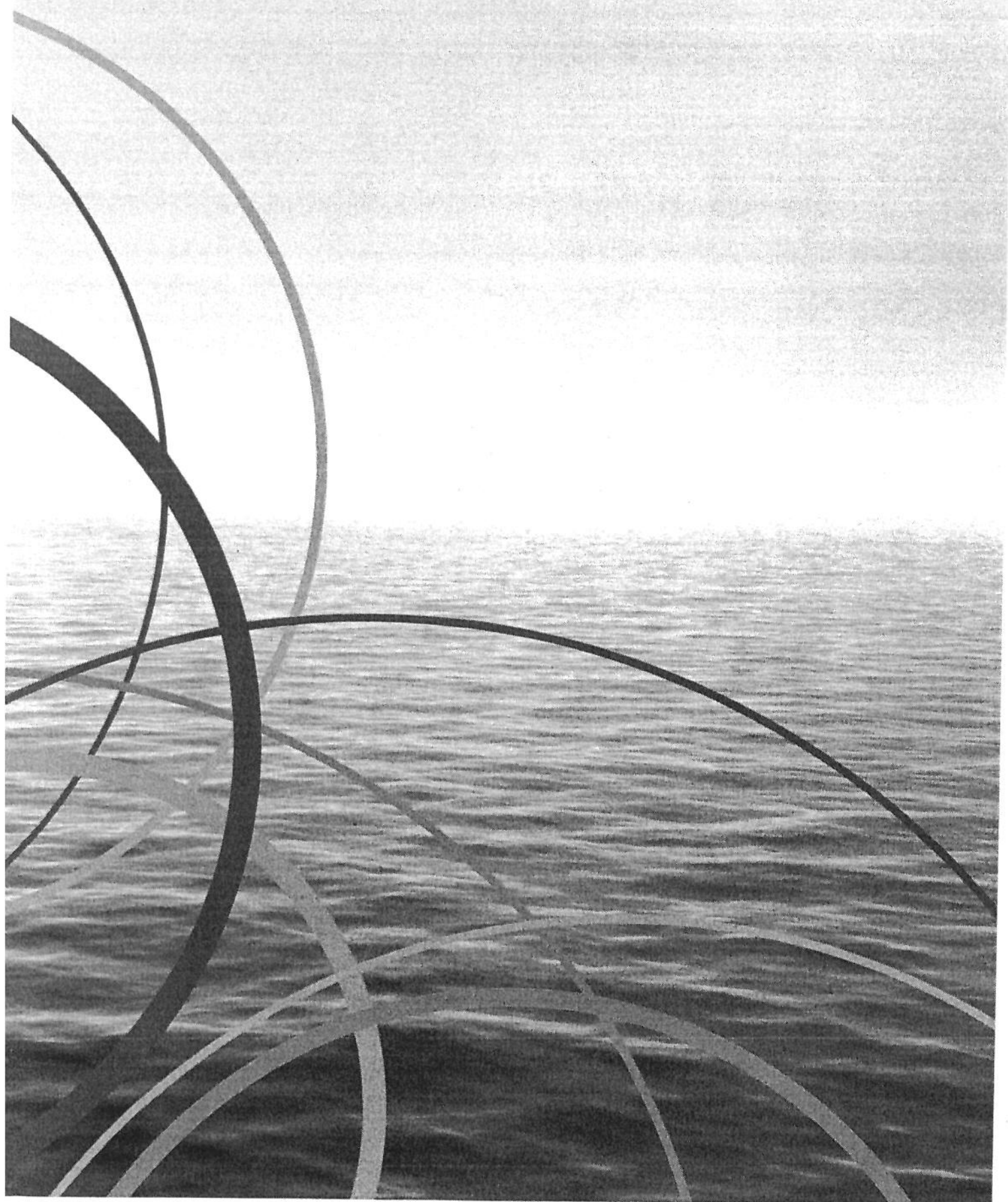




MAINSTREAM
RENEWABLE
POWER



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

Email: DECC.capacity.mechanism@decc.gsi.gov.uk

4 October 2011

Consultation on Possible Models for a Capacity Mechanism

Mainstream Renewable Power Response

Mainstream Renewable Power is a leading renewable energy company developing renewable energy projects across several continents, including Europe, Africa, and both North and South America. The Company expects to be a major provider of renewable capacity for the UK and has a development pipeline in excess of 5,000MW.

In the UK, we are developing two large offshore wind projects. In Scottish territorial waters we are developing the 450 MW Neart Na Gaoithe project. Through the SMart Wind consortium, we are developing the 4000MW Hørnsea Round 3 zone with our partners, Siemens Project Ventures.

In doing so, we will be attracting new sources of finance, encouraging new entrants to broaden and deepen the supply chain, and pursuing innovation at all levels to lower the cost of offshore wind.

We welcome the further work which government has carried out since the publication of the original proposals for EMR, specifically a more detailed examination of the options for introducing a Capacity Mechanism (CM) into the market. However, we remain concerned that both the rationale for the introduction of such a mechanism and the analysis underpinning the two broad options described remains insufficient to justify its implementation. As such, we do not support the introduction of a capacity mechanism into the UK electricity market arrangements at this time.

We provide below our detailed response to the Consultation.

Mainstream Renewable Power supports the Government's objective to decarbonise electricity generation in the UK. We believe that the current market arrangements will not facilitate the required rate of decarbonisation to deliver the UK's 2050 ambitions, nor enable the UK to fully exploit its offshore renewable energy assets over this period. With the appropriate suite of market reforms, skilfully delivered, not only will our ambitions for low carbon generation and the networks to support it be realised efficiently, but the consequent multiplication of investment benefit through additional high quality industrial activity, skills and jobs will provide a continuing benefit to the economy.

That is why it is important that the reforms are the right ones to bring about this necessary transformation; and have the broad support of both industry stakeholders and those parties who will provide the finance to enable the realisation of the vision. The confidence to provide this support will be underpinned by reform proposals which are clear, detailed and widely accepted, together with an implementation/transition plan which charts a low risk path from where we are now, to where we need to be. It is imperative that reforms are robust and enduring, to avoid the necessity of further near term revision and the accompanying damage this would cause to investor confidence.

Summary

1. There is insufficient clarity on what the proposed mechanism is seeking to achieve, with the specific and distinct issues of system dynamic response, short/medium term “backup” capacity and overall capacity margin/plant requirements being conflated into a single discussion.
2. The range of options either currently available, or in the course of deployment, has not been incorporated fully into the analysis of the issue, compromising the conclusions reached:
 - Government policy foresees a greatly enhanced role for the demand side in providing services to electricity networks, facilitated by “smarter” grids and systems.
 - The benefits of planned and prospective interconnection have not been adequately explored.
 - The scope to enhance system balancing through changes to commercial arrangements on interconnectors
 - The ability for an expansion of National Grid’s STOR processes and the ability for innovation in commercially based balancing services
 - Facilitating the contribution that CHP and storage may make in balancing the system.
 - Consideration as to how National Grid or other third parties can encourage participation of embedded generation and demand in the provision of Balancing Services.
3. Without the benefit of a holistic strategic framework in which to place the various policy strands which relate to EMR, it is unclear how the many and various electricity related initiatives and interventions both planned and under way, will work cohesively together. There is a significant risk of unintended negative outcomes.
4. There appears to be a variance between some of the assumptions used in the analysis and the data used by the System Operator in its review of “Operating the Electricity Transmission Networks in 2020 - June 2011 Update”, an inspection of which suggests that whilst challenging, system conditions are manageable.

The Need for a Capacity Mechanism

We welcome the further work which government has carried out since the publication of the original proposals for EMR, specifically a more detailed examination of the options for introducing a Capacity Mechanism (CM) into the market. However, we remain concerned that both the rationale for the introduction of such a mechanism and the analysis underpinning the two broad options described remains insufficient to justify its implementation.

The Consultation notes three elements to the security of supply “problem”:

1. Insufficient diversity of plant – addressed by wider DECC policy
2. Operational security – addressed by the System Operator; and
3. Resource adequacy – ensuring that there is sufficient reliable capacity to meet demand – addressed by the Capacity Mechanism

This is an arbitrary classification and risks implementing a solution to the “wrong” problem. In a largely thermal plant based system, capacity (excluding must run plant) will be expected to be despatchable and “predictable”. Traditionally, as plant ages and moves down the “merit order” it will also move from a baseload generation role through mid merit to peaking/reserve duties. In these circumstances, ensuring an adequate “reserve margin” is relatively straightforward. Issues arise where variable renewables play a significant role in an electricity system, in two areas:

- The requirement for the system to cope with extremely rapid changes in renewable output in operational timescales
- The requirement for the system to cope with very low renewable output over extended periods

The first requires that the despatchable plant remaining on the system is able to meet the volume and rate of change needs imposed by variable renewables. The second requires *additional* “standby” capacity which may only be needed very infrequently, but will be required to provide significant quantities of energy over a timescale of days or weeks. The two requirements are not mutually exclusive and it is possible that the same capacity could provide both services, to a greater or lesser extent. However, they represent very different stresses on the system which need to be specifically and individually considered, when considering solutions.

We do not believe that the consultation has sufficiently explored the *needs of the system* in a high variable renewable penetration scenario. Without this detail, it is extremely difficult to design a capacity mechanism which will ensure that the appropriate capacity which meets these needs economically and effectively will be appropriately incentivised. It is unlikely that substantial volumes of new capacity will be able to reward its investment requirements solely from “capacity income” and as such will require an energy income stream as well. By its nature, it will be “marginal” plant (otherwise it could not provide additional capacity) and as such its income stream is dependent on the combined impact of underlying energy market reform, and its rewards from any capacity mechanism.

We are unaware of any analysis which has been presented which would allow the prospective developers of such capacity to confidently model energy and capacity income or the interaction between the proposed capacity mechanisms and the underlying energy market. Without this essential information in place, we do not believe that the proposals represent an effective way forward.

The options examined are fundamental interventions into the operation of the market, which will necessarily change its characteristics in ways which have not been sufficiently mapped out or fully understood.

Administered capacity mechanisms and “reliability markets” are but one of a range of initiatives which could achieve the desired objective; that of ensuring that the whole electricity system can be operated efficiently, effectively and securely with an increased penetration of low carbon generation.

Others include enhanced objectives on the system operator with regard to reserve and backup provision, the establishment of an effective reserve market and reform of the balancing mechanism itself. There is also scope to consider the merits of an incentive based approach, such as the capacity payment mechanism used in the Irish Single Electricity Market. We are concerned that the introduction of an untimely, less than robust mechanism, will of itself exclude the possibility of a diverse range of emerging market based solutions to provide a more efficient answer. In particular, we believe that there is further scope to provide the required services through increased interconnection, via the proposed SuperGrid.

There is insufficient consideration of the potential detrimental impact of introducing a capacity mechanism on the incentives to invest in demand-side response, storage, interconnection and energy efficiency. Each of these has an important (and increasing) role to play in the electricity systems landscape.

Before making such a fundamental intervention, further work is necessary to ensure that the optimum suite of measures has been explored. National Grid should be supported in its fundamental review of future reserve options and the scope broadened to ensure that a comprehensive stakeholder engagement can be conducted when the results are available. The opportunity exists for significant innovation in the provision of Commercial Balancing Services and these should be fully explored.

Another element essential to the derivation of appropriate solutions is the long awaited Review of the GB SQSS. The provision of these two pieces of work will provide the opportunity to address capacity issues in an informed and holistic manner. Whilst we concur that the provision of adequate backup and reserve capacity is a central issue, we need to subject it to due consideration against all the initiatives which are currently being pursued across the electricity landscape, prior to making fundamental decisions which will affect the underlying operation of the energy market itself.

The Role of Interconnection

We note that the electricity systems policy planned for development in 2012 will address, *inter alia*, the ‘challenges around balancing and system flexibility’, integrating these with the role of the demand side, storage and interconnection.

This offers an important opportunity to fully realise the benefits of increased interconnection. The House of Commons Energy and Climate Change Committee report: ‘A European Supergrid’¹, considered this earlier in 2011, including the potential to provide a substantive quantity of balancing services and energy trading opportunities needed to manage both short term within-day and longer periods of backup capacity requirements, linked to wind variability.

The Committee’s findings were that a Supergrid offers the potential to maximise the use of offshore wind, marine and tidal power; creates an optimised and cost effective way of bringing offshore renewable generation to shore (by facilitating coordinated offshore networks); whilst also enabling trading opportunities with our European partners to be maximised.

While interconnection does not of itself guarantee supply at times of peak demand, the Committee report estimates that interconnection could provide 16 GW of flexibility by 2030 and 35 GW by 2050; interconnection would also bring a level of natural risk mitigation by ensuring that wind generation was spread across wind zones and weather systems. It also records evidence from National Grid indicating that around 10-15GW of interconnection “would enable the UK to transition to a low carbon energy mix in an affordable and secure manner”. We also note that National Grid assumes that interconnectors are “floating” in its assessments of security up to 2020. Appropriate commercial arrangements could ensure that a guaranteed contribution from interconnection could be achieved at times of system stress in GB.

We recognize that there are complex issues involved in realizing these benefits, which we and others are working to resolve. However, given the identified benefits of a Supergrid and the support both on a UK and European level for the concept, we believe that it is a key element that should be incorporated in energy policy scenarios used by government when considering the development of the wider electricity system through 2020 and beyond.

Context, Coherence and Timelines

The electricity sector is facing an unprecedented number of significant reforms, initiatives and interventions. These include Ofgem initiatives regarding transmission charging, market liquidity, cash out review and potential reform; the increasing importance of European regulatory and market requirements and their transposition into the GB framework and the various government electricity related policy reforms, including the provisions under EMR. Efforts to establish the necessary framework to support and deliver a coordinated offshore transmission work and beneficial interconnection need to be concluded successfully.

¹ ‘A European Supergrid, Seventh Report of Session 2010–12’, House of Commons Energy and Climate Change Committee, September 2011. www.parliament.uk/ecc

Without the benefit of a holistic strategic framework in which to place the various policy strands which relate to EMR, it is unclear how the many and various electricity related initiatives and interventions both planned and under way, will work cohesively together. There is a significant risk of unintended negative outcomes. Importantly, overall objectives, outcomes and direction of travel are essential to promote and sustain investor confidence. Provided these are in place, concerns over specific areas of detail can be addressed or mitigated, allowing momentum to build as progress is made.

We would urge that in order to place the numerous significant developments in context and importantly, ensure their consistency and coherence with each other, government provides a strategic framework where each can be integrated and their interactions and overall direction established. In parallel with this, a high level timeline is required setting out what decisions (with appropriate levels of detail) will be made by when, in each of the key areas, together with their interactions/dependencies. We note the development of the Electricity Systems Policy, but believe that this forms *part* of the above, rather than the whole. It is also not expected to be available for some time, and the necessary clarity is required on a near term basis.

As part of this strategic process, there needs to be a clear statement of expected outputs/deliverables from the process, together with appropriate monitoring procedures to ensure that EMR and the rest of the major electricity related initiatives do indeed deliver the benefits expected from them, both for consumers and investors.

Yours faithfully


Head of Regulatory Affairs

Mainstream Renewable Power
11th Floor
140 London Wall
London EC2Y 5DN

