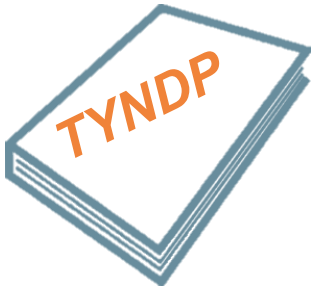
ENTSO-E Winter Outlook 2018/2019

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

Electricity Coordination Group - 23 January 2018

entsoe

Different risks addressed with different timeframes



Long term

>10 years

Mid term

10 years

5 years

1 year

Short term

6 months

1 week

Policy decisions

Investment decisions

Operational decisions

REAL TIME

UNCERTAINTY INCREASES

What do the outlooks tell you?

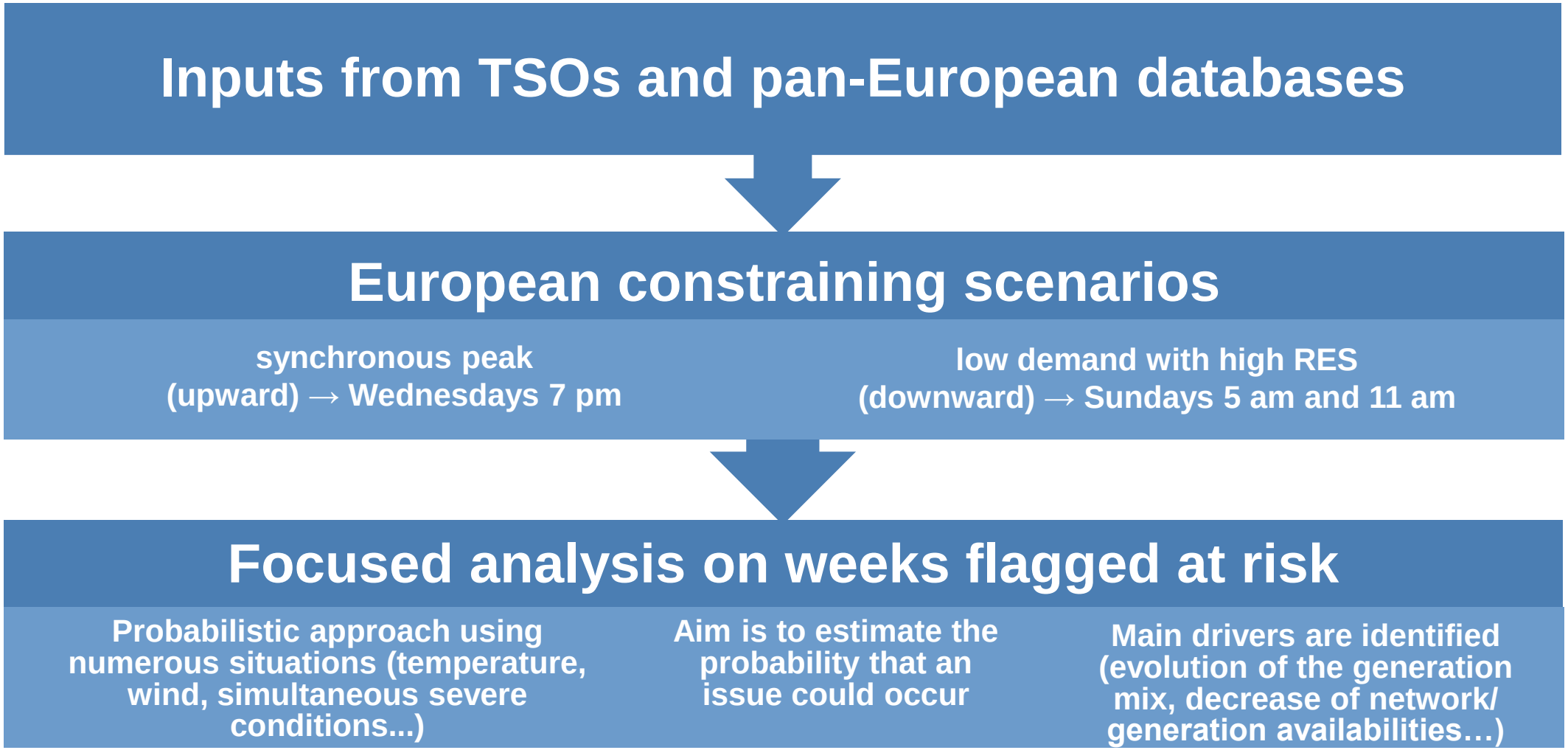
Role of interconnections

Influence of external factors: weather, hydro reservoir level, market conditions, consumer behaviour, robustness against gas disruption…

Sensitivity analysis: look for severe case scenario (1 out of 20 years) & see how system reacts

Review of the previous season for a deeper understanding and improvements

Seasonal Outlooks- Stepwise approach



Lack of margin is not a blackout

Scope of Winter Outlook

Balance in Day-Ahead including reserves

Is 100% of demand met in day-ahead market?

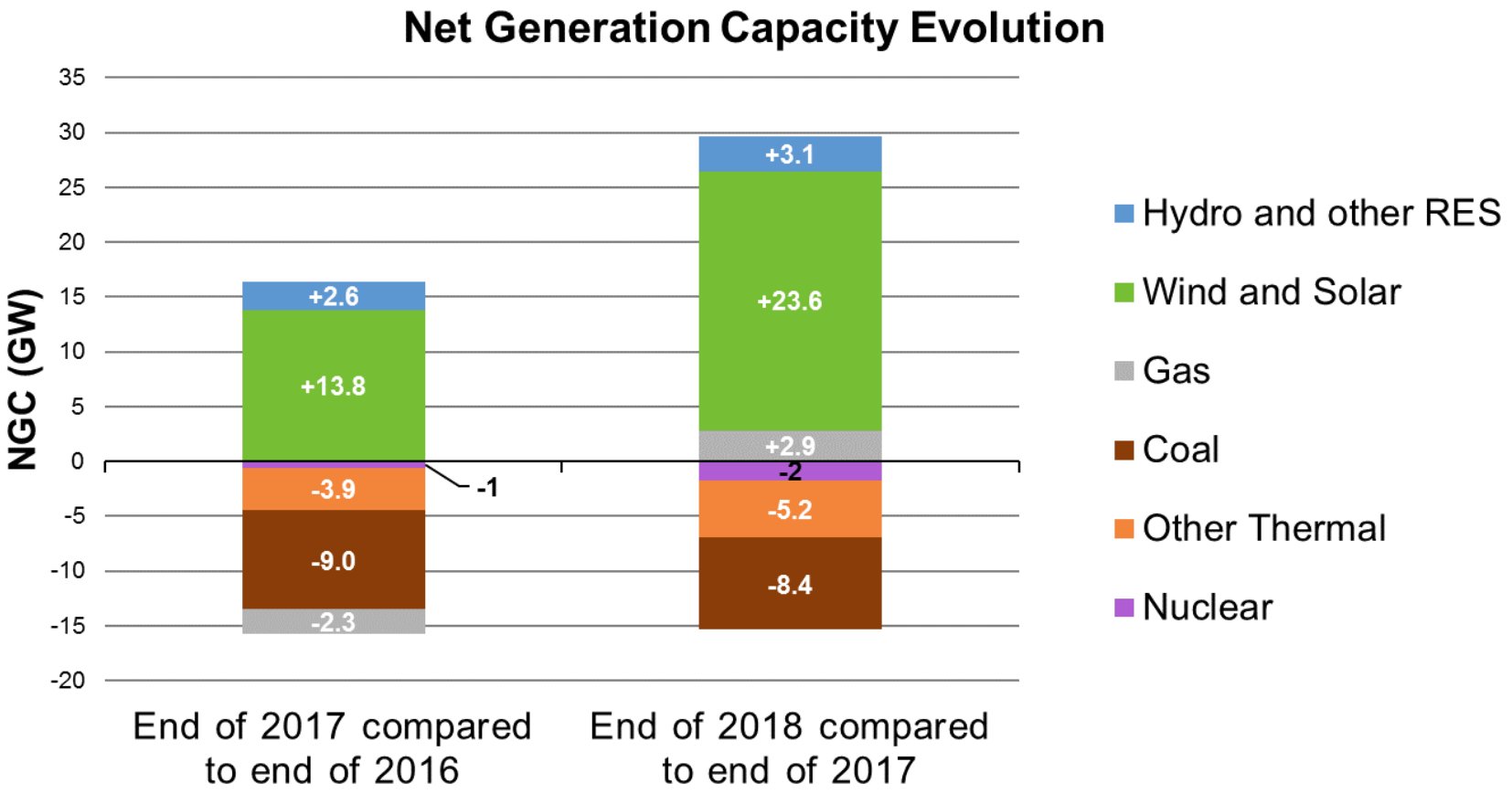
Intraday Measures

- Strategic reserves
- Out of market demand response
- Grid exceptional measures (topology, cancellation of maintenances, voltage reduction…)

Partial & Controlled demand shedding

Controlled partial shedding

Evolution of Europe's generation mix



Gas power plant capacity has increased after a fall recorded last winter

Acceleration of new RES installation

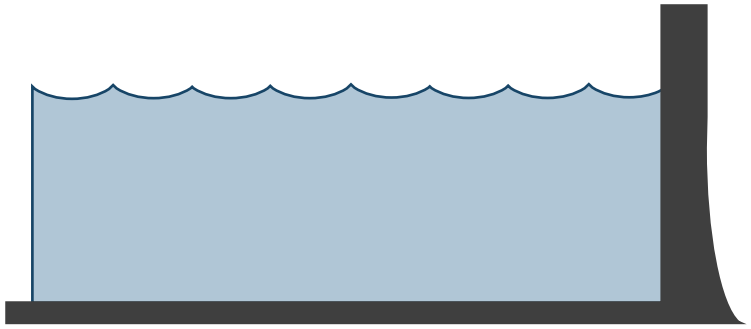
Fossil fuel generation steadily declining

Winter Outlook Context

Unforeseen maintenance, delayed return to operation together with countermeasures are considered

Nuclear unavailability

Countermeasures

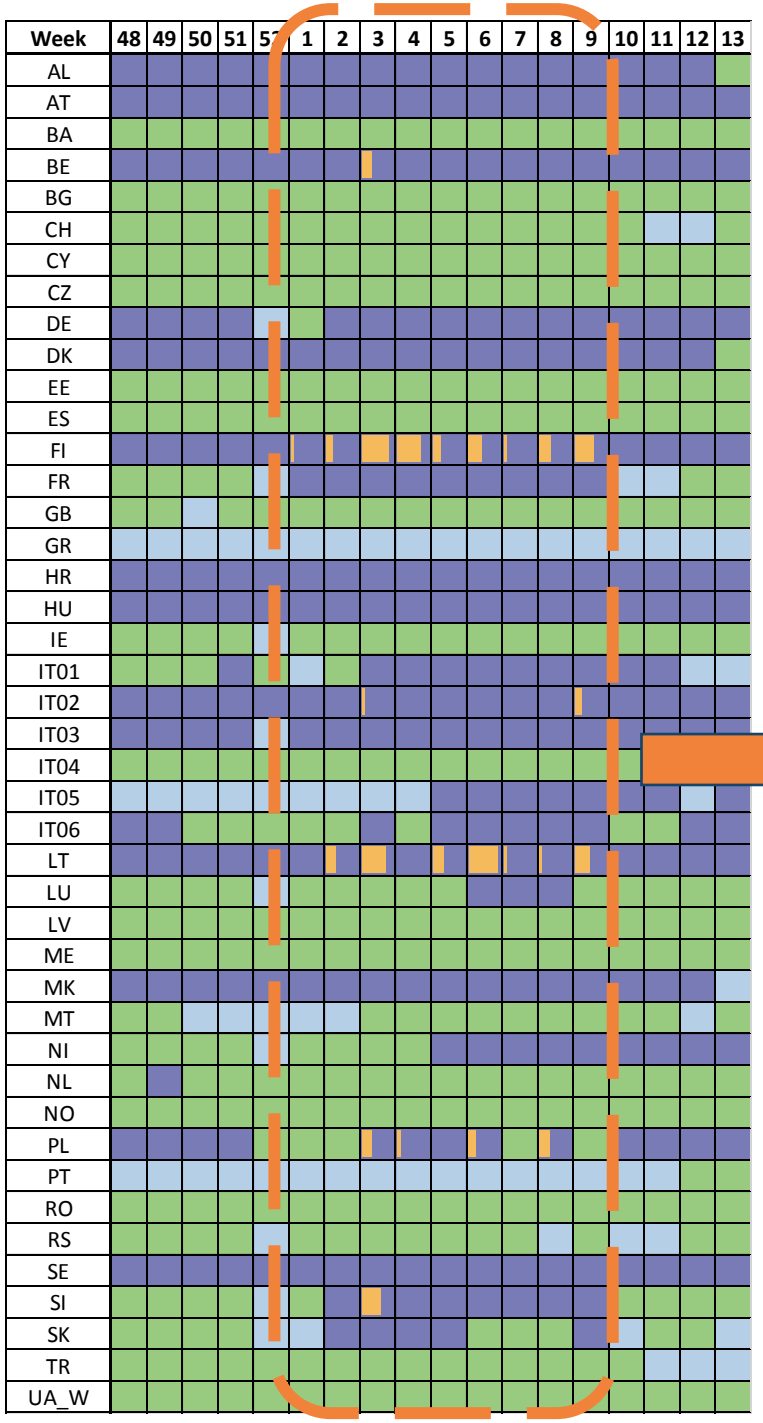


Hydro reservoir levels near average in Europe*

But low river levels in south Germany

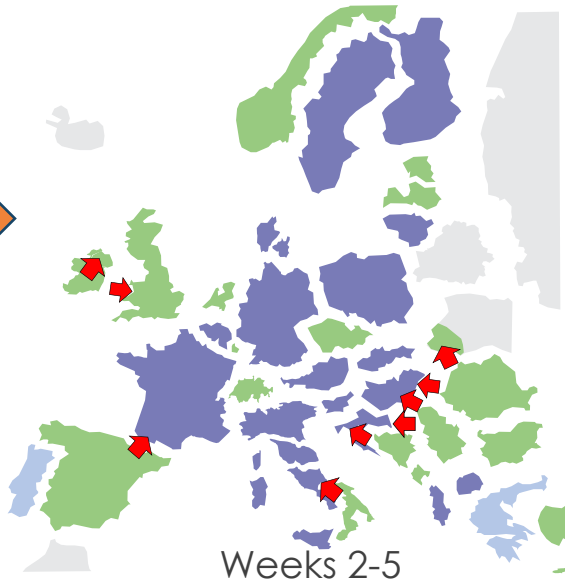
(*) Observed Countries: Italy, France, Spain, Switzerland, Austria and Norway

Winter Outlook- Severe Conditions



Adequacy at pan-European synchronous peak demand time

Out of market measures excluded



Adequacy to monitor closely in a region including Belgium, France, Northern & Centre-North Italy, and Slovenia

Regional cooperation is a key – potential need for out of market measures

Country self-sufficient and prone to export from market perspective

Country self-sufficient but prone to import from market perspective

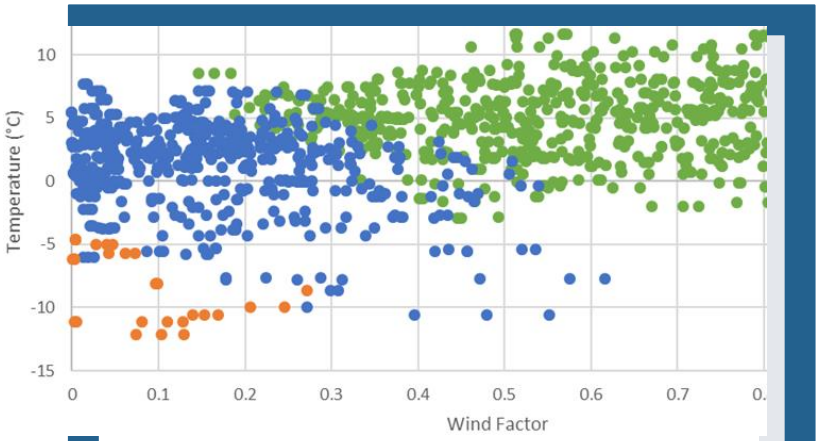
Country required to import from an adequacy perspective

Part of deficit cannot be convered with imports

Probabilistic assessment on week 3 of 2019

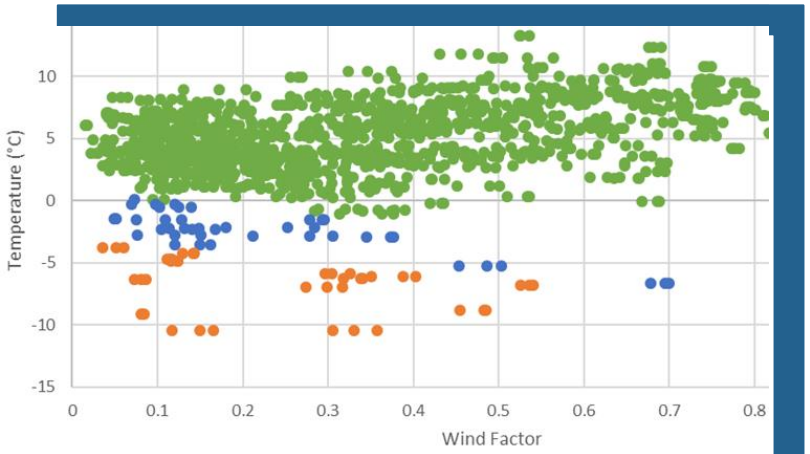
Vigilance needed in case of cold spell

Belgium



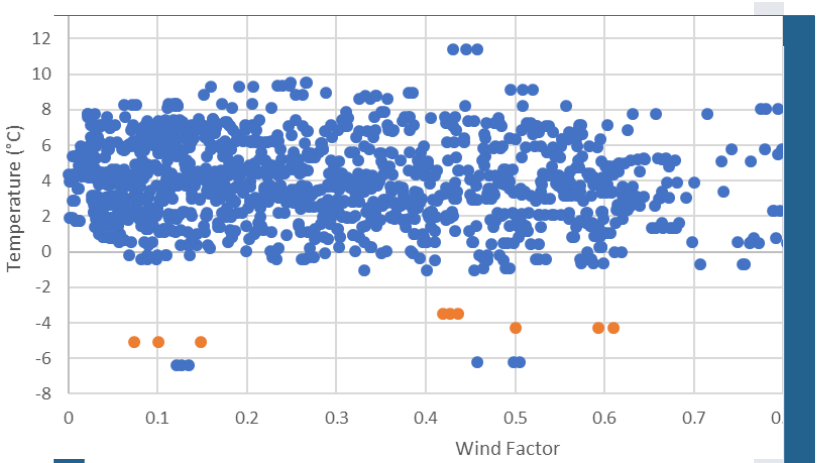
When temperature and wind are low

France



When temperature is low

Italy (Northern & Central-North)



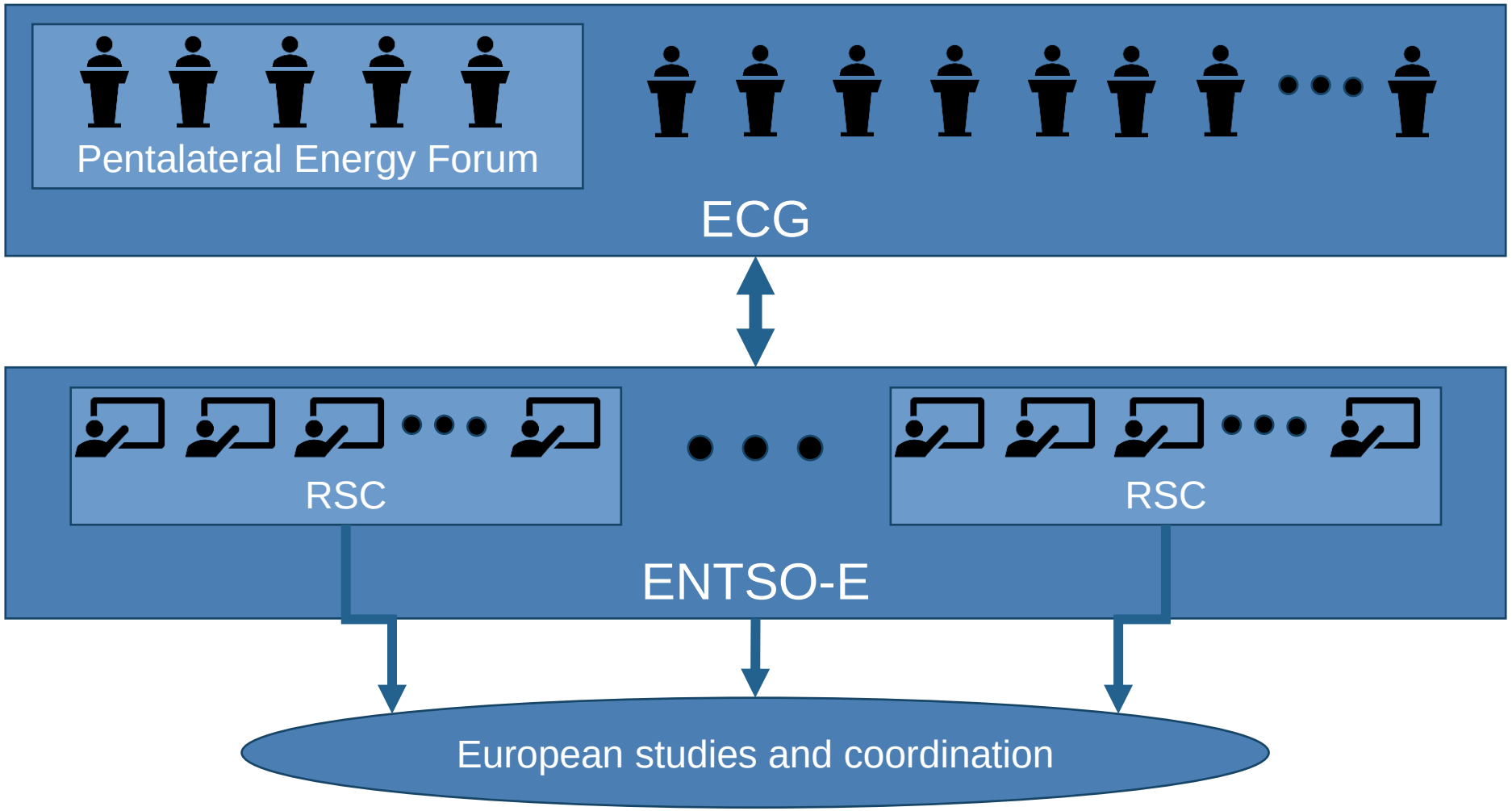
When temperature is low in Europe

No need to import No deficit after import Deficit after import

Regional Coordination is key – example in CWE

Political Level

Technical Level



What for future Seasonal Outlooks?

Prepare future implementation of Clean Energy Package, especially Risk Preparedness Regulation (e.g. methodology drafting)

Extend coordination with Regional Security Coordinators for short-term adequacy

Prepare further steps for Seasonal Outlook full probabilistic hourly modelling in similar way as performed in Mid-term Adequacy

Thank you for your attention

Continental Europe - frequency deviations on 10 January 2019

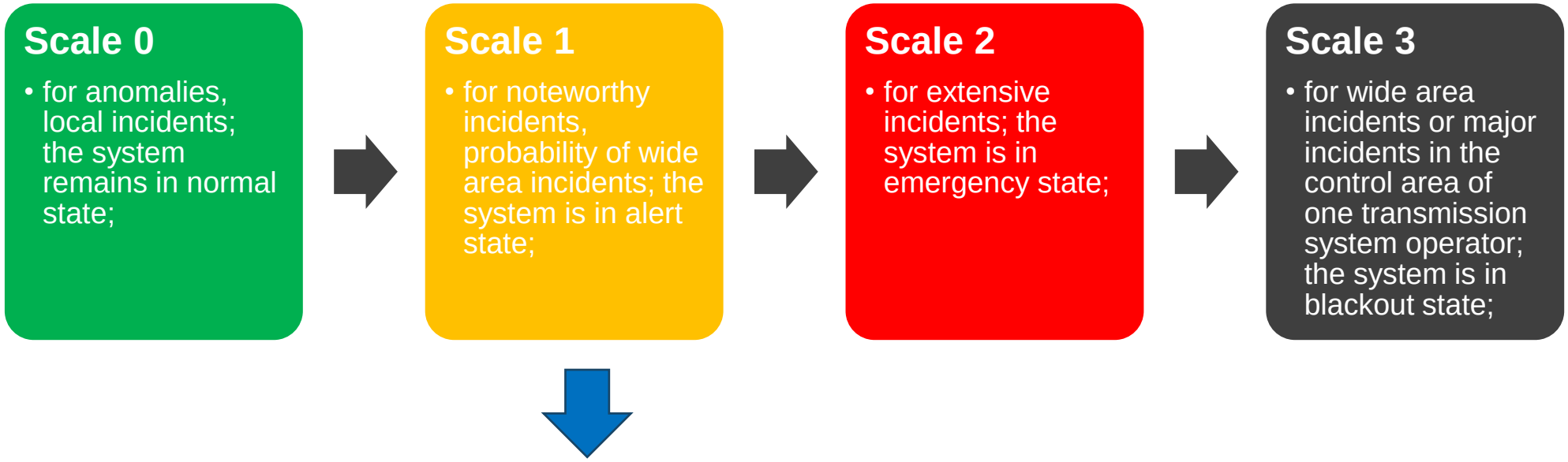
Continental Europe – frequency deviations on 10 January 2019 at 21:02

Causes determined so far:

1. Energy schedules change at 9pm that created the Deterministic frequency Deviations effect
2. Mismeasurement error on TenneT DE – APG interconnection line
3. EMS - KOSTT issue and the imbalances that are in place since mid January 2018

On 10 January, Continental Europe TSOs experienced a **grid incident** → there was **no Critical Grid Situation and no Crisis**

System Operations Guideline – System States classification



- The incident was a **Scale 1** because the **maximum frequency deviation was 185 mHz** (below the 200 mHz → threshold for Scale 2).
- The drop in frequency was deep enough to trigger the automatic activation of interruptible load, about 1500 MW was disconnected from the French grid, which is about 2% of RTE's load at the moment when the incident occurred. This means that also the thresholds of the criteria for scale 1 incident on load (L1) were reached.

https://docstore.entsoe.eu/Documents/SOC%20documents/Incident_Classification_Scale/180925_ICS_report_2017.pdf

ENTSO-E Investigation process ongoing

- Regional Group Continental Europe TSOs were in contact constantly to solve the frequency deviations
- Extraordinary Calls were initiated on weekly basis with the Continental Europe TSOs
- Regional Group Continental Europe Plenary is being provided with reports by:
  - the Coordination Centers (Amprion and Swissgrid) that monitor the frequency values and quality all over Europe
  - The Coordinated System Operations subgroup that will provide an overview of the incident recorded between 9 and 11 January 2019, including improvement measures that can be applied by CE TSOs to avoid similar situations
  - TenneT Germany that will provide an analyses of the German block event when a tie line measurement was frozen
- ENTSO-E Communication department is following closely all media queries and provides feedback in a coordinated way with all involved TSOs.
- On 7 February, RG CE Plenary will meet and provide additional guidance on covering all open items related to the frequency deviations recorded in January 2019 and mitigation measures to be put in place to avoid similar events.