

Technical Working Group on Energy: Subgroup on generation adequacy

ENTSO-E System Adequacy Methodology

22th January 2015, Brussels

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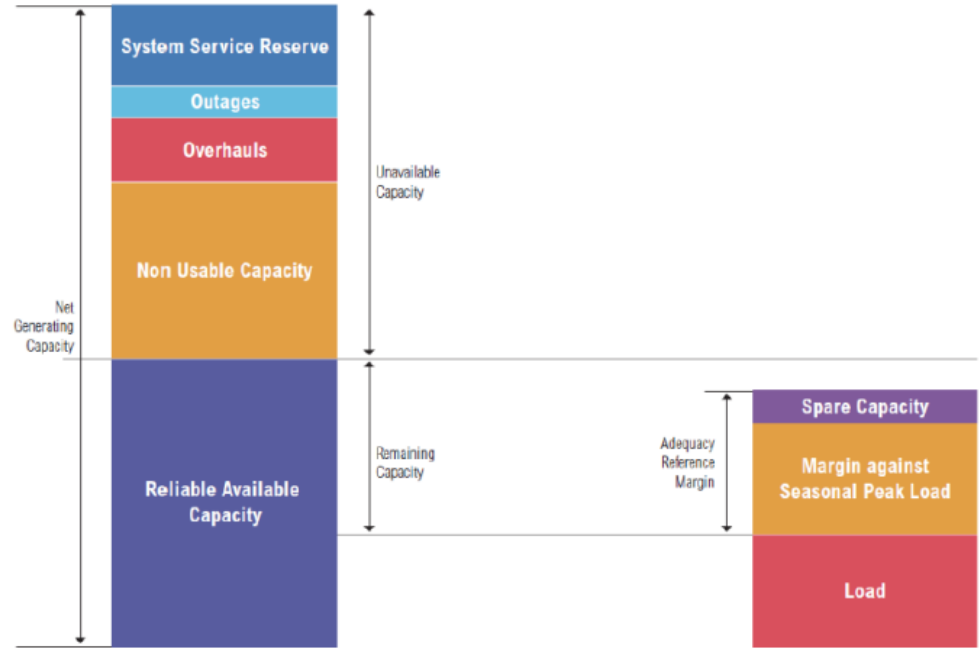


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Risks missing in the existing methodology

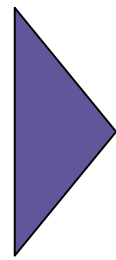


ADDRESSED RISKS



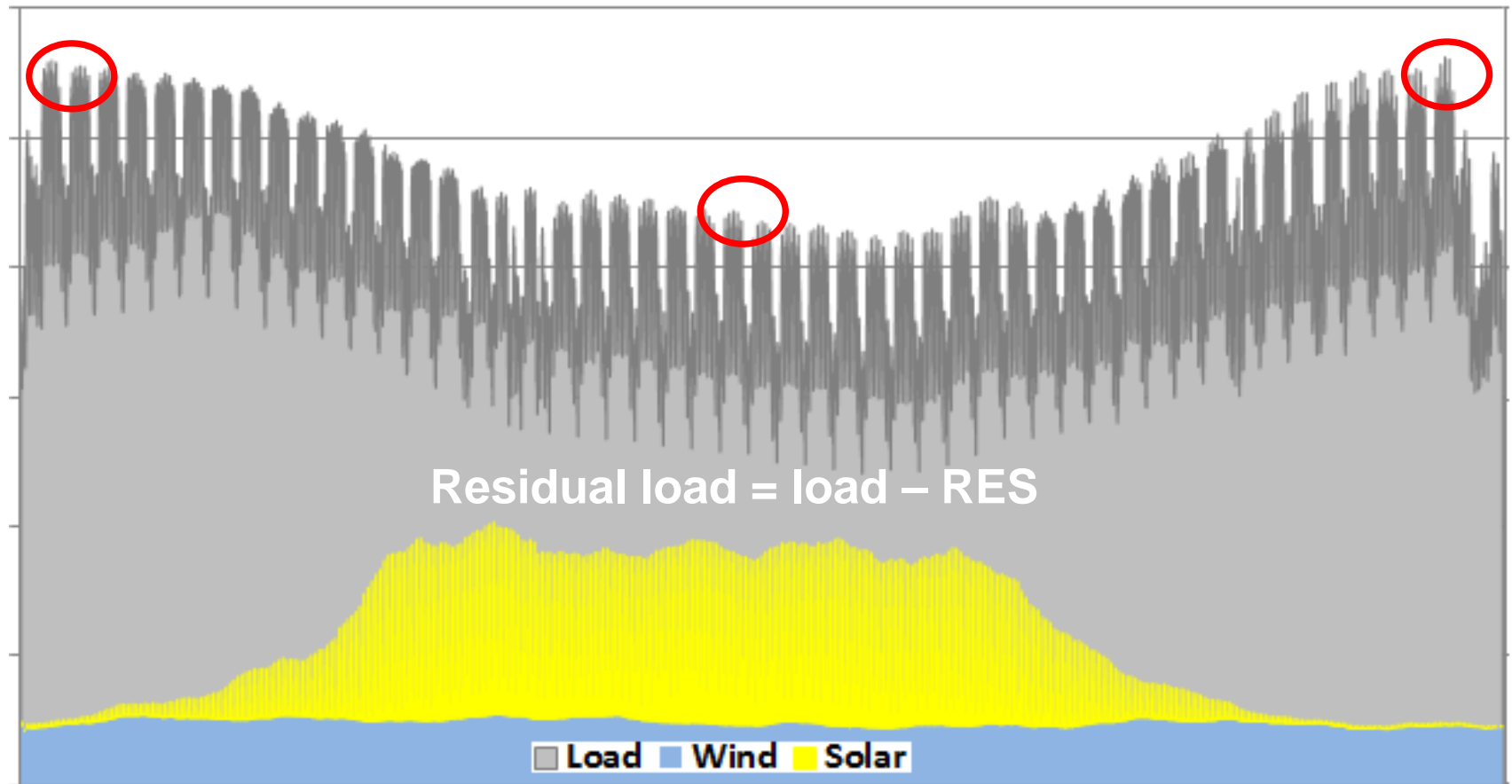
Changes in:

- Energy mix (eg. RES integration)
- Market structure (eg. IEM)
- Consumption behaviour (eg. DSM)

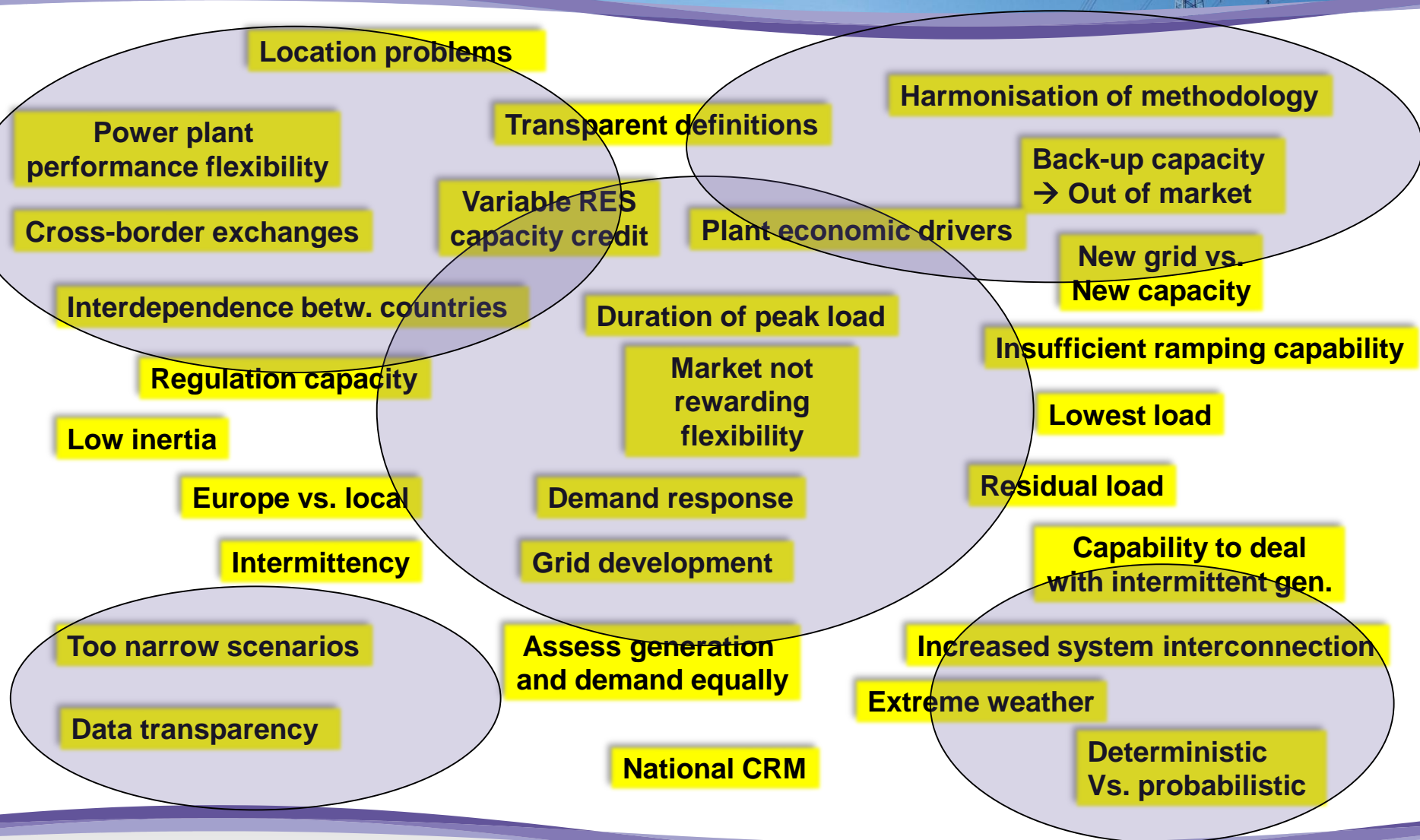


**For the future,
which additional risks will
need to be addressed?**

Residual load: The impact of variability & need for flexibility



Outcomes of the Consultation: Workshop and Web Survey



Electricity Coordination Group and future ENTSO-E adequacy methodology



Recommendations

- *ENTSO-E Adequacy reports should be strengthened to capture more Security of Supply risks to the pan-European power system – including the increased need for flexibility - as it moves towards increased levels of RES-E.*
- *The treatment of electricity interconnection capacities at times of system stress must be included in future revision of ENTSO-E system adequacy methodology.*

Target methodology for adequacy

- ENTSO-E adequacy studies will be integrated with appropriate **market-based stochastic models*** to assess adequacy
- Hourly resolution (instead of snapshot).
- Probabilistic method (w/ climate DB) to assess market prices and functioning, including during times of scarcity.
- More detailed view of cross-border contributions to a country's system adequacy
- Informs about the '**need for flexibility**'.
- Extensive range of indicators, e.g. LOLE/P, RES curtailments, capacity factor (as indicator for likelihood of units staying online).
- **ENTSO-E methodology** is fully in line with the methodology developed by **TSOs in PLEF**

Short and Long term adequacy methodologies

Short term



Long term

6 months

1 year

5 years

10 years

Operational
decisions

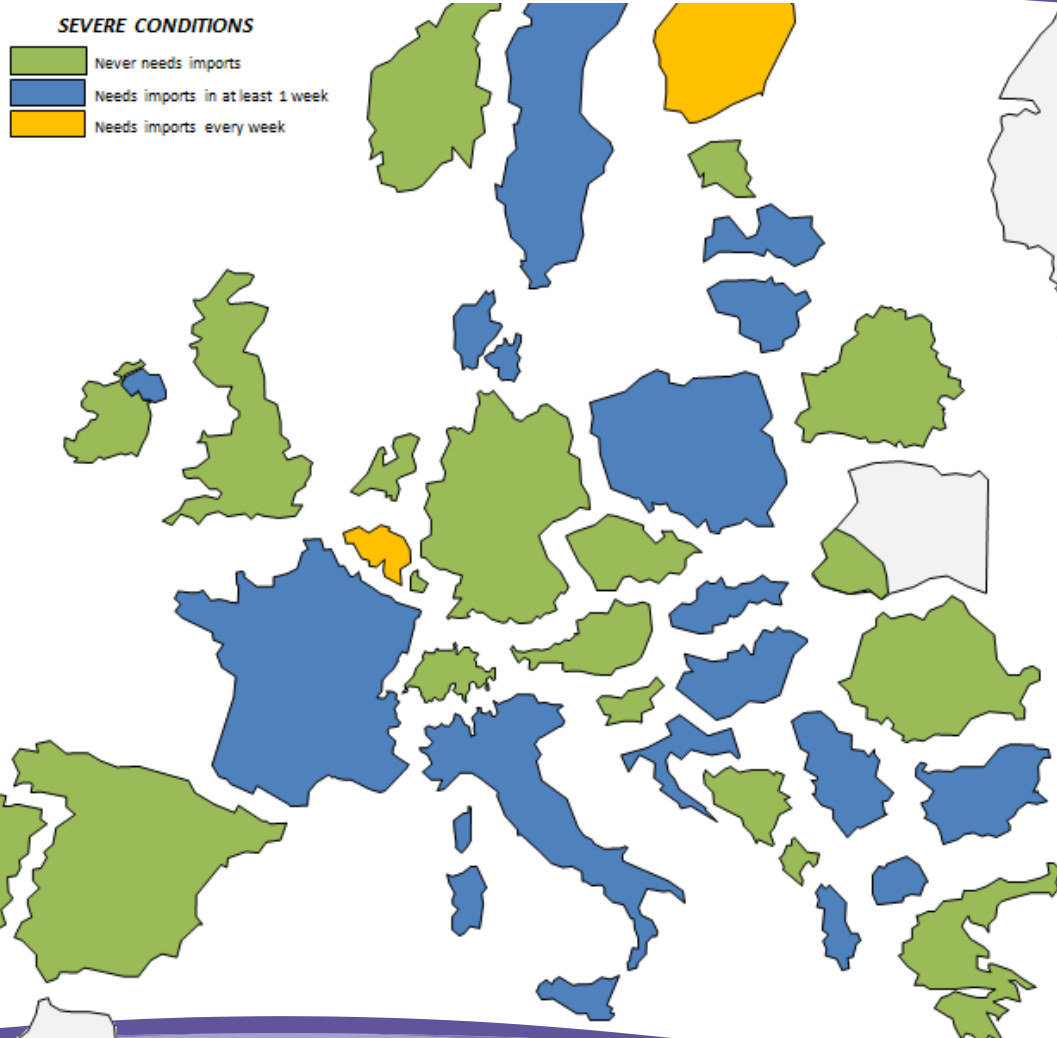
Investment
decisions

Policy/political
decisions



Different risks should be addressed in different time horizons

Winter Outlook Report 2014/2015: Example



Inclusion of regional analysis (taking into account cross-border exchanges)

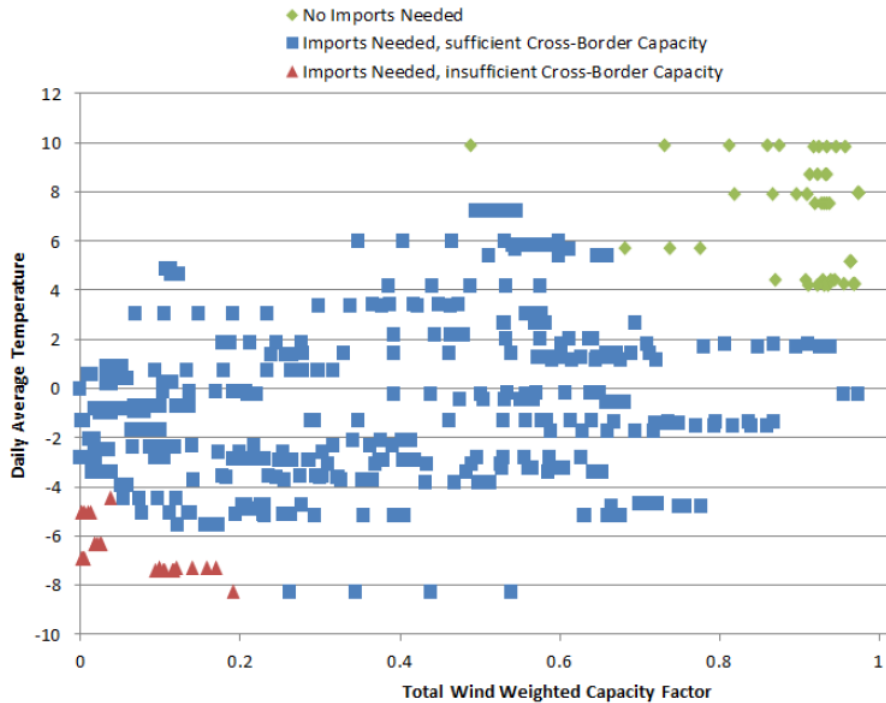
Using consistent scenarios for the renewables infeed (pan-European climate database)

New data templates were used to improve data collection and validation

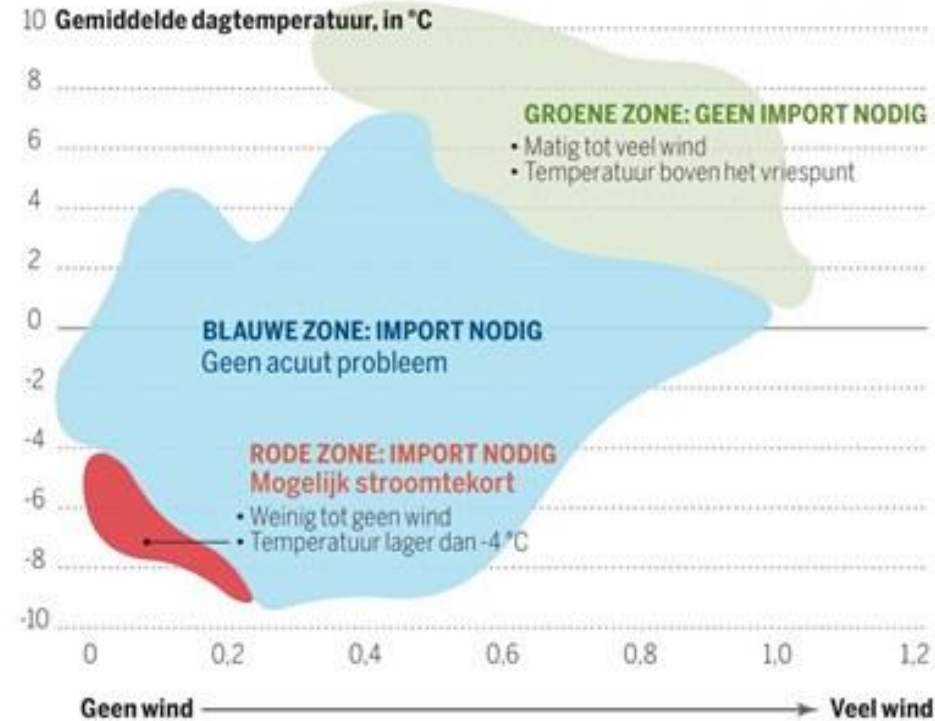
Winter Outlook Report 2014/2015: Load reduction & Strategic reserves



Belgium



Bij welke weersomstandigheden kan er deze winter een stroomtekort optreden?



DS-Infografie | Bron: Entsoe

Fig. 13 - Probabilistic assessment of strategic reserves sensitivity for Belgium for the situation investigated

THANK YOU



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