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## Aggreko response to consultation on possible models for a Capacity Mechanism

Aggreko welcomes the opportunity to respond to DECC's Capacity Mechanism model consultation. The Electricity Market Reform (EMR) proposals outlined in the White Paper published in July 2011 are intended to deliver a fundamental shift in the GB electricity market in pursuit of decarbonisation goals. As a provider of flexible, low capital cost plant that is capable of rapid deployment in response to generation adequacy concerns, Aggreko can play a pivotal role in delivering a sustainable generation mix in a low carbon future.

The Capacity Mechanism proposals are critical to the effective operation of the future GB electricity market and the principal driver of our involvement in it. The importance of making the right choice between the strategic reserve and reliability contract models, as well as ensuring appropriate design of the selected approach, cannot be underplayed. The Capacity Mechanism consultation is, therefore, an essential lynchpin for the delivery of an effective low carbon electricity market.

The headline messages that we want DECC to take away and reflect in the next steps of the Capacity Mechanism development are as follows:

### Headline messages

#### *Flexible capacity is critical*

- Flexible capacity has an essential role to play to deliver security of supply in a **sustainable decarbonised generation mix**. Aggreko is strategically and operationally positioned to provide flexible capacity to the GB market. We can provide **1GW of flexible, cost-effective capacity** to the GB market at **12 months' notice** to meet evolving capacity requirements.

#### *Strategic reserve or reliability contracts*

- Of the two Capacity Mechanism options proposed, our high-level preference is for the **strategic reserve** model, but with a number of provisos.
- Conceptually, strategic reserve should provide a viable mechanism for securing reliable back-up capacity to provide cover for sustained periods of extreme capacity scarcity. We acknowledge the potential for strategic reserve to interfere with the effective operation of the electricity market if implemented inappropriately. It is important that these issues are addressed through effective mechanism design and an enduring commitment to only use the contracted reserve in extremis, ensuring that wholesale price formation is not distorted. However, we do not consider these issues to be insurmountable and the strategic reserve model can be made to work with careful design.

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- The reliability contract model proposes a more complex and fundamental reform option. While it may theoretically deliver reliable capacity to the market, it is unclear to us, based on the high-level details proposed, whether this model can be implemented effectively in the GB market. We are aware that similar models are employed in other markets, for example in New England, the United States. However, the New England and GB arrangements differ in a number of fundamental ways, including the fact that New England is a day-ahead pool market rather than a bilateral market. It has not been demonstrated that the reliability contract approach will work in GB in light of such fundamental differences. In addition, we have concerns in relation to the potential liabilities that reliability contract holders may face. Specifically, the combination of difference payments and non-delivery penalties may lead to inappropriate risk exposure.

## *Strategic reserve provisos*

- **Future requirements for flexible capacity are not known**, given the uncertain rollout of intermittent/inflexible generation capacity and the potential contribution of the demand side. Procuring anticipated capacity requirements now via long-term contracts will almost certainly be inefficient and costly for consumers. Hasty action to strike a series of long-term contracts is not needed and will simply foreclose the flexible capacity market to more responsive providers, including demand response.
- **Procurement of strategic reserve needs to be more flexible than suggested.** Flexible capacity can be secured closer to real time, when requirements are clearer. A tiered procurement approach, with capacity purchased over a range of timescales in the run-up to real-time offers the most appropriate solution. Securing capacity on a long-term basis risks locking in an inefficient volume of capacity and causing market foreclosure.
- **Generation from strategic reserve plant produced during testing should not be wasted.** Testing will be required to maintain effective operation of the plant and to demonstrate reliability. This output should be provided to the market in a manner that mitigates the potential for distortion.

## **The role of a capacity mechanism**

It is widely accepted that the pursuit of decarbonisation will significantly increase the penetration of low carbon generation, which may be intermittent and/or inflexible. This change increases the importance of back-up capacity for delivering security of supply. In this context, DECC has made it clear that it anticipates genuine generation adequacy issues towards the end of this decade.

But, expectations of limited operating hours and a short window for earning revenue create a challenging financial predicament for providers of back-up capacity. DECC has proposed the introduction of a capacity mechanism in order to improve the investment environment for flexible capacity providers.

**The Government's choice and design of capacity mechanism will be critical to the investment case for potential providers of flexible capacity into the GB market.**

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## Emissions Performance Standard

While the July 2011 consultation document relates to Capacity Mechanisms only, we are taking this opportunity to also seek confirmation that our interpretation of the Emissions Performance Standard (EPS) is accurate.

The White Paper outlines the decision to introduce an EPS of 450gCO<sub>2</sub>/kWh. Our understanding is that this EPS value will be used to set an annual, plant limit on allowed CO<sub>2</sub> emissions assuming baseload operation. This means that if, for example, a plant emits 900gCO<sub>2</sub>/kWh it still complies with the EPS as long as it operates at a load factor of 50% or less. The description of the intended EPS approach is not very clear, and we request that formal clarification is provided.

Clarity in respect of the EPS is essential because it is an unavoidable truth that much of the flexible capacity resource required to create a sustainable generation mix is, and will remain, carbon emitting. It is essential that flexible thermal capacity is able to operate within the EPS rules to enable delivery of a sustainable low carbon generation mix in aggregate.

## Aggreko and our capabilities

Aggreko is a global leader in the supply of rental power plants and as a seller or provider of temporary power. We can deliver flexible, cost-effective capacity that can contribute to security of supply as part of a sustainable generation mix. Critical characteristics of our capacity are as follows:

- Our capacity is operationally flexible. It can start (and stop) at the touch of a button, achieving full power output in 30 seconds.
- We can commit our units at short notice in response to changing capacity requirements. We could deploy 1GW of capacity into the GB market at 12 months' notice (with 6GW of capacity in our fleet globally). The assets can then be re-located or removed from the system in a highly flexible manner as circumstances change.
- The Aggreko assets are cost-effective options. They are low capex and opex solutions relative to alternative peaking plant technologies and offer high efficiency even when part-loaded.

The success of our technology is backed by hard evidence from a range of international markets, including the following:

- Following the recent earthquake and tsunami, Aggreko rapidly mobilised 200MW of emergency power to Japan for a minimum one-year term.
- In response to prolonged drought and its impact on hydro generation capabilities in the region, Aggreko entered into a 12 month contract with the Tanzanian government to provide 100MW of emergency power.
- Within 40 days of signing a contract with the Bangladesh government, Aggreko added 100MW of capacity to supplement an existing 250MW commitment.
- We provide numerous summer seasonal grid contracts, including projects of 60MW in Greece and 150MW in Oman.

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- We provide responsive 'relief' capacity to meet short-term requirements. For example, during 2009 we supplied 750 generators within a 10 day period in response to a power outage in France.

In our view, there is 5-6GW of temporary generation capacity available within the global market that could be deployed into the GB market within 12 months. Aggreko is a key provider and can make the following available to the GB market:

- 250MW of capacity available within 90 days;
- 500MW of capacity available within 6 months; and
- 1GW of capacity available within 12 months.

**The flexibility and speed with which our technology can be deployed (and redeployed) in response to evolving requirements must be recognised in any capacity mechanism.**

## Synopsis

As outlined at the outset, our high-level preference is for an **appropriately designed strategic reserve mechanism**. But our support comes with a number of provisos, which generally echo comments made in our December 2010 consultation response. Our key message is that **strategic reserve must be developed on a 'no regrets' basis, providing flexibility while avoiding locking in expensive, long-term mistakes.**

## Procurement

Future flexible capacity requirements cannot be accurately known now given uncertainty in respect of future rollout of intermittent generation, demand growth and input fuel prices. So, it will almost certainly be inefficient and uneconomic for a significant proportion of capacity requirements to be secured on long-term contracts (e.g. 10 to 15 years in duration). Such an approach also ignores the fact that substantial quantities of flexible capacity – from generation or the demand side – can be made available with relatively short notice.

**Flexible capacity can be reliably secured closer to real-time when actual requirements are more accurately known. Taking hasty actions now to secure capacity on a long-term basis to meet an uncertain future requirement may foreclose the market to alternative providers and prove costly.**

We see merits in a three-tier time horizon which provides flexibility in procurement and avoids locking in capacity that may prove to be an expensive mistake:

- **short-term:** capacity committed up to 2 years ahead. This provides a route for securing capacity in the run-up to real-time to fine-tune flexible capacity holdings to meet known requirements.
- **mid-term:** capacity committed 3-5 years ahead. The majority of flexible capacity requirements can be reliably secured within this window when future requirements are more accurately known.
- **long-term:** capacity committed up to 10 years ahead. We envisage that only a small quantity of baseline flexible capacity should be secured over this timeframe, justified on a 'no regrets' basis.

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This keeps the market open to a wide range of potential providers and enables contracting to be shaped to resolve 'known' capacity issues closer to real-time. In our view, this flexibility will make capacity procurement more economic and efficient, as well as delivering more diversity in the sources of flexible capacity.

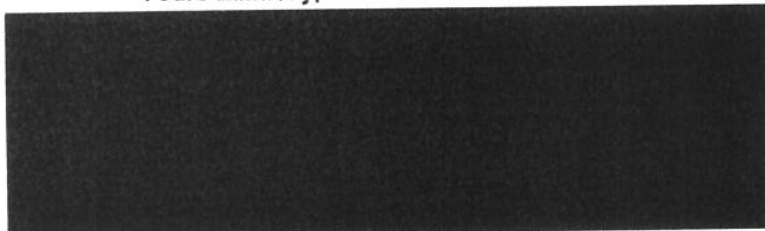
### *Testing*

For good reason, the intent is that strategic reserve capacity will be ring-fenced from the market, to mitigate the potential for distortionary effects. The ring-fenced capacity will, however, need to be tested to ensure that it is in good working order and to ensure that it is reliable (from two perspectives: unused equipment becomes unreliable, and untested equipment cannot be trusted). This may require a number of hours testing, some of which would be expected to be at times of relative system tightness in order to provide for rigorous testing of the contracted capacity. It seems inappropriate for the generation produced during testing to be wasted and some allowance must be made for this test energy within the market.

**The strategic reserve arrangements need to consider how generation produced during testing can be accommodated within the wholesale market in a manner that mitigates the potential for market distortion.**

We are keen to work with DECC and the energy industry in developing a capacity mechanism that supports the delivery of a low carbon, secure and affordable energy sector which retains the market philosophy which is at the heart of the UK's energy policy.

Yours faithfully,



Executive Director

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