

SSE is a keen and active participant in the PPA market and we endeavour to offer prices for all PPA requests we receive. However, we continue to find this is a highly competitive market in which it is challenging to win business.

e. How do you think EMR and the CfD will influence the terms that you are able to offer in response to PPA tenders?

SSE expects that the terms for an energy only PPA under the CfD scheme will remain essentially the same as they are now and will represent an evolution to accommodate the CfD rather than a step change.

Also see response to question 7.

- An offtaker of last resort would also be hugely distorting and introduce another subsidy through the back door. If the offtaker of last resort signs PPA contracts, then this would occur at a price in excess of the market value of the contract, which would crowd out legitimate competition. The offtaker of last resort would need to receive compensation for paying in excess of the market value of a PPA contract, which will eventually feed through to higher customer bills.

9. What are your views of the potential for market distortions and possible impact on the wider market?

As highlighted above many of the proposed options for intervention are likely to significantly distort the existing PPA market, which SSE believes to be competitive. This would lead to a less efficient outcome and a greater total cost to society.

10. Can you identify and explain any other viable options (voluntary, competition based, regulatory or otherwise) that should be considered?

As explained in question 8, SSE does not think that any intervention should occur at any level as it believes the market is a) competitive; and b) delivering results.

For PPA providers

a. Have you seen an increase in the number of requests that you have received for the provision of PPAs?

When EMR was announced SSE saw a reduction in PPA enquiries most likely due to uncertainty. Over time there has been more contact from generators looking for long term PPAs, and levels are back to where they were previously. With the implementation of the FIT scheme SSE has seen a substantial increase in requests for PPAs for small scale renewable generation but typically these generators are looking for shorter term contracts.

b. Have you have been able to respond to a larger or smaller proportion of the PPA requests for tender? If your ability to offer PPAs has increased or decreased over this period what have been the drivers (commercial or otherwise) for this change?

SSE still tries to respond to all large scale wind, biomass and energy from waste PPA enquiries, but due to the increase in small scale PPA enquiries from FIT eligible generation its ability to respond to everything in a timely manner is greatly reduced.

c. Have the terms that you have been able to offer in response to PPA tenders changed, and if so how have they changed? What are the drivers for this?

No, SSE has found that PPA terms are substantially the same as they were before the EMR proposals. SSE has seen a preference from generators to have some form of floor price in relation to the energy element included in the PPA. In addition SSE is seeing a resistance from generators to accept the level of risk generally accepted before, this specifically relates to the change in law clause says that if there is a change of law which adversely affects the price then those terms can be revised. Terms are otherwise much as the same as before EMR was announced.

d. Have you been able to win more or fewer PPA tenders based on the terms you have offered?

When selecting a preferred PPA provider, generators will be driven by their finance providers to find an offtaker with sufficient credit quality, while also considering the terms with regard to risk and price. The fact that generators are able to choose between a range of PPA providers illustrates the high level of competition already in the market.

7. Have you seen a change in investment returns as a result of the changing nature of PPA terms and can you provide an example, including how this has been calculated? Do you expect the EMR package to change investment returns, and if so what is the driver for this?

SSE predicts that the CfD will reduce the overall returns that generators require from a PPA as revenue streams will be more predictable and therefore less risky. It may also mean that generators will accept shorter agreements.

8. What are your views (costs, benefits and risks) on the potential options discussed in this call for evidence that may be necessary to achieve the Government's objectives?

SSE believes that the market is working and that there is no need to introduce any sort of intervention at any level. The market has delivered a lot of renewable generation, both from vertically integrated players and from independents, over the last ten years and any intervention is likely to distort a competitive market.

Market measures:

Market-led initiatives are already occurring and the terms for PPA contracts have demonstrated convergence. However differences which exist between contracts from different PPA providers are an example of competitive pressures driving innovation. It is likely still premature to achieve standardised contracts, especially given the uncertainty which remains regarding the detail of EMR changes. SSE expects that the terms for an energy only PPA under the CfD scheme will remain essentially the same as they are now and will represent an evolution to accommodate the CfD rather than a step change.

Competition measures:

- Liquidity is already being addressed by Ofgem in their Retail Market Review and whilst supporting increased liquidity in the market SSE believes that this is being taken care of sufficiently in other areas.
- SSE does not think that any measure should be introduced to target issues associated with cash-out whilst the reform is taking place. The reform procedure needs to be consulted on and developed appropriately and SSE does not believe there is any need for more urgent action at this stage.
- SSE does not support the proposal to give extra support to independent aggregators. This will result in them being able to offer discounted rates distorting competition in the market and not reflecting the market price. As explained in question 4, SSE believes that the market is competitive.

Regulatory measures:

- SSE does not believe that obliging suppliers to offer PPAs would result in more favourable terms being offered to generators – as noted above it continues to offer PPAs, but finds it is a competitive market in which it is challenging to win new business. If PPA offtakers were obliged to pay a PPA price above the market value, then this forced and hidden subsidy would eventually be passed back to customers through higher prices. In addition, the market would be more costly and less efficient, which would push customer prices even higher.

SSE has increased its renewable portfolio size considerably in recent years to become the largest renewable generator in the UK and Ireland. However, despite this increase in the quantity of ROCs it can 'self-supply' it is unlikely to grow at a rate that will match the increase in its obligation over the coming years. Over the remainder of the RO scheme, there will be an increasing proportion of ROCs generated by organisations out with the large integrated companies due to an increasing number of independent generators entering the market, especially for large offshore wind generation. Therefore SSE and the other large suppliers will still need to source ROCs from other sources, and will need to compete to do this. In addition most other suppliers still have to meet a significant amount of their obligations from external ROC sources. SSE does not therefore believe that the increased ability of some suppliers to 'self-supply' ROCs has resulted in less participation in the market.

b) The document also points out that there may be limited competition due to the small number of credit-worthy PPA counterparties that satisfy external debt providers. SSE understands through feedback from generators that funders can be quite stringent on the credit status of PPA providers limiting the counter parties that generators can talk to, namely the large vertically integrated companies. Despite this there are still at least six players in the market which does provide a competitive environment and is more than in many other industries.

c) It has been also suggested that a lack of liquidity and forward trading damages price formation and investment signals. SSE has been addressing market liquidity and has made three commitments which are designed to significantly encourage new entrants and increase competition:

1. Never to engage in predatory pricing,
2. A commitment to auctioning 100% of all electricity supply, and purchasing all electricity demand in the "Day Ahead" market, dependent on similar commitments from others and
3. Ending any perception that discriminatory trading terms are offered to smaller suppliers.

Ofgem are also working on improving liquidity in the market through their Retail Market Review proposals.

5. Do you expect the EMR package to change the PPA terms that you might offer/receive and if so how do you believe they will change? What do you think is the primary driver for these changes?

SSE believes that the EMR package will change the PPA terms offered in the future i.e. once CfDs are introduced and the RO closes to new projects. This will take the form of PPAs changing from purchasing energy and ROCs to energy only, however the content of contracts regarding the energy element will remain largely unchanged from the present. The PPA terms under the RO reflect both the power price and the ROC price – however under CfDs only the power price will be considered. This means that all the overheads associated with aggregation will need to be reflected on the discount to the power price – and it is therefore likely that aggregators would demand a slightly higher discount on power than they do currently.

Due to the absence of the ROC in CfD PPAs, SSE agrees that the EMR package is likely to make it more attractive for independent aggregators and suppliers who have already met their RO obligation to enter into the market which will increase competitive pressures still further.

6. What has been the determining factor in selecting a preferred PPA and PPA provider?

SSE does not select preferred PPAs, but will review each PPA on a case by case basis and offer a price which reflects the value of each specific project. A number of factors are taken into consideration when valuing a PPA including technology type, installed capacity, potential for forecasting, output levels and length of PPA required.

means that the energy from PPAs signed recently will be worth less than the energy from PPAs signed 5 years ago.

- **Perception of value** – Some market participants have historically over estimated the value of energy from wind. This overestimation has tended to come from placing too much weight on seasonal effects (there tends to be more wind in winter and power prices tend to be higher) and not enough appreciation of the correlation between higher wind volumes and lower power prices on an half hourly scale. Recently, there has been better understanding of profile risk resulting in a corresponding adjustment to PPA terms.
- **Tighter credit markets remain** – Recent restrictions in the availability of credit has lead to a greater cost for offtakers to offer their balance sheet to generators
- **Change in mix to smaller stations** – The FIT scheme may have resulted in a greater number of small stations seeking a PPA contract. The value of energy from some smaller stations is likely to be lower if they do not have the scale to invest in SCADA systems for live data feeds to enable better forecasting, or if maintenance and outages are less predictable.

b) SSE has found that generators are less likely to take on levels of risk generally accepted before – this particularly applies to 'change in law' clauses in PPA contracts which cover scenarios in which a change of law adversely affects the PPA price, and allows terms to be revised. Generators are now less willing to accept these clauses, possibly due to the uncertainty noted above.

3. How does the GB market for PPAs compare to other international markets? If you operate in other markets, how do PPA structures and terms differ? If terms differ what are the drivers behind the differences?

SSE mainly operates in the UK, and therefore has little experience in international markets. However, due to its commercial interests in Ireland, including a significant number of renewable assets, it can comment on the market there.

SSE's experience is that the market in Ireland is competitive and Airticity (SSE's Irish brand) offers large numbers of PPAs. The market operates very differently to how it does in GB, with a 'REFIT' scheme operating instead of the RO. This means that PPAs are set based on the power price and without the ROC element.

The terms Airticity offer have many similar elements to those which SSE offers in GB, but due to the different market structure and legal conditions, areas such as the market specific pricing and terminology, are very different.

4. What are the factors preventing or encouraging participation in the GB market? How (and why) do you expect these to change over time?

From an aggregators perspective the consultation document outlined some of the factors that are considered to be affecting the PPA market:

a) It suggests that the large vertically integrated companies with an obligation under the RO are increasing the size of their RO-eligible portfolios and therefore seeing a route to meeting their obligation in the coming years through their own portfolio.

- **Imbalance cost** – Wind generation is variable resulting in energy imbalance costs as a result of forecast errors.
- **Profile risk** – Wind generation will earn an average power price which is lower than the time weighted average baseload price. This is due to the correlation between windiness and power price. In half hour periods when it is windier the marginal thermal plant will be displaced by wind increasing the generation margin over demand and reducing market price for power. The reverse will happen when there is no wind; marginal thermal plant will run pushing up market prices. The value of the consequent discount is variable between years, though likely increasing over time as more wind generation comes online. PPA offtakers are exposed to this variability when offering generators a fixed percentage of an energy price index.
- **Floor price risk** – It is common for PPAs to include a floor price. This protects the generator in the event that power prices fall below the floor price, passing this risk on to the offtaker. Floor prices are less likely to be needed by a CfD generator unless a floor is applied to CfD contracts.
- **Balance sheet** – Bank credit providers tend to require that a generator obtains a PPA from an offtaker with a strong balance sheet. The PPA offtaker is therefore also providing a service by effectively offering its balance sheet to the generator. This is not without cost. A larger number of PPA contracts could lead to a weakening of an offtaker's balance sheet and credit rating. This cost should be recognised in the PPA value.
- **Regulatory risk** – Changes to market regulations, or behaviour could change the market value of wind generation. By offering a fixed percentage of an energy price index, PPA offtakers are taking on this risk and protecting generators from the risk that the value of wind generation may reduce.
- **Forecasting, trading and administrative costs** – Offtakers invest in skilled personnel, data gathering, forecasting tools, IT infrastructure and administrative capability, all of which incur costs which need to be recognised in the value of a PPA contract.
- **Modest profit margin** – A modest profit margin must be available for an offtaker, without this they would not participate in the market.

2. Have you seen significant changes to the PPA market over the past three years, and if so, what do you think has driven this? If you have asked PPA providers for explanations of why changes have occurred, what reasons have been provided?

The announcement of the EMR has introduced longer-term uncertainty into the market along with the continued delays and revisions to the RO banding review, and this is likely to have increased investors perception of risk in the market and of Government's ability to make changes. However SSE has not found that EMR has had any discernible impact on the PPA market over the past three years, and certainly not on PPA terms. Given that the RO still provides an obligation on suppliers, and therefore a demand for ROCs remains, it would have been surprising if the PPA market had been impacted.

If generators have reported recent changes in the PPA market it is likely to have been for the following reasons:

a) Any changes in PPA terms are most likely due to changes in the fundamental value of the energy from wind stations, not reduced competition. A lower average price is not in itself evidence of reduced competition and the weight of responsibility must be on those claiming reduced competition to provide evidence of this. Lower average PPA prices may have occurred for a number of reasons, including:

- **Reduction in value of wind generation** – The value of wind generation will reduce over time as the effects of profile risk and imbalance cost become greater over time. This

SSE's response to 'A call for evidence on barriers to securing long-term contracts for independent renewable generation investment'.

Summary:

SSE believes that the current PPA market is competitive and operating effectively and will continue to be competitive and operate effectively after CfDs have been introduced. If there has been any recent deterioration in PPA terms for new generators, then this has most likely been due to changes in the underlying market value of the energy, not due to a change in competition. PPA prices received by generators reflect fair market value and any intervention will distort the market, producing a less efficient outcome and ultimately, higher prices for customers. If the fair market value of PPAs is reduced after the introduction of CfDs, then this should be dealt with via the level of support from the CfD mechanism, not by distorting the PPA market.

- As a major aggregator, SSE has not experienced any significant change in the number of generators applying for PPAs in recent years; or in the number of contracts that it has offered/secured. We have not seen any evidence that the EMR proposals have led to any deterioration in the PPA market, so see no requirement for intervention.
- The introduction of CfDs to replace the RO is likely to lead to a marginal change in the nature of the PPA market. If there is any change in market value of PPAs, then this should be recognised by the CfD mechanism via the price setting process rather than direct intervention in the PPA market. Any intervention in the PPA market would distort market signals leading to a less efficient outcome and higher prices for customers.
- The PPA price offered by offtakers to generators for their energy in a PPA contract reflects the service they provide to generators. This service involves offtakers taking on uncertain costs and risks themselves providing generators with a more predictable revenue stream, usually in the form of a fixed percentage of an energy price index. These services, currently provided by suppliers, will continue to be provided through PPAs after the CfD mechanism has been introduced. PPA offtakers will require to be compensated for these costs incurred under the terms of the PPA.
- We believe any recent deterioration in PPA terms is most likely due to changes in the fundamental value of the energy from wind stations rather than a lack of competition. A lower average price is not in itself evidence of reduced competition. The weight of responsibility must be on those claiming reduced competition to provide evidence of this.

1. Please could you provide a summary of your experiences with the PPA market over the past three years? Specific areas for which detailed information would be particularly helpful are set out in the Annex.

Over the last 3 years SSE has continued to offer PPAs on the same terms, and in the same volume, as it has historically. SSE is a keen and active participant in the PPA market and endeavours to meet all requests for PPAs. However, we continue to find this is a highly competitive market in which it is challenging to win business. Please refer to the Annex for more details.

The prices offered by offtakers to generators for energy in PPA contracts represent the services offtakers provide to generators. These include taking on the uncertain costs and risks associated with renewable generation and thus providing generators with a more predictable revenue stream which usually takes the form of a fixed percentage of an energy price index. These services, currently provided by suppliers, will continue to be provided through PPAs after the CfD mechanism has been introduced. The costs and risks taken on by offtakers include: