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12 January 2017

“Consultation reference: Plan for a Smart, Flexible Energy System - A call for evidence”

We are responding on behalf of Pixie Energy and the Local Supply Community Project (LSCP), which we, Sir Ed Davey and Nigel Cornwall, are co-chairs of, to the call for evidence. Both BEIS and Ofgem are aware of this Project through its participation as observers to the Project, and we were referenced in Ofgem’s 2016 Retail Energy Markets report.¹

Our Project and the relevance to the Call for Evidence

We attach the abbreviated report from our summary of phase 2 of the Project. This phase has examined the concept of Local Authority (LA) involvement in local supply, initially through the use of LA consumption as a stimulant to local electricity markets. Local Authorities have a strong interest in the energy space as it meets a number of objectives for them, and they have access to both demand and generation, which creates a natural interest in trying to balance them. Against this background, we note there is no reference in the call for evidence to local energy, though we understand an Insight paper on the issue may shortly be forthcoming from Ofgem.

However, we have also conducted extensive examination of local matching and balancing, which is relevant – indeed critical – to many local and community initiatives and the wider flexibility debate. We believe that our work illustrates many of the problems inherent in local balancing under the current regulatory rules and market rule book, and which will inhibit the transformation to a smarter, flexible system. Indeed we see the analytical case studies we have carried out and the supporting narrative that we developed during phase 2 as an important contribution to better understanding the benefits of, and barriers to, a smarter system at the local level that delivers real customer benefits. Local markets could also open up real scope for the promotion of research and innovation within a framework that supports the emerging industrial strategy.

We examined as part of the Project the impacts of layering over local balancing half-hourly settlement and the interactions with time of use pricing, which could be key enablers of change. However, we were unable to prove our supposition that changes in consumer behaviour could go some way towards offsetting the additional costs that arise from lack of scale and systemic imbalance at the local level. We intend to do further work on these important interactions going forward.

Importance of supporting innovation

The call for evidence headlines the statement “We want to create a system that allows disruptive innovation” (p9), noting further that “a key role for Government and Ofgem is to create the environment for new ideas to flourish by removing barriers to innovation” (p10). In this context, the

¹ Another recent development, with potential to attract consumers, is the increasing number of local supply projects, such as the multi-party Local Supply Community project, which is exploring new ways to strengthen the links between local generation and supply,

https://www.ofgem.gov.uk/system/files/docs/2016/08/retail_energy_markets_in_2016.pdf



document goes on to highlight the importance of catalysing innovation as a priority identifying the area of flexibility trading/optimisation platforms as an area for potential innovation support. (p17)

We strongly support these sentiments. However, a real problem we experienced in this phase of the Project is the limited scale and number of innovation trials to date at the local market level. Many of the technologies and demand-side techniques have yet to be tested in a local setting that considers the real impact of current market rules, and there were too many unknowns for us to construct compelling analysis at this stage.

See our responses to questions 47 and 48 on why this must be considered a priority in following up the call for evidence.

Specific responses to questions

We think the relevance of the report we have issued is greatest in the immediate context of questions 19, 25, 47 and 48.

Question 19: Are distribution charges currently acting as a barrier to development of a more flexible system?

Yes. Our analysis showed the extent to which the current basis of allocating distribution charges adversely impacts small generation schemes and takes insufficient account of local matching of demand.

We support Ofgem's commitment to a full review of smart distribution tariffs. In turn, this reaffirms the importance of not amending embedded benefits – more specifically the triad benefit - in isolation.

Question 25: Can you provide evidence to show how existing Government policies can help or hinder a transition to a smart energy future?

We think current policies and rules hinder diversity and innovation in local supply, despite this being stated as a desired outcome of policy for many years. There is a significant diseconomy arising from lack of scale, with the energy imbalance regime imposing significant unavoidable costs at the local level. The supply routes we examined were dependent on local authorities acting as a natural aggregator but there is simply insufficient latitude at present to test the concept of local balancing units in existing balancing and settlement structures even under single cash-out.

As we say in our report: *“The Project identified a range of barriers to development [of local electricity markets]. Notably, existing regulatory structures and market rules, designed at the national level for a different era and generally supporting scale players, are a major hurdle. These barriers applied across the energy trading arrangements and network charging rules (both transmission and distribution).”*

“Furthermore, some of these barriers had been getting higher, and a range of recent Government and Ofgem interventions have had highly negative effects on the financial feasibility of community schemes and local energy markets. There are also a number of informational barriers, and few real attempts have been made to demonstrate or trial innovative solutions in this complex area given the expectation of significant change to market rules.”



We therefore strongly support the direction of the call for evidence, and believe innovation support to enable research and trials that apply lessons is critical to understanding and addressing the high barriers that exist in this area. In this context we would like to draw to your attention to our proposal for a further feasibility study stage to the Project, summarised at pp14-15 of the Abbreviated Report.

It is relevant that recently Centrica has announced the establishment of a local electricity market that seeks to stimulate flexibility and demand-side response. This is an important area of the smarter landscape, but we think there is still much to be learned from active engagement with LAs irrespective of whether they become suppliers in their own right (we assume as a result of the work to date that most will not) given their active need to deliver local infrastructure and energy services, including heat networks.

We also believe DNOs are natural partners for LAs who can help them in managing local constraints (which may anyway be impacting LA's own ambitions around generation). Indeed one of the barriers to local markets appears to be that a range of parties who are not typically familiar with dealing with one another, including DNOs, generators and consumers, must interact to address common issues on a frequent basis. This points to a long-term role for DSOs rather than the alternative models presented, and we intend that the next stage of our Project will address specifically some of these interactions.

The call for evidence notes that "without the correct framework, unconstrained deployment of decentralised generation could put additional pressures on local networks and system operations". (p58) However, this is not tomorrow's problem as there is already 5.3GW of FiT generation already embedded in the system, 4.3GW of which is solar. In East Anglia alone, which is where the next phase of our Project will focus, there is already over 280MW of solar FiT generation, some spilled, and the customer is seeing higher costs in the region from escalation of smeared costs that arise out of settlement (as well of course as meeting the cost of FiT payments). We believe that, with local matching and balancing in a reformed and more regionalised settlement process, technology and process innovation will open the way to more efficient outcomes and significant consumer gains.

We believe it is critical to the realisation of policies to promote flexibility that the Government encourages pilots in this area to help in determining the best long-term model or models. In this context it is clear that a one size fits all approach such as that represented by the current industry baseline is broken, but that a reformed structure in which diversity of participant and business models can thrive is key, realising competition and innovation.

Question 36: Can you provide any evidence demonstrating how large non-domestic consumers currently find out about and provide DSR services?

One of our working papers, which is currently being finalised, specifically addressed how LAs procure energy and related services. We will make this available shortly.



Question 47: Can you give specific examples of types of support that would be most effective in bringing forward innovation in these areas?

It is clear that we will need third party support and additional funding if the project is to realise its full potential, and there are elements of the project that could fit under the first three headings listing in section 6, but notably “flexibility trading/optimisation platforms”.

A key feature of the work to date is that it has been resourced from Project participants, and we already are confident that we have some, albeit limited support for the next phase. Now we are closing on our phase 2 work, we will address how our phase 3 study specification can be focused to optimise regional learnings. There is some scope over how the separate modules of the project can be flexed without losing the unique features of the workstream, so we would welcome the opportunity to continue to engage with Ofgem as it too develops thinking around innovation support.²

Q48: Do you think these are the right areas for innovation funding support? Please state reasons or, if possible, provide evidence to support your answers.

We believe there is merit in earmarking funding specifically to local markets given the unique position of local authorities in the community as providers of infrastructure and energy-related services. In this context the report prepared for the DECC Local Supply Working Group in March 2015 called for the establishment of a Local Supply Innovation Fund³, though this recommendation seems to have been ignored. As well as evidencing the potential, the phase 2 analysis also demonstrated the complexity of drivers and interactions in this area. It is simply too complex to leave it to the market.

If you would like to discuss any of the themes in this letter, or would like further information, please get in touch on our details below.

Nigel Cornwall

Sir Ed Davey

² In addition to the sources of support referenced in section 6, we are aware of European Regional Development Funding for production and distribution of energy from renewable resources, as well as its use in enterprises, as well as supporting smart energy management and use in public infrastructure. This presupposes a £1mn minimum size project (with the project sponsors matching the level of support on offer, implying mobilisation of £500,000 by the project as a condition of meeting eligibility criteria). BEIS also offers Energy Entrepreneur Funding, which we will be exploring under phase 5b of the scheme.

³ https://research.ncl.ac.uk/ibuild/outputs/reports/local_electricity_supply_report_WEB.pdf