MID-TERM ADEQUACY FORECAST 2017
AND ADEQUACY CHALLENGES

ECG meeting, 13 June 2017
Mid-Term Adequacy Forecast – Scope & Purpose

Scope

| Market modelling based on probabilistic method | Hourly resolution |
| Cross-border contributions to a country system adequacy | Assessment about 'need for flexibility' |
| Demand, renewable generation variation | LOLE/ ENS/ RES curtailments, capacity factors |

Purpose

- **Pan-European adequacy assessment** of the next decade
- **Common basis** for discussions on market design and security of supply at regional and European level
- **Comprehensive support** for stakeholders to take qualified decisions related to system adequacy
# Main improvements compared to the MAF 2016

- Updated database with adjusted projections & expectations for system development
- Standardization of the data & modelling approach (in line with ENTSOs’ scenarios)
- Extension of climate sample data (34 years vs 14 years, including hydro interdependencies)
- Representation of Demand-Side Response
- Mothballing → Additional sensitivity scenario

**Updated and improved best estimate of future adequacy conditions**
Impact of climatic years: example of 1985

Extreme climate conditions have large impact on results

Common standards needed: data, models, metrics
Large variation in reliability standards and thresholds
**2020 Loss of load expectations (LOLE\(^1\)) – base case**

P95 – “1 in 20 years”

**Preliminary results subject to further investigation**

Isolated or semi-isolated countries more exposed to adequacy risk

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\(^1\) **Loss Of Load Expectation** (h/y) \(LOLE\) is the number of hours in a given period (year) in which the available generation plus import cannot cover the load in an area.
2025 Loss of load expectations (LOLE\textsuperscript{1}) – base case

Preliminary results subject to further investigation

Isolated or semi-isolated countries more exposed to adequacy risk

\textsuperscript{1} Loss Of Load Expectation (h/y) LOLE is the number of hours in a given period (year) in which the available generation plus import cannot cover the load in an area
Mothballing sensitivity → large uncertainty

15% capacity reduction vs. base case

Mothballing in 45% of the countries significantly impact adequacy in 82% of the countries

Significant impact on adequacy in a larger region

Crucial to get clear picture

Strong Pan-European interdependencies call for coordination
In conclusion - upcoming challenges

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<th>Continue standardization &amp; consolidation of:</th>
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<tr>
<td>• Data</td>
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<th>Stakeholders’ support needed for:</th>
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<td>• Mothballing assumptions by country and by year</td>
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<td>• Further standardization of reliability standards</td>
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Thanks for your attention

Please join our 4 July morning event at ENTSO-E with MAF results presentation

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