



ENTSO-E and ENTSOG

# WINTER OUTLOOKS

16 December 2015 – Webinar

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Presenters: Daniel Huertas Hernando (ENTSO-E), Stefan Greulich (ENTSOG)



- 1. Introduction**
- 2. Electricity Winter Outlook**
- 3. Questions**
- 4. Gas Winter Outlook**
- 5. Questions**
- 6. Conclusion**

# Setting the scene...

- **The ENTSOs**



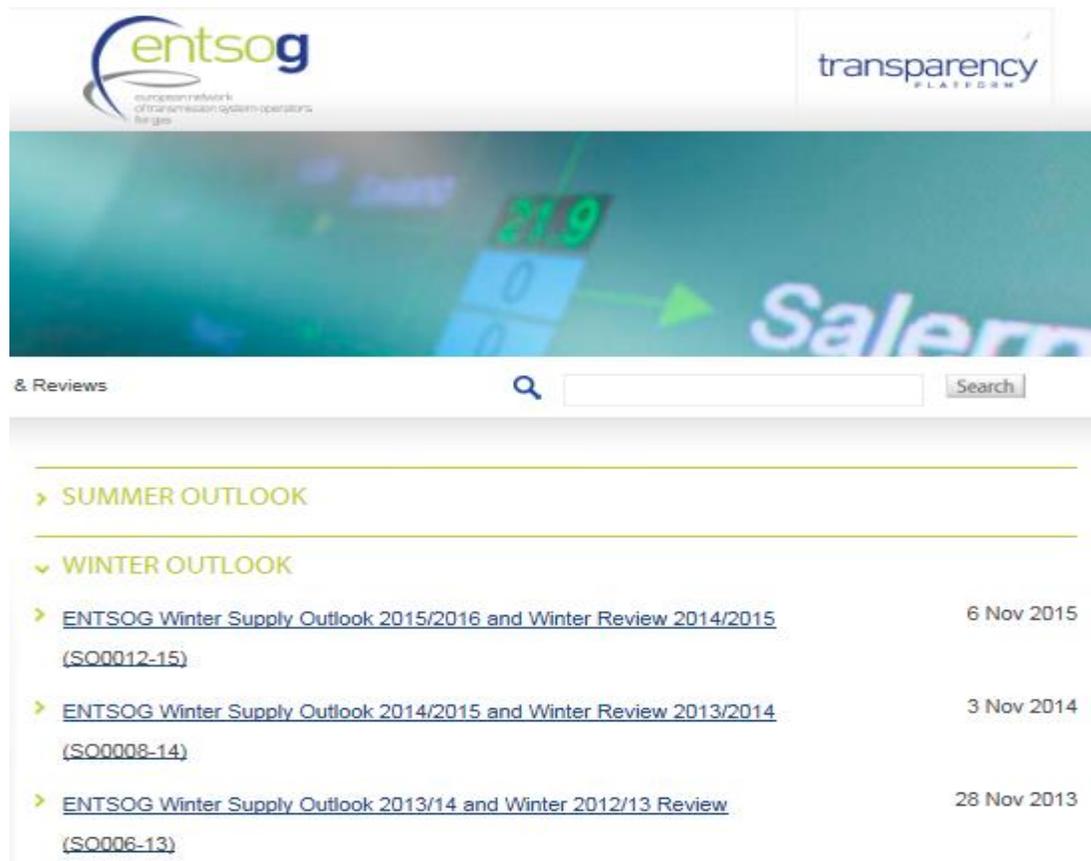
- **Winter and Summer Outlooks**

- EU legal obligation
- Analyse the main adequacy risk within a season
- Subject to an ACER opinion

# What can you find in the Outlooks?

- **Role of cross-border capacity in adequacy for upcoming season**
- **Influence of external factors**
  - ✓ weather, market conditions, consumer behaviour...
- **Sensitivity analysis**
  - ✓ look for worst case scenario, see how network reacts incl. under severe conditions
- **Review: deeper understanding of the previous season**

# Outlooks and Reviews – where to find them?



The screenshot shows the 'entsog transparency PLATFORM' website. The header includes the entsog logo (european network of transmission system operators for gas) and the transparency PLATFORM logo. Below the header is a search bar with the text '& Reviews' on the left and a search button on the right. The main content area is divided into two sections: 'SUMMER OUTLOOK' and 'WINTER OUTLOOK'. Under 'WINTER OUTLOOK', there are three entries:

- ▶ [ENTSOG Winter Supply Outlook 2015/2016 and Winter Review 2014/2015 \(SO0012-15\)](#) 6 Nov 2015
- ▶ [ENTSOG Winter Supply Outlook 2014/2015 and Winter Review 2013/2014 \(SO0008-14\)](#) 3 Nov 2014
- ▶ [ENTSOG Winter Supply Outlook 2013/14 and Winter 2012/13 Review \(SO006-13\)](#) 28 Nov 2013

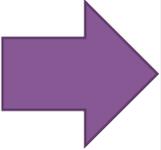


The screenshot shows the 'entsoe' website header. The logo 'entsoe' is followed by the text 'european network of transmission system operators for electricity' and the tagline 'Reliable Sustainable Connected'. Below the header is a navigation menu with three items: 'ABOUT ENTSO-E', 'MAJOR PROJECTS', and 'PUBLICATIONS'. The background of the header features a photograph of high-voltage power lines against a sunset sky.

[ENTSO-E WEBSITE](#) > [PUBLICATIONS](#) > [SYSTEM DEVELOPMENT REPORTS](#) > [OUTLOOK REPORTS](#)

## Outlook Reports

Introduction



Electricity: approach and results

Gas: approach and results

Gas disruption sensitivity

## WHAT?

Raising awareness on potential adequacy issues

## HOW?

Transparent and reproducible methodology  
Linking effects to causes  
Locating issues in space and time  
Identifying short term operational solutions

# ENTSO-E Seasonal Outlooks – Stepwise approach

1. Collect inputs from TSOs

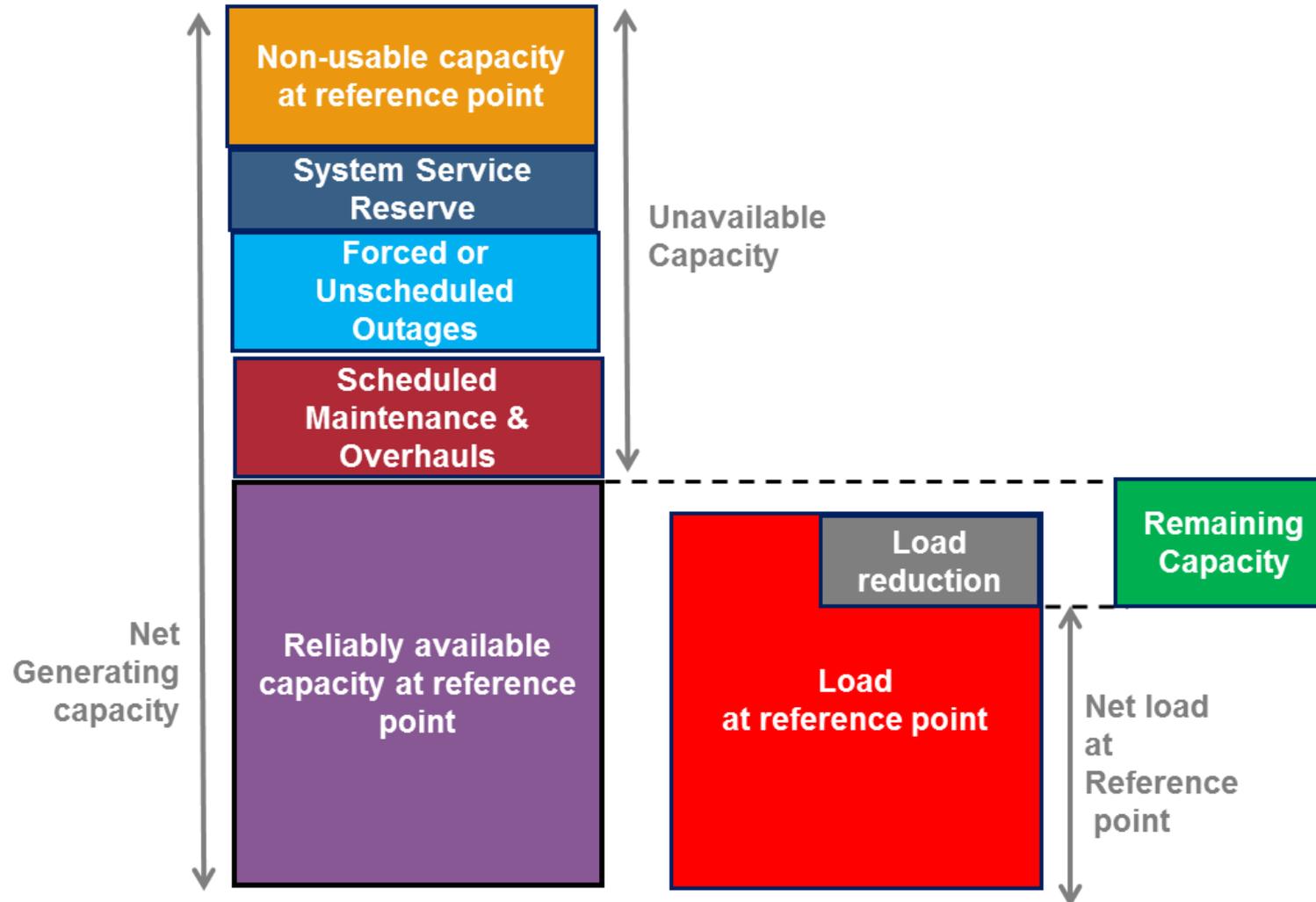
2. Build a pan-European worst-case scenario

- Using TSO data and Pan-European Climatic Database

3. Focused analysis of regions potentially at risk

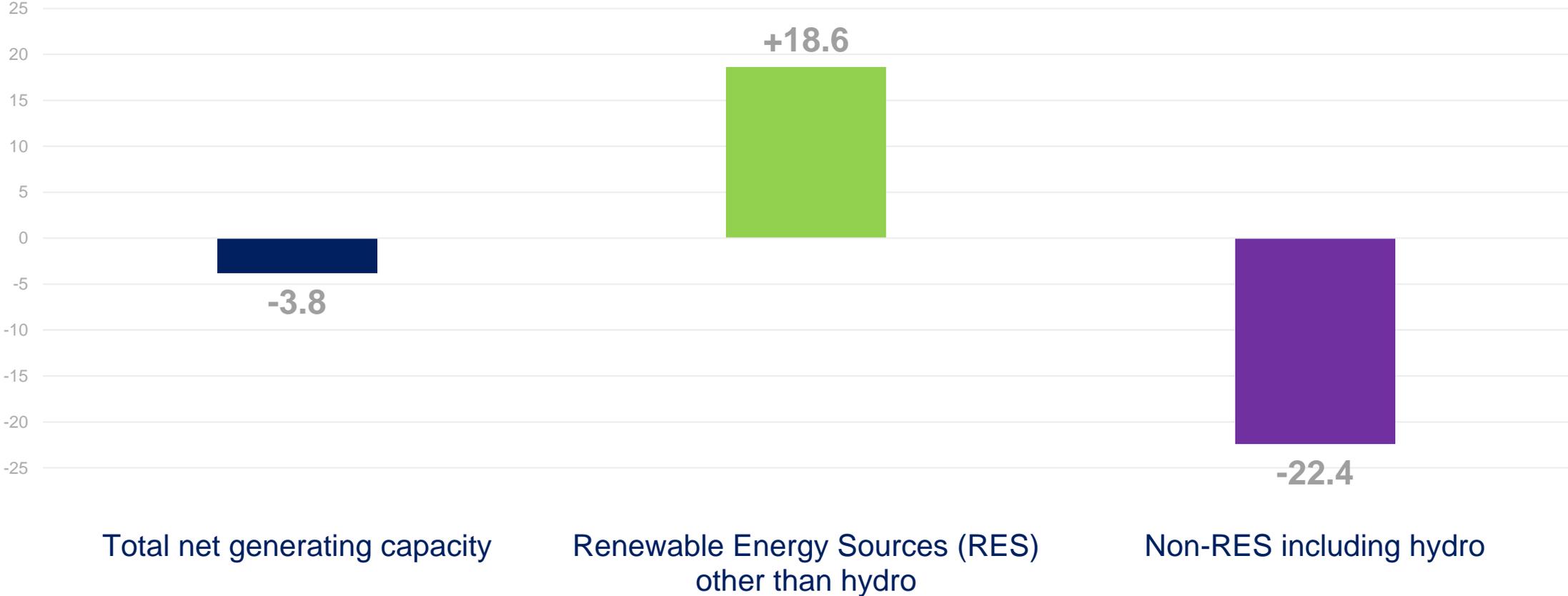
- Probabilistic approach using a lot of possibilities. Aim is to be able to say with how much probability an issue can occur.
- The parameters driving the issues are identified

# ENTSO-E Seasonal Outlooks - Methodology



# ENTSO-E Winter Outlook 2015/16 - Findings

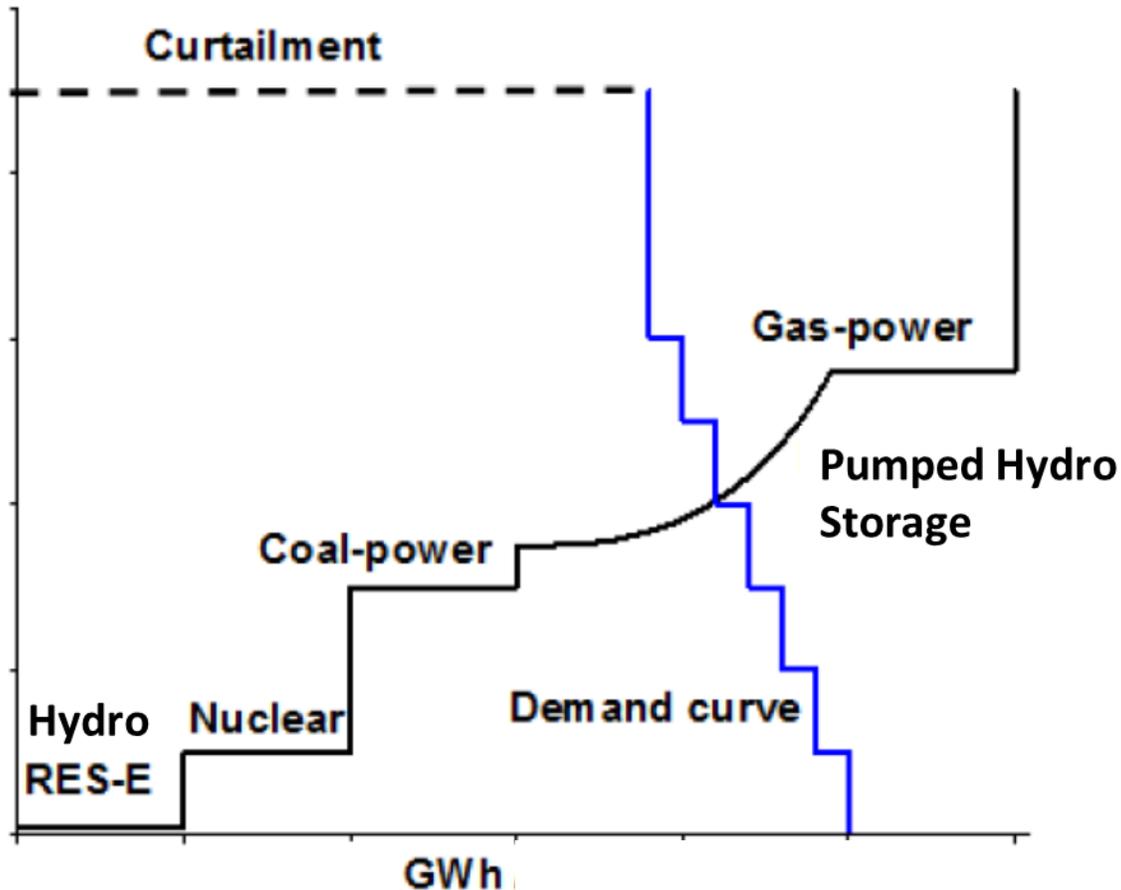
Difference between Winter Outlook 2014/15 and Winter Outlook 2015/16



# ENTSO-E Winter Outlook– Normal Conditions & Merit Order

## Cross-border exchanges

- market driven
- contributions to adequacy



Week	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14
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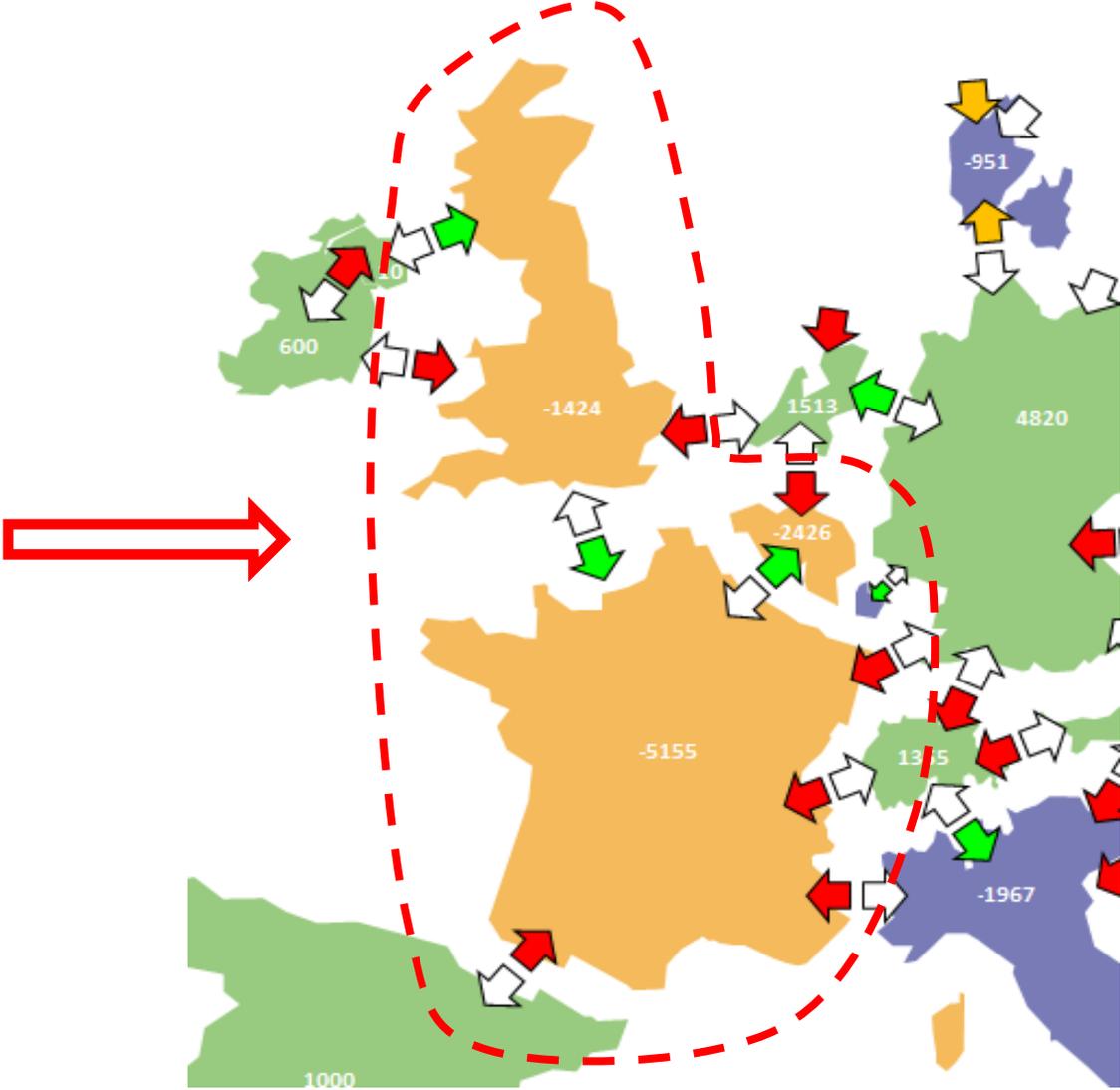
Excess capacity  
 Import driven by market  
 Import needed for adequacy

# ENTSO-E Winter Outlook– Severe Conditions (Sensitivity)

## Cross-border contributions to adequacy

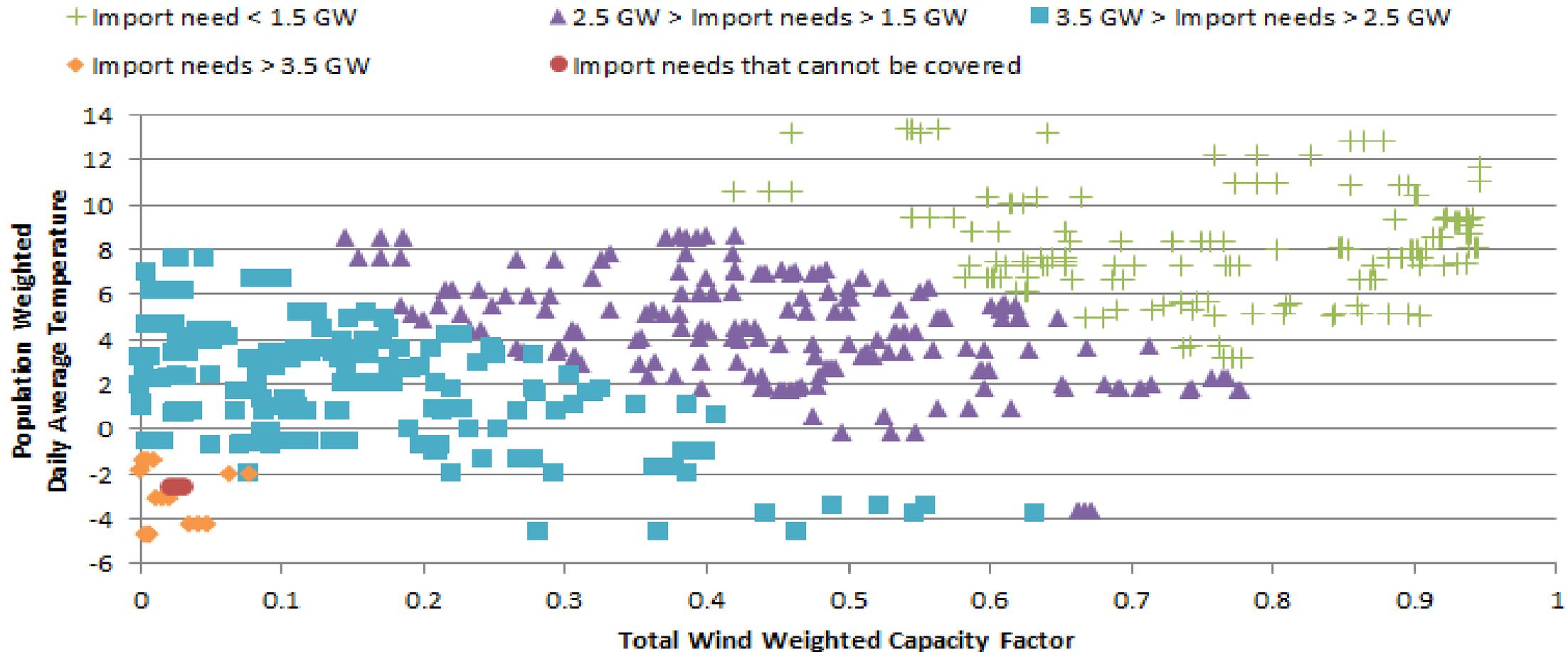
Week 4

Week	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
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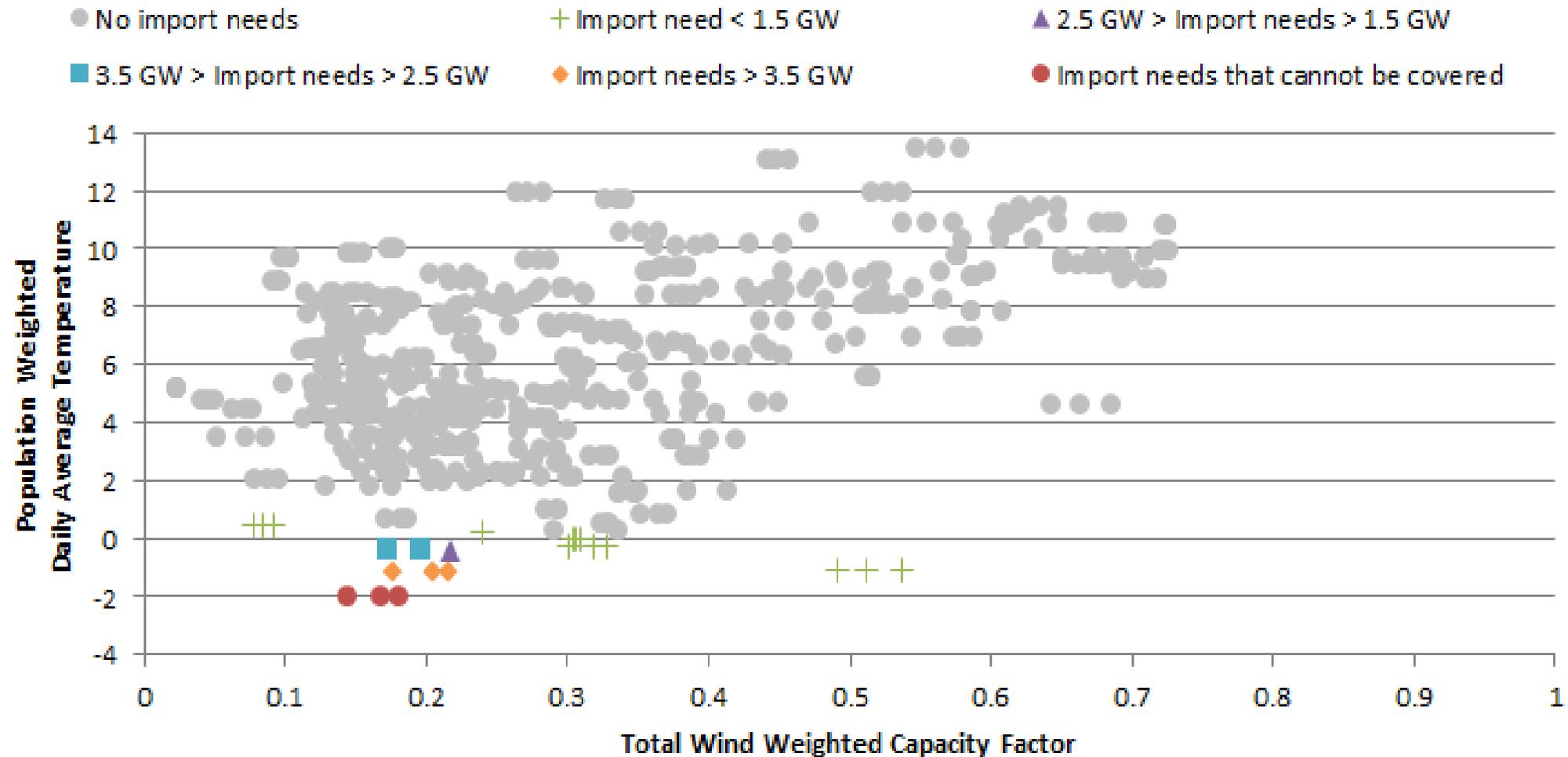
# ENTSO-E Winter Outlook– Situation for Belgium (Week 4)

## Belgium



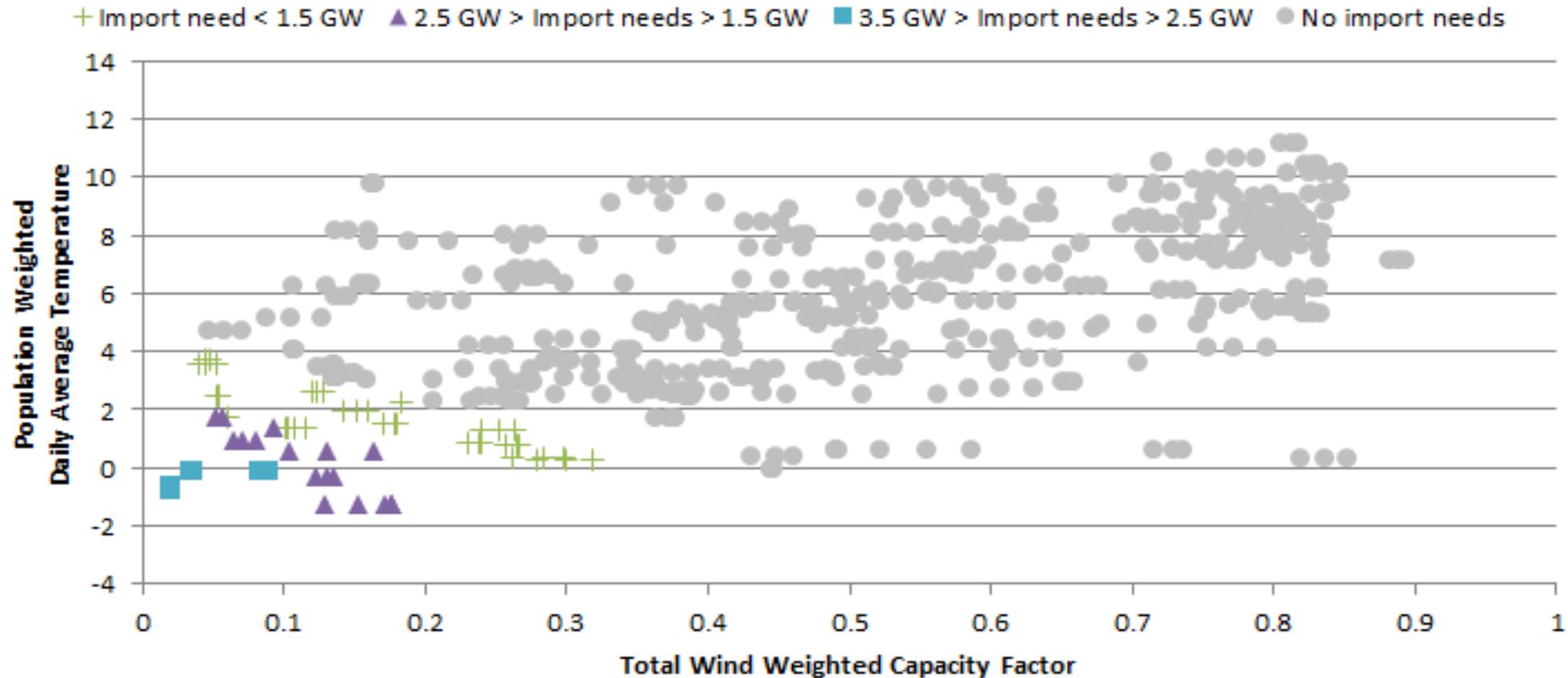
# ENTSO-E Winter Outlook– Situation for France (Week 4)

## France



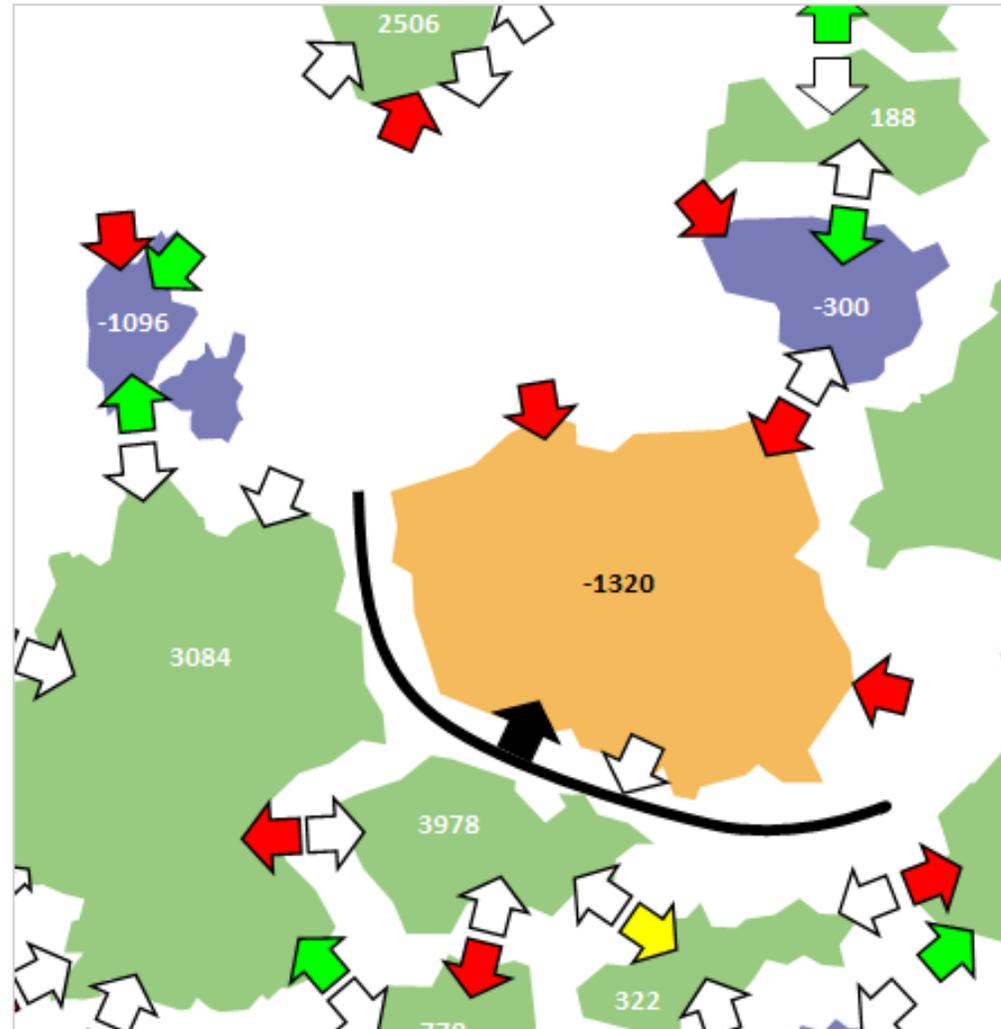
# ENTSO-E Winter Outlook– Situation for Great Britain (Week 4)

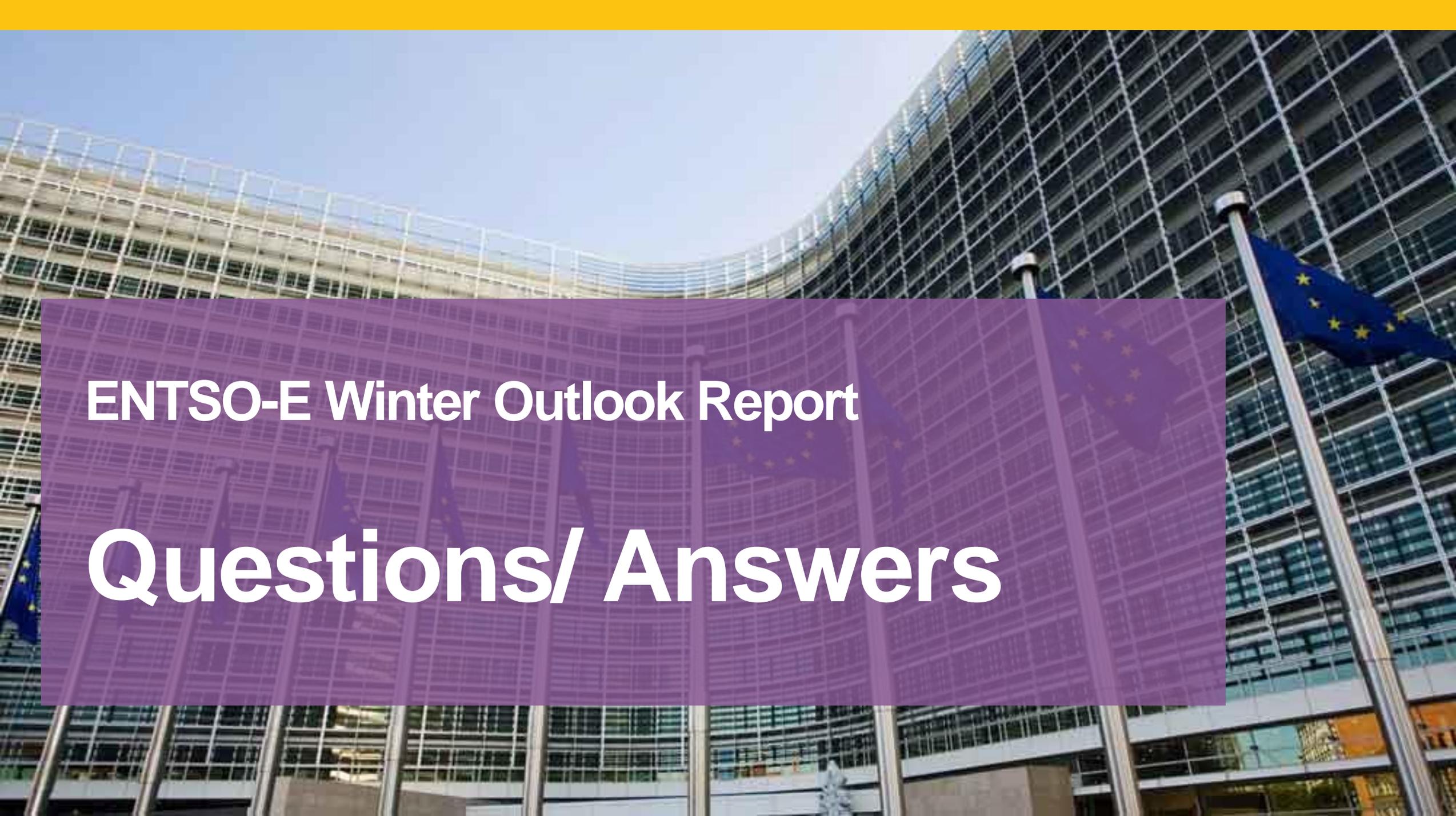
## Great-Britain



# ENTSO-E Winter Outlook– Situation for Poland

- A potential risk is identified for Poland
- Simulation of the Polish situation for **Week 5** (merit order approach)
- **All available cross-border capacities into Poland are saturated** (all import arrows entering Poland are red)
- **No import capacity is available** on the common synchronous profile (with DE+CZ+SK shown as coupled black arrows).





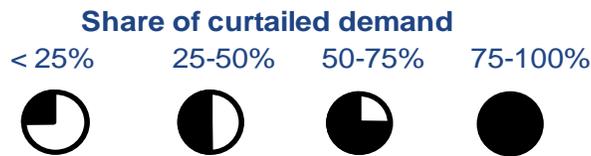
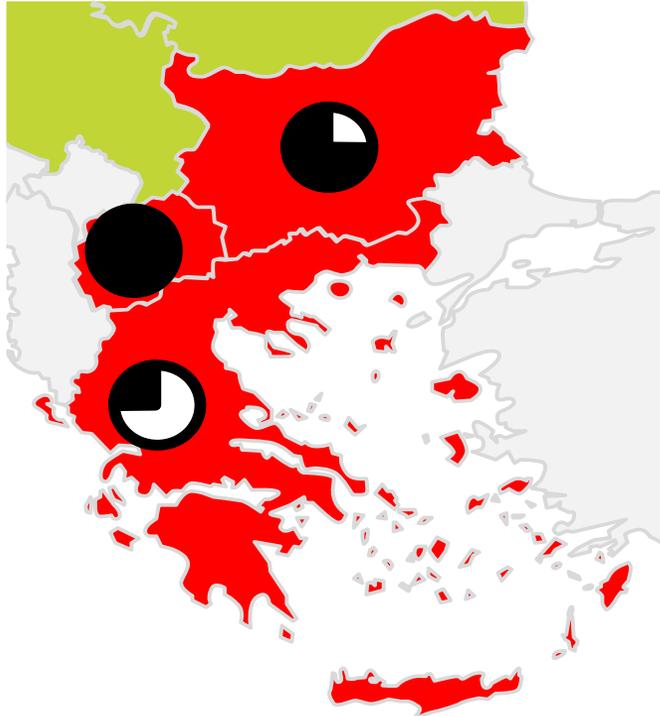
**ENTSO-E Winter Outlook Report**

**Questions/ Answers**



# Gas disruption sensitivity

# Impact on Electricity of a gas disruption



- Focus on countries with gas curtailment risk: Bulgaria, FYROM and Greece
- Gas results (ENTSO-G) translated into qualitative impact on the electric system (ENTSO-E):
  - Risk of reduction of gas fired electricity power units;
  - Risk of increase in electricity demand from households, industry and district heating.
- Electrical system adequacy and security is expected to be maintained, as these 3 countries can rely on:
  - other fuels for electricity generation,
  - further electricity generation margin and/or import,
  - moderate electricity load impact as only a limited part of households use gas for heating

**European Electricity System remains robust, even in case of 2-week Cold Spell with simultaneously interruption of gas transit through Ukraine.**

# Gas disruption sensitivity: ENTSOE and ENTSOG inputs

COUNTRY	Inputs from ENTSG WSO15/16 report		Inputs from ENTSGE WOR15/16 report			
	2-week cold spell (GWh/day)	2-week cold spell average power (GW)	Electricity Net Generating Capacity from Gas (GW)	Peak demand under severe conditions (GW)	Lowest remaining capacity under severe conditions (GW)	Lowest simultaneous import capacity at peak load (GW)
<b>Bulgaria: 50% to 75% gas curtailment</b>	145	6.04	0.83	6.9	+2.09	1.12 (reduced to 0.62 GW without GR+MK imports)
<b>Greece: less than 25% gas curtailment</b>	156	6.5	4.95	9.2	+ 0.35	1.82 (reduced at 0.92 GW without BG+MK imports)
<b>Macedonia: 75% to 100% gas curtailment</b>	14	0.58	0.23	1.34	-0.40	1.1 (reduced at 0.6 GW without GR+BG imports)



# CONCLUSIONS

# Key takeaways

- Winter outlooks are not only a legal mandate
- They inform
  - TSOs, markets, policy makers, publicand **contribute to right decisions being taken for security of supply!**
- They are continuously improving
- They illustrate cooperation between gas and electricity

# What about the future?

- Revision of the EU directive on security of supply expected in 2016
- Regional coordination initiatives to take a greater role in security analysis
- ENTSO-E launched Winter Outlook updates

=> More security to come yet!

# Thank you for your attention

