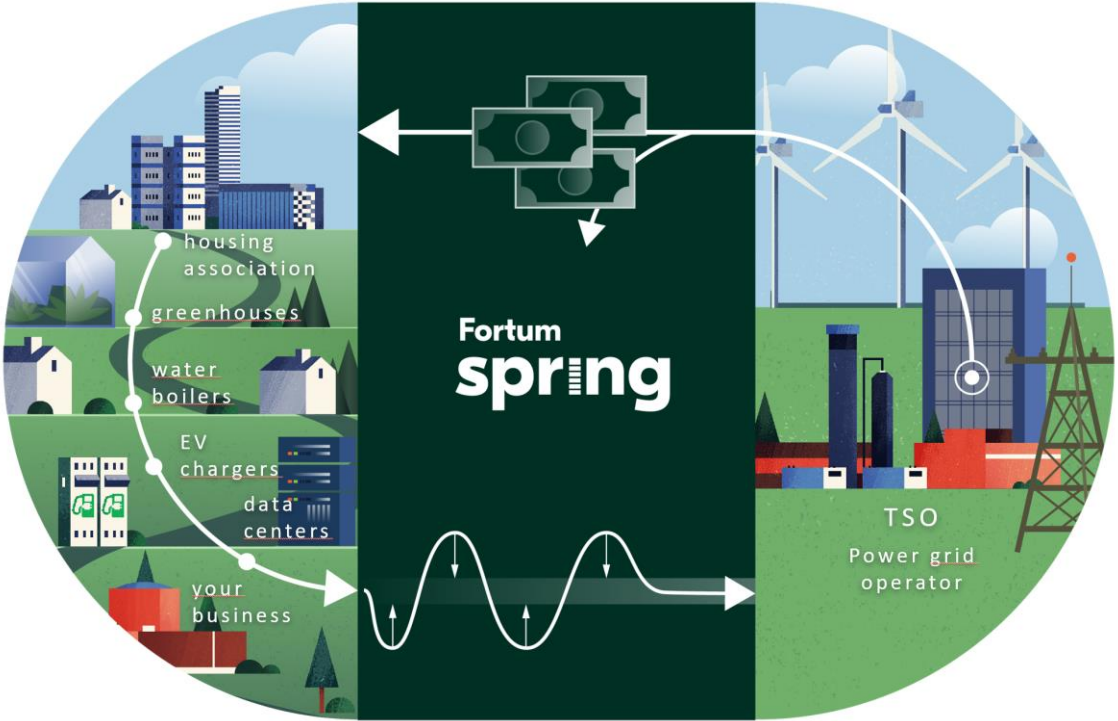
But it's not that easy.. The momentary power and consumption must be also in balance



The growing amount of renewable energy production increases fluctuations in the grid frequency

System operators need more balancing capacity to ensure the grid stability

Luckily, novel solutions have been already implemented



Can we do something else?

- Batteries?
- Pumped hydro?
- More Demand Response Capacity?
- H2?
- Power-to-heat storages?



Fingrid's future scenarios

Thank you!