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Summer Outlook (GB & Europe)

Sam Matthews - Balancing Services Manager

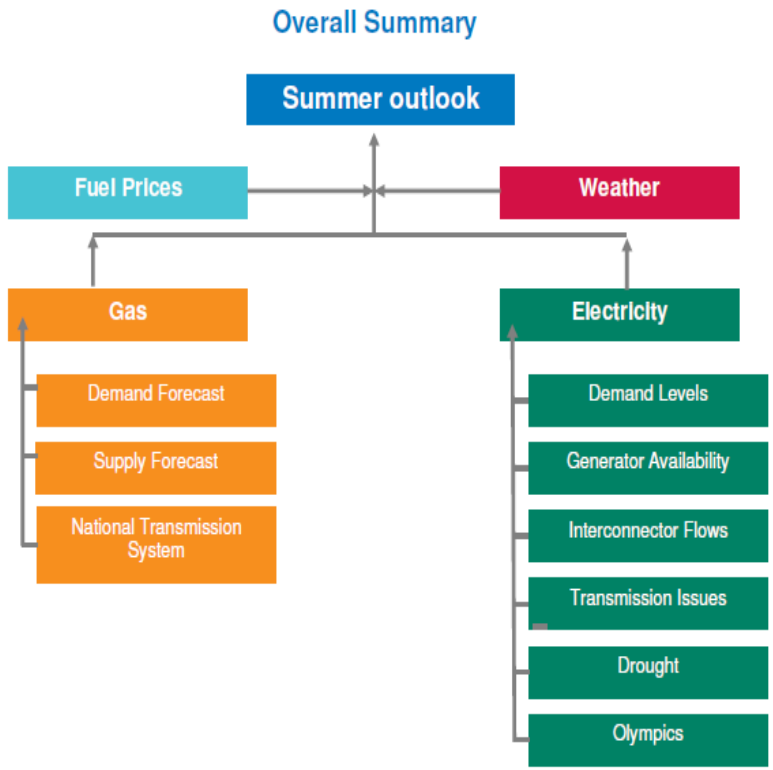
Electricity Operational Forum – June 2012

Agenda

- GB Overview
  - Gas
  - Electricity
- European Overview
  - Electricity
- Summary

GB Overview

- Annual publication since 2009
- Sets out National Grid's view and analysis for incoming summer
- Published in April



https://www.nationalgrid.com/uk/Electricity/SYS/outlook/

GB - Gas

GB - Gas

- Demand Overview
- Lower than 2011
- Driven by lower gas burn for CCGT
- Uncertainty over IUK Exports

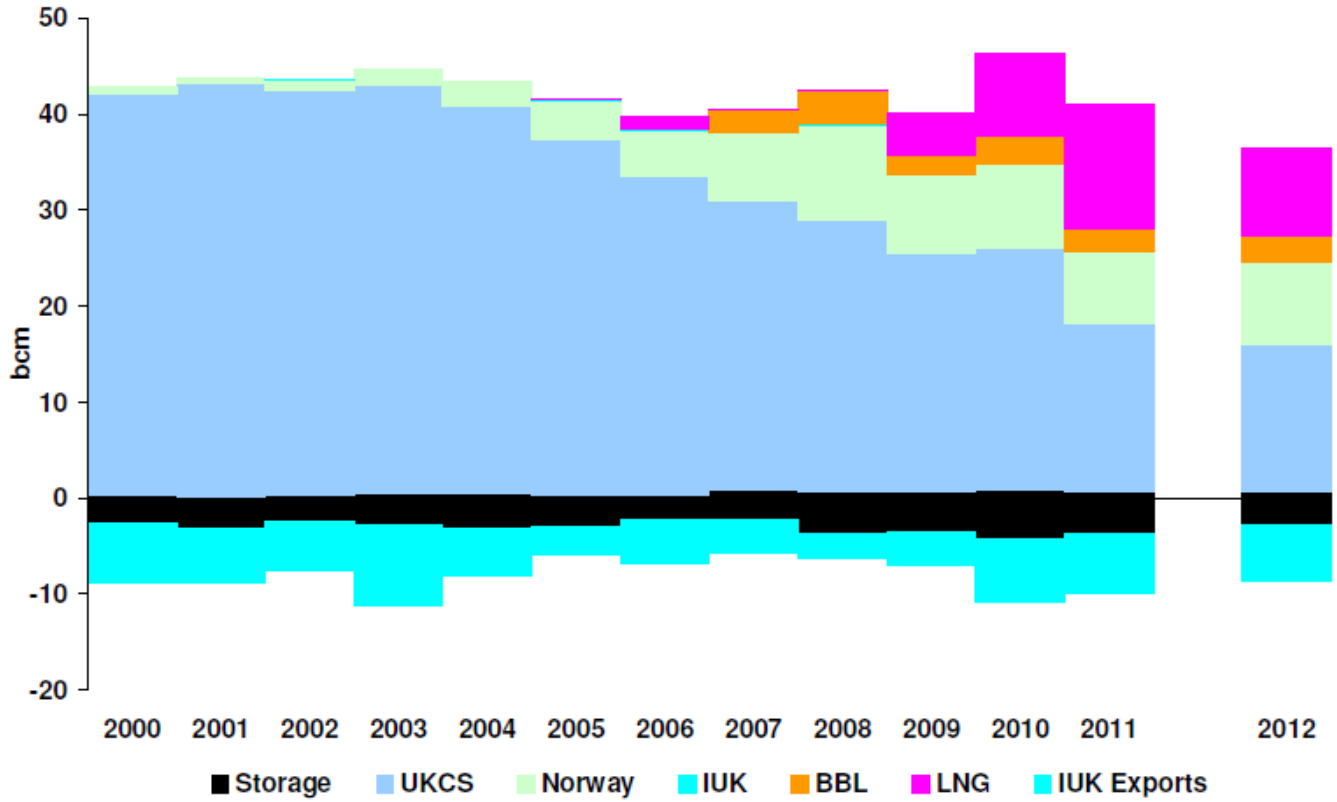
Table G2 - Total Volume of Summer Demand for 2011 and Forecast for 2012 (bcm)

Bcm	Summer total		
	2011 actual	2011 weather corrected	2012 forecast
NDM	9.9	10.7	**10.8**
DM + Industrial	4.9	4.9	**5.0**
Ireland	2.9	3.0	**2.7**
Total Power	12.6	12.6	**9.3**
GB Total	30.7	31.5	**28.4**
IUK Export	6.3	6.3	**6.0**
Storage Injection	3.8	3.8	**2.0**
Total	**40.8**	**41.6**	**36.4**

GB - Gas

- Supply base continuing to changing

Figure G8 - Historic and Forecast Summer Gas Supplies by Source

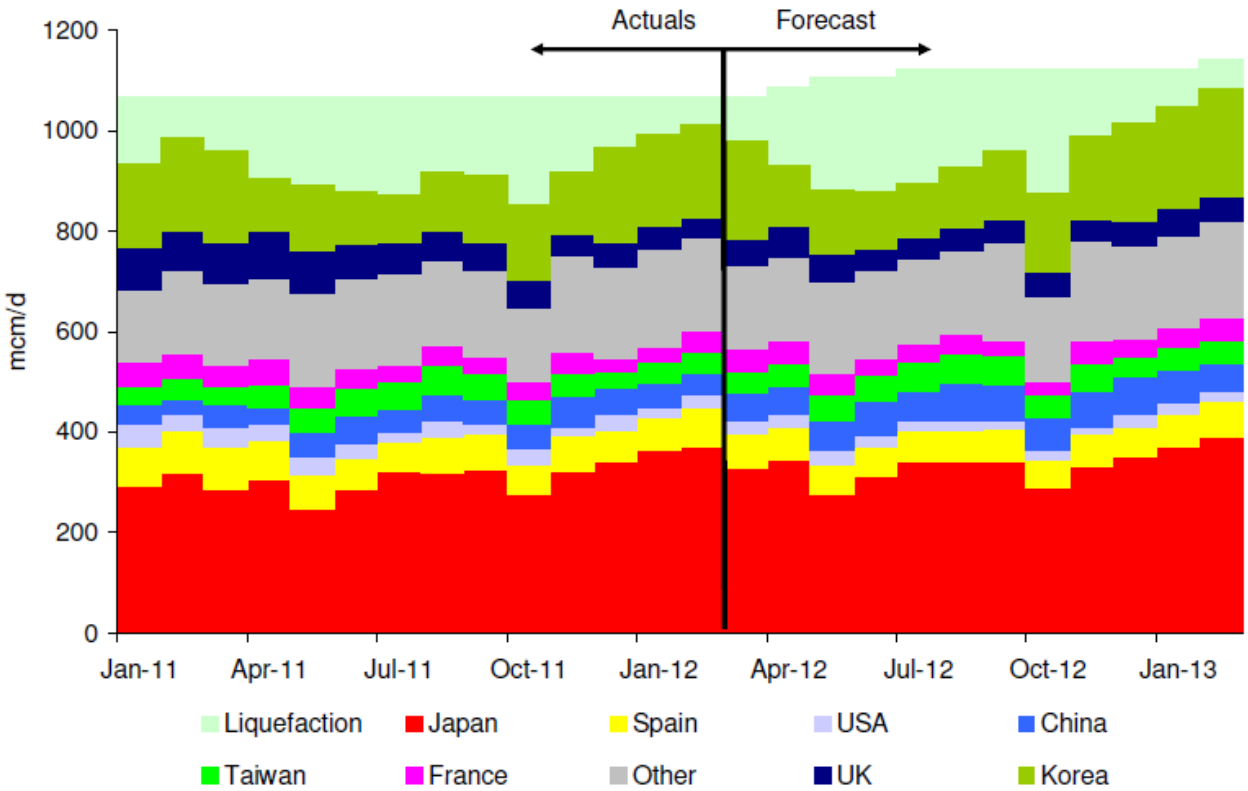


GB - Gas

- Global LNG

Figure G9 – Global LNG Supply / Demand

Source: Lloyd's List, LNG Journal, NATS Pan EurAsian



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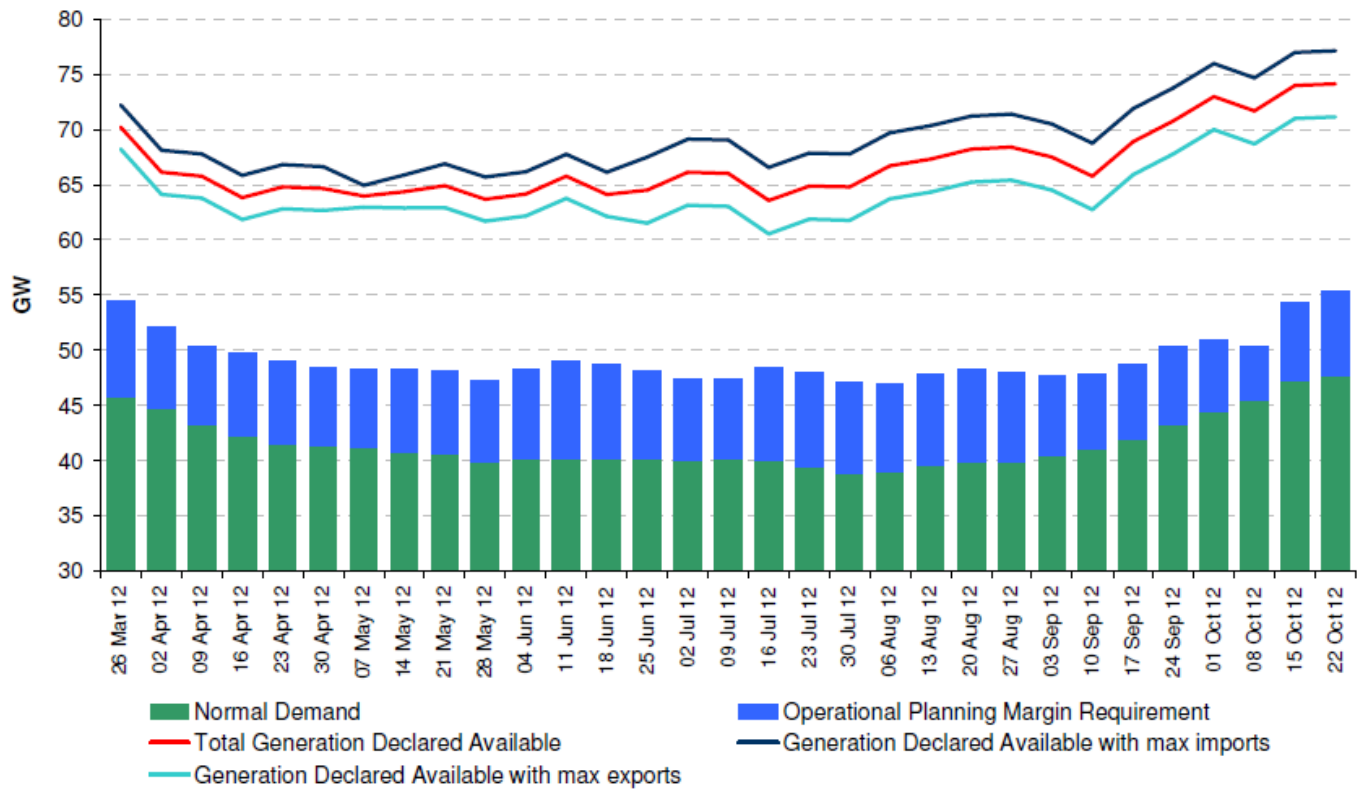
GB -Electricity

GB - Electricity

- "*comfortable surplus for every week*"

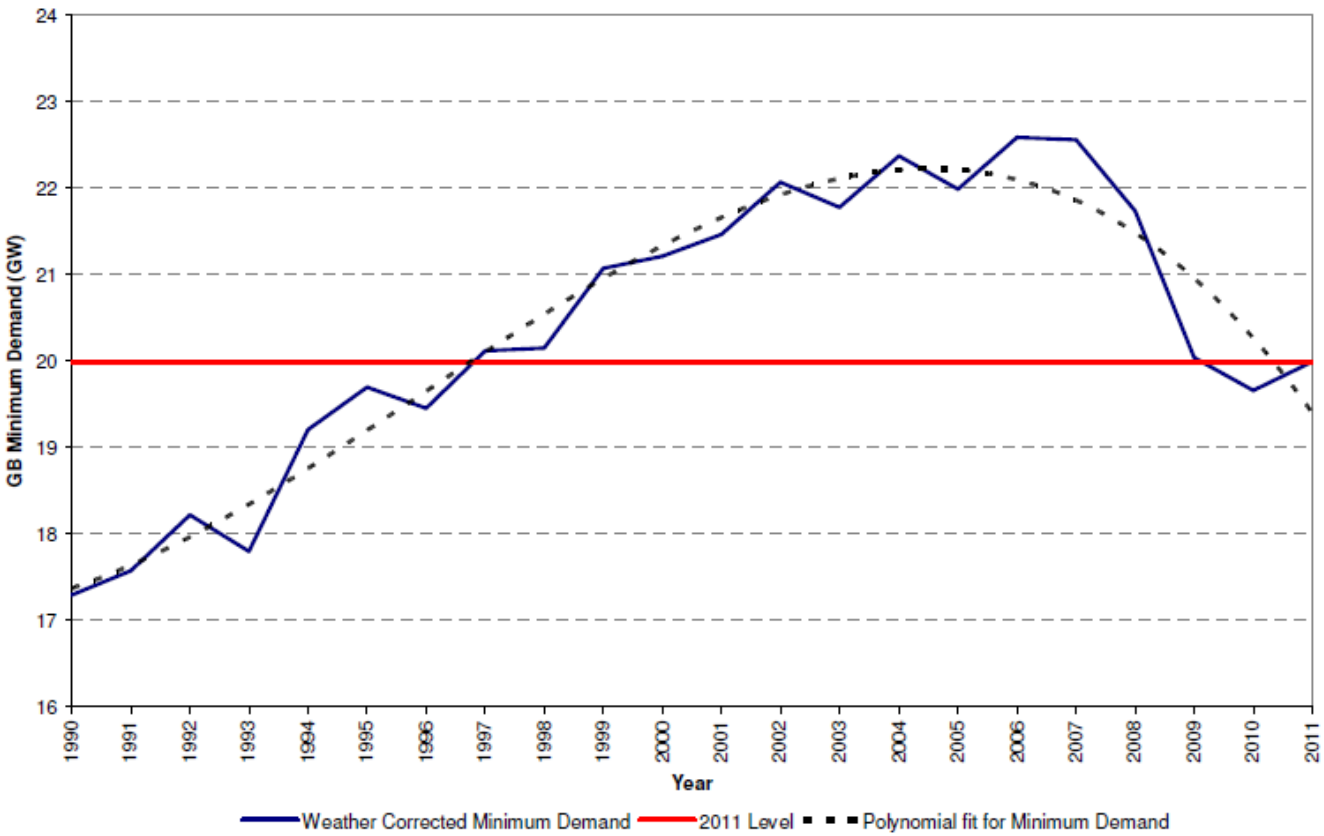
Figure E 12 - Declared Generation Availability



GB - Electricity

- Minimum demand conditions are a key focus area

Figure E 6 - Weather corrected minimum demands



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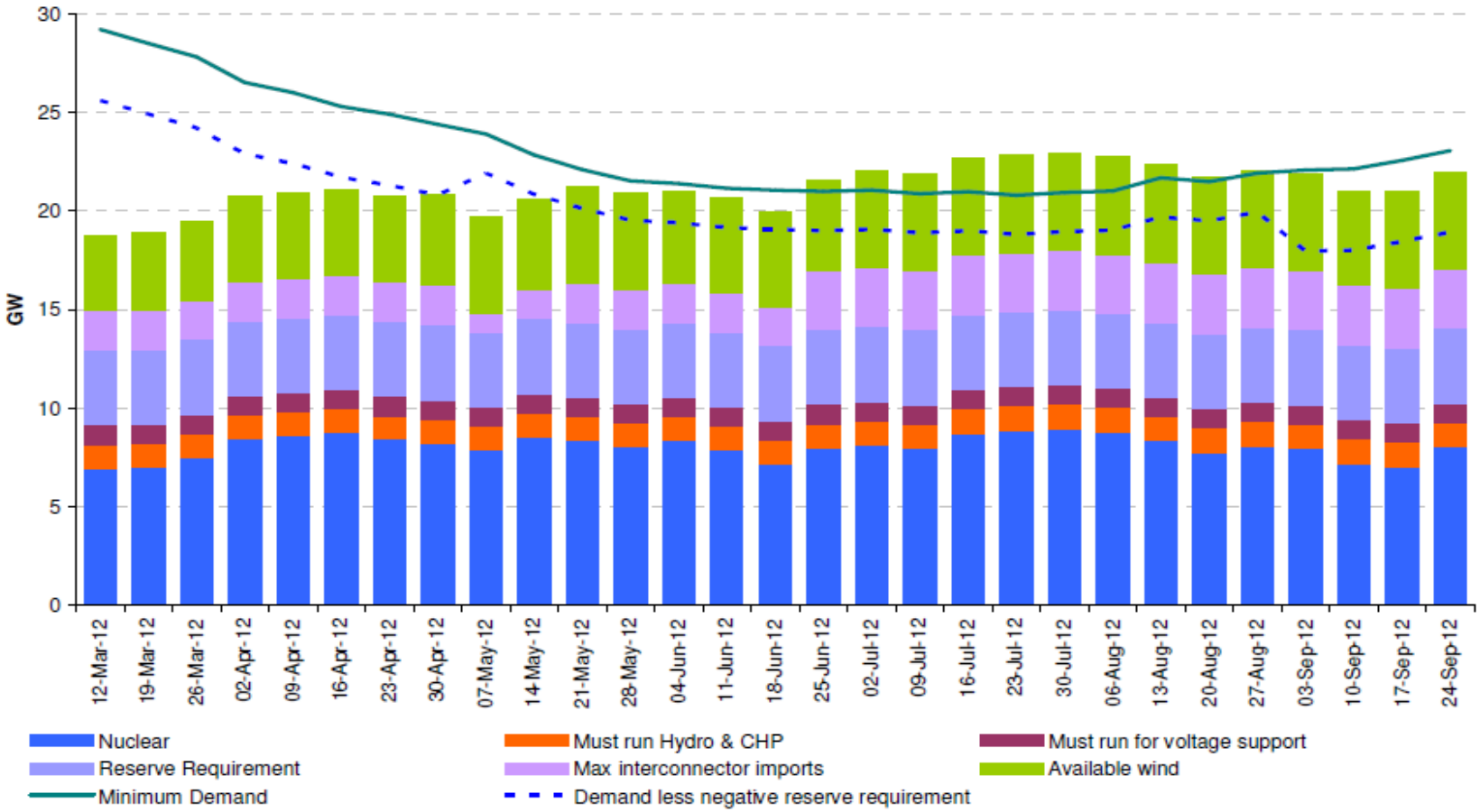
GB - Electricity

- Why are minimum demand conditions are a key focus area for NGET this Summer?
  - Levels of inflexible plant / “must run” generation
  - Interconnector imports (driven by market price)
  - Variable renewable output
  - Require voltage support in certain areas
  - Need “downward regulating reserve”
- Result is a requirement to “2-shift” generation, Interconnector trading or in certain scenarios to curtail renewable generation

GB - Electricity

Figure E 8 - Detailed Summer Minimum Analysis with maximum Interconnector Import capability



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GB Summary

- Gas
  - Demands forecast to be lower across summer 2012 than summer 2011
  - Supply is still changing as UKCS declines
- Electricity
  - Surpluses are “comfortable”
  - Focus on management of system under minimum overnight demand conditions

Europe -Electricity

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European Electricity Focus

- ENTSO-E

entsoe

European Network of Transmission System Operators for Electricity

- Data provided by all ENTSO-E Transmission System Operators (TSOs)

An Overview of System Adequacy:

- Analysis reviewed by ENTSO-E team composed of members from various TSOs

Summer Outlook Report 2012 and Winter Review 2011/2012

https://www.entsoe.eu/index.php?id=50

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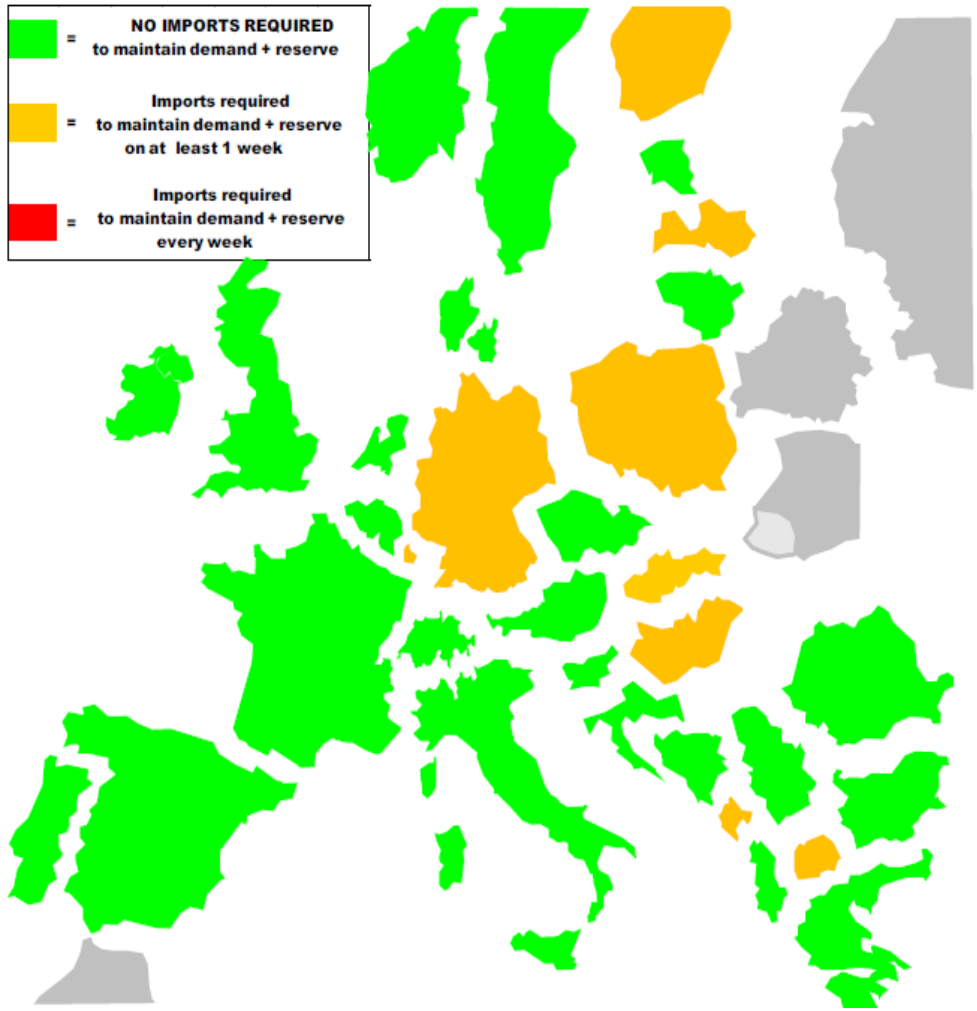
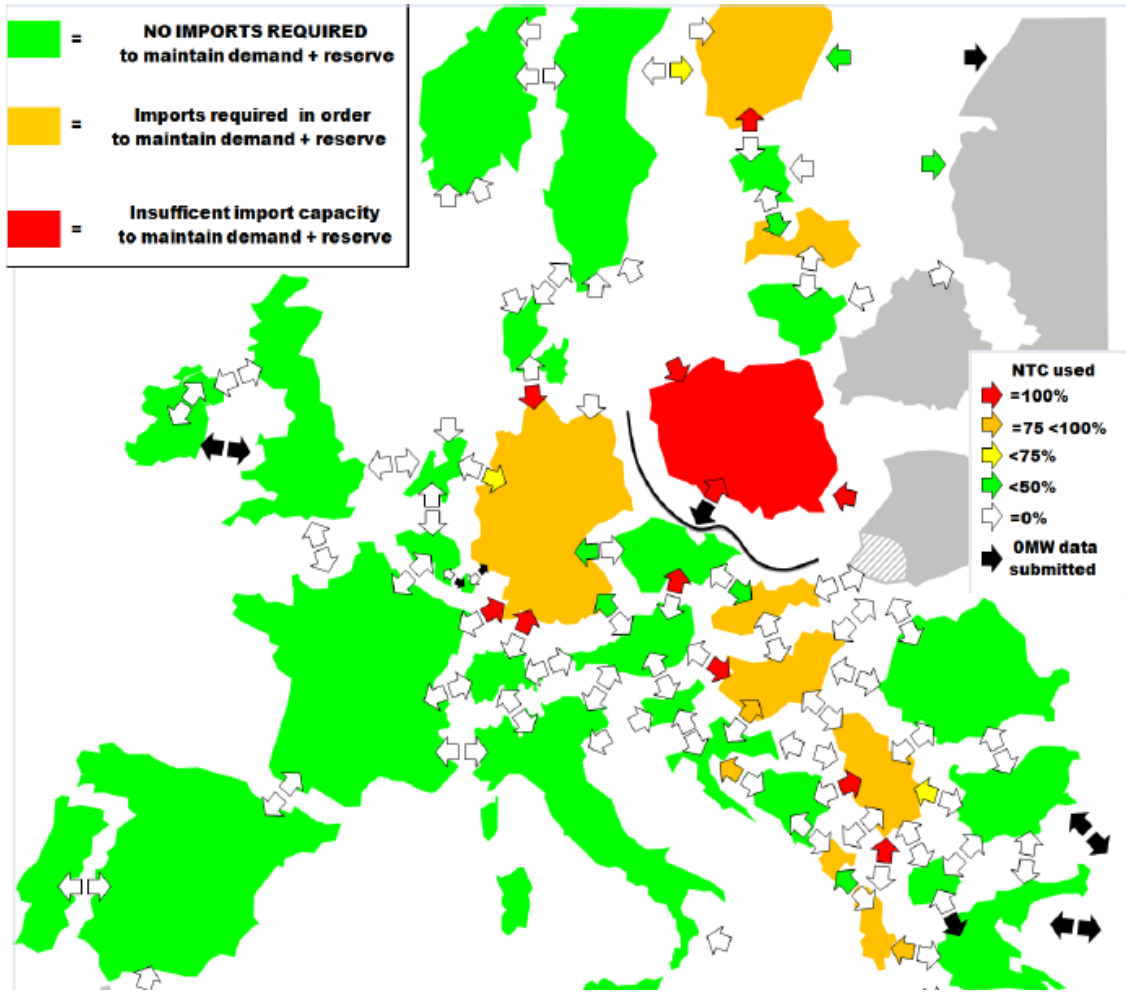
European Electricity Focus

- Supply / Demand under normal demands are comfortable
- Ample interconnector capability to cover for “severe demands”
- Analysis looks at interconnector capability to determine a “stress” level for each week



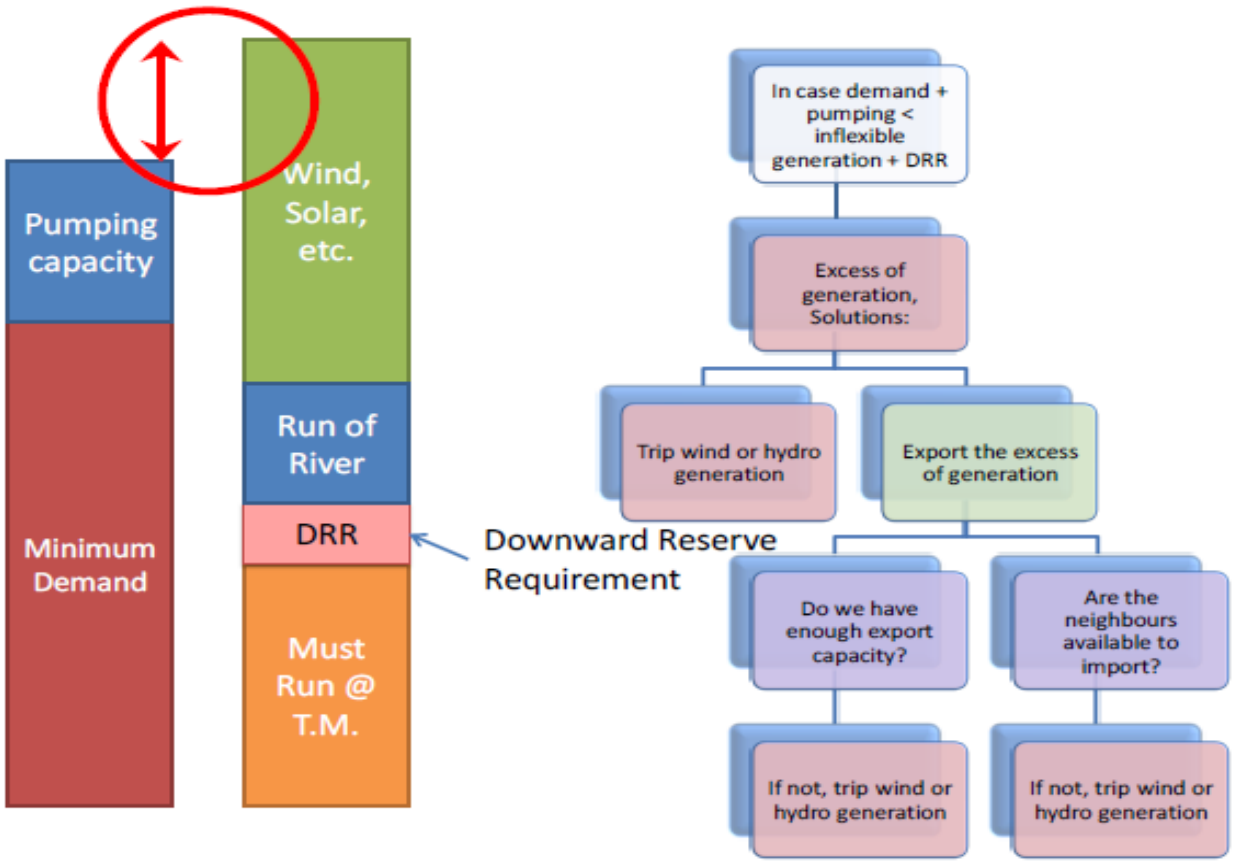
European Electricity Focus

- High Demand week example
- Low renewable infeed
- Certain regions require imports



European Electricity Focus

- First year for analysing “downward regulation” issues across Europe (“overnight downward adequacy”)



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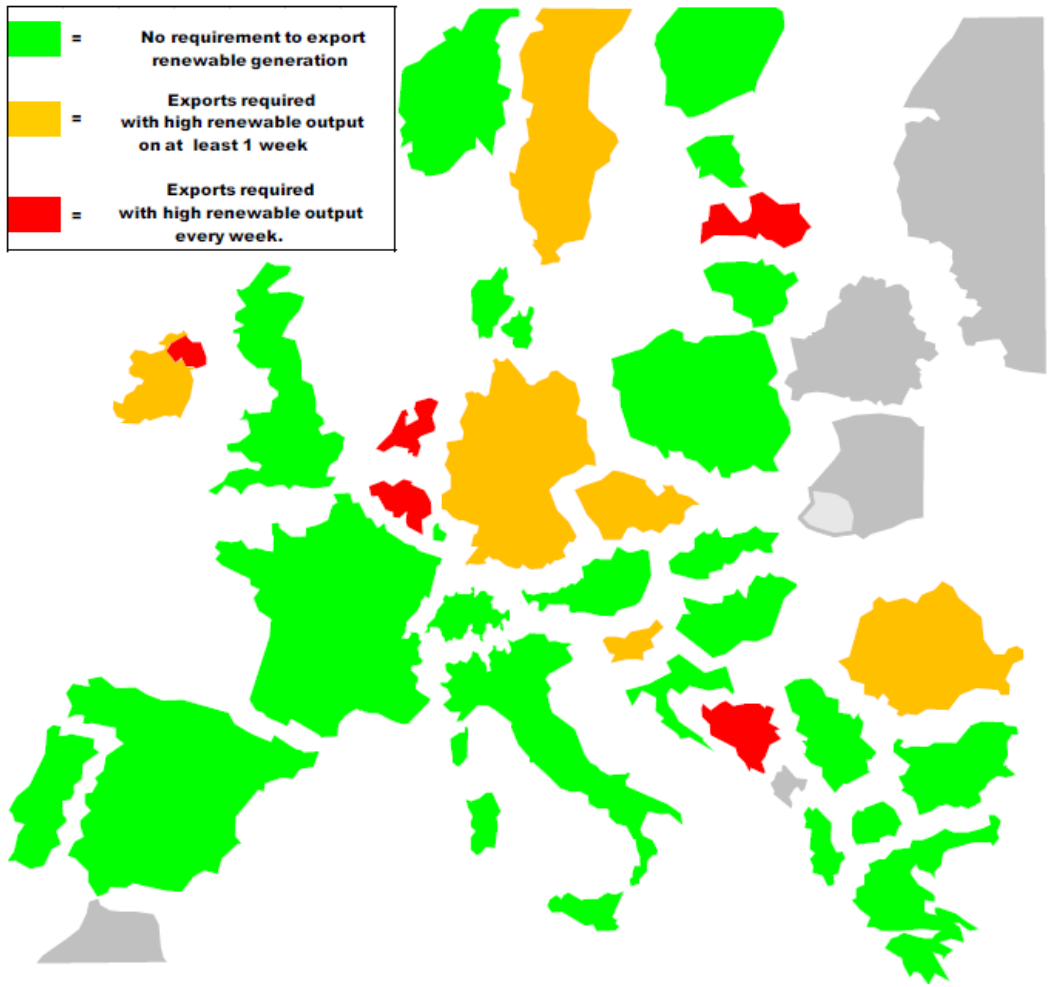
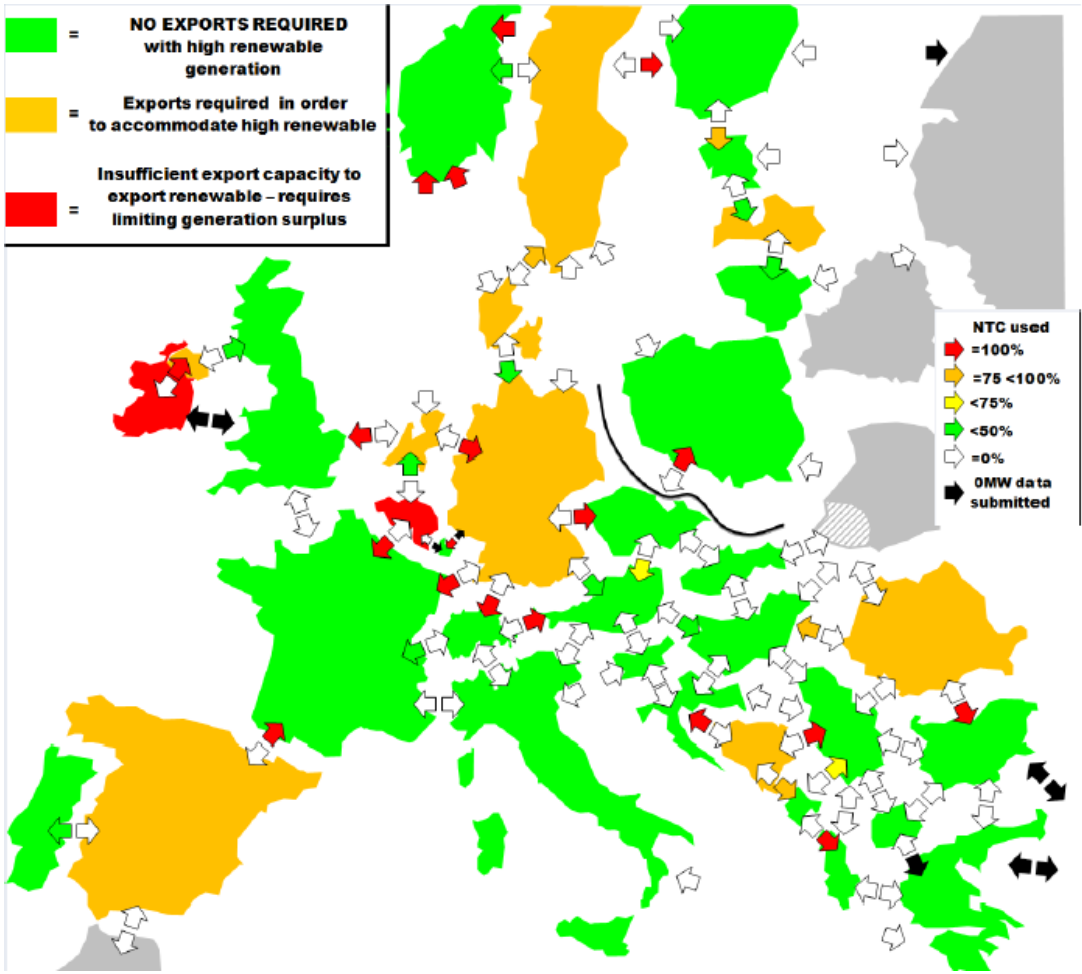
European Electricity Focus

- Minimum overnight demands analysis
  - Wind output at 65% of capacity chosen
- Various regions required to export
  - Very dependent on renewable output across regions



European Electricity Focus

- Week 30 (25th July)
- Certain regions unable to export all renewable gen due to interconnection limits
- Note: Ireland is solved with commissioning of new interconnector



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European Electricity Focus Summary

- “Ample interconnector capacity” to provide energy to regions that may require it across Europe
  - sufficient generation for both normal and severe demand conditions.
- New analysis on “downward regulation” across Europe when overnight demands are at their minimum levels
  - Highlights regions that are required to export excess generation
  - Analysis shows that in certain weeks there may be a requirement to curtail renewable generation due to limited interconnector capability

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Q&A

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