



Plan for a Smart, Flexible Energy System – A call for evidence

Response by Community Energy England & Community Energy Wales

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COMMUNITY ENERGY ENGLAND

Community Energy England (CEE) was established in 2014 to provide a voice for the community energy sector, primarily in England. Membership totals over 200 organisations. The majority of the member organisations are from the community energy sector but the membership extends across a wide range of organisations that work with and support the community energy sector. Further details can be found on the CEE website at www.communityenergyengland.org

COMMUNITY ENERGY WALES

CEW brings together a network of practitioners and a membership of over 60 organisations who work with and within the communities of Wales to develop renewable energy generation and energy efficiency schemes. Further details can be found on the CEW website at www.communityenergywales.org.uk

Overview

We applaud BEIS and Ofgem for their desire to develop a smarter and more flexible energy system - this will be essential if the UK is to progress security of supply and facilitate the integration of even greater levels of low carbon generation into the system. The need to electrify transport and heat, and the impact that this will have on peak energy demand, make the case more pressing still.

We agree that significant opportunities exist to advance demand-side response and energy storage, and believe that community energy plays a vital role in progressing these. Community energy groups are already at the cutting edge of innovation across the UK and are proving to be excellent mobilisers of communities and hard to reach consumers in what is very much a low-trust environment.

Community energy groups are unique in their ability to provide access to local networks, help identify vulnerable consumers, provide advice and support and build peer recognition. They can also help to increase the local profile for new technologies and behaviours as well as offer local ownership of new infrastructure, such as storage and charging facilities. They create opportunities for aggregating solutions to build scale whilst promoting local networks, retaining local buy-in and drawing in much needed social investment.

These traits, when combined with strong local knowledge make community energy organisations the ideal trusted intermediaries to encourage active engagement in the adoption of new practices and behaviours within an environment which is technically and regulatorily complex. This can be seen through the success of a number of community-led initiatives to engage¹. Wider inclusion of the community energy sector in planning and thinking around this area would ensure that larger organisations are also able and willing to support partnerships for delivery.

Last year's [Community Energy Fortnight](#) saw much debate around a broad spectrum of topics, but none created more enthusiasm than the opportunities provided by energy demand management. Work is very much at the R&D stage and takes many guises. In the South West and South East of England, trials have been initiated that seek to reward customers who match demand with local solar generation. Whereas in Wales, work is focusing on shifting use to match local hydro output (as well as time of use). In Scotland work has begun installing pre-payment smart meters in high-rise blocks.

There have been many examples of the failure of 'information' as a means of delivering energy efficiency to date, from the *Save It* energy conservation campaign of the 70s through to the *Monergy* campaign of the 80s and *Helping the earth begins at home* in the 90s. On the whole, people do not act as rational economic decision makers and we should not make the same mistakes by relying only on information campaigns. We need pro-active advice and support embedded within a strong community context. The community energy sector is already working in this way and can provide a strong foundation for working toward s a truly smart and flexible energy system.

Removing policy and regulatory barriers

As outlined, storage technologies face a number of barriers, many of them inadvertent. As intimated, a clear definition of storage is needed and the double-charging of consumption levies should be ended. Furthermore, we agree with the Energy and Climate Committee conclusions of October 2016 that storage should be enabled to bid for contracts in the capacity market in excess of one year and consideration should be given to a subsidy framework to accelerate deployment.

Similarly, demand-side response projects should be able to bid in the capacity market for periods longer than twelve months, especially when new-build generation are bidding for fifteen year contracts. There also needs to be a significant reduction in the contract bid bond requirements and consideration of a demand-side obligation, as suggested by the E&CC Committee.

Providing price signals for flexibility

The expansion of Smart Meters and half-hourly settlement is critical to the development of a smarter energy system. BEIS' continued commitment to roll-out is to be commended,

¹ The report that Forum for the Future and Energy Saving Trust produced for DECC last year sets out the effectiveness of community energy groups in engaging households on energy efficiency. A further example is the trial in Bethesda (see price signals section for more info) in which a trusted community organisation got 110 domestic customers to switch supplier in a couple of months and will be leading the programme to reduce consumption and shift demand

although some caution is needed to ensure that technology is fit for purpose, costs are reasonable and consumer trust is maintained.

A number of community energy groups are involved in advancing Smart Tariffs. For example:

- Energy Local working with Co-operative Energy are concluding a SWELL solar project in Oxfordshire and advancing a hydro project in Bethesda, north Wales - both look at not just time of day usage, but marrying consumption to renewable output
- RegenSW and WREN are trialing a Sunshine Tariff in Wadebridge, Cornwall
- In Scotland, the Tower Project is allowing residents in Edinburgh who are reliant on electric heating and costly pre-payment meters to reduce bills.

Community energy groups are uniquely placed to act as trusted aggregators, advisers, intermediaries and delivery-agents for demand-side response.

We welcome the suggestion to "consider supporting further pilots of tariff structures and domestic consumer responsiveness and opportunities to raise consumer awareness, engagement and understanding", and would urge that particular consideration and involvement is given to the unique credentials of community energy groups.

Unfortunately, there is an emerging disconnect with the aims set out in the consultation and the direction of travel of network charging, as far as the community energy sector is concerned - given Ofgem's 'embedded benefits' review and the recent changes to distribution charging, which undermine the business models of many community energy groups. Like BEIS, we are keen to see diesel generators taken out of the capacity market, but not with collateral damage to distributed renewables projects that align with the aims & objectives of this consultation and avoid network costs.

A system for the consumer

As pointed out, smart technology and processes have the potential to deliver lower bills and new services. There will also be new opportunities to connect customers to preferred renewable generation technologies, albeit with an enhanced understanding that low-cost usage tied to technology-type will be to a degree seasonal (e.g., with solar output optimal in summer and wind / hydro in winter).

Increased complexity will necessarily ensue, but so will consumer choice and the system as a whole will benefit. As suggested, restrictions on tariff types will need to be eased to enable suppliers and community energy groups to innovate and provide new offerings to consumers.

With regard to the question of taking powers for regulation for smart functionality, the middling option of 'regulation of smart appliances' seems to have the most merit. Common standards are needed for smart appliances, but it is probably too early to mandate that appliances are smart until such a time as interoperability and demand response is proven.

In terms of engaging customers, we believe that more ambition is needed than mere "information provision". The limitations of such an approach are evident in the limited progress that has been made in recent decades on energy efficiency driven by 'education', and the ensuing necessity to 'force' change with, for example, the phase out of tungsten filament light-bulbs and energy inefficient white goods. BEIS / Ofgem could and should liaise with the

community energy sector to build demand-management projects in every town and city in the UK. This would allow the UK to show global leadership, in the same way a Germany and Denmark did with generation.

We agree that there is considerable potential to modulate when electric vehicles receive their charge and make available their storage capabilities - for the benefit of the electricity system and the consumer. We envisage that community energy groups could play a role ensuring that electric vehicles owners are better informed and empowered to engage in 'smart charging'.

The roles of different parties

Our desired outcome would be one which promotes local balancing of supply and demand as the best way of developing reflective pricing, efficiently utilising resources and engaging local consumers. And, as such, the first model in Fig 2 p. 80 'DSO/SO Procurement mechanism' is probably the most likely to do this, depending on the scope of the 'local unit'. Within this model however, national balancing should in part be based on integrating a local view of supply/demand.

The second model within figure 2 places a heavy responsibility on the market getting all the pricing signals absolutely right which is dangerous and has the potential for introducing all sorts of unintended consequences.

Innovation

We agree with the identification of 'commercial and residential automated DSR trials' as an innovation priority. We urge that consideration be given, as set out above, to a community energy innovation programme that looks to establish demand-management and smart tariffs in each town and city in the UK. It is difficult to get even committed consumers to engage and shift behaviour patterns. Innovation trials with a specific focus on community action would help to overcome these difficulties and ensure early engagement. These trials need deregated policy/regulation so that they can be tested in real situations before formal roll out, thereby increasing learning whilst minimising risk. Supporting the roll out of key trials to test deregated regulations through the Energy Systems Catapult (as referenced in paragraph 24) will be important in enabling effective learning.

Innovation funding is currently aimed at large organisations and so is extremely difficult for community organisations to access. Innovation funding should be made accessible (in partnership where appropriate) to community organisations and their representatives.

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