Energy UK Response to the BEIS Call for Evidence on the Future for Small Scale Low-Carbon Generation

30th August

About Energy UK

Energy UK is the trade association for the GB energy industry with a membership of over 100 suppliers, generators, and stakeholders with a business interest in the production and supply of electricity and gas for domestic and business consumers. Our membership encompasses the truly diverse nature of the UK’s energy industry – from established FTSE 100 companies right through to new, growing suppliers and generators, which now make up over half of our membership.

Our members turn renewable energy sources as well as nuclear, gas and coal into electricity for over 27 million homes and every business in Britain. Over 730,000 people in every corner of the country rely on the sector for their jobs, with many of our members providing lifelong employment as well as quality apprenticeships and training for those starting their careers. Annually, the energy industry invests over £11bn, delivers £88bn in economic activity through its supply chain and interaction with other sectors, and pays £6bn in tax to HMT.

Executive Summary

This call for evidence comes at a transformative time for the energy sector. 2017 was a year of landmark milestones; our first coal-free day since the Industrial Revolution, technical strides being made in the electrification of transport and the dramatic cost reduction of a number of renewable energy sources. We will be separately responding to BEIS’s Consultation on the Feed-In Tariffs Regime and recognise that whilst this regime has helped deliver its own milestones and a multitude of benefits, the evolution of the market negates its continued operation. Furthermore, the continued success of other policy frameworks such as Electricity Market Reform (EMR) including Contracts for Difference (CfD) provide an opportunity to homogenise policy and mitigate regulatory complexity.

The cost reductions in established low carbon technologies, such as onshore wind, means that the required strike prices are now approaching current wholesale prices. However, as generators are increasingly deriving income from a variety of sources other than the wholesale market (e.g. Capacity Market and Balancing Market payments), long term wholesale prices become increasingly uncertain. The CfD significantly reduces this risk and by de-risking the investment reduces the cost of capital for projects and ultimately reduces the overall cost of power for customers. By reducing the CfD’s minimum capacity threshold for projects and enabling commercial scale renewable projects (including previous Feed-in-Tariff (FiT) candidates) to bid for revenue stabilisation CfDs, we believe that projects would be able to deliver considerable volumes of low-carbon plant. Aligning with EU guidance1 for small scale renewable energy source auctions would enable previously FIT eligible, smaller commercial sized plant to participate under such a model. Whether the CfDs lead to overall payments from consumers or pay back to consumers will depend on whether the forecast technology cost reductions materialise. Regardless, provision of such contracts will ensure that consumers are accessing the cheapest new electricity sources needed. We appreciate that such a change to the regime could necessitate changes within the delivery partners for the CfD regime and we would welcome the opportunity to engage with them so as to ensure such practicalities are appropriately dealt with. To this end, we and our members would recommend that the Government consult on models for a revenue stabilisation CfD.

These cost reductions are echoed in the domestic arena where the availability and accessibility of domestic, roof-top solar installations has been increased. Whilst once only available via specialist retailers, these installations are now available at a multitude of high-street retailers at a much lower cost than previously. However, they still represent a significant up-front cost for consumers, removing the possibility of their installation for many consumers, including vulnerable and fuel-poor consumers who would be the greatest beneficiaries of such installations. By reducing or removing VAT on the installations and providing Stamp Duty discounts for properties with them, these up-front costs could be mitigated, however we are mindful that this could create a market distortion. Furthermore, by reflecting an installation in a property’s EPC the value of the installation can be further reflected. We also believe that reforms to the planning process could make it more accessible to consumers looking to install domestic generation and, as such, remove a barrier which may deter customers.

For more detail about the questions posed within the consultation document please refer to the responses submitted by our members. Should you have any questions regarding this consultation response then please do not hesitate to get in touch via the details below.

I can confirm that this response may be published on the Department's website.

**Joshua Atkins**  
Policy Manager, Power  
Energy UK  
26 Finsbury Square  
London  
EC2A 1DS  
joshua.atkins@energy-uk.org.uk
Response to Questions

1. Have we accurately captured all the opportunities and benefits that small-scale low carbon generation can provide to the UK energy system over the short, medium and longer-term? Are there any that we have missed? Please provide evidence.

Please refer to our members’ submissions for detail on this question.

2. How can government help consumers benefit from small-scale low-carbon generation such as local communities, local authorities, and those in fuel poverty?

As mentioned in our Executive Summary, domestic and small scale low carbon generation, namely roof-top solar has experienced a significant cost reduction in recent years thanks in part to the UK’s subsidy regimes and also the global uptake of photovoltaic panels. This cost reduction has reduced the primary barrier to deployment as it has made roof-top solar cost effective in a significant proportion of potential installations. However, it still represents an up-front cost which restricts the available pool of individuals and organisations to those who have the capital or borrowing ability to install.

Energy UK and our members believe that, whilst the FiT scheme does not need to be replaced by another scheme. Possible alternative mechanisms or implicit subsidies include reducing or removing the VAT on an installation, therefore reducing the upfront cost, increasing the accessibility of these technologies. Likewise, reductions on Stamp Duty for properties with solar installations would provide another implicit incentive to their installation. We would welcome the opportunity to work with the Department to detail such proposals and determine their viability whilst avoiding market distortion.

More broadly, reflecting the installation of domestic generation in the Energy Performance Certificate (EPC) for a property would ensure that the broader value of an installation was reflected in the property value.

The Government could also utilise planning legislation to make the process of securing the permission to install generating plant for local communities, local authorities and those in fuel poverty easier. At present organisations and individuals such as these often lack the legal resource required to secure permissions, acting as another barrier to entry for them. Such measures should not, however, come at the cost of the planning process for larger projects.

In September 2017 the Energy Efficiency Infrastructure Group of which Energy UK is a member published their report Affordable Warmth, Clean Growth which articulates ways in which high up-front cost installations can be delivered for fuel-poor customers. Energy UK supports this report and would encourage Government to consider whether the models set out within it could be mapped across into small-scale, low-carbon generation.

3. The introduction of enabling technology and systems such as the roll out of smart meters, and half-hourly settlement, will provide commercial incentives on energy suppliers to develop and offer tariffs. Will smart tariffs provide a viable route to market for small-scale low-carbon generation? If so over what time frame, and what are the possible barriers to these smart tariffs?

Working with members, Energy UK has identified a number of challenges around the ability of export suppliers to efficiently and effectively collect export reads from a smart meter, in particular where they are also not the import supplier. If these issues are not addressed we would expect they could present significant barriers to innovation for future small scale low carbon generation. For example, under the current DCC structure, as designed by BEIS, only the import supplier can set a meter up in export mode. We also note that Ofgem are currently consulting on half hourly settlement of export data.

We have previously shared these issues/concerns with BEIS and Ofgem in relation to the FIT scheme. We would be keen to continue to work with both parties to ensure issues can be resolved.
4. Do you agree with the challenges we have identified? Are there any challenges small-scale low-carbon generation presents that you think we have missed? Please provide evidence.

Across all technology types policy uncertainty has an impact on industry. In the face of uncertainty the UK supply chain for any technology will be affected; as we are experiencing in the UK with the planned closure of the FiT scheme leading to key businesses either closing or refocusing their efforts internationally. The lack of availability of the requisite businesses will limit the continued deployment of previously FiT eligible technologies. As articulated, many of these technologies have witnessed significant cost reductions and now represent some of the least cost renewable sources. Ongoing deployment of these technologies is required in order for the UK to achieve its climate change targets at least cost to the consumer.

We will be separately responding to BEIS’s Consultation on the Feed-In Tariffs scheme where we will detail our views on the closure of the export tariff and the challenge that this will represent for small-scale generation. We would urge the Department to be aware that whilst the Fit scheme will be closed down there will be between one and two years when there is neither a support framework or any other potential incentives and this will have an associated impact on deployments and supply chains.

5. How would you propose the small-scale low-carbon sector, suppliers, off-takers, network/system operators, and/or government can overcome the challenges presented?

Please refer to our members’ submissions for detail on this question.

6. What are possible ways to track and monitor behind the meter installations (we would appreciate specific suggestions in relation to how information can be sourced (e.g. direct from businesses and households) and the method for sourcing it (e.g. an annual survey))?

Please refer to our members’ submissions for detail on this question.

7. What are the special considerations that should be made when attempting to track different kinds of behind the meter activity?

Please refer to our members’ submissions for detail on this question.

8. How do we develop our tools to model and evaluate the system (including system costs and resilience) as decentralised generation and storage develop, specifically approaches to system modelling, data capture, forecasting demand and evaluation of value for money?

Please refer to our members’ submissions for detail on this question.

9. Are off-takers, suppliers, and aggregators able to lead the deployment of small-scale low-carbon generation currently? If so how will this occur, over what timescales, and what are the implications for deployment levels? How would deployment be supported by the capacity and ancillary services markets as well as the emerging corporate PPA market? Please provide evidence.

As we outline in our Executive Summary, we believe that the most appropriate way to deploy small-scale, low-carbon is through reforming the lower capacity threshold for CfD contracts and establishing a revenue stabilisation CfD.

PPAs play a valuable role in encouraging investment in the UK; however, the maturity of the UK’s PPA market is significantly less than that of a number of comparable energy markets. We and our members share a concern that this call for evidence focuses very heavily on the PPA market for which volumes
are limited in the UK. Corporate PPAs do help some projects in their viability; however, the market for them has not reached maturity in the UK as yet and we do not believe it will in the immediate future. The PPA market will not incentivise the required volumes of low carbon generation to come forward to hit the time-constrained decarbonisation targets. However, a model akin to a PPA may be viable for domestic size installations in the future.

10. What would be the impact on jobs, deployment, and the supply chain, if deployment were left to market forces beyond 2019? Please support your answer with clear evidence.

Within the existing policy framework and with none of the recommendations we have provided taken forward, we believe that deployments will continue to fall with the associated negative impact on the domestic supply chain and ability to affordably fulfil our climate change obligations. Global market forces are continuing to drive the prices of photovoltaic prices down but as for the reasons articulated in our earlier answers, the inability to act upon this now could result in UK customers being disadvantaged.

11. In your view, are small-scale low-carbon generators currently able to deploy independent of subsidy e.g. through the PPA market? Does this vary for differing technologies and capacities of small-scale low-carbon generation e.g. domestic vs. commercial scale? If not, can you explain how long it will take for this market to emerge and if government intervention is required? Please provide evidence.

Please refer to our earlier answers for this question.

12. What factors, including financial, affect your decisions to invest in small-scale low carbon generation?

Please refer to our members’ submissions for detail on this question.

13. Does government need to take regulatory intervention(s) to enable the development of competitive markets for small-scale low-carbon generation? If so, what and why? If these actions were taken, what benefits would this provide to consumers and the electricity system?

Please refer to our earlier answers for this question.

14. How can we encourage and unlock private sector finance to enable market-led deployment?

Please refer to our members’ submissions for detail on this question.

15. How would a guaranteed route to market operating at a discount to the market price impact the transition of small-scale low-carbon generation to competitive markets? Please provide evidence to support your answer.

The cost reductions in established low carbon technologies mean that at a commercial scale the required CfD strike prices are now approaching current wholesale prices. However, wholesale market revenues under a subsidy-free, merchant based approach are highly risky. Even as the costs of low carbon technologies come down, low marginal cost, high capex low carbon technologies are exposed to wholesale price fluctuations. Therefore, in order to compete on a level playing field these technologies need technology-agnostic, revenue stabilisation contracts to be able to contribute to the longer term cost-effective decarbonisation of the sector. The CfD significantly reduces this risk and by de-risking the investment reduces the cost of capital for a generation project. This leads to lower strike prices and levelised cost of energy (LCOE) which ultimately benefits the consumers.

Whether such a change to CfDs leads to overall payments from consumers or pay back to consumers will depend on whether the forecast cost reductions materialise. Regardless, provision of such
contracts will ensure that consumers are accessing the cheapest new sources of low carbon electricity required to meet the UK’s targets under the Climate Change Act. We and our members would recommend that the Government follow up this call for evidence with a consultation on models for a revenue stabilisation CfD and the opportunities to reduce the threshold for CfD eligible projects.

16. What innovative solutions would be required in the PPA market to bring forward small-scale low-carbon generation? Please provide evidence to support your answer.

Please refer to our members’ submissions for detail on this question.

17. A guaranteed route to market would require costs to be robustly controlled for consumers, as outlined in the Control for Low Carbon Levies. How could this best be achieved, without creating ‘boom and bust’ cycles for the small-scale low-carbon generation sector?

Please refer to our members’ submissions for detail on this question.

18. What would be the general challenges (including technical challenges) of designing a guaranteed route to market that offers a time of export tariff to support the aim of developing a smart and flexible network?

Please refer to our members’ submissions for detail on this question.

19. How long would a guaranteed route to market need to run for to help the development of competitive markets?

As articulated in our responses to earlier questions, outside of domestic, roof-top solar, we believe that future commercial small-scale, low-carbon generation projects are best deployed through a revenue stabilisation CfD, fitting within the EMR framework. Such a contract would enable least cost small-scale and large-scale plant to fully participate in the market, helping the UK to decarbonise at least cost to the consumer.

BEIS’s predecessor, the Department for Energy and Climate Change originally conceived EMR as a bridging policy, transitioning to a decarbonised market. However, the evolution of the market, the increasing number of participants and technological maturation suggest a continued need for the regime with our proposed changes until 2030 at the earliest. Whilst the Energy Act committed Government to one Review after five years, these changes and the continued transition will necessitate continued change which could be best delivered through Reviews taking place on a rolling five year basis. Structuring reform of the framework in such a way would balance the need for policy stability against the need to accommodate changes such as the shift towards zero marginal price and evolving interactions with ancillary services all in the context of the market and wider economy’s glide path to our 2050 decarbonisation targets.

20. How could future regulations or other interventions be designed in order to capture the benefits of storage combined with small-scale low-carbon generation? If specific technical requirements are needed, please specify those as well.

Whilst the technical viability of hybrid and aggregated storage is currently being explored, it is unclear whether such sites are currently cost effective within existing frameworks. We are however confident that the continued cost reduction curves will enable such sites to fully participate in the UK energy market. Presently neither the CfD nor the CM allow for hybrid sites (sites with multiple technologies) or aggregated sites (asset portfolios not necessarily geographically located together) to bid into either auction. The advent of lower cost electricity storage and the continued growth in flexible plant means that these types of sites are now coming forward and policy change is required to facilitate them. We understand that including hybrid sites is likely to require a more complex solution than that which would allow established renewable technologies to participate in the CM. Accordingly, whilst we believe that National Grid should be consulting on the de-rating factors for hybrid sites, members
accept that this is likely to be on a longer timescale than established technologies and should form part of the Five Year Review of the Capacity Market.

21. If implemented what effect would the actions you outline have on the small-scale low-carbon generation sector and the benefits this sector brings to UK consumers?

Energy UK and our members believe that the Government cannot achieve decarbonisation of the power sector at the least cost to consumers without a robust, mature renewables industry and pipeline. Future investment should take a technology neutral, whole system costs approach by which we mean that energy should not be treated in isolation, instead it should be considered along with its interactions between other sectors such as heat, power and transport. We want to see the Government creating a holistic approach to decarbonisation while creating a flexible energy system. This means integrating heat, power and transport policy driving investment and growth whilst decarbonising our economy.

By utilising Government’s broader powers around VAT and planning policy whilst at the same time enabling domestic installers to benefit from improved EPCs and Stamp Duty we believe that the broader benefits of customer led small-scale low-carbon generation could be further realised. As articulated earlier, this should be done in such a way as to avoid wider market distortions. By building these benefits and cost reductions into the framework we are confident that there would be a broader uptake in these products, enhancing supply chain benefits and facilitating further decarbonisation. We would also welcome the opportunity to discuss with Government the options for ensuring that the most vulnerable customers can cost-effectively capitalise on the benefits of domestic generation.

At commercial scale, a revenue stabilisation CfD could provide a route to market for mature technologies, providing a stable revenue stream to de-risk the upfront capital intensive investment necessary for many low-carbon generation sources. As is the case for all new-build plant, mature renewables require a contract to de-risk the investment but cost reductions mean that a subsidy may no longer be needed for deployment. The process for allocating revenue stabilisation CfDs should be technology neutral, avoiding eligibility criteria that excludes any particular technology or geographical location. We also believe that considering market and technological developments there should be the option for developers to submit aggregated portfolio projects into the auction. This would enable disparate, smaller projects to participate in the market and learnings could be gained from the Capacity Market where aggregated demand side response projects participate.

Fundamentally, the amount we spend on low carbon generation must reflect our ambition to decarbonise. We need the new mechanisms which will replace the Levy Control Framework to give industry the tools that support decarbonisation of power on a trajectory which allows us to achieve our carbon targets in line with the Committee on Climate Change’s decarbonisation trajectory. Furthermore, allowing all technologies to compete for what will most likely be subsidy-free contracts will allow us to decarbonise at least cost for the betterment of the consumer and the environment.