

Matching supply and demand



GREENPEACE



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Energy



Update on Commons Committee stage

The Energy Bill must ensure electricity supply is secure – both in terms of meeting day to day fluctuations in demand, and ensuring the UK is not over-dependent on supplies increasingly imported fossil fuels which are subject to price fluctuations, shocks or even supply problems.

The Energy Bill sets out enabling powers for a Capacity Market which would require National Grid to run auctions to procure a volume of capacity judged necessary to meet future electricity demand. Under current proposals, plant will be paid simply for being there in case it is needed (with penalties if it isn't). The challenges of security of supply are complex, but we do not believe that the case for a Capacity Market for fossil fuels is proven.

There were no substantive changes in the Capacity Market section of the Bill at Committee Stage, but scrutiny is difficult because the detailed design of the Capacity Market is still under consideration and will only be set out in secondary legislation later in the year. There are significant problems with the Government's approach. A Capacity Market could do considerable damage to the UK's environmental objectives if the current proposed design, which favours fossil fuels over demand side and other non-generation security of supply measures, is not amended.

Energy security

There has been much talk of a possible "energy crunch" in the next few years, but the facts tell a different story. UK supply margins are forecast by Ofgem¹ to reduce from a very high level of 14% now to 4% by 2015/16 – which would still exceed the minimum standard in other countries like France, Belgium and Ireland and would also be comparable to 2005/06 a year where there were no customer disconnections resulting from shortage of supply.² DECC has higher forecasts than Ofgem and show supply margins remaining comfortable and above 10% until after 2020.

Ofgem itself admits that, far from resulting in nationwide rolling blackouts, "the most likely implications are small, occasional shortfalls which could be dealt with by National Grid through demand-side action, with little or no impact on customers."³ After 2016, Ofgem predict the margin will rise again. building new generation is not the only way of achieving higher margins - Ofgem suggests that efficient use of interconnectors and/or reduced demand could ensure comfortable supply margins of around 9% in 2015/16.

This temporary tightening of supply margins is being exploited, not least by big power companies, to secure subsidies for existing and future gas fired power stations through the planned Capacity Market. Indeed the proposed Capacity Market has probably made the situation worse – gas power firms hold back new build decisions, creating the conditions where it has to be used because supply margins tighten, and could provide a windfall because of payments to power stations that would have existed anyway if the Capacity Market had not been planned. This is a classic example of gaming the system.

Prioritising demand reduction and flexibility

The UK needs a more flexible electricity system to facilitate the cost effective introduction of higher levels of renewable generation that are essential to decarbonise the electricity system by 2030 and meet carbon budgets. There are a number of ways of doing this including interconnection with other countries, power storage, and

¹ Ofgem, [Electricity Capacity Assessment](#), 2012

² Electricity Market Reform – [Capacity Market, Impact Assessment](#), DECC, 2012

³ *ibid*

temporarily reducing or shifting demand for power (known as demand-side response (DSR)⁴ – which could reduce investment needed in back up power across Europe by 35%⁵). Any policy on system reliability should prioritise these options (as well as energy efficiency), ahead of new fossil fuelled generation capacity.

However, the Capacity Market as currently designed relegates storage, interconnection and DSR to a peripheral role. Auctions for generating plant will be run four years ahead of their expected deployment date, but DSR and storage cannot commit to providing capacity four years ahead. DECC proposes “one year ahead” auctions to help these technologies to participate, but there is clearly a risk that the “one year ahead” auctions will essentially take up the slack of what’s left over from the four year auction – thereby favouring unnecessary new capacity.

Encouraging greater interconnection with other countries

The UK is the least interconnected country in Europe relative to generation capacity, but new interconnection routes to other countries are a vital part of the UK’s future electricity infrastructure. Higher levels of interconnection would provide much greater levels of flexibility to manage fluctuations in demand and supply. However, the current design of the Capacity Market does not reflect the benefit of building new interconnectors (e.g. to Norway) or the valuable contribution which existing interconnectors make to security of supply.

The UK needs a plan for wide and strategic deployment of new interconnection routes to help reduce the cost of security of supply, and to open up opportunities to export renewable power at times of surplus. Sharing back-up resources with other Member States could reduce costs significantly.⁶

A Strategic Reserve?

If a mechanism is required for generation capacity to ensure system security and flexibility, a government-owned or contracted strategic reserve – composed initially of rarely-used old plant (though later perhaps new flexible gas plant designed to meet the needs of a mainly renewable system) – could be better value for money and less distorting to the electricity market. In fact DECC’s own modelling showed that a Strategic Reserve could have a lower impact on domestic bills: +0.5% p.a. on domestic bills by 2030⁷ compared with +2.1% p.a. for a Capacity Market⁸. Current plans for a Capacity Market imagine substantial payments to be made for capacity – up to £2.5bn annually⁹ – whereas the highest annual revenues modelled for the Strategic Reserve (before the policy was dropped) were £326m.¹⁰

Recommendations

Most of the Capacity Market arrangements will be set in secondary regulations. Parliamentarians should press the Government to make sure the rules favour demand reduction ahead of new fossil fuel plant and that the system operator (National Grid) is empowered to maximize security through demand measures.

If the Government is intent on taking forward a Capacity Market, the following changes should be made:

- prioritise the low carbon forms of flexibility, such as demand side response and storage options, in keeping with a decarbonisation target. Otherwise it risks creating large incentives for unnecessary new fossil fuel plants, windfalls for existing plant and holding back development of innovative, more sustainable and potentially cheaper alternatives.
- ensure that there is effective policy to reduce electricity demand in the Energy Bill to reduce the amount of new generation capacity required to ensure security of supply
- allow entirely separate “year ahead” and “4 year ahead” auctions for demand side response and storage, to take place from 2014, without having to auction for generation capacity It must also ensure that the design of the mechanism reflects the fact that these technologies are at an earlier stage of development than generation. These flexibility mechanisms should be prioritised when capacity is required for system balancing ahead of fossil fuel use
- a Strategic Reserve approach could be better value for money in incentivising any additional generation capacity that is still needed.

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⁴ Demand side response is the ability of demand to be turned down when there is a supply shortfall or, more usually, when power prices are high. Examples include appliances like fridges or washing machines being temporarily switched off, people voluntarily deciding to use less power when the incentives are right.

⁵ European Climate Foundation, [Power Perspectives 2030 report](#), November 2011

⁶ European Climate Foundation, [Roadmap 2050: A Practical Guide to a Prosperous Low-Carbon Europe](#), 2010

⁷ Electricity Market Reform - [Capacity Mechanism, Impact Assessment](#), DECC, 2011

⁸ Electricity Market Reform – [Capacity Market, Impact Assessment](#), DECC, 2012

⁹ *ibid*

¹⁰ Electricity Market Reform - [Capacity Mechanism, Impact Assessment](#), DECC, 2011