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Preventing gaming on a local flexibility market

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CONTENT

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ENERA DEMONSTRATES A LOCAL FLEXIBILITY PLATFORM

Grid Operators can contract flexibility on local orderbooks

The enera market platform brings together grid operators and aggregators

Placing bids in local orderbooks adds information about grid location

Grid operators can use all available orderbooks on any grid level to resolve congestions

TENNET

AVACON

EWE Netz

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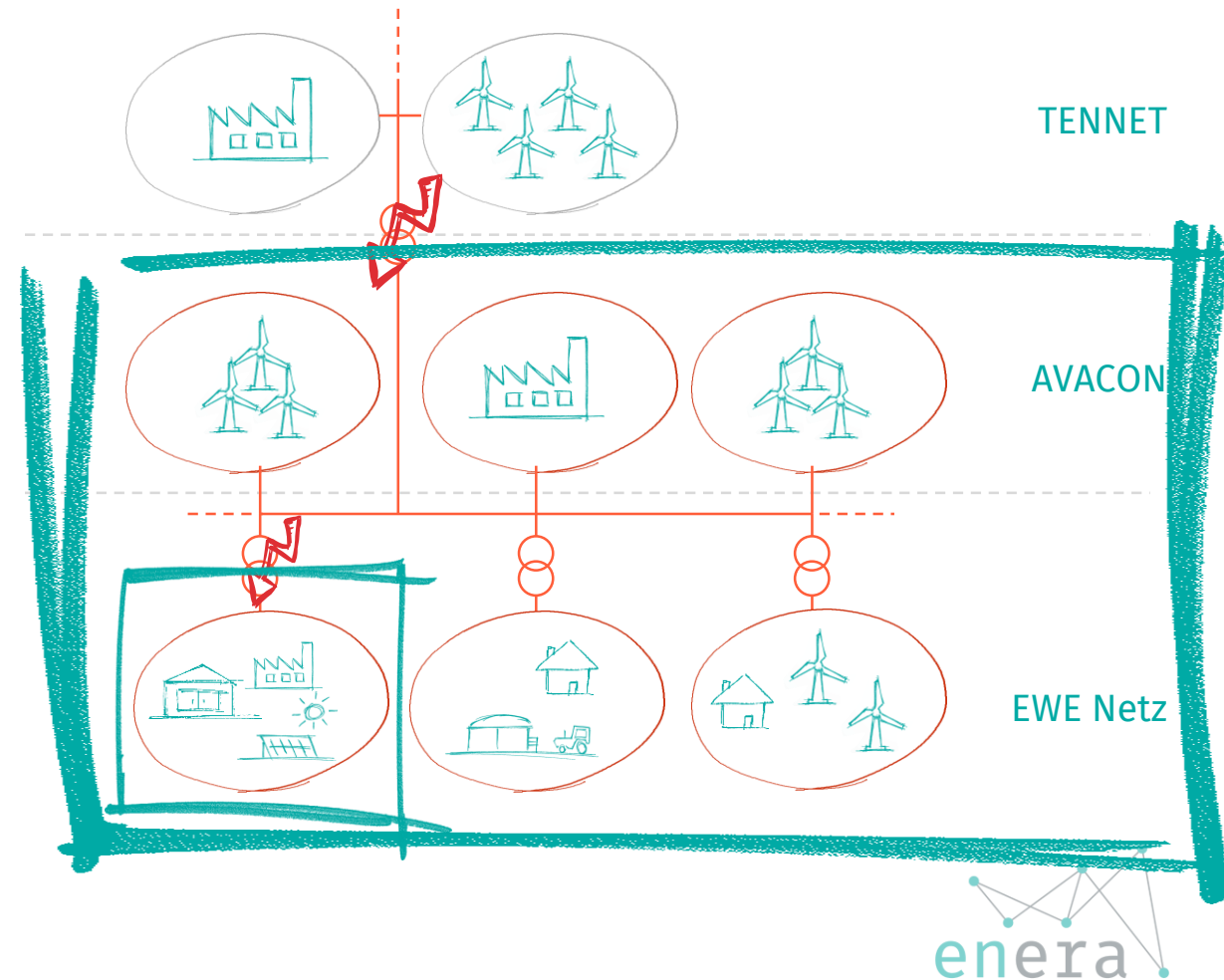
HOW DO WE ENSURE THAT FLEXIBILITY IS DELIVERED AS CONTRACTED?

Intro to our verification platform

- Participants continually submit their expected schedule per market region **(baseline)**
  - can be updated anytime
  - "snapshot" is created when market is active
- **realized schedule** is recorded

- Flexibility = realized schedule – baseline

INTRO TO GAMING: WHAT POSSIBILITIES ARE THERE?

MARKET PARTICIPANTS OPTIMIZE SPOT- AND REDISPATCHING MARKET TOGETHER

- "INC-DEC (Increase-Decrease) Gaming"
- leads to distorted spot market signals
- worsens congestions
- leads to higher costs for congestion management
- see e.g. Hirth/Schlecht 2018: Market-based redispatch in zonal electricity markets

... HOW WOULD THAT WORK IN THE ENERA MARKET?

- participants would have to submit "modified" schedules
- based on the modified schedule they would show flexibility even though they would have done the same without the flexibility market

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WHAT SHOULD THE RULES SAY?

We want flexibilities to be honest: act as if there was no flexibility market ... until there is

- Unfortunately not as easy to put into specific market rules
- Problem with rules: Every unwanted behavior has to be anticipated
- One important part: Submitted baseline must reflect actual expectations

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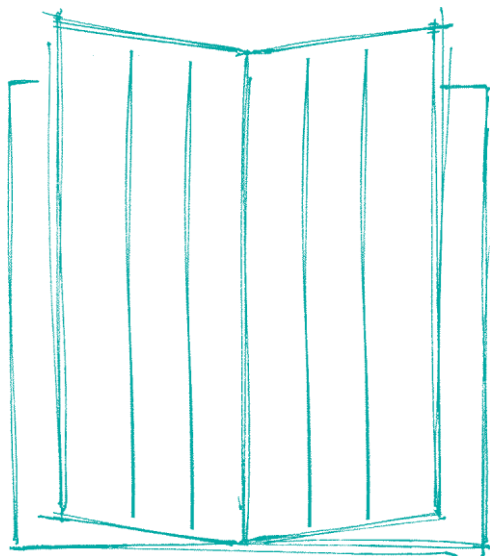
HOW CAN WE ENFORCE THE RULES?

Market Monitoring!

Baseline must reflect actual expectations:

- Baselines in times of congestion should not systematically deviate from times without congestions
- There should be no systematic deviations of the realizations from the baseline in times of no congestions
  - continually submitting a "flex-friendly" schedule would be detected almost immediately
- The comparison should control for any factor potentially influencing consumption / production
  - prices, temperature, time of day, day of the week …
  - power of statistical tests limit detection of fraudulent behavior

Concept is in development

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CONCLUSION: INC-DEC GAMING CAN BE HANDLED!

enera will demonstrate how a local flexibility platform can be used to resolve congestions

continuous submissions of expected and realized schedules enable detection of potentially unwanted behavior

carefully set rules and market monitoring minimize repercussions on the spot markets

Thanks for your attention!

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