



SHEPHERD+ WEDDERBURN

Energy Law Group

Electricity storage



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Discussion points.

- The UK approach. Ofgem, 'Upgrading Our Energy System – Smart Systems and Flexibility Plan', July 2017.
- Impact on industry participants.
- Impact on consumers.
- Legal: (i). Whole system: a missing legal link?
- Legal (ii). A lot of work: is the volume understood?
- Legal (iii). No big bang: sensible?
- How to respond?
- **In five years time this will be wrong!**

Applications, (a matter for debate)

- **Responsive consumers.**
 - Behind the meter: domestic
 - Behind the meter: commercial and industrial.
 - Prosumers.
- **Standalone:**
 - More output from renewable stations.
 - Managing constraints: transmission and distribution.
 - Part of a flexible energy portfolio.
- **Who:**
 - Consumers
 - Industry participants.
 - TSOs/DSOs.

UK approach. (i). (Note similarity to Winter Package)

- **“Guiding principles.”**
 - Markets and competition.
 - Level playing field between all flexibility, generation, interconnection and network. Capacity Mechanism example.
- **Removing barriers to storage.**
 - Paying twice. Network charging. Taxes.
 - Legislation to formalise the role of storage.
 - Support mechanisms adapted to storage, (+ve and –ve).
- **Smart homes and businesses.**
 - Encourage DSR, (storage, smart meters and tariffs, technology critical).
 - Regulate smart appliances. **Brexit.**
 - Mobile batteries. Future enabled electric vehicle charging regulation.
- **Markets to realise value of flexibility.**
 - Capacity, wholesale, balancing and ancillary services.
 - New markets, e.g. at distribution level: DSOs are the future.
 - Aggregators to address the intermediation issue.

UK approach. (ii) are the assumptions correct?

- **Is there latent flexibility in the electricity system?**
 - Are consumers in *our economy and society* capable of flexibility? Very limited real evidence on this. Is there really 40/50% of flexibility on the demand side?
- **Technology.** Will technology lead to more flexible solutions? Will behind the meter batteries reduce in price?
- **Consumers.**
 - Big cultural change. Will consumers join in? Electric cars, charging, natural gas to hydrogen, shared cars?
 - Importance of domestic and commercial capital cycle.
 - Very complicated: simplification of industry rules/ intermediation. Aggregators.
 - Half hourly tariffs may have significant distributional impacts. They involve unwinding cross subsidies. **Politics**
- **Cost.** DSR/storage out of merit in many cases.
- **Cyber security.**
- **Health and safety.**
- **Similar issues elsewhere in EU? Similar assumptions for Winter Package?**

Impact on industry participants.

- **Network charging. Issues: active distribution and stranding risk.**
 - Cost recovery for networks – per MWh or insurance – “legitimacy”. Important for gas transmission as well.
- **Networks.**
 - Vast majority of respondents agree with need for transition to DSO model.
 - But some noted conflicts of interest. Network operators not to own storage. Practical? Further than 4th package?
 - Focus on alternatives to capex: competitive solutions for network issues.
- **Retail.**
 - Competition from aggregators. Do they operate on a level playing field?
- **Generation.**
 - Investment case.

Legal: (i). Whole system: a missing legal link?

- Vast array of micro and macro challenges.
 - Many more parties, transactions and therefore more commercial contracts etc.
 - The Heysham problem.
 - Data: common standards, interoperability, reliability, privacy etc. Cyber security.
- Current position: legal, commercial and activity silos:
 - SO. TO. DNO. DSO. Others.
 - Many laws, codes and contracts with slow clunky governance.
 - Many different sources of standards etc.
 - Many different interventions from many different sources.
 - Heat, gas, power.
- Who takes an overview? Who adjudicates and determines on all these points.
- The institutional framework needs review. That needs legislation.

Legal (ii). A lot of work: is the volume understood?

- Legislation.
 - Promised. Automated and Electric Vehicles Bill to e.g. regulate charging points.
 - Hinted at. Standard setting for smart appliances etc. Brexit issue.
- Avoided legislation?
 - Safety, e.g. ESQCR.
 - Legislation to empower simplification of the framework. Code governance. Code re-writes. New codes.
 - Cyber security. (Brexit).
 - Regulation of aggregators.
 - New system co-ordinator role? Whole system issue.
- Approach, so far, is to avoid “big bang” approach to reform. This is driven by:
 - Policy. Incremental approach. Risk of making the wrong call. Wait and see.
 - Parliamentary time. Brexit.
- Does this increase legal risk in the long run?
- Volume of work not understood in GB by all.

How to react?

- Barriers accurately identified, in the main by EU and Ofgem. System does not value flexibility and the products/revenue streams do not exist to reward flexibility.
- Key players are getting involved: but no revolution. This revolution needs money and policy and legal certainty.
 - Key issues are unresolved.
 - Uncertainty about: technology; government and regulatory response; consumer behaviour; politics.
- How to respond?
 - Get involved but limit money at risk?
 - Long term contracts. Capacity Mechanisms and renewable support. State aid.
 - DSOs and TSOs: but need to allow long term contracts.



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