



Reallabor für verNETZte E-Mobilität

# Comparison of European electricity market designs

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Gefördert durch:



Bundesministerium  
für Wirtschaft  
und Klimaschutz

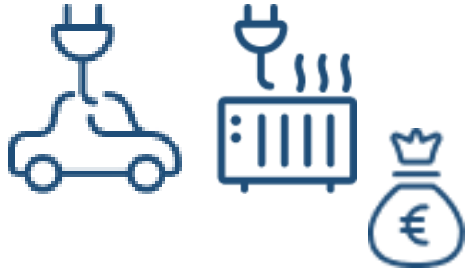
aufgrund eines Beschlusses  
des Deutschen Bundestages



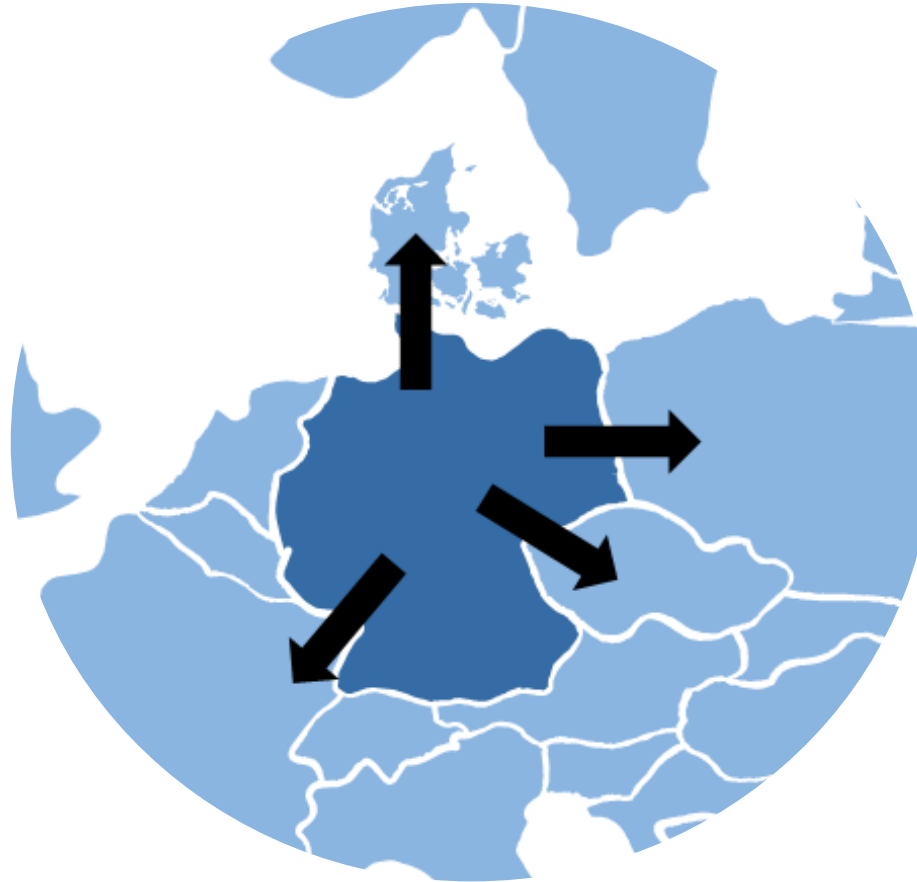


# Motivation

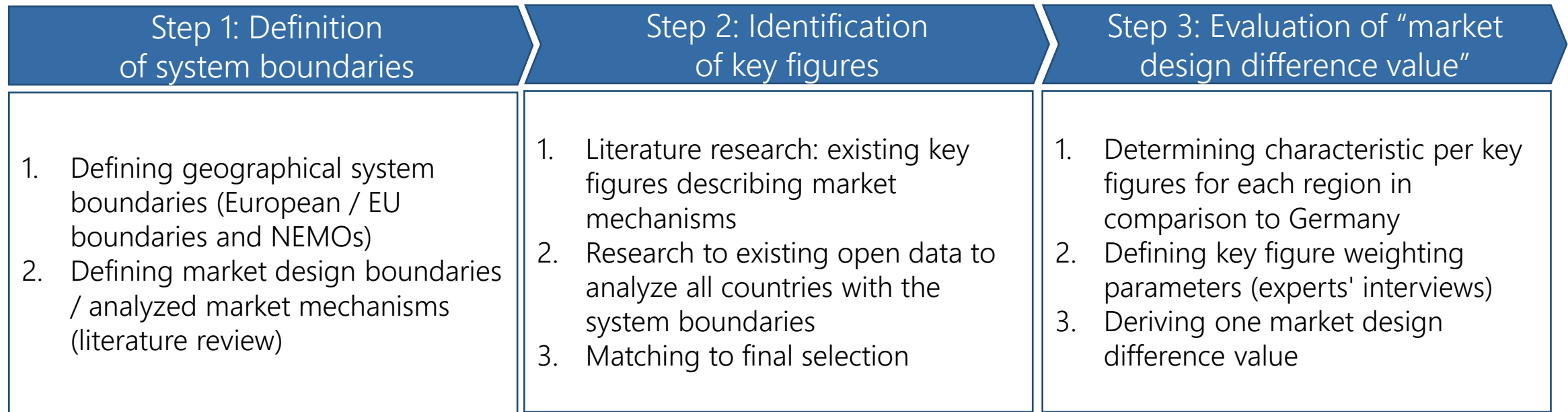
## Business models for flexible assets for Europe



### Electricity Market Design



Identification of major differences and similarities among the electricity market design of European countries for a potential transfer of marketing strategies for flexible assets



Step 1: Definition  
of system boundaries

Step 2: Identification  
of key figures

Step 3: Evaluation of "market  
design difference value"

## Market Mechanisms

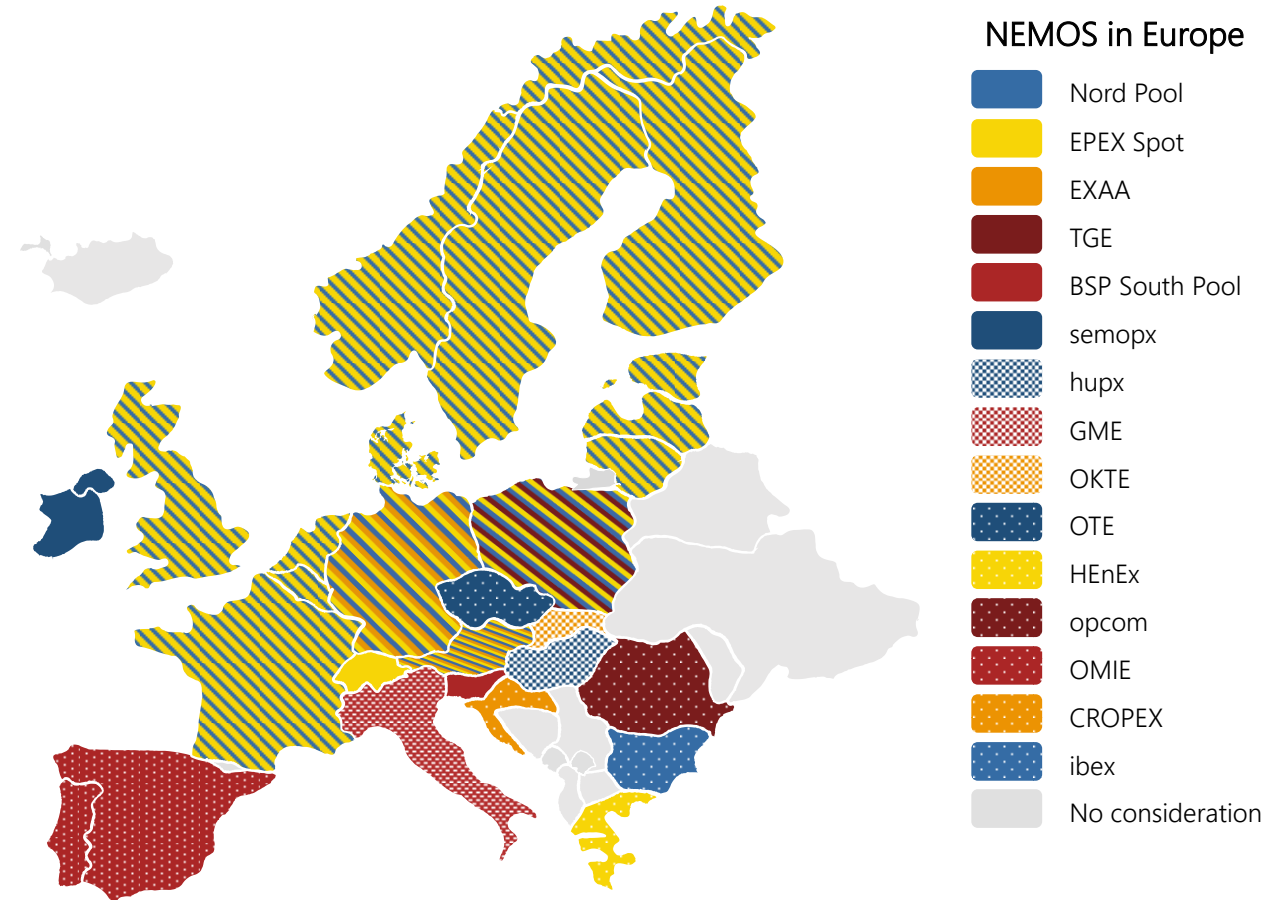
Spot market: Day Ahead +  
Intraday

Forward markets: Futures +  
Options

Balancing Services: FCR,  
aFRR, mFRR, RR

Capacity mechanism

Bidding Zones

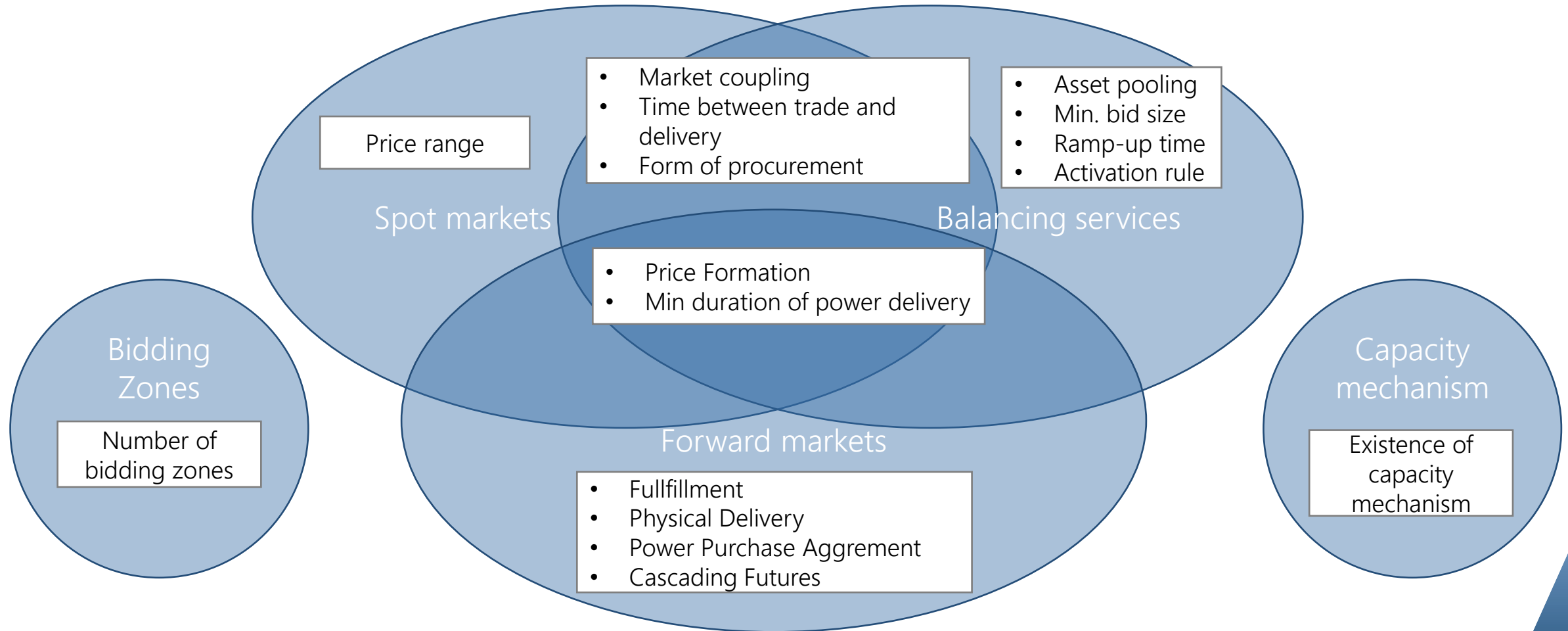


System boundaries results in 26 regions (mostly countries) and 5 market mechanisms

Step 1: Definition  
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19 key figures for 5 market mechanisms

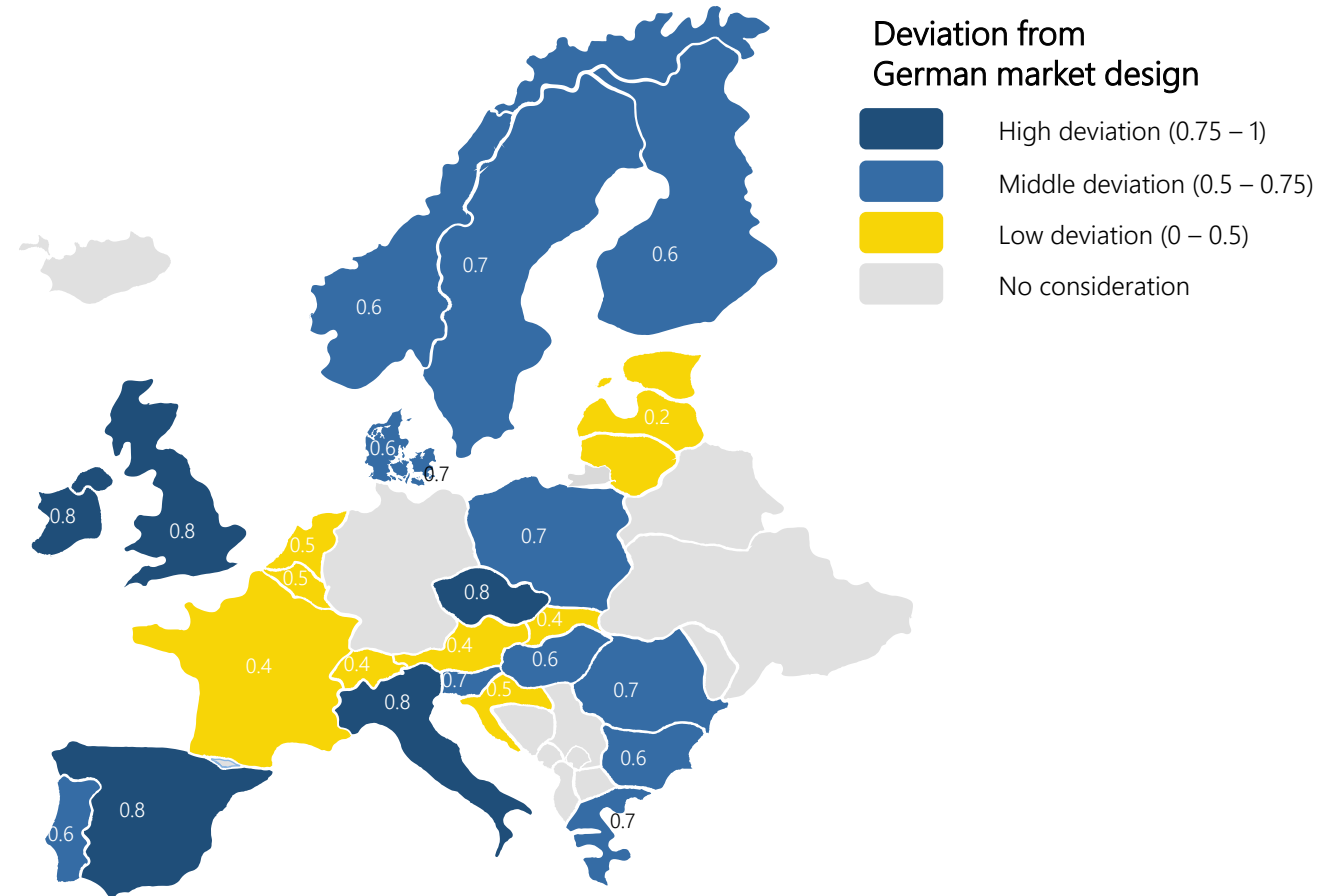
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## Reasons for high deviations

1. Low harmonization of balancing services (no market coupling and other product design): more types of FCR (Ireland, Great Britain) or mFRR (Czech Republic) or an existing Replacement Reserve (Great Britain, Italy)
2. More than one bidding zone (Italy)
3. A generally limited market design (Czech Republic)



# Conclusion and future work

- Despite harmonization attempts on the part of the EU, still a broad range of variants for the market design can be identified
- The differences vary between the different market mechanisms with the highest harmonization in the spot markets
- Strongest deviations show Italy, Ireland, Spain, the United Kingdom, and the Czech Republic with either a higher or a lower variety of trading products than Germany
- The highest impact on the evaluation has the market mechanism balancing services due to a high number of considered sub-markets and characteristics. Moreover, also the form of the capacity mechanism and the number of bidding zones chosen by the countries are decisive for the contrasts in the market design.

## Future work

- Consideration of the OTC-trading
- Analysis of the impact of the deviation at business models for small-scale flexible assets

Thank you for your interest

