DONG energy

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

DONG Energy A/S
Nesa Allé 1
2820 Gentofte
Denmark

Tel +45 99 55 11 11
Fax +45 99 55 00 01

www.dongenergy.com
Company no. 36 21 37 28

Consultation on Possible Models for a Capacity Mechanism

4 October 2011

Our ref.

[redacted]

DONG Energy is pleased to be afforded by DECC the opportunity to comment on the above consultation on a possible model for a capacity mechanism.

DONG Energy is a leading energy company in Northern Europe and headquartered in Denmark. We are one of the most active offshore wind investors and operators in the United Kingdom with a total capacity of approximately 2.8 GW, including four offshore wind farms in operation, a stake in further four sites currently under construction and a strong pipeline of potential future renewable projects. In thermal generation, DONG Energy is operating the highly efficient CCGT power station Severn in South Wales.

Developments of the UK electricity market arrangement and structure are important for DONG Energy both in terms of present generation capacity, but also for our significant future investment programme.

In general, DONG Energy believes that the requirement for a capacity mechanism is significantly lessened if the other market failures mentioned in the White Paper, July 2011, were to be handled effectively. Resource adequacy and security of supply would be most cost efficiently delivered through well-functioning wholesale markets with sufficient liquidity, where investment incentives and price signals are transparent and trustworthy to all investors in the market.

It is our understanding that Government finds that even if there was a well-functioning wholesale market there would still be a market failure leading to a lack of capacity adequacy and flexibility on a mid to long-term basis. In this case, DONG Energy would stress the importance of making an intervention with the least impact on the market functioning. This would ensure that market players continue to base their investment and business decisions on the competitive market rather than being subject to highly regulated market arrangements.

In developing market-wide capacity mechanism care should be taken to limit negative impact on the wholesale electricity price. A capacity market is likely to

DONG energy

Our ref.

reduce wholesale electricity prices because the capacity element that is currently inherent in the electricity price will be paid for through the capacity payment. As a consequence it will be difficult to achieve an investment decision for a new generating station without a capacity contract.

DONG Energy believes that a targeted mechanism like the Strategic Reserve if carefully designed would be the best intervention to support a well-functioning and liquid wholesale market. With the level of detail we have available at the moment our main position can be summarised as:

- We favour a "Strategic Reserve with Physical Despatch Criteria" where the reserve capacity is activated upon certain physical system stress situations. In the White Paper, July 2011, such a situation is described as "during winter anti-cyclonic conditions where demand is high and wind generation is low for a number of days".
- We favour that physical criteria to be clearly defined and known to the market.
- We favour that capacity in the Strategic Reserve are only be despatched after all other available capacity in the wholesale market and the relevant capacity in the balancing mechanism have been despatched.
- We favour the capacity in the Strategic Reserve to be centrally procured by the System Operator.
- We favour a Strategic Reserve that is kept outside and do not interfere with the wholesale market. It could be managed and remunerated in a STOR-like manner with an availability payment and utilisation payment based on competitive bidding and activation according to the merit-order principle.

The findings and concerns of DONG Energy are further elaborated in the specific questions raised in the consultation Response Form enclosed.

DONG Energy would be pleased to discuss any of the issues raised in the consultation response and looks forward to engaging with the Government in the period leading up to implementation. Should you have any questions relating to our response form, please contact either [redacted]

[redacted]

Infrastructure and Regulatory Affairs
DONG Energy

DEPARTMENT OF ENERGY & CLIMATE CHANGE

Consultation on Possible Models for a Capacity Mechanism

Response form

Responses are welcome by email or post. You may find this document helpful for structuring your response, but can reply in a separate document if you prefer. If replying in a separate document please make clear which questions you are answering.

Respondent Details	
Name	[redacted]
Organisation	DONG Energy
Address	Nesa Allé 1
Town/ City	Gentofte
Postcode	2820
Telephone	[redacted]
E-mail	[redacted]
Fax	

Tick this box if you are requesting non-disclosure of your response. ☐

Please return by 4 October 2011 to:

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

You can also submit this form by email to:
DECC.capacity.mechanism@decc.gsi.gov.uk

Consultation questions

Note: the references in square brackets refer to page and figure numbers in the consultation document where more information can be found, and the questions are set out in context. The consultation document is Annex C of the Electricity Market Reform White Paper, and is available here:
http://www.decc.gov.uk/en/content/cms/consultations/cap_mech/cap_mech.aspx

Targeted mechanism

Consultation question	[page 167]
1	**Does this table [see Figure C3] capture all of your major concerns with a targeted Capacity Mechanism? Do you think the mitigation approach described will be effective?**
Response	Yes, to a large extend the table and mitigation options do address the main concerns. However, we would like to reiterate the following points. In the long run, resource adequacy and security of supply is best ensured by a properly functioning wholesale power market, where adequate price signals, accessible to all actors in the energy and balancing markets, signal the need for investment. In addition, the development of Demand Side Response (DSR) will provide for more efficient balancing of supply and demand in the electricity system. We agree that the capacity adequacy concern could be mitigated through designing a Strategic Reserve (SR) mechanism to provide for necessary capacity being available with the lowest level of market distortions. We are supportive of the Government's intention to minimise impact on the wholesale electricity market arrangements by setting the despatch price well above the long-run marginal cost of generation. However, we believe that the optimal Strategic Reserve mechanism should be one that is activated and despatches plant according to the expectancy of physical events that pose risks to security of supply rather than market prices or theoretical value of lost load. This way the mechanism would precisely and targeted address the identified problem of resource adequacy in the White Paper. We further believe that a "Strategic Reserve with Physical Despatch Criteria" (could be named "Stress Operation Strategic Reserve" – SOS Reserve) in being targeted and not interfering with wholesale prices on balance would pose least cost to society and least market distortions, so investments would still take place under normal conditions.

Consultation question	[page 168]
2	**How long should the lead time for Strategic Reserve capacity procurement be and why?**
Response	Auctioning (annual or seasonally) for long-term availability of the Strategic Reserve would provide certainty over cash flow for the participating capacity.

	Lead times for determining capacity requirements should be 3-5 years ahead which is within the development timescales for most conventional generation.

Consultation question	[page 168]
3	**Should the length and nature of contracts procured by the Strategic Reserve procurement function be constrained in any way?**
Response	Contracts offered should be for a range of durations: from quarterly to several years. Long contracts (more than 5 years) would potentially act as a barrier to entry for new entrants. Shorter contracts (than quarterly) may lead to a risk of providing insufficient incentive for generators to make a positive investment decision. Capacity in the Strategic Reserve should not be eligible for participation in the wholesale market arrangement. The terms of payment and despatch should be clearly set out including an option/availability fee and a despatch price. Procurement of the Strategic Reserve could resemble that of STOR with increased transparency in the price-determination and remuneration process.

Consultation question	[page 169]
4	**Which criteria should providers of Strategic Reserve be required to meet?**
Response	The criteria for participation in the SR should be based on the physical requirements of the plant. For example, • Response Time i.e. start-up ramping rates should be within 2-3 hours for generation plant, and would correspond to the system needs (event of low capacity margin can be predicted several hours ahead). • Generation plant should be able to run for at least eight consequent (peaking period) hours as it is utilised during periods of extreme system shortages. • For DSR and flexibility aggregation, response times should be shorter (down to 15-30 min), and it may also be appropriate for the duration to be of a shorter period too. It is foreseen that there would be a need for different types of flexibilities and technologies, hence the set of criteria for providers of Strategic Reserve should reflect this. In addition, environmental criteria aligned with the Government's climate targets in the UK should be considered for inclusion, and supported by the increasing EPS requirements. These criteria and standards could come from a starting level and then gradually be increased over time.

Consultation question	[page 169]

5	**How can a Strategic Reserve be designed to encourage cost-effective participation of DSR, storage and other forms of non-generation technologies and approaches?**
Response	In the Impact Assessment (p.79), it is noted that in the modelling of the capacity margins there is a conservative assumption regarding no DSR growth in flexible demand until 2030. This is not in line with trends across Europe, where the inclusion of DSR is considered as a major part of the solution. Including cost-effective participation of DSR is fundamental to solving resource adequacy and security of supply constraints and any market intervention should be designed to allow participation and growth of this service. Given that DSR is presumably the most cost efficient way to create flexibility in the system it should be incentivised. However, the incentive for development of DSR should not only be through the provision of SR. SR should be a very specific service to ensure provision of sufficient generation to meet demand at times of system stress. DSR has the potential to work with generation to allow flexibility in the system and its participation in the wider market should be encouraged to ensure optimal use of the products it can offer.

Consultation question	[page 175]
6	**Government prefers the form of economic despatch described here. Which of the proposed despatch models do you prefer and why?**
Response	If the Government proceeds with its proposals to introduce a capacity mechanism it is very important that any intervention has the least possible impact on the price formation in the market. Furthermore, we view improved liquidity in the market as a prerequisite for any of the models to bring forth clear and just investment signals outside of the Strategic Reserve. We propose a despatch model of the Strategic Reserve that activates contracted capacity based on the physical criteria that precede high-scarcity situations (where the TSO expects extremely low available capacity margins for an extended period of time or in cases of emergency, e.g. plant or transmission outages that could have a risk of black-outs). All other available capacity be it in the wholesale market or in the appropriate balancing services should be despatched before the SR. Capacity within the SR should then be despatched according to the merit-order principle and be paid for activation at a competitively determined despatch price (which is set in the merit order at the marginal price of the last activated unit). It should also be paid a uniform availability fee on a non unit-specific basis (determined through a competitive tendering or auction) in both reward and penalty directions.

Consultation question	[page 175]
7	**How would the Strategic Reserve methodology and despatch price best be kept independent from short-term pressures?**

Response	In order to minimise political risk and short-term pressure to activate SR due to e.g. increasing prices in the wholesale market (which would benefit investment decision making in flexible generating capacity), the revision of basic principles and the methodology for such changes should be left with an independent body, such as Ofgem. All changes should be subject to a transparent, participatory and clear process for change. The daily management and despatch of SR should be the responsibility of the TSO.

Consultation question	[page 175]
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?**
Response	Yes, because of the year by year change in the capacity margin and the uncertainty of the future need for a market intervention to secure capacity margins, it would be advisable to review the fundamental need for the SR as well as its effectiveness and market impact after a number of years e.g. three years after the mechanism is introduced. The level of capacity margin should be assessed every year according to the duties of Ofgem to monitor and set determine the appropriate levels according to the given methodology.

Consultation question	[page 176]
9	**Into which market should Strategic Reserve be sold and why?**
Response	DONG Energy believes that the Strategic Reserve should be kept out of the wholesale market and instead be handled and remunerated in a STOR-like manner where the reserve capacity is despatched under certain predefined circumstances. The different units of their contracted capacity into SR should be despatched according to the merit-order principle.

Consultation question	[page 178]
10	**Do you have any comments on the functional arrangements proposed for managing a Strategic Reserve?**
Response	DONG Energy would prefer a centralised procurement of the SR (1-buyer-market) handled by the System Operator.

Consultation question	[page 179]
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?**

Response	The lack of investment signals for new generation investment, and as such the risk of future resource adequacy gaps, is largely stemming from illiquid and poorly functioning sequence of wholesale markets. DONG Energy strongly believes these issues should be addressed before any capacity mechanism is introduced. Investment confidence can be significantly improved by improving market structure that facilitates liquid markets with high price transparency and trustworthy reference prices. However, if the Government finds that a capacity mechanism is required, the SR seems to have the greatest likelihood of attaining positive results at the lowest cost to the market arrangements and the society. If the SR is designed with a care to allow the market to work it could be suitable for the GB market, e.g. through a "Strategic Reserve with Physical Despatch criteria".

Market-wide mechanism

Consultation question	[page 182]
12	**How and by whom should capacity in a GB market be bought and why?**
Response	As noted above, a capacity mechanism (of any description) should be managed by the SO. There is already an existing mechanism for the regulator to set the required level of capacity. This could be extended to place an obligation on the SO to contract for the capacity through the market.

Consultation question	[page 183]
13	**What contract durations would you recommend for a Capacity Market?**
Response	For any capacity mechanism we recommend contract durations of 3-5 years. Longer contracts will act as a barrier to new entrants and increase the risk of further undermining the wholesale electricity markets. Shorter contracts risk providing insufficient incentive for new generators to make a positive decision to invest.

Consultation question	[page 184]
14	**How long should the lead time for capacity procurement be? Should there be special arrangements for plant with long construction times?**
Response	If the capacity mechanism is intended to encourage new generation then some account of construction timescales and lead times following an investment decision must be taken. It is likely that the predominant type of new generation entering this mechanism will be gas-fired power stations; given that CCS is still at the experimental stage and low carbon generation will be in receipt of a CFD FIT. On average, it currently takes 18-24 months

	to construct a gas-fired power station. If it is assumed an investment decision is made a year in advance of construction commencement, then a lead time of 3 years is adequate. It is difficult to see what 'long construction times' should be accounted for given that the intent of this mechanism is to fill a perceived resource adequacy issue arising towards the end of this decade. Generators with 'long construction' times are unlikely to be in production before this time and thus not useful for the capacity mechanism.

Consultation question	[page 185]
15	**Should there be a secondary market for capacity? Should there be any restrictions on participants or products traded?**
Response	There should be restrictions on secondary trading of capacity. The contracts should be plant specific, to allow trading of obligations risks the position that capacity is not delivered and potentially exacerbates the liquidity issues already seen in the market.

Consultation question	[page 186]
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?**
Response	i) The advantage of a central, administered determination of capacity is that it is set independently of the market. The idea that a capacity margin must be maintained at a certain level is to provide reassurance to the Government that demand can be met. As such, it should be the Government (or its delegated authority) who determine the level of capacity that is required for security of supply purposes. Indeed, this has, to some extent, already been implemented by the duty on the Authority to determine a methodology for setting a capacity margin. ii) Any plant that is in receipt of capacity remuneration should be guaranteed to be available when it is called under the capacity mechanism. That is, it should hold back a proportion of its capacity to fulfil its obligations. There are two scenarios when a plant may be non-available when called: it is running at full-load and is fully contracted or it cannot respond due to a technical constraint. In the case of the former, the plant should not suffer a penalty but neither should it be paid under the capacity mechanism as it has not acted to improve the overall system position in time of need. In the case of the latter, it should be exposed to the system costs equivalent to the volume of capacity it failed to deliver.

Consultation question	[page 191]
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?
Response	In general DONG Energy believes that a market wide mechanism would lead to an even less transparent price setting and distort the functioning of the wholesale market for electricity. Furthermore, providing stable cashflows to contracted generation into the reliability market may lead to a situation of all-market subsidization in the GB electricity sector.

Consultation question	[page 192]
18	**For a Reliability Market, how should the strike price be determined? If using an indexed strike price, which index should be used?**
Response	

Consultation question	[page 193]
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?**
Response	

Consultation question	[page 194]
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?**
Response	Yes, particularly if the requirement for a capacity market is delivered through an obligation on suppliers. One consequence of the market structure that is present today in the GB Market is a low level of liquidity in the wholesale markets. This is due in part to the ability of supply companies to self-supply. This issue would be exacerbated if the obligation to provide capacity lay with supply companies with their own generation.

Consultation question	[page 195]
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?**
Response	If a capacity market is introduced, generators should have the option to choose between a capacity contract and a CFD FIT. There should not be an option to choose both.

	A capacity market (Reliability Market or other form) should act to lower the wholesale electricity price because the capacity element that is currently inherent in the price is paid for elsewhere. This would reduce the income to all generators but in particular those renewable generators in receipt of a ROC. Those that receive the proposed CFD FIT are likely to account for the forecast price reduction through increasing the strike price needed. This is particularly the case given the proposals to exclude generators receiving CFD FIT from the capacity mechanism. This interaction and impact should also be taken into account.

Consultation question	[page 196]
22	**How can a Capacity Market be designed to encourage the cost-effective participation of DSR, storage and other non-generation technologies and approaches?**
Response	

Consultation question	[page 199]
23	**Do you have any comments on the functional arrangements proposed for managing a Capacity Market?**
Response	The arrangements are still very high level and need a significant amount of detail to be provided. For example, what credit arrangements are needed, who will be the contractual counterparty, who will manage the cash flows, who will monitor delivery against the contracts?

Consultation question	[page 199]
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?**
Response	DONG Energy does not support the introduction of a Capacity Market due to the complexity and interference with the market. Instead effort should be focused on improving wholesale market signals through improving liquidity and hence confidence in the references prices derived from those markets. A capacity market is an unnecessarily complex and costly way to provide for resource adequacy and security of supply.

Consultation question	[page 199]
25	**What is the most appropriate design of Capacity Market for GB and why?**

Response	As stated before DONG Energy does not see the Capacity Market as the best way to solve the problem. If the Government believes a capacity remuneration of some kind is required to ensure adequate system security, this should be done through procurement of reserve type contracts.

Capacity mechanism Assessment

Consultation question	[page 210]
26	**What are your views on the costs and benefits of a Capacity Mechanism to industry and consumers?**
Response	In the long run it would form a more cost efficient perspective for both industry and consumers to let the market deliver. DONG Energy agrees with the Impact Assessment that a Reliability Market in general would place a new administrative burden on businesses. The Reliability Market would need a substantial amount of new machinery to support the forming of a new market, while the SR offers a more simple approach. These additional costs of the Reliability Market would at the same time be relatively higher for smaller players and new investors that would have to spend approximately the same effort in understanding and managing the newly constructed reliability market despite only having few plants to activate (no economies of scale effect for smaller companies).

Consultation question	[page 211]
27	**Which Capacity Mechanism should the Government choose for the GB market and why?**
Response	DONG Energy generally believes that resource adequacy and security of supply is most efficiently delivered through well-functioning markets, where investment incentives are clear and transparent. The solutions chosen should support a well-functioning and efficient market. DE believes that the Strategic Reserve can achieve the objectives that the government has put forward in the most cost efficient manner, while at the same time leaving room for investments taking place without subsidies. The Strategic Reserve would be more practicable and less complex to implement and interfere less with other parts of the EMR package. If the SR is implemented at the same time as improvements to the market structure and market liquidity chances of achieving the objectives would be greater. On average there are too many design challenges in the Reliability Market, which could significantly dampen investment incentives because a clear regulatory framework is key to long term investments. The Reliability Market has only been tested in markets with pool-type of arrangement and the uncertainty of introducing this kind of mechanism in a strongly vertically integrated market without a self-supply restriction seems like a problem.

	Then the risk of potential windfall profits to the existing generators, who have already made their investment decision and do not require further incentives, could be costly to society and rather complex to avoid. Further the interaction of the Reliability Market with the implementation of the EMR, e.g. the FiT CfD, creates a significant risk to investors. All the above poses the risk of continuous regulatory amendments and changes to a Reliability Market in line with what has been seen in other markets.

Please select the category below which best describes who you are responding on behalf of.

- ☐ Business representative organisation/trade body
- ☐ Central Government
- ☐ Charity or social enterprise
- ☐ Individual
- ☒ Large business (over 250 staff)
- ☐ Legal representative
- ☐ Local Government
- ☐ Medium business (50 to 250 staff)
- ☐ Small business (10 to 49 staff)
- ☐ Micro business (up to 9 staff)
- ☐ Trade union or staff association
- ☐ Other (please describe):

Thank you for taking the time to let us have your views.

The Government does not intend to acknowledge receipt of individual responses unless you tick this box. ☐