



A Target Model for the European gas market

The electricity industry perspective

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CEER, 4th Gas Target Model
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***OUTLOOK ON
GAS DEMAND FROM
THE POWER SECTOR***



Basic Facts on the European Power Sector

- Installed EU gas-fired power plant capacity in 2008 was 139 GW (30% of total thermal capacity)*
- Total EU gas-related production in 2008 was 753 TWh (or 41% out of total thermal production)*
- Dependence on gas is set to grow by 2020*
 - Installed gas capacity reaches 50% of thermal capacity (239 GW)
 - Electricity production from gas reaches 48% of thermal production (886 TWh)
- Looking to the future the only thing which is certain for power station gas buyers is that there will be huge uncertainty...



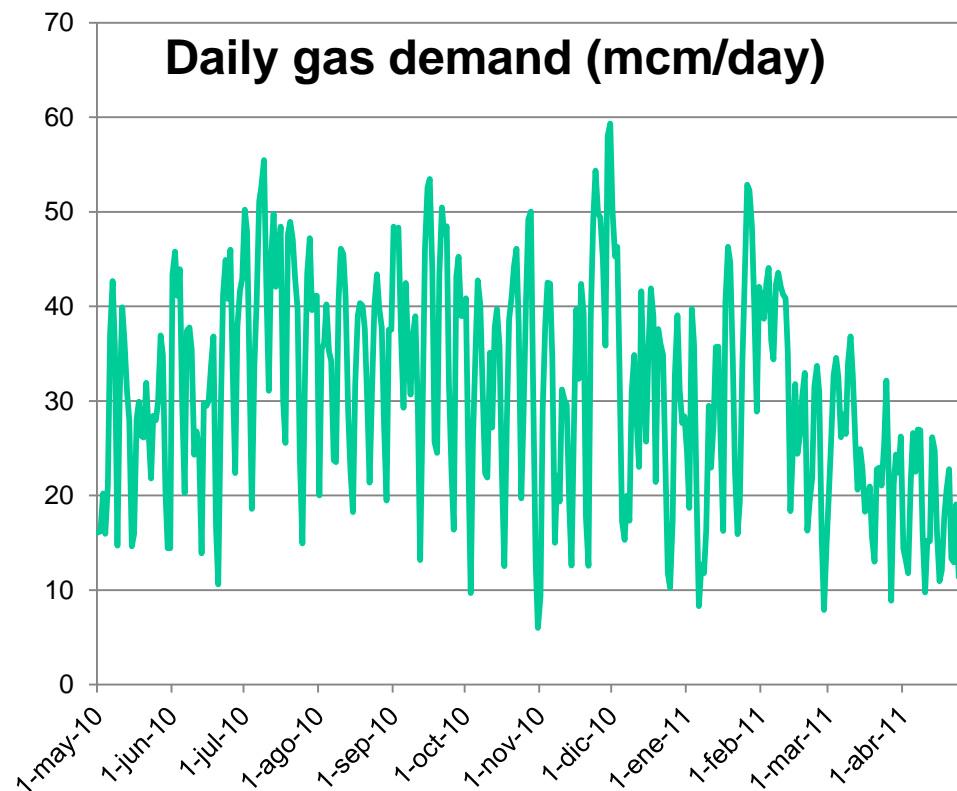
A changing outlook...

- The failure at Daiichi NPP has sparked doubts on nuclear power, also in Europe
 - Germany decided to phase out nuclear energy by 2022
 - Italian referendum stopped nuclear renaissance
 - More member states might follow...
- Gas backing-up intermittent renewables (i-RES)
 - What does this mean for the gas sector?
- Gas demand on the brink of booming?
 - Likely.. But still uncertain



The intermittency challenge ... (1/4)

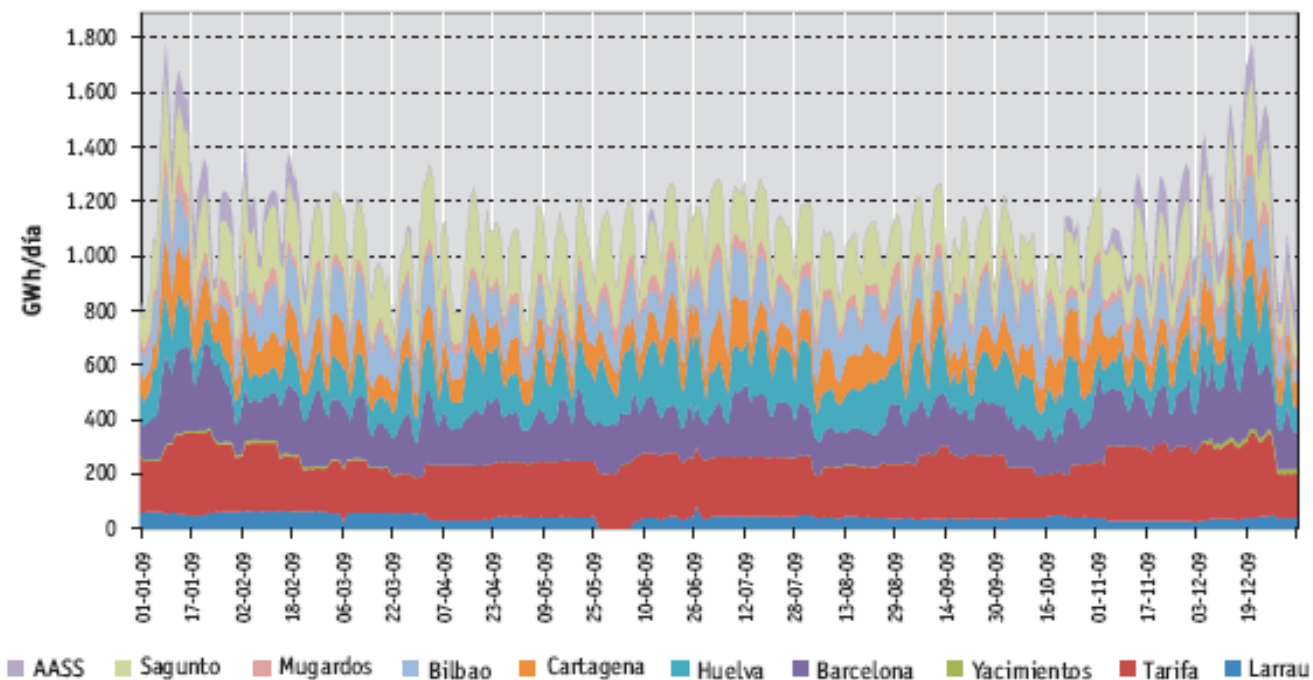
2010/11 – Power Sector gas demand in Spain





The intermittency challenge ... (2/4)

Daily supply mix in 2009 for Spain

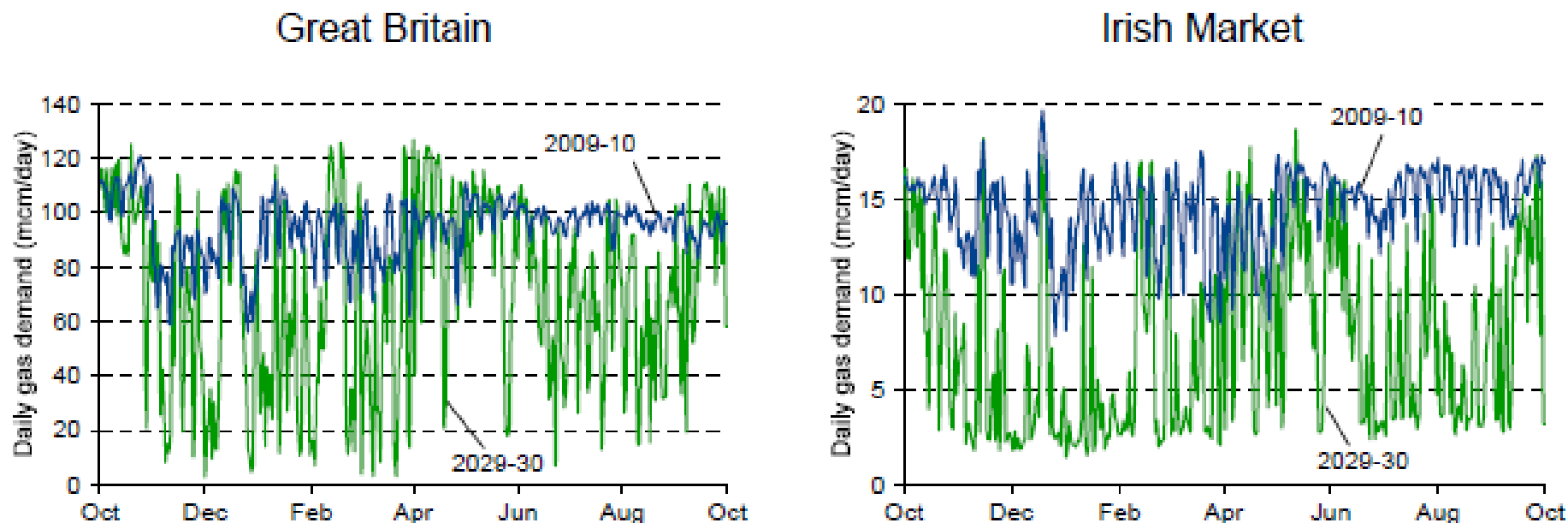


The increased flexibility required is provided by the LNG plants



The intermittency challenge as foreseen for GB & IE... (3/4)

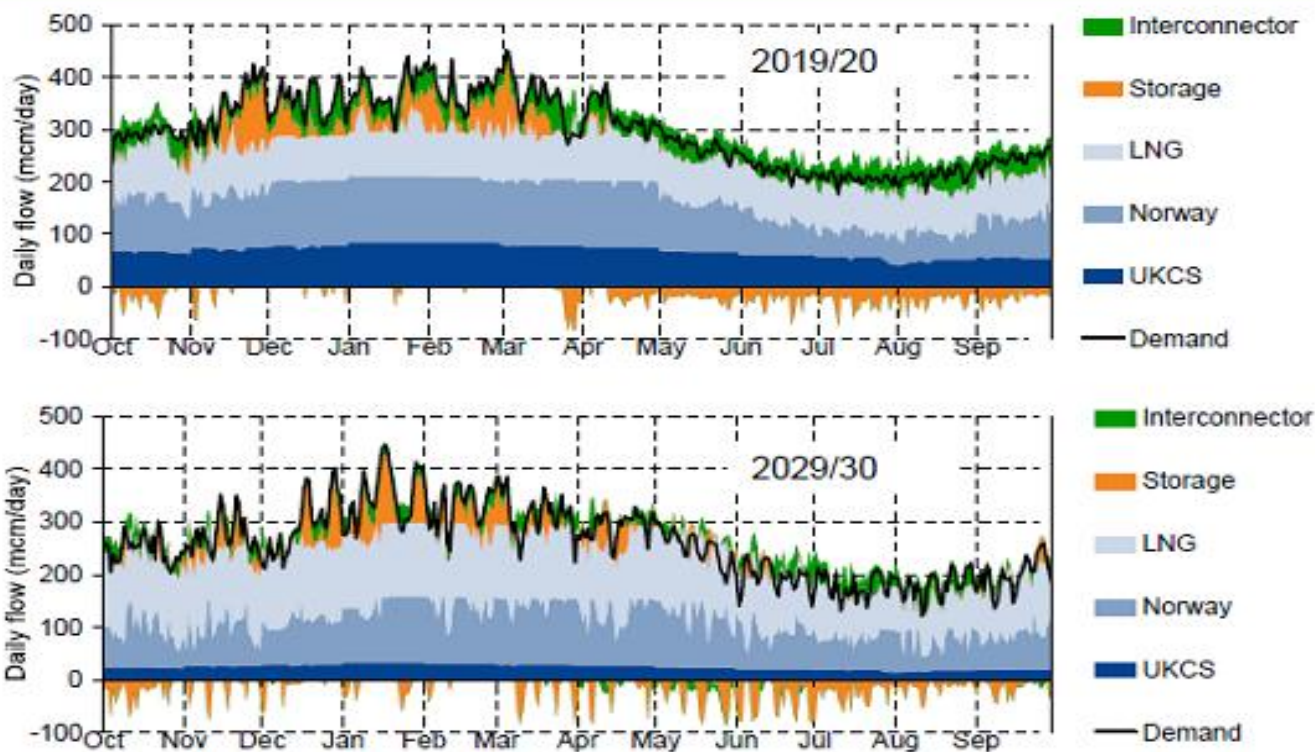
Figure 3 – Evolution of the power sector gas demand in GB and Irish markets





The intermittency challenge as foreseen for GB (4/4)

Figure 6 – Daily supply mix in 2019/20 and 2029/30 (for Great Britain)



Results from our modelling work.



***EURELECTRIC VIEWS
ON THE
GAS TARGET MODEL***



Power generators needs

Flexibility



Power generators need unrestricted and non-discriminatory access to flexible liquid gas markets to respond to swinging demand due to increasing intermittent RES

Affordability



Well functioning markets in view of a single gas market. Power generators to procure gas at competitive prices

Security



Reliable gas supply (for CCGTs) & necessary infrastructure development



Flexibility (1/2)

- **What does this imply?**
 - Ability to vary off-take within day without restrictions or undue costs
 - Access to storage, LNG, linepack and transport (including cross-border) capacity – common systems which are fit for purpose
 - Daily balancing regimes
- **How to achieve this?**
 - No restriction on renomination rights
 - CMP procedure to avoid capacity hoarding based on UIOSI
 - Users-based, market-oriented balancing without within day constraints



Flexibility (2/2)

- **Which model is best suited to bring us there?**
 - Market coupling copied and pasted from the electricity experience implies gate closure/restrictions... this doesn't suit the gas markets!
- but*
- ...Project launched by PowerNext/GRTgaz builds on continuous trading
 - Pilot project to be closely monitored and knowledge shared
 - Pilot is limited = 10 GWh/day
 - Governance represents a (potential) issue at EU level
 - GRTgaz is the TSO responsible for both balancing zones involved in the pilot



Affordability (1/2)

- **What does this imply?**

- Liquid and deep markets
 - Transparent market price formation
 - Multiple market players
- Access to market information (e.g. balancing status)
- Freedom to choose trading venues – OTC vs. hubs

- **How to achieve this?**

- Ideal final objective: EU-wide balancing zone
- But indeed balancing zones should stretch until physical limits
 - The larger the price zones, the higher the competitive pressure
 - But also the higher the congestions costs (and potential barriers to entry)



Affordability (2/2)

- **Which model is best suited to bring us there?**

- Market merging is the 1st best but most difficult solution
- Trading regions as 2nd best, being an easier solution to implement *but* with strong underlying assumptions (e.g. no congestion)
- Market coupling seems an efficient tool in allocating gas and XB capacity

But

- need to ensure that flexibility of the system is safeguarded (e.g. continuous trading)
- need to combine spot trading with freedom to enter into long term contracts



Security (1/2)

- **What does this imply?**
 - Ability to enter into long term contracts
 - Firm off-take rights & compensation for interruption
 - Necessary investments are delivered
- **How to achieve this?**
 - Market should deliver price signals which are sufficient to underpin investment in new capacity (e.g. open season, auction)
 - (Explicit) long-term capacity allocation to trigger incremental capacity
 - (Cross-border) network investments to be based on Cost-Benefit Analysis (CBA) including externalities, to optimise investment decisions and socialisation of costs (i.e. allocation of costs)



Security (2/2)

- **Which model is best suited to bring us there?**
 - Market Merger and/or Trading Regions will increase liquidity, concentrate flexibility and maximise opportunities for shippers to use market mechanisms to avoid emergencies
 - Market Coupling may restrict intra-day flexibility (if continuous trading is not applied) and is more consistent with TSO-led investment (than with market-led investment)
 - Ability for TSOs to reserve interconnection capacity for security reasons when not booked by shippers for commercial reasons is consistent with the Infrastructure Standard (Reg. 994/2010), but should only be used in emergencies



CONCLUSIONS



Conclusions (1/2)

- Increasing penetration of i-RES and recent policy developments will impact the nature and amount of gas demand, to be reflected in Gas Target Model
- Given need for (further) infrastructure development (e.g. interconnections, storage), its efficient use becomes even more important
- Market coupling, merging markets and trading regions are ‘boxes’ that will indeed be composed by different building blocks
 - Need to focus on building blocks that will shape and provide models with content, e.g. CAM, CMP and tariffs



Conclusions (2/2)

The way forward:

- Continue with implementation of CAM, CMP and other FGs/NCs focusing on their consistency and considering overlaps (e.g. reserve prices in Tariffs for auctions in CAM)
- Imagine how e.g. ‘trading regions’ could work in practice, giving concrete examples with reasonable level of detail to facilitate comprehension by all stakeholders
- Investigate options for market coupling such as GRTgaz pilot project which reflects gas market peculiarities but whose implementation is likely to be harder at EU level



Thank you for your attention!