



E3G

Electricity Market Reform

Briefing note for ECC Select
Committee

Simon Skillings

January 2011

About E3G

E3G is an independent, non-profit European organisation operating in the public interest to accelerate the global transition to sustainable development.

E3G builds cross-sectoral coalitions to achieve carefully defined outcomes, chosen for their capacity to leverage change.

E3G works closely with like-minded partners in government, politics, business, civil society, science, the media, public interest foundations and elsewhere.

More information is available at www.e3g.org

Third Generation Environmentalism Ltd (E3G)

4th floor, In Tuition House

210 Borough High Street

London SE1 1JX

Tel: +44 (0)20 7234 9880

Fax: +44 (0)20 7234 0851

www.e3g.org © E3G 2007



This work is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 2.0 License.

You are free to:

- Copy, distribute, display, and perform the work.
- Make derivative works.

under the following conditions:

- You must attribute the work in the manner specified by the author or licensor.
- You may not use this work for commercial purposes.
- If you alter, transform, or build upon this work, you may distribute the resulting work only under a license identical to this one.
- For any reuse or distribution, you must make clear to others the license terms of this work.
- Any of these conditions can be waived if you get permission from the copyright holder.

Your fair use and other rights are in no way affected by the above.

Objectives

It is now widely accepted that delivering our long term climate security objectives requires that the electricity sector is largely decarbonised by around 2030. Most current analysis indicates that the current market arrangements are unlikely to deliver this outcome and, moreover, the risks to security of supply are likely to increase.

The policy challenge is twofold:

1. To attract significant levels of investment to the sector against a background of considerable future uncertainty, and
2. To ensure public acceptance and support for an energy policy agenda that will impact directly on most people's lives.

The Electricity Market Reform proposals are the Government's response to these challenges. If implemented successfully, they will deliver a clear direction in energy policy whilst maintaining the ability to respond to future events. This can be achieved in the following way:

1. The Government defines a direction for the power sector out to 2030 which is designed to 'future proof' delivery of climate security objectives in light of all the technology, delivery and cost risks.
2. The Government then signs long term contracts for key investments in low carbon resources¹ which are consistent with this overall direction. These contracts will remove risks from investors such that the market becomes attractive to a sufficiently broad range of sources of investment and the financing costs are reduced to minimise the impact on energy prices.

¹ Both generation and demand.

3. The Government remains focussed on delivering a vibrant competitive energy retail market in which a variety of businesses innovate to deliver new customer benefits. In particular, changes need to be implemented that ensure the wholesale electricity market is sufficiently liquid to enable all business models to effectively manage wholesale price risk.

The key benefit of a long term contract approach is that it enables sufficient investment to be deployed at acceptable financing costs against a future market landscape that is extremely uncertain. In particular, electricity prices are strongly aligned to gas prices and, therefore, have a wide range of credible future levels. Also, the market arrangements will inevitably be subject to future changes. For example, the EU is signed-on to an agenda of energy market integration since this will improve competition and reduce overall resource costs. This integration process will require an alignment of market arrangements, such as renewables subsidy arrangements, energy/capacity pricing, carbon costs and balancing rules. The integration agenda will, therefore, inevitably lead to significant future changes to market arrangements.

The benefits of an active, engaged and competitive demand side to the market are enormous. The Government has a challenging energy agenda that will directly affect all electricity consumers, both through increasing energy costs and the need to deploy smart metering and energy efficiency measures. It is vital to retain public acceptance and support for these changes and a visibly competitive retail energy market is crucial in this regard. Any perceptions of profiteering would be extremely damaging and would undermine public support. In addition, investments in demand side measures, including demand response, energy efficiency and distributed generation, have the potential to directly reduce the need for supply side solutions, thereby reducing overall costs to consumers.

An electricity market reform package that is built around the principles described above must be pushed through now – there is no option to delay until a later date. It is now generally accepted that momentum investor behaviour is unlikely to deliver the outcomes

required. Moreover, the ‘Pandora’s box’ of reform is well and truly open and it is far from clear that even existing investment plans will be pursued whilst uncertainty over the market arrangements remains. The longer that it takes to complete the reform agenda, the higher the overall costs of delivering the outcomes that are required.

Evaluation of DECC proposals

The DECC proposals contain many of the right ‘hooks’ for the policies that are required, but a high level narrative, along the lines set out in the previous section, does not clearly emerge. Moreover, there are vast gaps – both at the high level policy and the more detailed technical issues – and it is easy to see how the entire process might fall into the ‘too difficult’ box over the coming months. The key challenge for all stakeholders is therefore to ensure that the reform package, which everyone broadly accepts is required, remains on-track and is not derailed by inevitable differences of view over technical details.

The need to establish long term volume targets that create the market opportunities for low carbon businesses, and the role of Government in reducing investment costs by signing long term contracts to remove certain key risks from investors, should remain the core principles around which the overall package is built. Unfortunately, the consultations continue to emphasise the role of short term markets in driving operational efficiency and, therefore, there is no clear break with the old paradigm. In addition, the attempt to shoe-horn a rationale for introducing a carbon price support into the overall package is problematic. The consultation correctly states that carbon price support is inadequate to drive the necessary change and other mechanisms are needed. However, once you accept the need for other mechanisms there is no longer a low carbon investment rationale for having carbon price support and its inclusion is inevitably clouding the overall narrative.

The principle of long term contracts for low carbon resources leads to three fundamental policy questions that are barely addressed in the consultation:

1. *How will the long term volume targets be set and who will set them?* The consultation refers to the CCC advice on CO₂ intensity

and its upcoming advice on renewable targets beyond 2020; however, there is no comment on how this advice will be used or converted into the basis for allocating contracts. There are, presumably, concerns that this will open up an unhelpful debate about nuclear but, absent some serious input on diversity and risk management, there is a risk that the current ‘ $\frac{1}{3}$ renewables, $\frac{1}{3}$ nuclear, $\frac{1}{3}$ CCS’ paradigm will remain as an unwritten underlying assumption.

2. *Who allocates the contracts?* The institutional questions are acknowledged but not addressed in any detail – however, it is likely that the resulting legislation will need to focus on the establishment of the necessary institutions and the basis on which their actions are governed/regulated.

3. *What are the likely impacts on PSBR and Treasury finances?* It is essential that electricity market reform policy is aligned with that relating to the Green Investment Bank. The Treasury appears reluctant to endorse the creation of a genuine bank that can raise capital on the basis that certain risks are underpinned by Government or customers. However, this is precisely what is being proposed through the use of long term contracts under the Electricity Market Reform package. Indeed, it is likely that the impact on public finances of contracts that hedge low carbon resources against a lifetime of commodity price risk will be rather greater than for the Green Investment Bank, which would ideally be focussed on covering deployment and construction risks in immature technologies

In terms of technical gaps, there are a number:

- Details of how a CfD would work, its interaction with the balancing mechanism and balancing risk and the differential impact this can have on different technologies
- Details of the capacity contracts - especially the interactions with the balancing mechanism and despatch and the extent to which this is the tool which will deliver the increasing requirement for system flexibility

- The impact of market reform on European power market integration including the North Sea grid
- Ensuring that the demand side is treated on an equitable basis to the supply side, both for long term demand reduction and shorter term flexibility
- The transition from ROCs to CfDs
- Building liquidity in the market through all timescales

The absence of an Emissions Performance Standard that will materially affect investor behaviour is also apparent. However, this is a high level policy question rather than a technical one since it is potentially an important tool in establishing clear future volume opportunities for low carbon technologies.

The devil in the detail

The package of proposals as currently defined does appear to create some technology winners and losers and it is not obvious that these are intentional.

- *Nuclear*: Existing nuclear is a clear winner and will benefit directly and significantly from the carbon price support mechanism. The CfD proposal is also well suited to support new nuclear investments, given the operational characteristics of nuclear plant (provided, of course, that the high level policy framework is established).
- *CCS*: The CfD as described in the consultation would not act as an effective mechanism to support new CCS plant as a result of its variable cost characteristics. A more appropriate, but different, contract approach involving fuel/power spreads was assumed in the Redpoint modelling work.
- *Renewables*: The CfD as described was not work well as a vehicle to reduce renewable investment risk given the intermittent nature of the output (or, in the case of biomass, the variable nature of the costs). The impact on existing plant and projects currently in the investment pipeline will depend critically on the arrangements for migration away from the RO which is not, as yet, well defined.
- *Existing fossil and new gas*: Investments in new or existing fossil plant are subject to significant uncertainty which the electricity market reform proposals have not addressed. However, the role of such plant in the market will be critical over the next 10 to 20 years. The Targeted Capacity Payment mechanism provides a vehicle to ensure that the needs from this residual market, particularly those relating to system flexibility, are delivered. However, the proposals were not presented as the vehicle for meeting this more general objective.

- *Demand side:* Very little attention appears to have been given to ensure that investments in demand side resources are treated equitably with those on the supply side. There is some indication that the Targeted Capacity Payment mechanism will seek to attract demand response capacity although the features of such a mechanism that would ensure that demand side potential is maximised is not explored. There is no attempt to consider how long term contracts may be used to stimulate major investments in demand reduction or distributed generation which may prove a far cheaper route to delivering overall carbon reduction objectives.

It is important that more focus is devoted to clarifying the objectives of the new market arrangements, and in developing the governance arrangements for the institutions responsible for delivering the necessary outcomes. Any attempt to define detailed mechanisms in the absence of clearly defined objectives will inevitably lead to perverse outcomes such as those listed above.