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Dear Sir/Madam,

### **Response to Consultation on Electricity Market Reform**

Thank you for the opportunity to respond to this consultation. Please see below for answers to the consultation questions for which are providing responses.

RLtec is a demand side response provider of dynamic frequency response and has recently brought its technology to market, harnessing supermarket loads to provide a service to National Grid in the Firm Frequency Response market<sup>1</sup>. Government commissioned research has estimated that if widely deployed dynamic demand could reduce the UK's CO2 emissions by 1.7m tonnes<sup>2</sup>.

1. [Do you agree with the Government's assessment of the ability of the current market to support the investment in low-carbon generation needed to meet environmental targets?](#)

We agree that the current market is failing to adequately incentivise uptake of low carbon technologies such as demand side response.

2. [Do you agree with the Government's assessment of the future risks to the UK's security of electricity supplies?](#)

We agree that there is a future risk to the UK's security of electricity supplies. Demand side technologies can play a key role in reducing this risk provided that market and regulatory structures are in place to remove barriers to entry and support their deployment.

19. [Do you agree with our assessment of the pros and cons of introducing a capacity mechanism?](#)

We agree that the capacity mechanism has the potential to increase market transparency, facilitate demand side response, promote low carbon technologies and help to guarantee security of supply.

<sup>1</sup> <http://www.nationalgrid.com/uk/Electricity/Balancing/services/frequencyresponse/ffr/>

<sup>2</sup> <http://www.super-gen-networks.org.uk/filebyid/50/file.pdf>

However, we are concerned that if implemented without careful consideration the capacity mechanism has the potential to disrupt investment in or dis-incentivise the use of demand side response.

Greater market transparency through a capacity mechanism may enable participants to develop a clearer view of the electricity market prices, encouraging competition.

RLtec agrees that National Grid will face problems in the long term in obtaining the marginal capacity and balancing services which are needed for grid stability. Demand side response will play a vital role in the future of GB grid balancing as the GB fuel mix shifts away from coal and gas towards a greater proportion of renewables and nuclear. If implemented appropriately a targeted capacity mechanism could expand the volume of service which can be made available by demand side participants, increasing security of supply and reducing carbon emissions.

However, the way in which a capacity mechanism is implemented may have unintended consequences potentially leading to the promotion of generation over demand side technologies. In particular it is uncertain over the extent to which any capacity mechanism market will overlap with the existing balancing services such as reserve or frequency response. Comments in the EMR consultancy document speak towards the future transparency of the “reserve resource” balancing market (Section 4.10 – specifically about STOR). Concerning market distortions would occur if some but not all balancing services providers were eligible to get capacity payments in addition to reserve or frequency response payments.

20. Do you agree with the Government’s preferred policy of introducing a capacity mechanism in addition to the improvements to the current market?

RLtec welcomes improvements to the current market and capacity mechanism to the extent that these policies promote:

- Low carbon technologies;
- Demand side participation;
- Removal of barriers to entry;
- Market transparency;
- British jobs.

Our only concerns are unintended consequences that might arise from partial overlap with existing balancing services and uncertainty brought about by fluctuating government policy.

22. Do you agree with Government's preference for the design of a capacity mechanism:

- a. a central body holding the responsibility;
- b. volume based, not price based, and;
- c. a targeted mechanism, rather than market-wide.

RLtec agrees with the structure of these policy options. A centralised process to mandate the provision of capacity volumes according to a targeted mechanism is a sensible option. We are happy that the central body is to be National Grid (as suggested in 4.79). As the System Operator they already set required volumes of frequency response and balancing reserve needed to balance the grid and have experience in managing competitive tender processes. We believe that the SO is well placed to operate such a market efficiently and effectively.

23. What do you think the impact of introducing a capacity mechanism would be on incentives to invest in demand-side response, storage, interconnection and energy efficiency? Will the preferred package of options allow these technologies to play more of a role?

So long as the preferred package of options includes a targeted mechanism which rewards the carbon emission reduction benefits of demand side response and other low carbon technologies then this would clearly provide an incentive to invest in these technologies. In addition to being suggested by Dieter Helm<sup>3</sup>, the State of California has also implemented demand response specific incentives<sup>4</sup>.

Furthermore, the Government suggestion to review the Carbon Reduction Commitment to work effectively with DSR is to be welcomed. DSR may reduce carbon disproportionately more than other energy efficiency measures of comparable cost. However, these carbon reduction benefits are not currently rewarded under CRC. The CRC could recognise the carbon reduction benefits of demand side response, promoting the carbon reduction benefits of these technologies.

24. Which of the two models of targeted capacity mechanism would you prefer to see implemented:

- a. Last-resort dispatch or;
- b. Economic dispatch.

So long as there are no unintended consequences, for example inadvertently paying some but not all providers twice (e.g. once under the capacity mechanism and under FFR or STOR), the 'economic dispatch' model seems most likely to remove barriers to entry, promoting access to markets for demand side and other low carbon technologies.

<sup>3</sup> Dieter Helm, (October 2010, Policy Paper Market reform: rationale, options and implementation, <http://www.dieterhelm.co.uk/sites/default/files/Market%20reform%20October%20paper.pdf>)

<sup>4</sup> <http://www.energy.ca.gov/2005publications/CEC-400-2005-043/CEC-400-2005-043.PDF>

25. Do you think there should be a locational element to capacity pricing?

We have no position on this matter at the current time.

If, however, options to strengthen the representation of demand side response in the capacity mechanism are to be developed – i.e. options which would take into account widely dispersed aggregated services – then we would gladly participate in any related consultation.

32. What changes do you think would be necessary to the institutional arrangements in the electricity sector to support these market reforms?

We agree that National Grid should be responsible for the management of any capacity mechanism.

33. Do you have view on how market distortion and any other unintended consequences of a FIT or a targeted capacity mechanism can be minimised?

Careful consideration should be given to the design of any capacity mechanism in respect of its interaction with balancing services. Unintended consequences may arise if some but not all providers are inadvertently paid both under the capacity mechanism and through existing balancing markets such as STOR or FFR.

Thank you for the opportunity to respond to this consultation and please do not hesitate to contact us if you require any more supporting information to the above points.

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