Response to OFGEM Smart, flexible, energy system consultation

	Questions from the consultation	Simon Hamlyn - BHA CEO 07788 278422
1	Have we identified and correctly assessed the main policy and regulatory barriers to the development of storage? Are there any additional barriers faced by industry? Please provide evidence to support your views.	No, the issue is being considered on a 1 dimensional basis. Too much emphasis is being placed on putting technologies into buckets and regulating accordingly. The energy system doesn't operate this way. For example, the proposed British Norwegian interconnector proposed treatment is for a cap and floor return as it is seen as a merchant interconnector. However; from a GB energy perspective it is connects the GB energy system to Norwegian existing pump storage. The proposed regulatory treatment isn't available to potential GB storage, nor does BEIS recognise the value of pump storage. Hence, we have a distorted playing field against a technology that can provide much needed UK economic growth.
2	Have we identified and correctly assessed the issues regarding network connections for storage? Have we identified the correct areas where more progress is required? Please provide evidence to support your views.	Current charging methodologies aren't clear or dynamic enough to allow for what should be seen as common sense arrangements. Despite the vast sums of money that have been spent on innovation, the industry hasn't adopted any of these customer funded learnings and are still operating on "providing metal" solutions for all connections. Ofgem hasn't taken the networks to task yet on the licence requirement to quote the cheapest connection solution; at present what is presented is the cheapest build solution. Non-build / flexible connection solutions aren't offered automatically. Although we have moved from RPI-X to RIIO, DNOs are fundamentally still rewarded by spending on building and replacing networks. It drives their RAV valuations, which values their companies. The DSO solution which will drive more non-build solutions hasn't been thought through enough yet, and until such time as DNOs can see the investor value from moving to the DSO solution, the status quo will remain. To begin with, the BHA suggest that Ofgem require DNOs to quote both a full connection build cost and the cheapest non-build solution. We believe that storage (whereby it both imports and exports) should continue to pay network charges for both the import and export of the power and not seek to obtain different treatment to the consistent application of costs facing other users (and providers of flexibility) suggest a Smart DNO charge proposal: i.e. one standing charge - two seasonal variable charges demand and generation and you could flip between the two depending on your behaviour in the relevant HH. We believe this provides better signals compared to the current DCUSA mod that is being worked on. We support the intent to reduce the risk of some final consumption levies being charged; potentially multiple times, on the same kWh of electricity. However, we believe it is important to ensure that those storage operators (embedded within a supplier's consumption account) retain the liability for the losses their storage technology create (i.e. the difference between the imported power in and exported power out) – as those losses are in effect the "final consumption" of that site.
3	Have we identified and correctly assessed the issues regarding storage and network charging? Do you agree that flexible connection agreements could help to address issues regarding storage and network charging? Please provide evidence to support your views, in particular on the impact of network charging on the competitiveness of storage compared to other providers of flexibility.	Flexible connections are a must and need to be developed and offered quickly. It is clear that market signals that storage will react to, are high generation - low demand for the charging cycle and low generation high demand for the discharge cycle. In both these modes the storage capacity is easing network constraints, so the current thinking where we consider connection of storage on the basis of adding to these constraints, is adding a cost uncertainty and delaying the necessary deployment of storage.
4	Do you agree with our assessment that network operators could use storage to support their networks? Are there sufficient existing safeguards to enable the development of a competitive market for storage? Are there any circumstances in which network companies should own storage? Please provide evidence to support your views.	Yes, the provision of storage on the distribution network allows for constraint management and cheaper quicker connections for distributed generation. Again, we need to ensure that the subject isn't dealt with on a 1 dimensional basis as there are many forms of storage on the distribution network that drives benefits, such as behind the meter domestic heating systems and hot water systems. DNOs should be allowed to procure storage systems from the market, and where the market does not deliver it, should be allowed to invest in storage systems where this is the most economic solution for constraint management. However, as mentioned in answer 2, the current regulatory regime isn't sending the right incentives for DNOs to do this.
5	Do you agree with our assessment of the regulatory approaches available to provide greater clarity for storage? Please provide evidence to support your views, including any alternative regulatory approaches that you believe we should consider, and your views on how the capacity of a storage installation should be assessed for planning purposes.	As stated in answer 1, the approach is too 1 dimensional and doesn't deal with alternative solutions that are providing the same function, e.g. the proposed Brit/Nor interconnectors is connecting GB's intermittent wind generation to Norway's pumped storage with a reward/return mechanism that isn't available to potential new pumped storage in the UK. The economic activity associated with new build pump storage has a far greater local content than the proposed interconnector, yet we are in danger of selecting the least favourable economic solution due to 1 dimensional thinking. we do not believe there is any justification for a new asset class for storage to be developed, indeed the recent success of storage in both the EFR and capacity market show the existing regulatory framework is sufficient and therefore our preferred option remains A) – continuation of the status quo, whereby storage remains an activity requiring a generation licence
6	Do you agree with any of the proposed definitions of storage? If applicable, how would you amend any of these definitions? Please provide evidence to support your views.	The storage definitions would seem to be predicated on the conversion of electricity into a form of energy that can be stored and then the subsequent reconversion back to electricity again. However, this involves two conversions, which is inefficient. The most efficient storage is to convert electrical energy into another form of energy that can then be stored and subsequently reused, such as heat stores, hot water stores, hydrogen production etc. The BHA believes that there is too much focus on defining and labelling and not enough on designing the regulatory and market functions that will drive the most economic forms of storage to be deployed.
		The BHA is concerned that the focus on the perceived barriers for aggregators will distort the market and leave energy consumers vulnerable. Aggregators have emerged as balancing

7	What are the impacts of the perceived barriers for aggregators and other market participants? Please provide your views on: • balancing services; • extracting value from the balancing mechanism and wholesale market; • other market barriers; and • consumer protection. Do you have evidence of the benefits that could accrue to consumers from removing or reducing them?	requirements are currently procured and rewarded at a system level. The BHA believes that in a smart, flexible, and price reflective energy market there may not be a role for aggregators. If we had a system where consumers were responding to price signals and balancing directly or through their supplier, then the consumers will be rewarded for providing this automatic system balancing. Currently, consumers ultimately pick up the cost of these services being provided, but aren't rewarded for their role. The BHA believes that the energy system should be designed around what is best for the consumer, with the reward/penalty for the right/wrong behaviours falling on customers rather than focusing on the reward/return mechanism for intermediary players.
8	Removing policy and What are your views on these different approaches regulatory barriers to dealing with the barriers set out above?	As stated, if the objective is to truly design a smart flexible energy system that benefits the consumer, then Ofgem/BEIS should do what is best for the consumer without being over concerned that certain types of current market participants may not have a role in the future.
9	What are your views on the pros and cons of the options outlined in Table 5? Please provide evidence for your answers.	The BHA believes that the regulator steps in and requires aggregators to have a supply licence. This avoids the unintended consequence of leaving them as a 3rd party intermediary with the unintended consequences on the design and development of the future energy system.
10	Removing policy and Do you agree with our assessment of the risks to regulatory barriers system stability if aggregators' systems are not robust and secure? Do you have views on the tools outlined to mitigate this risk?	In the energy system, all key players must have robust and secure systems so as not to risk system security. By requiring them to have a licence, Ofgem has the ultimate tool in that it can revoke licences for the wrong behaviours.
11	Providing price signals What types of enablers do you think could make for flexibility accessing flexibility, and seeing a benefit from offering it, easier in future?	The BHA considers that true System Value pricing cannot be achieved unless the end user, the consumer, is exposed to actual price signals. Currently, consumers are hedged against price signals by their supplier and our energy system is therefore balanced against this economic hedge. Hence, the true value of flexibility for dealing with constrains is not achievable.
12	If you are a potential or existing provider of flexibility could you provide evidence on the extent to which you are currently able to access and combine different revenue streams? Where do you see the most attractive opportunities for combining revenues and what do you see as the main barriers preventing you from doing so?	As per answer 11
13	If you are a potential or existing provider of flexibility are there benefits of your technology which are not currently remunerated or are undervalued? What is preventing you from capturing the full value of these benefits?	As per answer 11
14	Can you provide evidence to support changes to market and regulatory arrangements that would allow the efficient use of flexibility and what might be the Government's, Ofgem's, and System Operator's role in making these changes?	The BHA believes that if Government/Ofgem focused on delivering a true smarter flexible energy system for the benefit of the consumer, then the design and reward/returns for flexibility would follow. The BHA believes that the current role played by the System Operator is determined by the fact that those who ultimately could respond to pricing signals, the end consumer, currently are hedged against these prices and hence do not participate.
15	To what extent do you believe Government and Ofgem should play a role in promoting smart tariffs or enabling new business models in this area? Please provide a rationale for your answer, and, if you feel Government and Ofgem should play a role, examples of the sort of interventions which might be helpful.	Smart tariffs are the cornerstone of a smarter flexible more affordable energy system. Without them, there is no incentive on end users to change their behaviours. Government/Ofgem's role should be limited to protecting the vulnerable who do not have the choice or ability to change their behaviours and will be at risk from smarter tariffs. Government/Ofgem past record of interventions have been to the detriment of a smarter more flexible system, e.g. in the response to perceived confusion from too many tariffs, the resultant move to limit tariffs to 4 over simplified the energy market and negated the potential for smart tariff design that rewarded customers for the right behaviours.
16	If deemed appropriate, when would it be most sensible for Government/Ofgem to take any further action to drive the market (i.e. what are the relevant trigger points for determining whether to take action)? Please provide a rationale for your answer.	The BHA can't see where the benefit from the Smart meter roll out will occur without the introduction of smarter tariffs based on system pricing. Hence, the BHA believes the government needs to intervene during the roll out period.
17	Providing price signals What relevant evidence is there from other countries that we should take into account when considering how to encourage the development of smart tariffs?	The BHA has no sight of the relevant evidence other than to note that the move to smart meters will require smart tariffs to enable benefits from the programme to be achieved.
18	Do you recognise the reasons we have identified for why suppliers may not offer or why larger non- domestic consumers may not take up, smart tariffs? If so, please provide details, especially if you have experienced them. Have we missed any?	The BHA cannot comment on this.
19	Are distribution charges currently acting as a barrier to the development of a more flexible system? Please provide details, including experiences/case studies where relevant.	The current "black box" charging methodology that was introduced to provide a degree of standardisation across networks, introduced a degree of complexity that even if charges are understood, it is impossible to know what the impact of taking an action will do to change the tariff. A simple analogy, is that it is like to trying to grab a bar of soap - the minute one tries to grab it, its lips away to appear somewhere else.

20	What are the incremental changes that could be made to distribution charges to overcome any barriers you have identified, and to better enable flexibility?	DNOs need to be able to override the common methodology to send a market signal where it requires flexibility and for that market signal to be contractible and bankable.
21	How problematic and urgent are any disparities between the treatment of different types of distribution connected users? An example could be that that in the Common Distribution Charging Methodology generators are paid 'charges' which would suggest they add no network cost and only net demand.	The common charging methodology has resulted in a number of unintended consequences, including the ones highlighted in the consultation. As equally important is the signal given to demand customers in areas of excess generation. Unless the DNOs are allowed to move away from the common methodology, it will remain a barrier to the development of a smarter flexible and cost efficient energy system.
22	Do you anticipate that underlying network cost drivers are likely to substantively change as the use of the distribution network changes? If so, in what way and how should DUoS charges change as a result?	The BHA believes that the fundamental driver is how DNOs are remunerated for running their networks. Until the link between large reinforcements/rebuilds and investor value is broken, then networks will continue to operate the way they always have and hence the cost drivers will remain the same.
23	Network charges can send both short term signals to support efficient operation and flexibility needs in close to real time as well as longer term signals relating to new investments, and connections to, the distribution network. Can DUoS charges send both short term and long term signals at the same time effectively? Should they do so? And if so, how?	Currently DUOS signals are a cost that has to be borne rather than a pricing signal that can be acted on. The BHA suggests that activity on the network currently happens in isolation of DUOS charges, rather than as a result of them. If the requirement is for DUOS charges to be a pricing signal, then a fundamental overhaul is required.
24	In the context of the DSO transition and the models set out in Chapter 5 we would be interested to understand your views of the interaction between potential distribution charges and this thinking.	Chapter 5 sets out the different options for the potential roll of the DSO and its interfaces. Yet it is silent on how it will remunerated for these services. Unless BEIS/Ofgem deal with how the owners of networks will remunerated under the new energy system, it will be a barrier to the transition.
25	Can you provide evidence to show how existing for flexibility Government policies can help or hinder the transition to a smart energy future?	We urge the Government to undertake an holistic approach to the whole energy system. Currently there is a tendency to deal on a 1 dimensional basis at a detailed level that drives unintended consequences and damages investor confidence. An example of the is the embedded benefit review carried out by Ofgem where the focus on a single issue in isolation will have unintended consequences.
26	What changes to CM application/verification processes could reduce barriers to flexibility in the near term, and what longer term evolutions within/alongside the CM might be needed to enable newer forms of flexibility (such as storage and DSR) to contribute in light of future smart system developments?	The BHA believes that the absence of a holistic long term energy strategy, informed by the move to a smarter flexible and affordable energy system results in the current sub-optimal regime that is focused on short term system security. We need to break out of his cycle and set the long term strategy.
27	Do you have any evidence to support measures that would best incentivise renewable generation, but fully account for the costs and benefits of distributed generation on a smart system?	There is evidence that DG has resulted in a more robust and newer distribution system in the remoter rural areas, e.g. North of Scotland, that has been funded by DG developers and will benefit local consumers in terms of system security for years to come. These benefits have had no value attributed to them, and DG developers haven't been rewarded for them. The biggest barrier is that common charging methodologies and connection cost policies aren't granular enough to fully identify costs and benefits.
28	Do you agree with the 4 principles for smart appliances set out above (interoperability, data privacy, grid security, energy consumption)?	If the purpose of smart appliances is to allow the consumer to respond to pricing signals, then this approach is a sledge hammer to crack a nut. It also will add a cost to the appliance that isn't necessary.
29	What evidence do you have in favour of or against any of the options set out to incentivise/ensure that these principles are followed? Please select below which options you would like to submit evidence for, specify if these relate to a particular sector(s), and use the text box/attachments to provide your evidence. • □Option A: Smart appliance labelling • □Option B: Regulate smart appliances • □Option C: Require appliances to be smart • □Other/none of the above (please explain	Any Government/Regulatory intervention will add to the cost base of appliances. It is consumer behaviour and not appliance specification that will drive change, and hence the focus needs to be on incentivising the consumer to do the right thing; not impose behaviours on them.
30	Do you have any evidence to support actions focused on any particular category of appliance? Please select below which category or categories of appliances you would like to submit evidence for, and use the text box/attachments to provide your evidence: • □Wet appliances (dishwashers, washing machines, washer-dryers, tumble dryers) • □Cold appliances (refrigeration units, freezers) • □Heating, ventilation and air conditioning • □Battery storage systems • □Others (please specify)	No comment

31	A system for the Are there any other barriers or risks to the uptake consumer of smart appliances in addition to those already identified?	The biggest barrier is the lack of any reward for using a smart appliance.
32	Are there any other options that we should be consumer considering with regards to mitigating potential risks, in particular with relation to vulnerable consumers?	Government/Ofgem must protect the vulnerable in society who are at risk. This could be done through a mandatory vulnerable tariff where the end user is protected.
33	How might Government and industry best engage consumer electric vehicle users to promote smart charging for system benefit?	Government needs to be agnostic to the source of demand, i.e. an electric vehicle is no different from any other consumer demand. Smart tariffs with time of day pricing is the way forward, however it has to be in-line with other demand users. The proposition for electric vehicle users is that it can be charged from any 13A plug in any building- if Government changes this signal it will have unintended consequences.
34	What barriers are there for vehicle and electricity system participants (e.g. vehicle manufacturers, aggregators, energy suppliers, network and system operators) to develop consumer propositions for the: • control or shift of electricity consumption during vehicle charging; or • utilisation of an electric vehicle battery for putting electricity back into homes, businesses or the network?	An electric vehicle is a consumer choice and is primarily for transportation. The user will want to know that their vehicle has sufficient charge for their next planned/unplanned journey. Charging/discharging cycles have an impact on battery life, which in turn has an impact on the vehicle life. Hence, it is hard to see why electric vehicle owners would want to discharge into the grid.
35	What barriers (regulatory or otherwise) are there to consumer the use of hydrogen water electrolysis as a renewable energy storage medium?	No comment
36	A system for the Can you provide any evidence demonstrating how consumer large non-domestic consumers currently find out about and provide DSR services?	No comment
37	Do you recognise the barriers we have identified to large non-domestic customers providing DSR? Can you provide evidence of additional barriers that we have not identified?	No comment
38	Do you think that existing initiatives are the best way to engage large non-domestic consumers with DSR? If not, what else do you think we should be doing?	No comment
39	When does engaging/informing domestic and smaller non-domestic consumers about the transition to a smarter energy system become a top priority and why (i.e. in terms of trigger points)?	The BHA believes that the smart meter roll out programme makes this a priority now.
40	Please provide views on what interventions might be necessary to ensure consumer protection in the following areas: • Social impacts • Data and privacy • Informed consumers • Preventing abuses • Other	No comment
41	Can you provide evidence demonstrating how smart technologies (domestic or industrial/commercial) could compromise the energy system and how likely this is?	Consumers will choose what technologies they wish to interact with and how they will interact. Hence, the energy system needs to be developed with this in mind and be supportive of consumer choice. Any impact will be because the design and operation of the energy system hasn't been done in line with consumer expectations.
42	What risks would you highlight in the context of consumer securing the energy system? Please provide evidence on the current likelihood and impact.	The biggest risk is Government/Regulator/Industry players not recognising the power of consumer choice and behaviour and getting the system design wrong.
43	Do you agree with the emerging system requirements we have identified (set out in Figure 1)? Are any missing?	No, it doesn't mention the consumer once. It is industry centric and fails to recognise that change will be driven by consumer choice and behaviour.
44	Do you have any data which illustrates: a) the current scale and cost of the system impacts described in table 7, and how these might change in the future? b) the potential efficiency savings which could be achieved, now and in the future, through a more co-ordinated approach to managing these impacts?	No comment

45	With regard to the need for immediate action: a) Do you agree with the proposed roles of DSOs and the need for increased coordination between DSOs, the SO and TOs in delivering efficient network planning and local/system-wide use of resources? b) Howcouldindustrybestcarrythese activities forward? Do you agree the further progress we describe is both necessary and possible over the coming year? c) Are there any legal or regulatory barriers (e.g. including appropriate incentives), to the immediate actions we identify as necessary? If so, please state and prioritise them.	The BHA agrees that there needs to be a shift from DNO to DSO to move to a smarter flexible and more cost effective solutions. The biggest barrier at present is whilst the technical requirements of a DSO are detailed, the reward/return mechanism for investors in distribution networks is missing. This needs clarified if we are to see such a move.
46	With regard to further future changes to arrangements: a) Do you consider that further changes to roles and arrangements are likely to be necessary? Please provide reasons. If so, when do you consider they would be needed? Why? b) What are your views on the different models, including: whether the models presented illustrate the right range of potential arrangements to act as a basis for further thinking and analysis? Are there any other models/trials we should be aware of? which other changes or arrangements might be needed to support the adoption of different models? do you have any initial thoughts on the potential benefits, costs and risks of the models?	Further changes to roles will be necessary. We'd encourage Government/Ofgem to take a more holistic view of these issues, putting the consumer at the heart of the changes. Too much of the analysis and thinking is driven from an industry centric view and their is a lack of recognition of the consumer choice and behaviour throughout the document.
47	Can you give specific examples of types of support that would be most effective in bringing forward innovation in these areas?	Innovation needs to be problem led looking for a solution as opposed to the current tendency of a solution looking for a problem. The UK has spent a lot of money on innovation in this field, however much of it is yet to see exploitation as a business as usual solution and too much of it has too narrow a focus. The move to a smarter flexible energy solution needs the key issues identified and focused innovation including roll out plans.
48	Do you think these are the right areas for innovation funding support? Please state reasons or, if possible, provide evidence to support your answer.	See answer to 47.