



## Upgrading our Energy System - Smart Systems and Flexibility Plan – Progress update

### BEAMA response

BEAMA is a trade association representing manufacturers of electrical infrastructure products and systems, from transmission and distribution equipment to the environmental systems and services in the built environment, with over 200 members ranging from SMEs to large multinationals. BEAMA members' products provide a sustainable, safe, efficient and secure UK electrical system. We support our members in ensuring that the UK has a strong electrotechnical industry that is recognised as an essential part of modern society and brings invaluable economic, social and environmental benefits.

We are very supportive of the Government's Clean Growth Strategy and Smart Flexibility Plan, and we are pleased to see UK Government making the commitment to develop a market for flexibility. BEAMA is dedicating significant resource to help support specific actions in the plan, including but not limited to the Electric Vehicle Energy Taskforce and associated work packages, storage health and safety work, development of smart appliance standards, DCMS Secure by Design working groups and the Energy Data Task Force.

We believe the plan is fairly comprehensive and the additional 9 new actions are justified. Our feedback is on which areas of the plan should be prioritised by BEIS and Ofgem, and the need for faster action in developing the appropriate regulation and market design to support flexibility. Our core concern is the lack of clarity for the market, and there are significant risks today that the market may stagnate if we don't secure market structures as soon as possible to support flexibility services. We have also made some suggestions where we see more opportunities for joined up policy.

### Market Design and regulatory reform is top priority

BEAMA members have well advanced technology solutions for flexibility services and over the years, incentivised by Government policy and targets, have developed efficient low carbon heating, hot water, transport and energy management products. Many of these products are available on the market today and our members are waiting for the emergence of flexibility services and the associated cost benefits for consumers and system operators, so this market can take off. The timing of the delivery of the smart systems and flexibility plan and associated market design is therefore key so that the market for low carbon technologies and solutions in the UK can be maintained. Delay in delivering the market changes necessary will lead to the loss of market opportunities in the UK for storage, low carbon heat and hot water systems, and much more.

The ambition from UK Government has been very evident, but the delivery of the necessary changes by Ofgem and BEIS seem in conflict with this ambition. BEAMA members fully support urgent action to focus and bring forward actions in the flexibility plan associated with regulatory reform and market design. Focus should be on prioritising market enablers – specifically here we refer to market design actions – e.g. pricing and network charging - which are fundamental in enabling a cost reflective market for flexibility. Without this there won't be the incentive for consumers to buy smart appliances and storage. **Until we get the market offering correct for consumers, it will not be possible to market and label smart appliances and low carbon technologies appropriately into the market.**



We therefore ask that actions associated with making the market more flexible should be prioritised and delivery brought forward, alongside actions required to bring forward the implementation of variable tariffs and pricing required for a DSR market.

We are still seeing much segmentation of work in Government and Ofgem and while changes are being considered for existing regulatory barriers in the market, the changes being proposed are still based on a fundamentally flawed regulatory system for a flexibility market.

BEAMA recently supported the publication of the report Redesigning Regulation<sup>1</sup> alongside other partners including the Energy Systems Catapult, Imperial College, Tech UK and other key stakeholders. This report identifies the need to simplify and reform the current regulatory framework and we believe Ofgem and BEIS need to be radical in their approach to design a market and regulatory structure that will get the most out of a flexible energy system for customers in the long term.

A good example of where we are seeing reform under the existing regulatory structure being conducted in a piecemeal fashion relates to the current Significant Code Review conducted by Ofgem. Here we are engaging with Ofgem on the Targeted and Forward Charging reviews (which we believe to be fundamental to the future of more reflective charging and pricing methodologies for the system). While we welcome the review, this is still being done in a piecemeal way, which will have significant impacts on the future of the storage market in the UK. Based on the current time frames for both reviews and the decision to fix residual charges before forming the forward charging methodologies would incur a year or two during which there are no network benefits for flexibility and storage. This could see the storage market plummet in the UK, decoupling the targeted charging review from the forward-looking review leaves a big gap in the market, which is very destabilising. This issue has not been identified in the plan update and the timing of this work must be revisited.

We have also seen with the closure of the Renewables Obligation and Feed-in Tariff export payments as well as restrictions placed on onshore wind development has had a negative impact on the renewables market and undermined investment. Again, this is not evident of a stable regulatory environment on which investment decisions can be confidently made. As a result BEAMA members are seeing hesitant and reduced investment in the market. While a Smart Export Guarantee for suppliers has recently been announced by the Government what will happen in the meantime to renewable and storage investment in the UK is still being questioned, and it isn't providing the assurances for investors needed to keep the market buoyant.

Furthermore, we believe the work to legislate for an appropriate definition for storage needs to be brought forward, going beyond storage as just a subset of generation. This is again creating too much uncertainty in the market, while we already have identified issues with co-location of storage with renewables.

Furthermore, a legislated definition of "storage" needs to be agreed without further delay. This definition should be designed to provide more market certainty and encourage investment in distributed storage co-located with renewable generation. The regulations governing co-located storage and generation should also reflect the advances in smart metering that make it possible to measure energy imported from and exported to the grid. It is true that there are some issues and concerns outstanding about how SMETS meters will coexist with microgeneration systems, and how

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<sup>1</sup> <http://www.beama.org.uk/resourceLibrary/redesigning-regulation-powering-from-the-future.html>



import and export data will be metered and displayed. BEAMA is leading work across industry to resolve these issues, and we expect Government and Ofgem to be supportive of these efforts.

The newly announced Smart Energy Guarantee is potentially a fresh start for the regulations governing the export of generated energy to the grid, and Ofgem should use this opportunity to clarify the regulations in ways that actively encourage consumers to employ distributed renewable generation and storage systems together to provide flexibility to the system.

### **Smart Appliances**

There are a number of actions BEAMA have been discussing with BEIS relating to the development of product markets for smart appliances, storage and EV charging. There is a clear need to design products that will enable flexibility for domestic customers and our members are already designing features that will enable this and many products are already on the market. However, the market offering for customers needs to be clarified before we can properly market smart products for energy service benefits. Currently smart appliances and devices are being sold based on their lifestyle and convenience benefits as the primary selling point. Energy is far down the list of consumer priorities. It is very difficult for manufacturers to label and sell 'flexible' products onto the market today, without having better certainty of when, and how, flexibility services will be offered to consumers. Government need to prioritise establishing a clear market design that works for flexibility before introducing product design requirements and associated policies and regulations.

### **Building regulation**

The Government's Building Mission is outlined in the plan, and the success of this mission will be determined by a future review of the building regulations. We are anticipating a Part L review in the spring, and the implementation of SAP 10. SAP 10 has already been released and is currently being reviewed by industry. We see opportunities to make improvements to ensure the incentive structure is balanced to support low carbon heating and hot water technologies for consumers. BEAMA are initiating a full program of work starting in January 2019 to review all parts of the building regulations for our sector, and included in this will be a comprehensive assessment of what is required to develop building infrastructure that can support a market for flexibility. BEAMA fully support a building's approach to developing a flexibility market for consumers – this would include the ability to assess a building's capacity for flexibility, allowing policy and regulation to develop without creating bias or specific requirements for particular technologies. BEAMA will respond to the call for evidence on the Building Mission and continue to work with BEIS and CLG on the overall outlook for UK Building regulations<sup>2</sup>.

Efficiency and flexibility are linked. An energy-efficient building is likely to be well insulated, which gives it good thermal inertia and hence scope for thermal energy storage / flexibility. Of course, batteries, thermal stores, smart hot water, all go beyond this in terms of providing additional flexibility vectors.

SAP should be recognising and encouraging that core underlying flexibility from the building fabric, then providing incentives to extend it, and we hope this can be picked up in the work now being undertaken in review of SAP 11.

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<sup>2</sup> <http://www.beama.org.uk/resource-library/electrification-by-design-series.html>



## Conclusion

To deliver a smart flexibles energy market in the UK, Government should be willing to also look beyond the actions outlined in the plan, and align government policy for example on building regs, decarbonisation of heat and transport.

Market design and associated regulatory reform needs to be prioritised before smart appliances and technologies can be regulated and marketed to consumers for flexibility benefits.

Until the market structure is clarified and a clear business model presented to the market (e.g. cost reflective pricing to incentivise the use of low carbon technologies and storage) the BEAMA technology market will continue to see limited investment and low take up of new technologies for flexibility. The current environment is not conducive of a stable technology market and BEAMA members need more assurances as soon as possible for future investment on the market framework on which flexibility services will be based. This will require more joined up policy and the regulatory framework needs to reviewed in its entirety and the timing of changes careful aligned and thought through to ensure the market is not destabilised. Some of the decisions being made seem counter to the overall ambition of Government to develop a flexibility market and importantly reduce carbon emissions.

BEAMA will continue to support the work ongoing to deliver the smart flexibility plan. The technology is ready, and we now need market certainty on the regulatory and market design features for the UK flexibility market.

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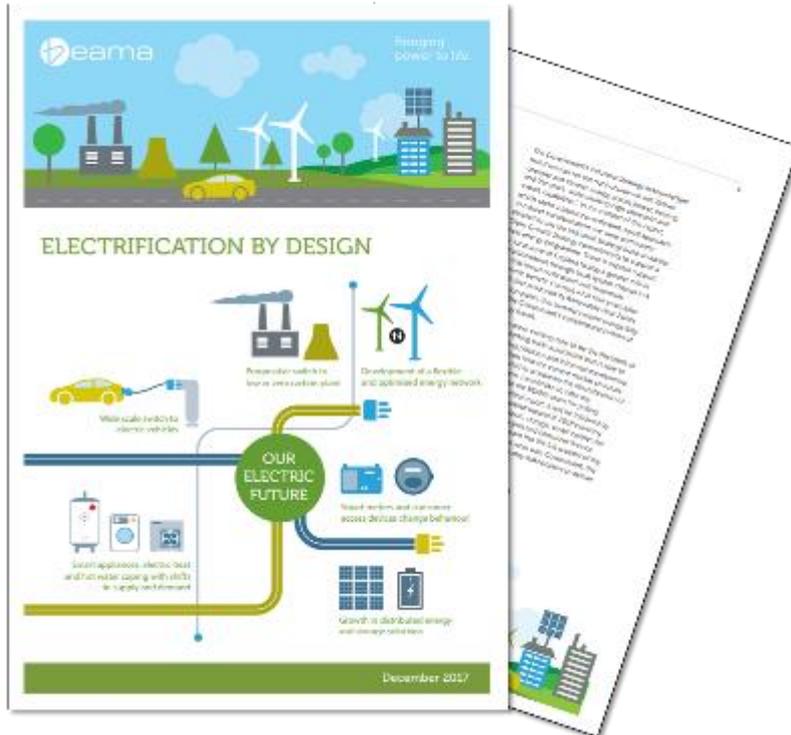
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For more information on BEAMAs position relating to market design, the decarbonisation of heat and transport, storage and flexibility please download the BEAMA Electrification by Design Series.

<http://www.beama.org.uk/resource-library/electrification-by-design-series.html>



**NOTE**

When we refer to energy storage we refer to a range of storage technologies not just battery storage. These include chemical, electrochemical, electrical, mechanical and thermal.