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## *How could individual MS or groups of MS pilot locational pricing?*

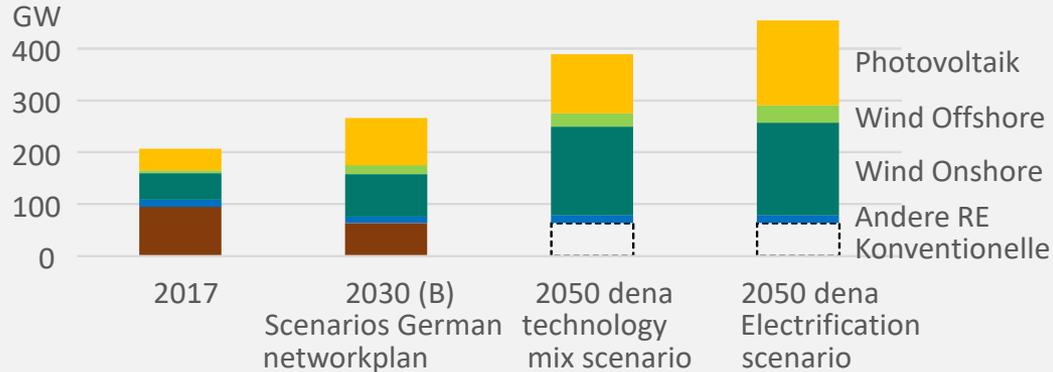
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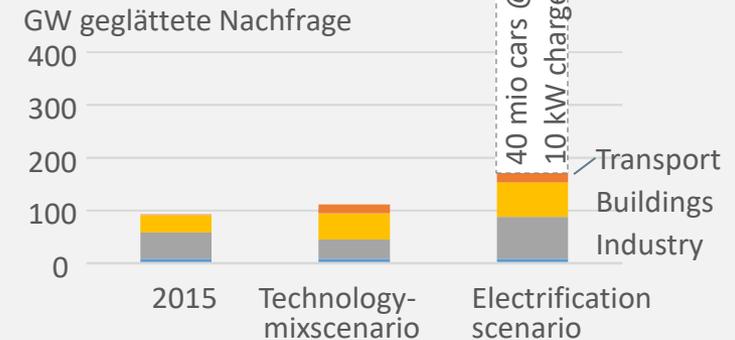
# Power systems with increasing shares of wind and solar need to use flexibility locally

## Generation



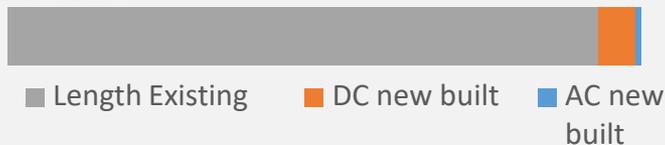
Wind and solar plants have already doubled the generation capacity connected to network, further doubling for decarbonisation until 2050.

## Load

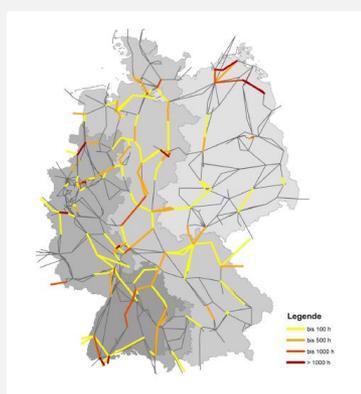


Electric cars and electrification multiple capacity of load, but also create flexibility.

## Network



Networks extension is necessary and increases with renewable deployment, but less than connected capacity.

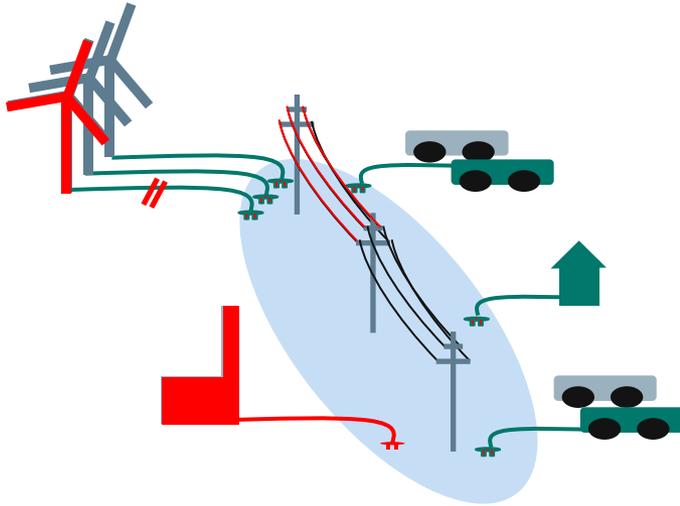


Effective load and storage management allow for wind/solar integration.

Flexibility needs to be used locally.

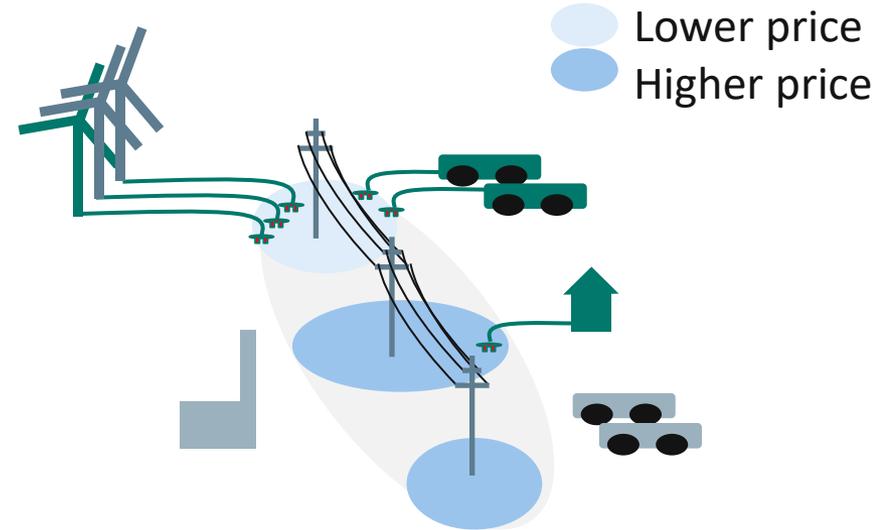
# EMR fails on effective use and remuneration of flexibility: The elephant in the room – local pricing

## Large pricing zone



- Zonal price balances demand, supply and imports/exports for zone.
- May result in transmission constraints.
- In such instances TSO mandates power stations to redispatch.
- Demand flexibility and storage cannot be used for congestion management.

## Local prices



- Local prices balance demand, supply and imports/exports.
- Effective user of flexibility reduces wind-spill and conventional power generation.

*Illustration*

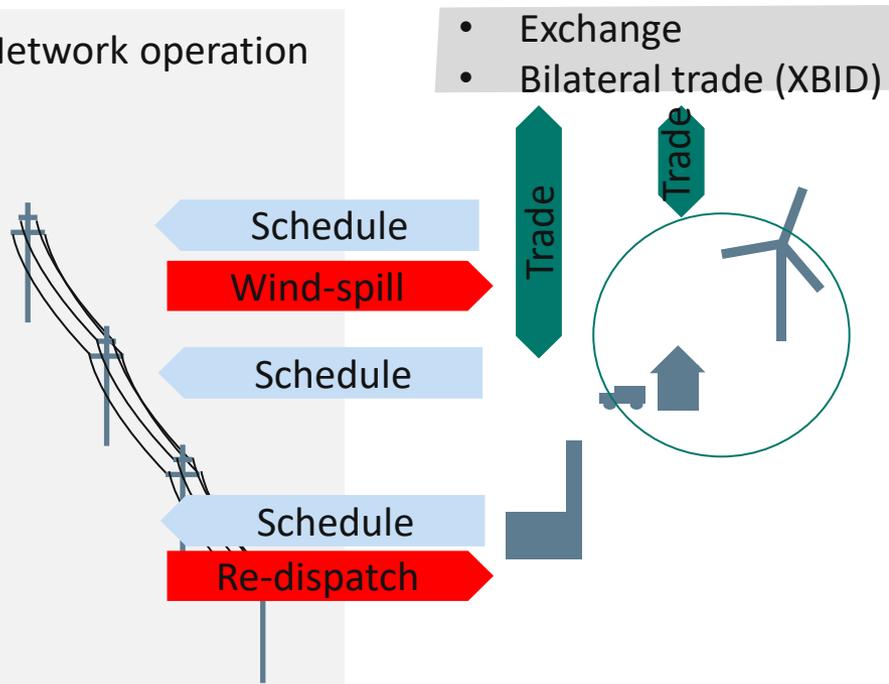
Framework enabling regional introduction of locational pricing urgently required.

## 3

# Power auctions with local prices create robust, liquid, simple, sustainable market

## Large pricing zone

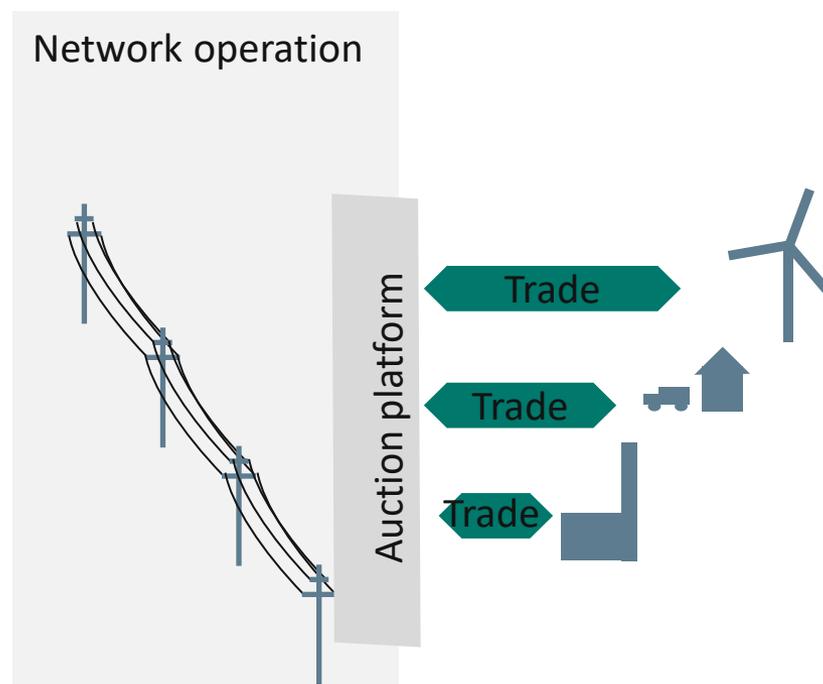
### Network operation



- Nomination of schedules at unit basis
- Re-dispatch at unit level
- Requires 24/7 trading floor

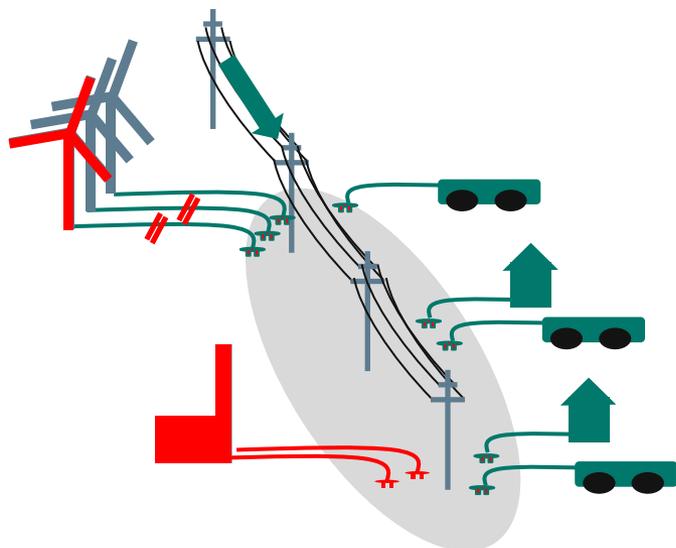
## Local prices

### Network operation



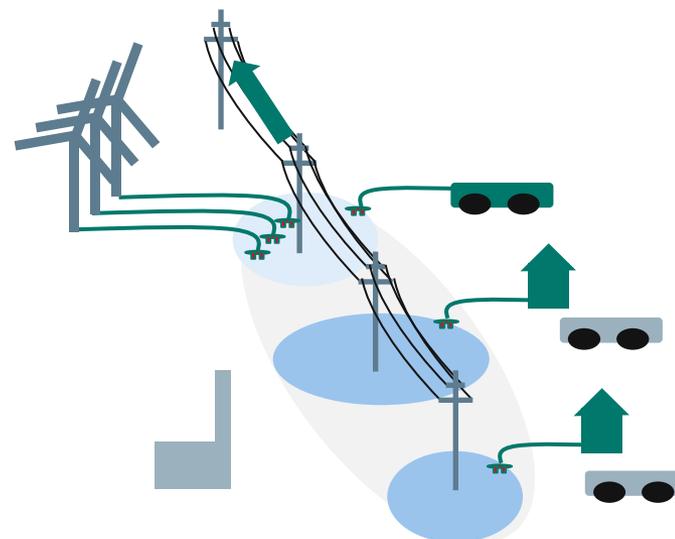
- Auction clearing internalises T
- Market coupling maximises liquidity
- Simple market access for all
- Clear interface to local platforms

## Large pricing zone



- A moderate zonal price results in imports from North.
- This can increase network congestion and may require additional re-dispatch.
- Large pricing zones create incentives for inefficient power exchange between zones and can thus increase re-dispatch and wind-spill.

## Local prices



- Price is lower at locations with surplus generation capacity.
- Lower local prices trigger additional exports to the North and thus reduce wind-spill.
- Local prices result in a more efficient operation of the European power system.

## Building on insights from the following EU Workshops of Future Power Markets Plattform

- 2018 - Zonal and Nodal Co-Existence
- 2018, 2017, 2014 - TSO-DSO-PX Cooperation II
- 2016, 2015 Auctions for Intraday, Bidding Structures for Flexibility
- 2015 Flexible Short-Term Power Trading: Experience in EU Countries
- 2017, 2016 Coordinated Balancing
- 2015 Balancing Responsibility: What model works for Europe?
- 2013, 2013 Beyond Gate Closure
- 2022, 2019, 2013, 2013 Hedging and Futures Markets
- 2014, 2014 Capacity Mechanisms / Strategic reserve
- 2014: Market Design for a Flexible Operation
- 2016: BluePrint for European Power Market Design

Vielen Dank für Ihre Aufmerksamkeit!

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