

By email to: Department of Energy and Climate Change
DECC.capacity.mechanism@decc.gsi.gov.uk

Department of Energy & Climate Change,
Electricity Market Design – Security of Supply
4th Floor, Area D
3 Whitehall Place,
London, SW1A 2AW

4th October 2011

Dear Sir/Madam,

Re: Electricity Market Reform Consultation – Capacity Mechanism

SmartestEnergy welcomes the opportunity to respond to DECC's consultation on Electricity Market Reform.

Please acknowledge receipt of this response.

We are not requesting non-disclosure of our response

Introduction

SmartestEnergy is a licensed electricity supplier operating primarily in the half hourly electricity market. We consolidate small generation and supply electricity to corporate and group customers. We also provide access-to-market services to other small suppliers.

We are a Medium-sized business according to your categorisation (with 50 to 250 staff).

We consider ourselves to be a champion of independent generation and believe that any reforms to the market should be consistent with generally accepted free market principles.

Although we broadly support the aim of the EMR of promoting renewables whilst ensuring security of supply, we believe a market-friendly approach, where appropriate, is vital to encourage investment and competition. Such an approach is more likely to deliver more efficient outcomes than appointing a central buyer for ever-growing volumes of capacity.

We also believe that a proliferation of auctions and government agencies would add too much complexity to the market. The capacity question is really one of reserve and should be treated as such.

It is important to distinguish the need for generation capacity from that of operational reserve. We believe that the need to implement radical proposals for the provision of generation capacity is unproven, and not an immediate issue; National Grid have stated that this is potentially an issue around 2020 but only under certain scenarios. It is clearly important not to be complacent. However, there is sufficient time to see how the market will respond to potential capacity shortages over the next 10-20 years. Introducing an ill-conceived capacity mechanism now will do little for investor confidence. There will clearly be an operational reserve issue over the period to 2020 with increasing amounts of intermittent wind capacity and the retirement of oil and coal fired power plant as a consequence of the Large Combustion Plant Directive. Additional flexible generation as well as active demand side participation will be required to meet the new operational challenges of matching generation with demand. National Grid currently meet this challenge through the STOR mechanism and we believe that an expansion of the STOR mechanism is the best way to meet future challenges.

An extension of STOR would be a simple solution. It is a mechanism which is generally well understood in the market place with National Grid well placed to manage the requirements.

Overview of capacity mechanisms

As a general rule we are not in favour of capacity mechanisms. Capacity is an appropriate concept for interconnectors and transmission but not necessarily for generation. It is important to understand that capacity is meaningless until it becomes energy; there are still no guarantees that the capacity will be there if you need it. We note that many capacity mechanisms initiated around the world have been expensive failures.

We are also of the view that it is difficult to attach a full capacity mechanism to a market which is already functioning. Obviously, it would be a different matter if the whole market was being designed from the ground up but the retrospective addition of a mechanism is uncharted territory.

Capacity mechanisms, no matter how well intentioned and designed, are always going to be open to gaming and/or overcompensation. This in turn brings the risk of regulatory intervention. There are also serious issues surrounding the confusion between what is being delivered (energy, reserve or capacity) and arbitrage between these markets, unfairness on those not included and the arbitrariness of any targets set by the central body.

We would ordinarily be against targeted mechanisms because the generation types which are targeted are determined centrally which leads inevitably to arbitrary winners and losers. It is not desirable that the inefficiency associated with inaccurate decisions by administrators/system planners should translate into additional costs across consumers.

In our response to the first consultation submitted on 4th March we argued that any capacity mechanism should either be extremely targeted or open to all to avoid distortions in the market. We have now refined our thinking and are of the view that a targeted "STOR-extension" mechanism is preferable to a market wide capacity mechanism.

Another advantage is that it can be set up and the additional requirement can be determined on an on-going basis i.e. additional reserve may not actually be needed for several years but a mechanism will be in place to assess the requirement.

As part of a package of proposals to achieve the government's policy objectives we can see that a targeted mechanism mitigates the security of supply risk which is introduced when pursuing a greater proportion of renewable energy in the fuel mix. As you will see below, we view this as more of a failsafe that will probably be overtaken by a market solution over time. There is currently no need for full scale market intervention.

Consideration of the options

We have a major concern that a market-wide obligation would favour large vertically integrated players and those with existing plant who will be in a potential 'windfall' position which may ultimately be at the expense of future new entrants

into the market that would provide the diversity needed to ensure a competitive market.

The producers of large scale, intermittent generation, have little or no exposure to risk from imbalance, selling their power to prompt indexes rather than making hedges while taking substantial subsidies for the power they do produce.

A possible solution would be to oblige large vertically integrated players to forward sell their power such that they are exposed to risk and then have to use the market to cover their positions. This would help to add liquidity to the prompt market and stronger price signals to the market to build appropriate types of generation to meet the problem.

A market-wide solution would also just prolong the life of existing plant which could be at odds with the aim to encourage plant which is as low carbon as possible. DECC have not explicitly stated what type of generation the Strategic Reserve will be comprised of. This raises questions as to how low carbon the generation in the Strategic Reserve will be especially when intermittent renewables, such as wind power, cannot be relied upon to produce power to the same extent as a coal powered plant. DECC (2011) describe how the Swedish PRL is mainly comprised of 'oil-fired plants'. Such a fossil fuel approach in the UK could potential undermine DECC's low carbon generation policies. DECC need to be clear as to whether "capacity" is to be technology/fuel indifferent.

If capacity is to be fuel indifferent, DECC can at least take some comfort from the fact that it is the natural order of things for aging plant to move down the merit order and fill-in the flexibility gaps. Demand reduction and interconnectors are also an important element of the mix.

There is, also, the issue of whether a plant can be in both the CfD FiT and capacity schemes. In essence, they are doing different things and we can see that it should be possible to apply for both. For instance, a wind turbine with storage facilities should be able to operate in both markets.

It is evident that the Strategic Reserve option is not without its draw backs namely its substantial cost. Furthermore, the fact the strategic reserve has been recommended to be phased out in South Australia, a market with a similar proportion of wind in its generation mix to the UK could be an indication that after an initial kick start in the direction of reserve, the market is best placed to create its own solutions.

We note that in Sweden, in order to prevent market distortion and the 'slippery slope', the Peak Load Reserve (PLR) was 'designed from the beginning to be time

limited (although it has been extended to 2020), which makes it less attractive for investors in new plants and so less susceptible to the slippery slope' (DECC, 2011). The obligation to procure is on the System Operator and it is collectively financed through parties responsible for balancing and produces uniform adequacy of supply. The temporary nature of the Swedish PLR may can be seen as a mechanism used to 'kick start' initially and then be phased out as the market develops its own solution as demonstrated in New Zealand and Australia where the market has developed sufficient solutions to the capacity issue.

The STOR extension proposal has the following features and benefits:

- Additional generation capacity will be supported through an expansion of STOR without the significant interruption (and additional complexity) caused by a major change to the currently functioning electricity market.
- The size of the STOR mechanism would be reviewed by NGT (and approved by Ofgem) on an annual basis to ensure that it was of sufficient size to provide operational Reserve.
- Payments (through) the STOR mechanism are made to encourage new build capacity and NGT would continue to economically dispatch plant through the STOR mechanism. Participants would also be free to operate in the energy market when not contracted to NGT through STOR.
- Reliability, costs and low carbon should be considerations in determining STOR dispatch.

Remainder of this document

Our answers to the specific questions contained within the consultation document can be found in the Appendix to this letter.

Should you wish to discuss this further please do not hesitate to contact me.

Yours faithfully,


Head of Regulation – Deputy VP Commercial
SmartestEnergy Limited.


APPENDIX: Answers to specific questions in the Consultation Document

Targeted Capacity Mechanism

Question 1: Does this table capture all of your major concerns with a targeted Capacity Mechanism? Do you think the mitigation approach described will be effective?

No. We believe the proposals for strategic reserve still do not make a clear enough distinction between the market and reserve. This is necessary to be sure that the reserve is always available and is not confused with the energy market. Otherwise, it cannot truly be called reserve.

We are concerned at the suggestion that invoking reserve would be based on price; if a true distinction is to be made, reserve would be invoked on the basis of system/volume shortages, in other words it is a technical consideration not a market consideration. This could be considered as an extension of the STOR principles where the decision to despatch is coincidental to but separate from market prices.

Question 2: How long should the lead time for Strategic Reserve capacity procurement be and why?

Assessing the demand level for the following 4 years may be a little restrictive in terms of immediate problems and build lead times. We would suggest years 2- 8 on a rolling basis to allow for a wide range of technologies to participate, but this really is an impossible question to answer as it is entirely dependent on the ability to build new plant and all of the potential problems that brings.

Consideration should be given to the potential for gaming when assessing lead times; parties who are declaring existing capacity and bidding into a strategic market may be incentivised to be pessimistic in their forecasts. Some independent assessment may be required.

Question 3: Should the length and nature of contracts procured by the Strategic Reserve procurement function be constrained in any way?

If anything, there should be greater flexibility in outlook. There may be more carbon efficient generation which has differing lead times.

The nature of “constraining” the length and nature of contracts will naturally be a balance between designing a “gold-plated” system and procuring sufficient capacity.

Question 4: Which criteria should providers of Strategic Reserve be required to meet?

Consideration needs to be given to the function of the strategic reserve as the solution may vary depending on whether we are talking about long term and structural short falls or relatively short periods of system stress.

As well as volume and ramp rates, the period over which reserve is to run is a critical feature; demand-side, for instance would not be a sustainable system aid over longer periods of time and realistic duration periods need to be brought into the assessment.

If DSR is to be included there should be very tight arrangements to ensure that what is being delivered is not confused with natural reductions and that genuine reductions are delivered as and when required.

Question 5: How can a Strategic Reserve be designed to encourage the cost-effective participation of DSR, storage and other forms of non-generation technologies and approaches?

DSR currently exists only as the operation of back up generation in response to market signals rather than reduction in electrical usage. Storage can simply be metered to measure its production.

Sites built specifically for reserve could be encouraged to participate by waiving transmission charges similar to the gas interruptible arrangements. There was also a lively commercial gas interruption market on the back of this set up.

We do not understand how Strategic Reserve as described would actually be better than a market approach, either via STOR or commercial arrangements such as offered by Flexitricity/Kiwi etc.

We can see that storage could be a large part of a Strategic Reserve (or equivalent) in the future and it is important that the arrangements are in place to facilitate this. Storage of electricity may be an expensive option now, but consideration needs to be given to the fact that what it delivers is unambiguously additional reserve.

We struggle to see how traditional demand reduction can be part of this strategic process and is more aligned with the shorter term energy market for which participants will have an incentive/opportunity to engage with with the advent of smartgrids.

There may be some mileage in assessing a scheme whereby demand side signs up for voluntary rota block disconnection i.e. they agree to be switched off completely at certain periods depending on the severity of the shortage.

Question 6: Government prefers the form of economic despatch described here. Which of the proposed despatch models do you prefer and why?

One concern outlined line by some stakeholders is that a targeted mechanism would undermine effective operation of the market. DECC believes this can be mitigated through despatching the Strategic Reserve at an Economic Despatch Price. However, surely this can displace capacity that is already in the market, effect prices and undermine market operation. Therefore we favour the last resort despatch in a Strategic Reserve world.

We previously said that the very existence of this question shows that capacity does not sit well in a privatised, bi-lateral market because the purpose is for last-resort. It may appear irrational not to go for economic despatch. However, it is important to keep the strategic reserve (as described) separate, otherwise there will be market distortion and the reserve will not be used for what it is designed to do.

Strategic reserve and economic despatch are mutually exclusive. If it is about economics then only a market should decide what that level is. If the central body sees a shortfall in the required capacity and seeks to procure more, why would that then be held back from a market that must clearly need it? The only reason for a central body to effectively act as the investor of last resort is if the economic signals are insufficient to enable the market to provide the capacity. Therefore, the reserve can never be justified on wholly economic grounds.

If, as we suggest, the reserve is based on last resort and the last resort requirement is limited to a certain number of MWs, then the cheapest reserve is purchased and the other new investment will go into the energy market which operationally should be used up before the reserve is called upon. This means that the market still works on prices without any confusion/distortion with the reserve.

Question 7: How would the Strategic Reserve methodology and despatch price best be kept independent from short-term pressures?

The Strategic Reserve methodology should be clear, distinct and transparent.

True strategic reserve can only operate once the market has failed to deliver the capacity required. There should be no despatch price which relates to the energy market (although we could envisage an internal merit order). The despatch criterion should effectively be only that there is insufficient actual generation to meet demand.

Strategic reserve should not be used to control prices but to deliver where there is a structural shortage; if electricity is genuinely expensive, this should be reflected to the market and not tempered.

Question 8: Do you agree that a Strategic Reserve should be periodically reviewed? If so, who would be best placed to carry out the review and how often should it be reviewed?

We see little point in planning for periodic reviews. A plan would not remove the likelihood of intervention at a later date, but it would create additional uncertainty.

Question 9: Into which market should Strategic Reserve be sold and why?

We see the best version of "strategic reserve" being a contractual arrangement as an extension of STOR for structural shortages.

We feel that certain Strategic Reserve should be sold into the balancing mechanism or day ahead (at least co-ordinated by NGT at an operational

level.) However, it would be inappropriate for other types of reserve (DSR) to be sold into a day ahead market.

For ease of implementation we feel that anything which has been called upon could be priced into the Balancing Mechanism or BSUoS.

Question 10: Do you have any comments on the functional arrangements proposed for managing a Strategic Reserve?

The proposals for Strategic Reserve described in the annex suggest that the price at which the Strategic Reserve is despatched would be set at a fixed price to avoid distorting the market. We do not believe that this is the best approach. The Swedish system of setting the price just above the most expensive cleared price on the day ahead spot market (or some such equivalent) is less likely to lead to arbitrage between the markets.) If fixed and market prices are higher there is a danger that capacity suddenly becomes unavailable in the capacity market.

Question 11: Given the design proposed here and your answers to the above questions, do you think a Strategic Reserve is a workable model of Capacity Mechanism for the GB market?

It would make sense if despatch decisions were worked into NGT's current processes and charging for services and costs came through existing billing routes i.e. Elexon

Market-wide Capacity Mechanism

Question 12: How and by whom should capacity in a GB market be bought and why?

If a market-wide capacity mechanism were implemented we would prefer the option of a central body purchasing the capacity and not placing an obligation on suppliers. In a competitive energy market suppliers are procuring for forecast volumes. The sum of these forecasts will not necessarily add up to the actual national requirement. This leads us to conclude that the requirement should be assessed centrally but purchased via a market auction/tender process.

We believe, however, that creating an explicit capacity arrangement is unnecessary as it is implicit in the energy market. It would create additional costs to suppliers in terms of market operation (which would be passed on to consumers) and, in all likelihood, prices would increase as capacity is paid for twice (i.e. never properly removed from the energy market).

Smaller suppliers would be disproportionately affected as set up costs would not be in proportion to market share and the sum total of set-up costs across all market participants would make a supplier obligation an expensive option.

A market wide obligation would favour large vertically integrated players and those with existing plant; the purpose of this mechanism is to encourage independent investment. A market wide solution would also just prolong the life of existing plant which is not the intention.

Larger vertically integrated players would also be in a position to game the system of bidding in capacity that smaller players would be unable to do as they would have a requirement to procure energy and would be suppliers of reserve, the requirement for which they would be defining through availability declarations of existing plant.

We agree that a capacity mechanism should include penalties for failure to deliver (this was a failing of the NFFO arrangements which would need to be addressed in a more fundamentally important capacity mechanism), but to include penalties in a market-wide mechanism would be unfair on smaller suppliers who do not have their own generation. This leads us to conclude that a market-wide mechanism is inappropriate.

If, however, a market wide capacity mechanism is chosen we believe that this should be market based to the extent that strike prices are determined by negotiating/auctioning participants and not centrally imposed.

Question 13: What contract durations would you recommend for a Capacity Market?

The very existence of this question shows that capacity does not sit well with the current arrangements. Differing plants have differing lead times.

The answer to this question depends on the type of plant that is to be encouraged. Consideration needs to be taken of the duration of the

financing period for the various projects. New build (which is fundamentally what is required) is fifteen to twenty years. Contract periods of shorter durations would not encourage the investment required.

One possibility is to implement 'milestones' in contracts for new builds creating the ability to monitor progress and assess if the capacity will be available for the contracted time period.

Question 14: How long should the lead time for capacity procurement be?
Should there be special arrangements for plants with long construction times?

We think that plant requiring longer construction times could be allowed to agree later starting dates. Penalties may be required for non delivery, but it must be recognised that encouraging conservative estimates of lead times will also lead to inefficiencies.

Question 15: Should there be a secondary market for capacity? Should there be any restrictions on participants or products traded?

Key to this question is the timing at which penalties for non delivery are invoked. For instance, a delay during build may not be easily covered by another like project. However, failing to achieve planning permission may be offset by the expansion of a successfully commissioned project.

The only realistic options for buying back capacity which has been sold (because of a delay in new build) will be to procure from plant which already exists and is probably not of the desirable type. We do not believe it is appropriate to create secondary markets.

Proof of capacity is only achieved at the time of energy delivery. It would be meaningless to transfer the capacity of one type of generator to another as it is the type of generation as well as the capacity which is being guaranteed.

If the arrangement is fuel-indifferent and if there is an appetite to take on other parties' risks and split these down into shorter time frames then this market will develop naturally. We do not, however, believe that this is likely.

Question 16: What are the advantages and disadvantages of making a central, administrative determination of (i) the capacity that can be offered into the market by each generator; (ii) the criteria for being available; and (iii) the penalties for non-availability? In outline, how would you suggest making these determinations?

We are of the view that capacity has been and can continue to be an implicit element of the energy. Any capacity mechanism as such should therefore be targeted and it makes sense that all criteria are determined by the central administration.

A market-wide mechanism would be too complex to be centrally determined and would lead to inefficiency and expense.

Clearly, non-delivery in the implicit market is dealt with through the existing balancing mechanism. Non-delivery in the targeted market should be aligned with this.

Question 17: How should the reference market for reliability contracts be determined and what would be an appropriate reference market if it is set by the regulator? How could any adverse effects of choosing a particular option be mitigated?

We are concerned at the focus on price with the reliability market. The capacity mechanism should not be price based or confused with the existing energy market.

Unless the reliability market is extremely targeted it is not appropriate to introduce it as this would create confusion in the existing forwards market.

Whilst we can see that the seller of the reliability option would like to cap his liabilities, we cannot see that the purchaser of the reliability option is kept whole in the event of non-delivery since the penalty seems to be the equivalent of the premium; the purchaser of the option will still need to replace his energy.

We do not think it is true to say that consumers are hedged against the risk of high prices in return for paying a reliability contract premium. All you have

done is cap the consumers' price but it all depends on where the strike price has been set.

We are generally in favour of allowing price to determine usage and, ultimately, if prices are so high, customers should be prepared to switch off/load shift. This is surely consistent with the drivers behind the Smart Programme. The problem for suppliers is that different customers will have different Values of Lost Load and a sophisticated "switch off when the price is wrong" mechanism is not practical to administer.

Question 18: For a Reliability Market, how should the strike price be determined? If using an indexed strike price, which index should be used?

If there is to be a reliability market this should not be confused with the existing ones around which indices are establishing themselves.

It is not appropriate for this to be centrally determined, especially if it is open to all as it is effectively price fixing.

Furthermore, centrally deciding the strike price differs from the approach STOR takes to setting its strike price and may cause issues if the two mechanisms interact.

If the mechanism is market-wide, a market based auction mechanism is, essential for the central purchase, but not for the sale/allocation to suppliers.

Question 19: For a Reliability Market, what level of physical back up (if any) should be required for reliability contracts and how should it be monitored?

The very fact that this question is being asked demonstrates that the concept of the reliability market is flawed. Neither of the options presented can work as a hybrid of central control and market price. It has to be one or the other.

We believe that a reliability market would over compensate flexible plant (i.e. plant capable of mid-merit, two shifting operation) where what is required is capacity to deal with longer periods of no wind (the anti-cyclone scenario)

We are not convinced that the "No physical backing option" is credible in that there is not much comfort to customers when the lights go out. We

would also add that returning the premium is not sufficient compensation; there should be a System Buy Price to pay back on top.

A "regulatory de-rated capacity" (providing evidence of plans to construct plant) seems to us to lack incentives in the way that NFFO did and is therefore totally unsuitable.

"Name plate capacity" restricting the sale of reliability contracts until performance is proven is therefore the best option of the three although we note that investors would take a regulatory risk that the rules would not change from the point of investing to the point of commissioning.

Question 20: Do you agree that a vertically integrated market potentially raises issues for the effectiveness of a Reliability Market? If so, how should these issues be addressed?

Yes. Independent suppliers would have no optionality and would therefore be at a disadvantage to the Big 6. This is not good for competition.

Having said that, vertical integration has been a natural response to the risks faced by normal producers/suppliers in the bi-lateral energy market. But it would be wrong to introduce change which further favours large vertical integration without considering the implications.

Question 21: What could we do to mitigate interactions between a Capacity Market (especially if a Reliability Market) and Feed-in Tariff with Contract for Difference without diluting the effectiveness of either?

The document talks about both a capacity mechanism and FiT CfDs bringing forward capacity. It is important to make a distinction between capacity in the sense of "new build" (which is undoubtedly required) and capacity in the sense of "being paid to be available to generate" (which is not required.)

It is also important to be clear, if this is true, that one is for low carbon power, the other is fuel neutral to fill in where green power fails

Even if the idea is that the reliability market is biased towards greener plant then it is not necessarily sensible to prohibit generation that is in receipt of a

FiT CfD from participating in the Capacity Market; take for example a wind generator which has a storage facility.

We should be careful of creating a “reliable high carbon” market and an “unreliable low carbon market”. Forcing a decision may be difficult for investors and reliable low carbon plant would not be fully compensated for the advantages it brings. This is another reason we feel that some kind of expanded STOR scheme is preferable to a capacity mechanism.

We understand that the interaction may mean that a central function would need to forecast the amount and reliability of FiT CfD supported generation but forecasting is inevitable in this situation and should not be too onerous for a competent administrator like NGT.

Question 22: How can a Capacity Market be designed to encourage the cost-effective participation of DSR, storage and other non-generation technologies and approaches?

We envisage two types of demand side in the future; the first would be a development of STOR and interacts directly with the National Grid arrangements. The second would be developed by suppliers; in a market which has strong incentives to balance and large proportions of wind in the portfolios of most players, suppliers will develop arrangements with customers to switch off when power is scarce. In other words, leave it to the market.

Question 23: Do you have any comments on the functional arrangements proposed for managing a Capacity Market?

We prefer the design whereby contracts are procured by a central institution (NGT), running a central auction function to establish the buy-out price, procuring the required contracts from providers of capacity, financially settling the contracts and passing on the costs and paybacks to consumers via suppliers through the existing mechanisms of cash out and/or BSUoS.

Question 24: Do you think that a trigger should be set for the introduction of a Capacity Market? If so, how do you think the trigger should be established, and how should it be activated?

Clearly the first stage is to place an obligation on NGT to determine the amount of reserve capacity required. They can then decide when the capacity mechanism should start.

Question 25: What is the most appropriate design of Capacity Market for GB and why?

Having considered the two options presented, we favour the Reliability Market. This does, however, depend on how much strategic reserve is really required; it is not a foregone conclusion in our minds that the strategic reserve option cannot be extremely targeted. We are assuming that the Reliability Mechanism costs less and avoids the 'paying twice' issue associated with capacity as only the reliability contract premium is paid for. We like the fact that the capacity becomes physical when the option is called. We note, however, that in the Colombian case study, the reliability market is working to mitigate El Nino, a phenomenon that occurs in a cyclical manner. A reliability market in the UK will be dealing with periods of high demand and inadequate supply that are far less predictable and therefore this mechanism may be less effective. Additionally, we would further reiterate that we feel an extension of the STOR mechanism would be the most feasible and efficient solution when addressing the security of supply issue.

Capacity Mechanism Assessment

Question 26: What are your views on the costs and benefits of a Capacity Mechanism to industry and consumers?

We favour evolution not revolution and we believe that a massive market intervention now is not justified. Placing an obligation of NGT to assess the requirements in the future is all that is required at this stage. It cannot be said that the market has failed or is about to fail. The proposals the government has outlined will come at huge cost to the consumer and there would still be no guarantee that the lights would not go out.

Question 27: Which Capacity Mechanism should the Government choose for the GB market and why?

As stated we have a preference for a mechanism that is essentially an extension of the STOR mechanism. Both proposals outlined in the consultation document here have their flaws.

We note with interest that in many countries where a strategic reserve has been implemented, it has been or is in the process of being phased out. Also, as previously stated, the case study of Colombia, where the reliability market has been successful, the energy market is extremely dissimilar and dealing with totally separate issues from those in the UK.