

# Mid-Term Adequacy Forecast MAF 2018

European Network of Transmission System Operators  
for Electricity (ENTSO-E)

Alban Joyeau, Adequacy Team Leader

---

# Different risks addressed with different timeframes



**Long term**

>10 years



**Mid term**

Several years



**Short term**

Several months



1 week

**Policy decisions**

**Investment decisions**

**Operational decisions**

**REAL  
TIME**

**UNCERTAINTY INCREASES**



# MAF 2018 scope and limitations

## Addressed by MAF

☒ Identification & quantification of **resource scarcity risk** in day-ahead market in 2020 and 2025

☒ **Accelerated low-carbon** sensitivity analysis for 2025

☒ Single or multiple areas with **scarcity and contribution of interconnections**

## Not addressed by MAF

☐ **Economic viability** of power plant units and risk of decommissioning

☐ Suitability of **regulatory framework & market design** (e.g. rightness of Capacity Mechanism)

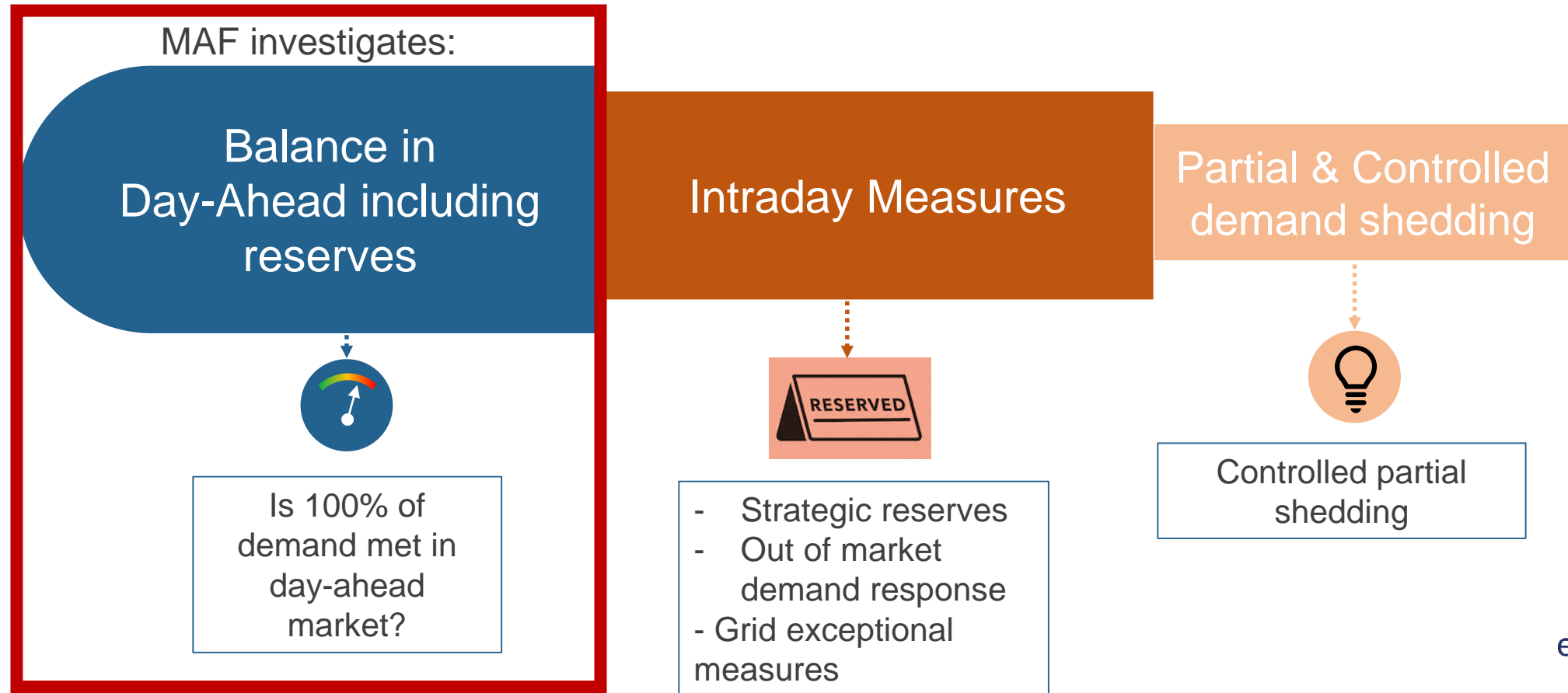
☐ **Internal congestion** within a Bidding Zone (considered as copper plate)

**"MAKE EVERYTHING AS SIMPLE  
AS POSSIBLE, BUT NOT SIMPLER."**

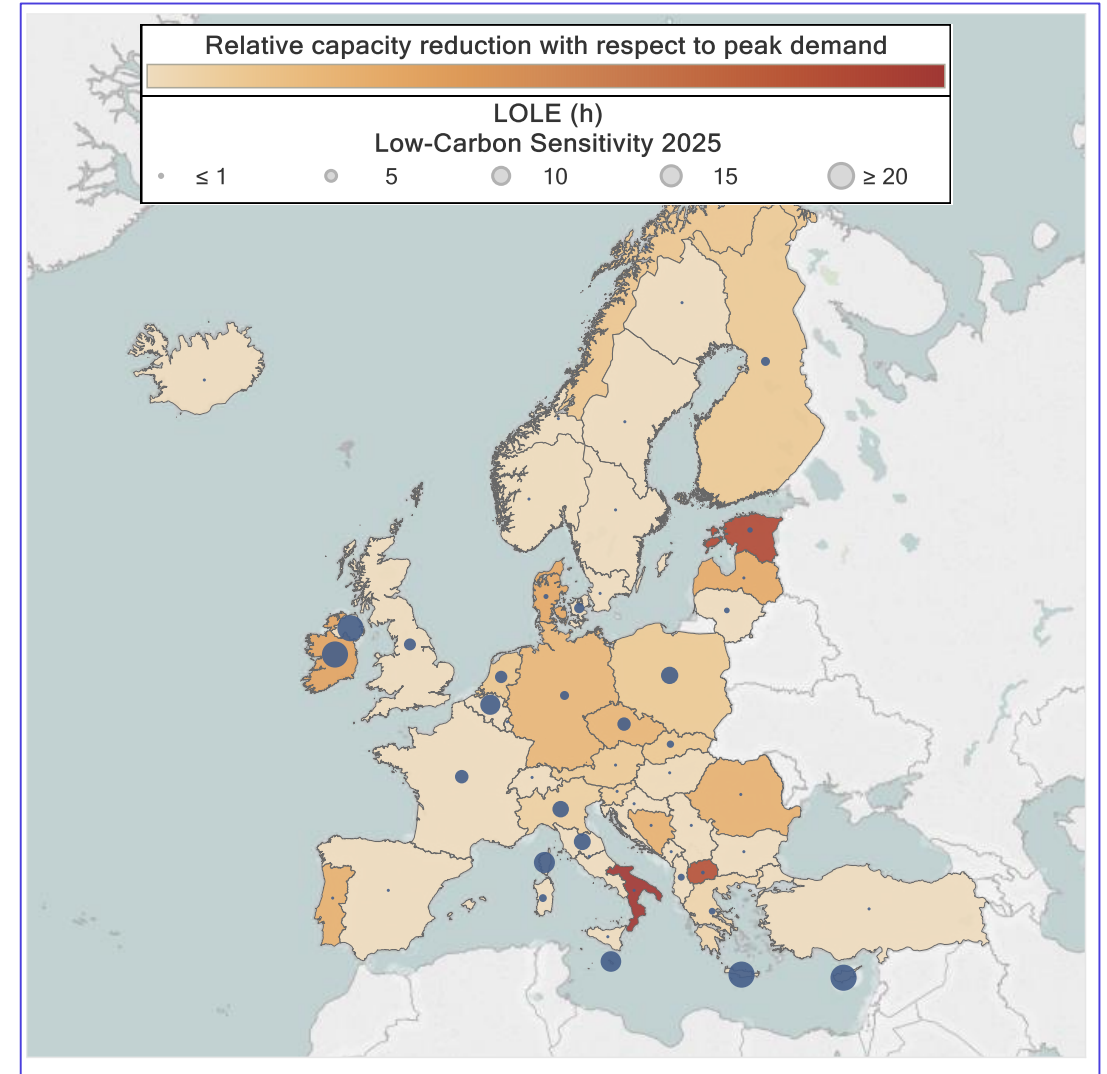
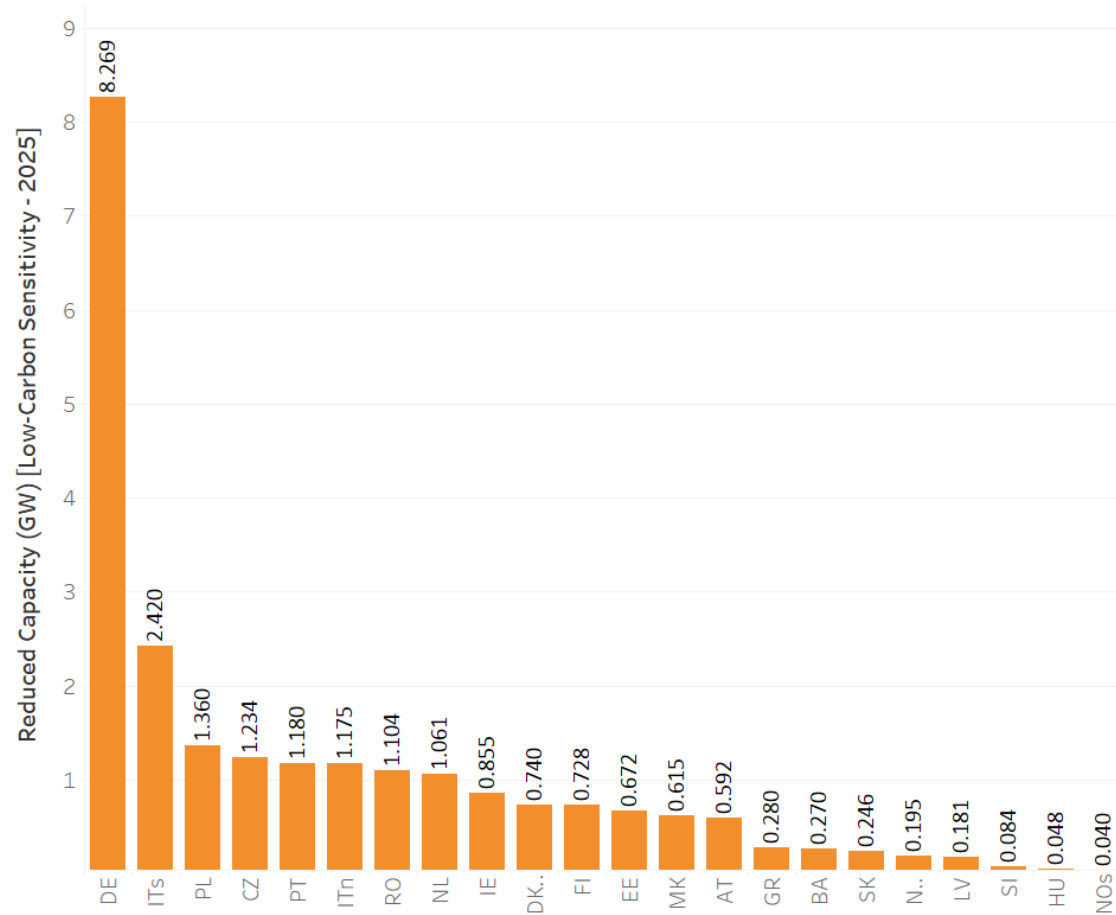
*Albert Einstein*

# Loss of Load Expectation is not a blackout

LOLE (h) indicates inadequacy risks looking at the day-ahead market (intraday and out-of-market resources and measures not considered).



# Low-Carbon stress test for 2025: 23 GW phased out



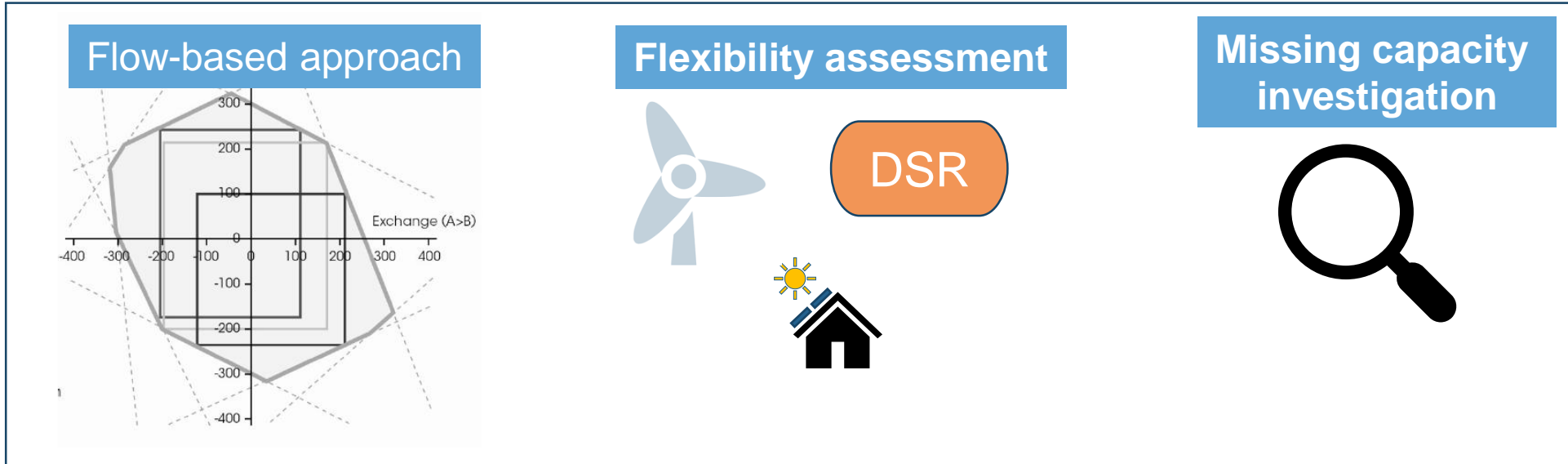
Need to adjust the resource mix in case an “accelerated carbon phase–out” takes place

*Thank you for your attention*

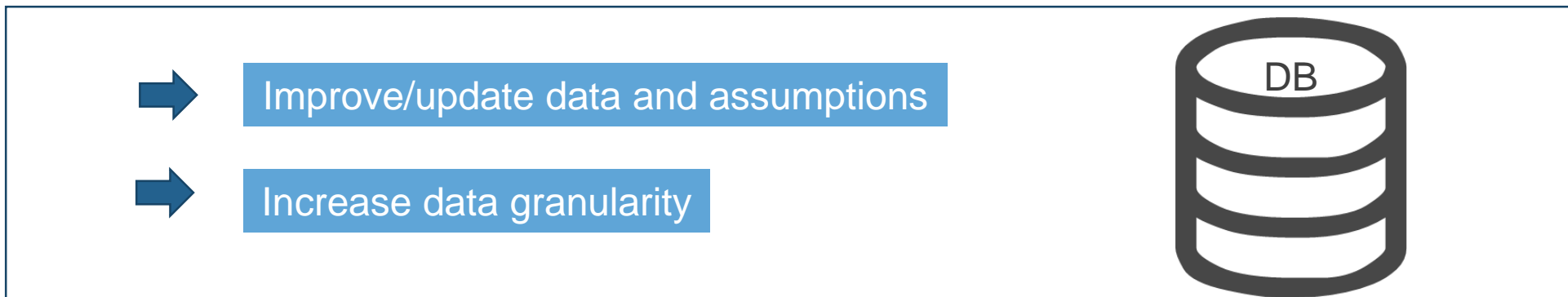


# Future Perspectives & Improvements

## Methodology



## Data and Models

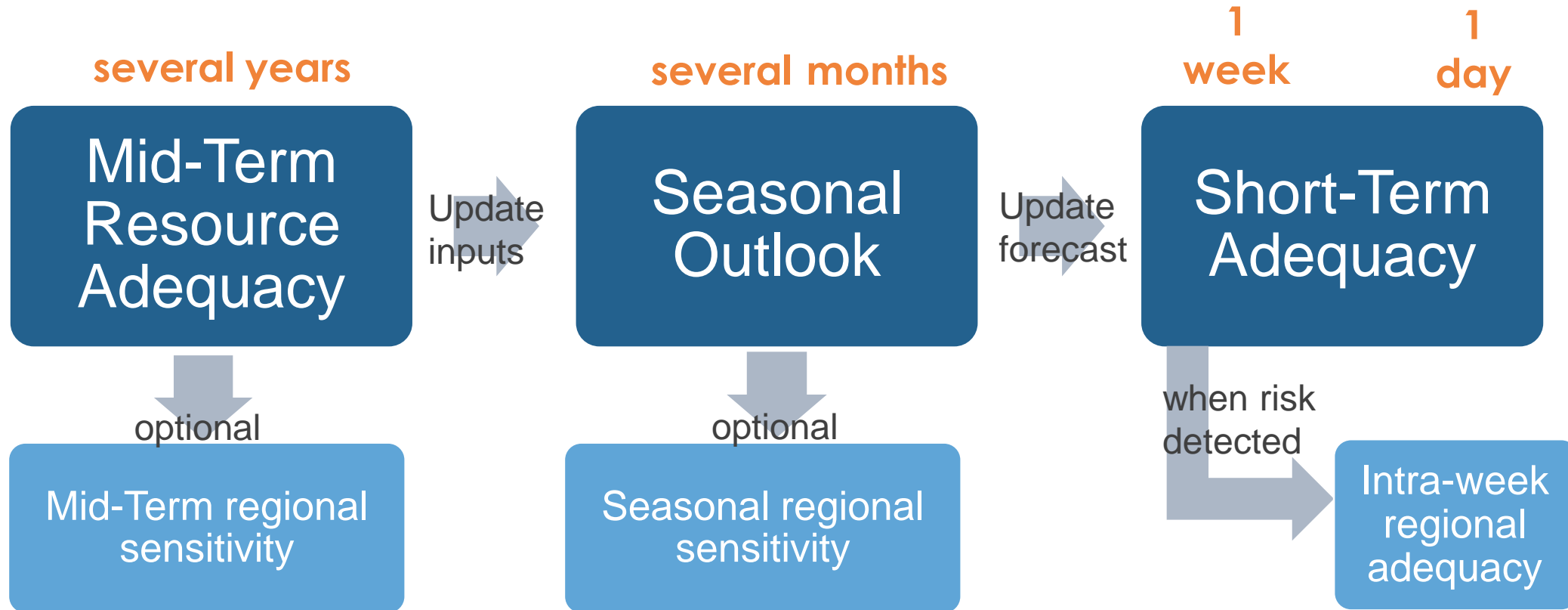


# Resource Adequacy: Temporal and Spatial Granularity

Pan  
European

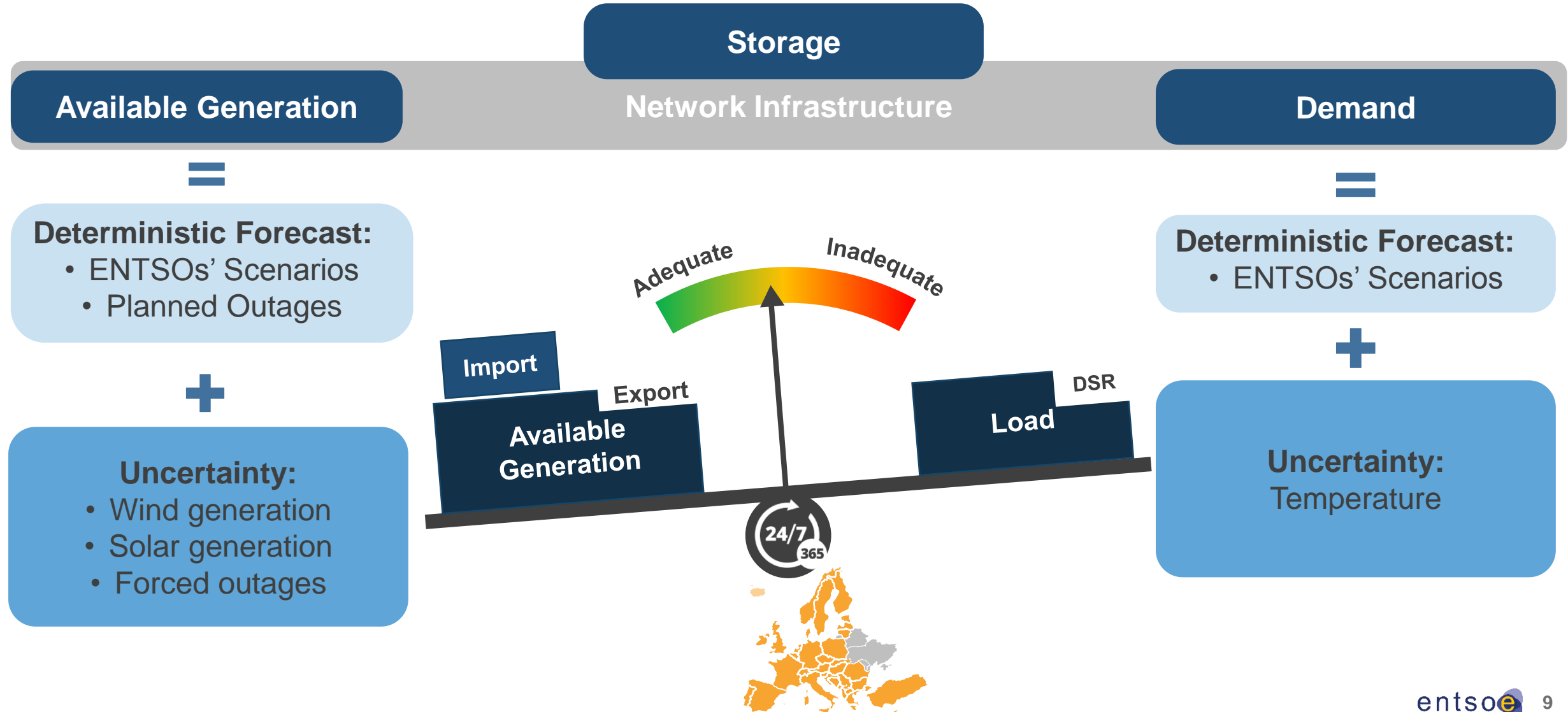


Regional\*

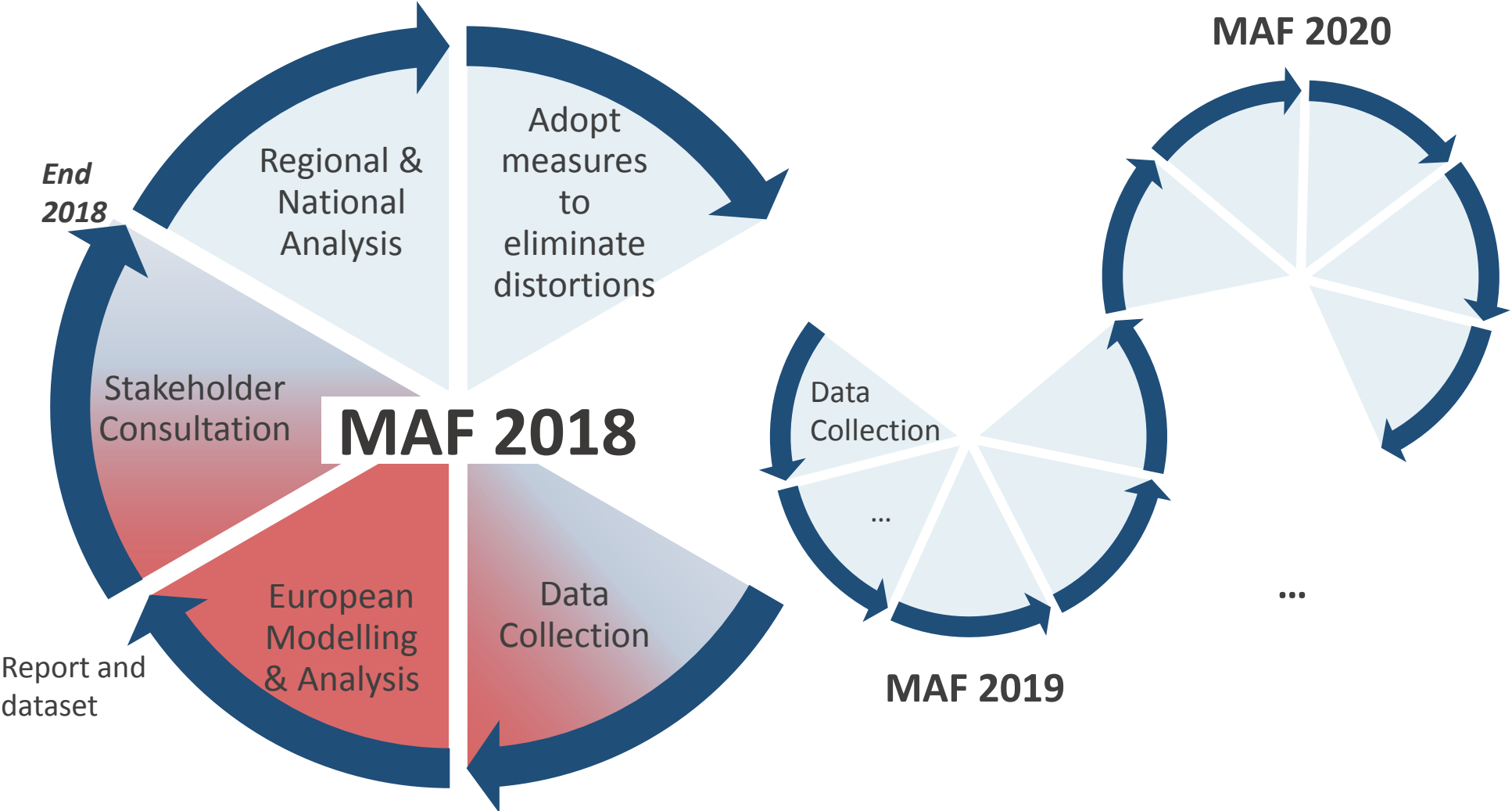


- \*Regional/national studies focus on detailed modelling of a region while:
- keeping large European geographical perimeter,
  - retaining a global Pan European probabilistic methodology

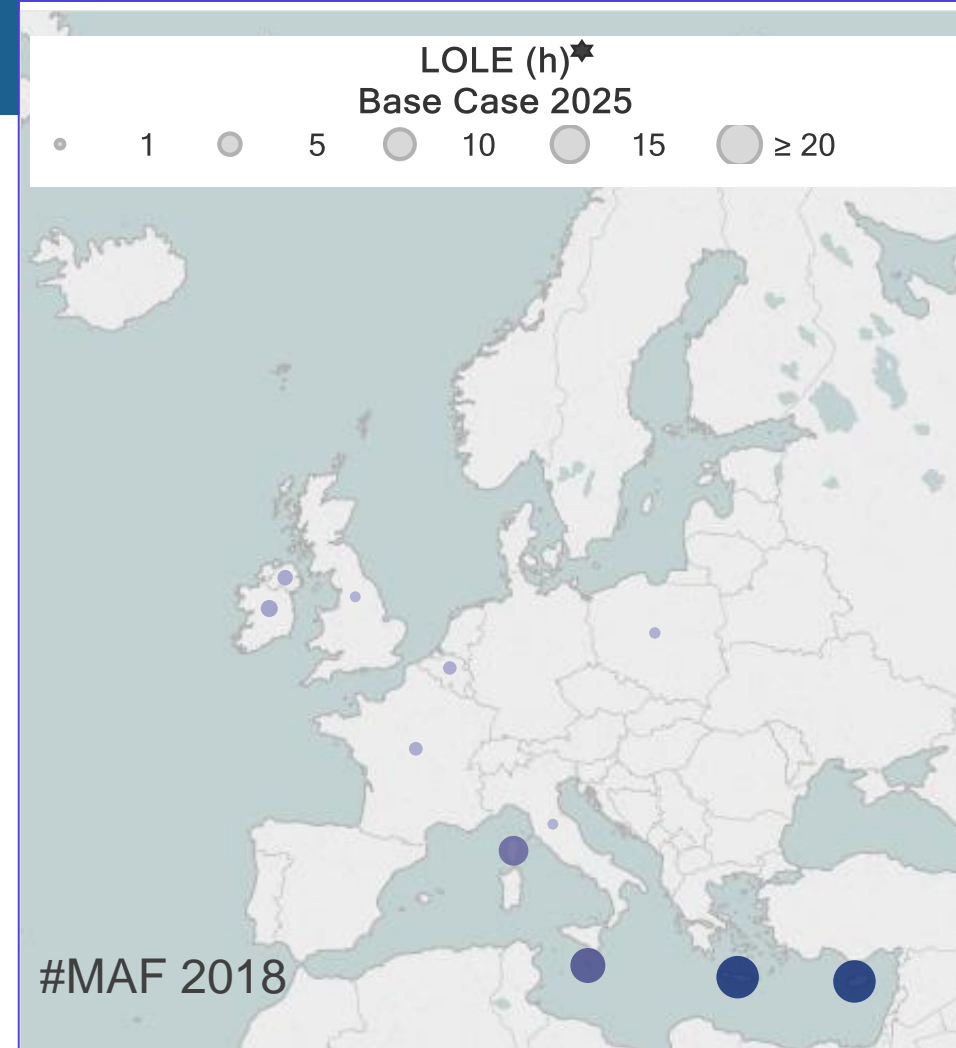
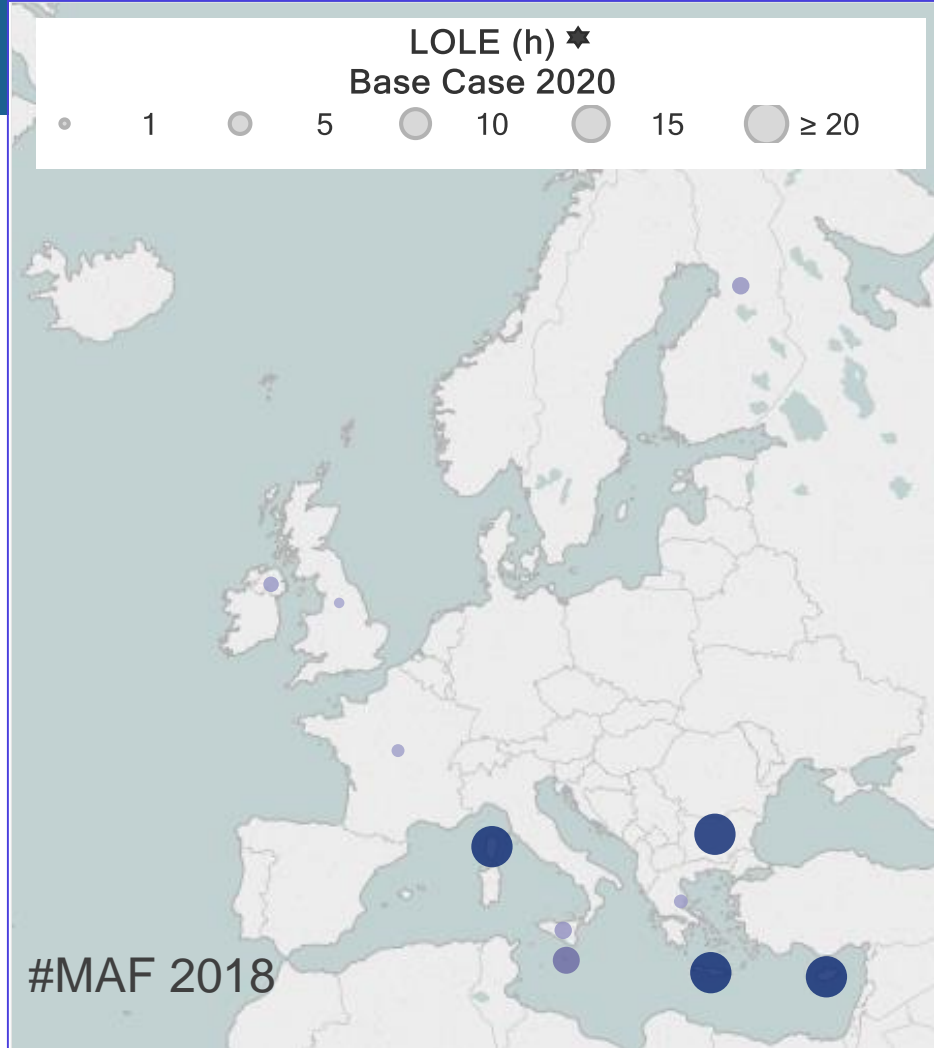
# Resource Adequacy: General Methodology



# Embedding the MAF to unfold its full potential



# No adequacy issues identified for Switzerland identified for 2020 and 2025 in the base case scenarios



By 2025 adequacy gets tighter, but LOLE remains **below national thresholds** in most zones

★ *Loss of Load Expectation (LOLE) is the expected number of hours per year with adequacy risk*