



House of Commons  
Energy and Climate Change  
Committee

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**Electricity Market Reform:  
Government Response to  
the Committee's Fourth  
Report of Session 2010–12**

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**Sixth Special Report of Session 2010–12**

*Ordered by the House of Commons  
to be printed 19 July 2011*

## The Energy and Climate Change Committee

The Energy and Climate Change Committee is appointed by the House of Commons to examine the expenditure, administration, and policy of the Department of Energy and Climate Change and associated public bodies.

### Current membership

Mr Tim Yeo MP (*Conservative, South Suffolk*) (Chair)  
Dan Byles MP (*Conservative, North Warwickshire*)  
Barry Gardiner MP (*Labour, Brent North*)  
Ian Lavery MP (*Labour, Wansbeck*)  
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Laura Sandys MP (*Conservative, South Thanet*)  
Sir Robert Smith MP (*Liberal Democrat, West Aberdeenshire and Kincardine*)  
Dr Alan Whitehead MP (*Labour, Southampton Test*)

The following members were also members of the committee during the parliament:

Gemma Doyle MP (*Labour/Co-operative, West Dunbartonshire*)  
Tom Greatrex MP (*Labour, Rutherglen and Hamilton West*)

### Powers

The committee is one of the departmental select committees, the powers of which are set out in House of Commons Standing Orders, principally in SO No 152. These are available on the Internet via [www.parliament.uk](http://www.parliament.uk).

### Publication

The Reports and evidence of the Committee are published by The Stationery Office by Order of the House. All publications of the Committee (including press notices) are on the internet at [www.parliament.uk/parliament.uk/ecc](http://www.parliament.uk/parliament.uk/ecc). A list of Reports of the Committee in the present Parliament is at the back of this volume.

The Report of the Committee, the formal minutes relating to that report, oral evidence taken and some or all written evidence are available in a printed volume. Additional written evidence may be published on the internet only.

### Committee staff

The current staff of the Committee are Nerys Welfoot (Clerk), Richard Benwell (Second Clerk), Dr Michael H. O'Brien (Committee Specialist), Jenny Bird (Committee Specialist), Francene Graham (Senior Committee Assistant), Jonathan Olivier Wright (Committee Assistant), Emily Harrisson (Committee Support Assistant) and Nick Davies (Media Officer).

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## Sixth Special Report

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On 16 May 2011 the Energy and Climate Change Committee published its Fourth Report of Session 2010-12, *Electricity Market Reform* [HC 742]. On 18 July 2011 the Committee received the Government's response to the Report. It is appended below.

## Appendix: Government Response

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### Introduction

- a) There is broad consensus that current market arrangements will not deliver the scale of long-term investment needed, at the required pace, to meet the challenges of decarbonising our electricity system while maintaining security of supply. Nor will they give consumers the best deal. This is in part because of the sheer scale of the investment required. Up to £110 billion investment in electricity generation and transmission is likely to be required by 2020, more than double the current rate of investment.

The Government published its White Paper on Electricity Market Reform (EMR), *Planning our electric future: a White Paper for secure, affordable and low-carbon electricity* (CM 8099), on 12 July. In this White Paper, the Government sets out its commitment to transform the UK's electricity system to ensure that our future electricity supply is secure, low-carbon and affordable.

- b) The package of reforms outlined in the White Paper will mean that by 2030 we will have:
- a flexible, smart and responsive electricity system, powered by a diverse and secure range of low-carbon sources of electricity, with a full part played by demand management, storage and interconnection;
  - competition between low-carbon technologies that will help to keep costs down;
  - a network that will be able to meet the increasing demand that will result from the electrification of our transport and heating systems;
  - and we will have made this transition at the least cost to the consumer.
- c) The Government was grateful for the Energy and Climate Change Committee's report on Electricity Market Reform (EMR), which set out helpful conclusions and recommendations for the market reform programme. The White Paper responds to many of the Committee's recommendations. The White Paper is therefore referred to

in this response, which addresses each of the Committee's conclusions and recommendations.

- d) A copy of the White Paper and the accompanying Impact Assessment are included alongside this response.

## Response to Report Conclusions and Recommendations

### **1. The Government must reverse the downward trend in “clean” investment. It must create more attractive returns and reduce the risks of investment in order to reduce the cost of capital in the electricity sector. (Paragraph 20)**

A wide range of financial institutions, energy companies and developers are already investing strongly in renewable and low-carbon generation in the UK. We agree with the Committee that we need them, and new entrants, to increase their endeavours in the coming decades.

Electricity Market Reform (EMR) is about moving the UK to the front of the global race for electricity investment, driving the growth of clean energy industries in the UK, while securing our energy supplies and ensuring the best possible deal for consumers. The White Paper outlines our designs for a market-based instrument which gives investors the certainty they need. This will improve the relative attractiveness of the UK for investors in the electricity market by creating a long-term, stable and predictable electricity market, providing greater revenue certainty.

These reforms, combined with other measures that the Government is working on, such as the reform of the planning system; developing the Green Investment Bank; and developing the UK's skills and supply chain, will help ensure that investors have sufficient incentives to invest in a range of generating technologies required to achieve our energy and climate change targets.

The publication of *Planning our electric future: a White Paper for secure, affordable and low-carbon electricity* (“the White Paper”) on 12 July demonstrates our commitment to providing certainty as quickly as possible. We intend to set out further detail at the turn of the year with legislation to follow as soon as possible.

### **2. It is important that the Electricity Market Reform package is geared to deliver our renewables targets as well as our decarbonisation objectives. (Paragraph 37)**

The Government agrees with this recommendation. The electricity market reforms are designed to achieve electricity decarbonisation in line with the fourth Carbon Budget, and to meet the electricity share of our legally-binding renewables target.

The Government is committed to ensuring that the electricity sector delivers its share of the renewable energy target – in the lead scenario this could mean over 30 per cent of our

electricity being generated from renewables by 2020. Much of this will be from wind power, onshore and offshore, though sustainable biomass, could also play an important role. Looking beyond 2020, the Government believes that renewables have a strong role to play as part of our broader low-carbon portfolio and that emerging technologies such as wave and tidal may begin to play an increasing role.

Feed-in Tariffs with Contracts for Difference (FiT CfD) will provide long-term contracts for all forms of low carbon generation, including renewables. CfDs, alongside the transitional measures we are putting in place for the Renewables Obligation, will be set at a level consistent with the lead renewable electricity scenario. The Government will vary the key features of the FiT CfD to develop an approach that is best suited to each of the low-carbon generation types. The key aspects of the FiT CfD designs are discussed in detail in Annex B to the White Paper.

CfDs reduce risk and uncertainty for developers and so should also reduce cost of capital. This will enable more investment to come forward, sooner, and at a lower cost of capital - allowing us to meet our decarbonisation goals while reducing consumer bills in the medium and longer term.

**3. The Electricity Market Reform package must deliver 50gCO<sub>2</sub>/kWh carbon intensity by 2030 instead of 100gCO<sub>2</sub>/kWh. We recommend that the White Paper sets out an indicative carbon intensity pathway for the power sector to 2030, aiming to deliver a 40–60gCO<sub>2</sub>/kWh carbon intensity in the electricity by 2030. DECC should set out its carbon intensity trajectory on the advice of the Committee on Climate Change. (Paragraph 40)**

The Government believes that the power sector does need to decarbonise in the 2030s. The market reforms are a toolkit that can be used to achieve any desired level of decarbonisation. However for the purposes of the EMR White Paper we have used an indicative emissions intensity goal of 100gCO<sub>2</sub>/kWh in 2030 to compare the impacts of the different options. This level was chosen as it is consistent with modelling for the EMR Consultation.

The EMR modelling suggests in the absence of any intervention (the “do nothing” case) that the emissions intensity would be around 170gCO<sub>2</sub>/kWh by 2030. The Committee on Climate Change (CCC), in their latest recommendations for the UK’s fourth carbon budget (published 7 December, 2010) have suggested that meeting longer term decarbonisation goals is achieved most cost effectively by an emissions intensity of around 50gCO<sub>2</sub>/kWh for the electricity sector by 2030.

We have also modelled a sensitivity analysis using an emissions intensity of 50gCO<sub>2</sub>/kWh in 2030 to test the robustness of the EMR policy measures to a more ambitious decarbonisation level.

Further analysis of different pathways for decarbonising the power sector, and our response to the CCC report, will be considered as part of the Government’s Fourth Carbon Budget report in the autumn.

**4. We recommend that the White Paper addresses directly the problems associated with greater intermittency. It should plan for electricity storage and interconnection and how that will help to meet demand in the light of increasingly inflexible and intermittent supply. It must show how the development of smart grids and demand side responses can contribute to managing demand. (Paragraph 48)**

The Government agrees that demand-side measures will have a key role to play in ensuring sufficient capacity and managing increasing intermittency.

The Government is confident that under the current framework the electricity system is capable of addressing the challenges presented by intermittent electricity generation at the levels anticipated up to 2020. The current market framework incentivises suppliers and generators to manage the fluctuations on both demand and generation sides as far as possible. The framework also provides for the system operator to address any short term fluctuations that the market has not addressed, as well as ensure supply and demand is balanced in real time. Our view that the current framework is capable of addressing these challenges is supported by National Grid, which has stated that it considers that balancing electricity supply and demand would be manageable at 2020 with around 30GW of wind on the network.

However, it is clear that non-generation approaches such as storage, interconnection and demand response, have considerable potential to integrate renewables and inflexible generation in a cost effective way. These technologies will be important in making efficient use of the low carbon generation assets we have, particularly as we increase levels of inflexible generation beyond the levels we are likely to see in 2020. We will consider how the Capacity Mechanism can enable demand-side approaches, such as demand-side response and storage, to bid in equally alongside supply-side capacity.

In addition, Government has begun to consider more broadly the barriers to these technologies and recognises that, aside from the major market reforms proposed in the White Paper, which focus on delivering the secure capacity and low carbon generation we need, there are issues around how the electricity system will work in the context of decarbonisation. In this regard the White Paper outlines a future work programme to develop our policy on the electricity system (including demand-side response, storage and interconnection) which we will set out next year in more detail. Work on this has already begun and will be a priority going forward.

**5. “Affordable” electricity in the short term cannot be achieved at the expense of meeting the other objectives of Electricity Market Reform. Lower prices cannot be a primary driver of energy policy, but developing greener and more secure sources of electricity needs to be accompanied by sound social policy to protect vulnerable consumers. (Paragraph 54)**

Robust competition in energy markets is vital to put downward pressure on energy prices for all consumers. Government therefore welcomes Ofgem's work to boost competition in energy markets. Government is particularly concerned about the impact of price increases

on fuel poor and other vulnerable consumers and is committed to providing support to more of the most vulnerable households in paying their energy bills and keeping warm at an affordable cost.

DECC has a statutory obligation to do all that is reasonably practicable to end fuel poverty in England by 2016. The Devolved Administrations have similar targets on fuel poverty. DECC is committed to helping people, especially low income vulnerable households, heat their homes more affordably. There is currently an independent Review of fuel poverty, chaired by Professor John Hills, to assess fuel poverty from first principles, looking at its causes, its effects and how best to measure it. The Review is looking at the evidence on the underlying issues that lead to fuel poverty and how well the current definition reflects the problems involved. The Review is also looking at practicalities, notably how to target support to those who need it most. The Review will publish interim findings in the autumn and a final report in early 2012. DECC will take the Review's outcome, consider its recommendations and then plan next steps for fuel poverty policy as we continue to take action in this important area.

A key means of assisting those in or at risk of fuel poverty is to help them to improve the thermal performance of their homes. Many of those who struggle to afford to pay their energy bills live in poor quality, leaky properties that are expensive to keep warm. So the installation of energy efficiency measures, such as loft and cavity wall insulation and high-efficiency heating systems, is often a highly cost-effective means of reducing energy bills, as well as improving the health and comfort of the home. Government action to improve energy efficiency includes policies such as Warm Front, Carbon Emissions Reduction Target (CERT), Community Energy Saving Programme (CESP), and the forthcoming Green Deal and Energy Company Obligation.

The Warm Front scheme continues to tackle fuel poverty among private sector households in England in advance of the launch of the Green Deal and Energy Company Obligation. Since its launch in June 2000 the scheme has assisted over 2.2 million households in England with energy efficiency measures such as efficient heating systems, insulation, and draught proofing.

Through the CERT and CESP obligations, energy suppliers typically promote free and subsidised insulation improvements and other energy efficiency measures to consumers across Great Britain. CERT was extended last summer to the end of 2012. As part of this, investment of over £400 million is expected to assist low income, vulnerable pensioner, family and disabled households, helping deliver some 600,000 insulation and heating measures in this time. Through these measures it is expected that 185,000 households will be removed from fuel poverty and many more households will receive measures which will protect them from falling into fuel poverty.

Looking ahead, we want to ensure that everyone who wants to can access high quality energy efficiency measures so that they can cut their emissions and heat their homes more affordably. At the heart of the Government's strategy is the new Green Deal, which will enable businesses and others to offer consumers energy efficiency improvements at no upfront cost, through a framework established by Government. The Green Deal will be centred around an innovative financing mechanism which allows consumers to pay back through their energy bills. The financial obligation is attached to the energy meter, not the

person, so the charge is only paid by the person who is benefitting from lower energy prices as a result of energy efficiency measures installed under the Green Deal.

The Green Deal will be supported by a new Energy Company Obligation (ECO), which will have a key focus on those households who cannot achieve significant energy savings without an additional measure of support. This includes the poorest and most vulnerable, who will be specifically targeted through a Home Heating Cost Reduction target, which will provide upfront support for measures that reduce energy bill costs. Through these mechanisms, the ECO and the Green Deal will help to protect households from rising energy prices in the future through greater energy efficiency savings.

In addition, we are working to mitigate the impacts of fuel price rises for more of the most vulnerable households through schemes such as the Warm Home Discount which, subject to regulations, will provide a rebate on the electricity bills of the poorest pensioners of £120 in 2011/12 rising to £140 in 2014/15. Other groups such as low income families and those with long term illnesses and disabilities may also receive this discount. The scheme is worth over £1.1 billion across its four years to help around 2 million households per year, which is about two-thirds bigger than the voluntary scheme it replaces.

**6. The White Paper must set out a range of possible price impacts of the reforms and how these impacts would be mitigated for the fuel poor and vulnerable businesses. Government must also assess the price impacts of other low carbon policies outside of the EMR package. (Paragraph 55)**

The EMR Impact Assessment includes an assessment of the impact on average household electricity bills and bills for average medium-sized non-domestic users and large energy intensive industrial users to 2030 under different packages of policies for reform, as well as under different fossil fuel price scenarios. It also includes analysis of the impact on bills across different household sectors (including across the income distribution) as well as an assessment of the impact on the number of households in fuel poverty.

If we were to leave the market as it is now, we estimate that domestic electricity bills could be around £200 higher in 2030 compared to today's average annual household bill (circa £500). But if we act now - reform the market and get the secure clean electricity supply we need more cost-effectively - we estimate we can limit this increase to £160. This is £40 lower than the increase would otherwise be. Average electricity bills for medium-sized non-domestic consumers (with an annual electricity consumption before energy efficient policies of 11,000MWh) could be 7 per cent lower than the baseline bill in 2030. Average bills for an illustrative Energy Intensive user consuming 100,000MWh electricity annually (before energy efficiency savings) could be 8 per cent lower than the baseline bill in 2030.

DECC published an assessment of the impact of all energy and climate change policies on gas and electricity prices and bills paid by households and businesses alongside the Annual Energy Statement in July 2010 with a commitment to publish updated analysis each year alongside future Annual Energy Statements. In this analysis, it was estimated that energy and climate change policies would add around 1% to the average household energy bill in 2020 compared with a bill in 2020 in the absence of these policies.



The next update (in autumn 2011) will include the impacts of policy announcements since July 2010, including from 2010 Spending Review and 2011 Budget, as well as the Electricity Market Reform proposals. It will also include an assessment of the impact on the prices and bills paid by illustrative energy intensive industrial users and an assessment of the impact on households across the income/expenditure distribution.

Our response to recommendation five sets out Government policy to mitigate impacts on the fuel poor.

### **7. The White Paper should include a demand reduction objective. (Paragraph 58)**

The Government recognises that reducing demand for electricity will lower carbon emissions and is likely to be more cost-effective than building additional generating capacity. As such, in the White Paper we have committed to assessing whether there are sufficient incentives to make efficiency improvements in electricity usage and consider whether there is a need for appropriate additional measures.

Engaging with consumers on energy use will also be crucial. We have already taken decisive action to reduce central Government emissions by 13.8 per cent (exceeding our original target of a 10 per cent reduction). The introduction of the Green Deal will also enable homes and businesses to improve energy efficiency with no upfront cost. This will be complemented by a huge programme aimed at making sure every home in Great Britain has smart electricity and gas meters, with businesses and public sector users having smart or advanced energy metering suited to their needs. This will enable consumers to monitor and manage their energy consumption, and pave the way for a transformation in the way in which energy is supplied and used.

### **8. The White Paper must set out a second tier of objectives, following a strategic view of the energy sector in decades to come. This should include a specific pathway for reducing electricity consumption through demand side measures. It should set an explicit decarbonisation goal for 2030, with a trajectory for reaching the target. It should focus on dealing with intermittency and inflexibility on the system as a key energy security challenge. It should also set clear objectives for improving support for vulnerable consumers. (Paragraph 59)**

There are a range of pathways for decarbonising the power sector that put us on a trajectory to meet our 2050 climate change goals. We will set out further analysis of power sector decarbonisation in our response, due in the autumn, to the CCC's December advice on the fourth Carbon Budget.

As we say in the response to recommendation seven, we have committed, in the White Paper, to assessing whether there are sufficient incentives to make efficiency improvements in electricity usage and consider whether there is a need for appropriate additional measures.

We agree with the Committee that intermittency and inflexibility in the electricity system pose significant challenges to energy security. There are broadly three different, linked challenges under the general banner of 'security of supply':

- diversification of supply: how to ensure we are not over-reliant on one energy source or technology;
- operational security: how to ensure that, moment to moment, supply matches demand, given unforeseen changes in both; and
- resource adequacy: how to ensure there is sufficient reliable and diverse capacity to cover demand, for example during winter anti-cyclonic conditions where demand is high and wind generation low for a number of days.

By diversifying our portfolio of generation technologies it is possible to address the first challenge. A higher level of intermittency potentially makes the second and third challenges greater. As set out in the White Paper, we propose that the second challenge should continue to be addressed by the System Operator (SO), National Grid, through the current approach, including the procurement and operation of Short-Term Operating Reserve (STOR). We propose a Capacity Mechanism to address the third problem, though interactions between a Capacity Mechanism and short-term balancing actions would need to be carefully considered.

The Government has already in place a number of policies supporting vulnerable consumers as outlined in our response to recommendation five.

The Government's view on future inflexibility and intermittency in the system is set out in our response to recommendation four.

**9. The current market arrangements do not facilitate a fully functioning wholesale electricity market which transmits the price information necessary to attract investment. We recommend that the Government incorporate a review of the present trading arrangements and liquidity in the forthcoming White Paper. (Paragraph 70)**

Ofgem has set out proposals aimed at improving overall liquidity and meeting the needs of independent generators and suppliers. The Government welcomes the clear direction of travel set by Ofgem. Credible reference prices and routes to market are essential for low-carbon generation. The Government is working closely with Ofgem to ensure that taken together EMR and the liquidity reforms deliver the necessary improvements, including to ensure that there is enough liquidity to offer the means for independent generators of all sizes to enter the market.

To the extent that there are continued barriers to entry that are not addressed through Ofgem's actions, the Government will work with all stakeholders to identify appropriate solutions.

**10. DECC must consider the future evolution of the electricity wholesale market as part of the Electricity Market Reform process. The review of Ofgem is an opportunity to ensure that it delivers decarbonisation and security of supply alongside affordability for consumers. (Paragraph 80)**

The Government published the Ofgem Review Conclusions on 19 May<sup>1</sup>. As part of delivering greater role clarity between Government and Ofgem, these conclusions looked to address how the regulator could be better held to account against its contribution to the Government's strategic objectives for the energy sector. We intend to establish a new statutory Strategy and Policy Statement. This document will set out the Government's policy goals for the gas and electricity markets and describe the roles and responsibilities of Government, Ofgem and other relevant bodies. It will also define policy outcomes that Government considers Ofgem to have a particularly important role in delivering. On an annual basis Ofgem will be expected to report on how it plans to deliver against these policy outcomes and, separately, its progress against these plans. The Ofgem Review Final Report was published alongside the EMR White Paper.

**11. DECC should investigate the full range of options for improving liquidity in the wholesale market. DECC must also consider its options for making the wholesale market fit for a low-carbon future. We would recommend an evolution of the System Operator's role and a reform of the "balancing mechanism". (Paragraph 81)**

Our responses to recommendations nine and four cover liquidity and the System Operator's role, respectively.

**12. The Government must acknowledge the direction of travel of the electricity market in future, which may well include increasing interconnection with other European markets. The Government should explore how this will affect the Electricity Market Reform package in its White Paper. Electricity Market Reform needs to be accompanied by a strategic vision of the shape of the market in coming decades, including the European dimension. (Paragraph 85)**

This is also covered by our response to recommendation four.

We support further interconnection. Technologies and approaches such as DSR, storage and interconnection have potential to contribute to security of supply, while reducing the need for large scale infrastructure and making better use of generation assets.

We will set out next year our electricity systems policy, which will include consideration of the level of market integration that might be desirable as we increase levels of low-carbon generation.

The UK and the EU share common energy policy objectives of delivering sustainable electricity generation, while seeking to minimise cost to consumers and ensuring security

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<sup>1</sup> Ofgem Review: Summary of Conclusions, May 2011:  
[http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/markets/regulation/regulation.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/markets/regulation/regulation.aspx)

of electricity supplies. We consider that our approach to delivering these objectives – that of incentivising the private sector, via a stable framework, to deliver the appropriate generation mix and using competition to ensure this is done at least cost to consumers – is consistent with the EU policy direction. We remain committed to intervening only when necessary to achieve our binding renewables and emissions targets in a secure and affordable manner and to ensuring that interventions are proportionate (offering the minimum necessary support) and transitional (falling away as soon as support is no longer needed). Our published analysis shows that reforms are necessary to meet these targets. We are developing the EMR measures to ensure they are consistent with, and complementary to, further integration of EU electricity markets and, in doing this, we are keen to work closely with the Commission and other European stakeholders to help understand possible concerns and how these can be addressed.

We recognise the importance of market coupling as a way to maximise the efficient use of interconnector capacity and ensure cross-border flows are determined by market signals. We believe that the Contract for Difference (CfD) is unlikely to have a significant impact on such arrangements given that the existence of a CfD alone does not determine the generator's offer price, and thus is unlikely to have a significant impact on the direction of cross-border flows. As part of broader integration with other markets, however, we are exploring the possibility of two-way trading of low-carbon electricity (which is signalled in the White Paper). We will need to consider the impact of market coupling on such arrangements.

We also recognise that the existence of a Capacity Mechanism could, in principle, have an impact on cross-border flows and interconnection. This will be considered as part of further development of policy on a Capacity Mechanism.

We continue to consider the issues associated with further European interconnection and offshore generation through, for example, the North Seas Countries' Offshore Grid initiative, which we are taking forward with other European countries, and the Offshore Transmission Coordination Project, which we are taking forward with Ofgem.

We are supportive of Ofgem's efforts to facilitate further interconnection investment by providing a more predictable and stable framework for interconnector investors' returns. We note that recent interconnection projects are expected to represent 5% of GB's generation capacity, with this likely to increase over the coming years. We consider, however, that some interconnection is likely to be constrained for much of the year.

Cross-border balancing is an efficient means by which Transmission System Operators (TSOs) can balance the system, and we will continue to contribute to efforts towards the European framework guidelines / network code on balancing. We consider that, because the Capacity Mechanism will happen outside normal market conditions, it will not have a significant impact of the TSOs' ability to use cross-border capacity to balance, where this is possible. The incentive regime for TSOs to balance the system economically and efficiently will remain.

**13. The Committee recognises that different levels of Feed-in Tariff (“banding”) are required to support technologies at different levels of maturity and with different financing needs. In the short term, levels should be based on technological and economic considerations. This process must be transparent and levels must be set for a defined period, with clear triggers that would activate a review if levels need to be reassessed. (Paragraph 108)**

Both now and in the future the UK will rely on a diverse range of generation to meet its electricity needs. It will also be important to create the right conditions for the new technologies whose early commercialisation is vital if we are to achieve our low-carbon energy goals.

The Government remains attracted to a greater use of auctioning or tendering as a mechanism to set the level of Feed-in Tariff support. This is because the price discovery characteristics of an auction should enable financial support to be set at a level just high enough to promote deployment but not high enough to lead to excessive profits, with bids driven down by competition. However, the Government acknowledges that auctions would only be adopted if a practical way could be found to make them function in the UK electricity market and for newer technologies. The majority of respondents to the EMR consultation were sceptical about the use of auctions to set the level of support for low-carbon generation.

Since the consultation the Government has explored possible options for price discovery, working with experts to identify key challenges. The Government is committed to making the transition to the reformed market as smooth as possible and is minded to move from administrative price discovery processes for low-carbon technologies to more competitive forms of price discovery such as auctions or tenders when the wider conditions in the market will support their successful deployment.

Given the challenges involved in transition we do not believe that these conditions exist in the current market, however we will move towards technology-specific auctions or tenders towards the end of the decade and look for ways of introducing greater competition between technologies towards and into the early 2020s.

**14. In its White Paper, the Government should acknowledge the problems of relying on auctions to set Feed-in Tariffs for most technologies in the short term, but it should set out conditions under which it would shift to an auction-based process in the future. (Paragraph 109)**

Please see our response to recommendation 13.

**15. The main argument for the Contract for Difference is the Government’s desire to achieve the investment certainty offered by fixed prices while maintaining the efficiency of a competitive market. However, this approach is not appropriate for all kinds of low-carbon generation. Different kinds of low-carbon generation are at very different stages of technological maturity, with very different operational and financing requirements. Feed-In Tariffs should recognise the unique characteristics of different low-carbon technologies. Proper discussion of these possibilities is a serious omission from the consultation. (Paragraph 121)**

The Government agrees that the Feed-in Tariff design should recognise the different characteristics of different forms of low-carbon generation.

Different types of generation have different characteristics. For example, intermittent generation such as wind operates differently to baseload plant such as nuclear, and is subject to different levels of certainty regarding output. Compared to wind, nuclear tends to provide a steady amount of output at all times when it is operating. More flexible plant, (mainly traditional fossil fuel at present), potentially Carbon Capture and Storage (CCS), biomass and new nuclear in future, has the ability to vary its output to follow demand and may even turn off in response to prolonged periods where there is forecast to be either high levels of wind output or low demand.

These differing types of generation respond to different incentives. As a result, the Government will vary the key features of the FiT CfD to develop an approach that is best suited to each of the low-carbon generation types. Further detail on the proposed design of the FiT CfD is in Annex B of the White Paper.

**16. The Government must recognise more clearly the different financing requirements of low-carbon technologies and investigate the possibility of different kinds of long term contract for different kinds of low-carbon technology. The Government should consider Contract for Difference for nuclear, but it should recognise that some technologies such as wind generation cannot easily respond to market signals under a Contract for Difference and may be exposed to lower than average prices. We also believe that Carbon Capture and Storage and electricity storage should benefit from Feed-in Tariff support, but that a Contract for Difference may not be the best model. These technologies are likely to require bespoke contracts. The White Paper should offer a flexible solution to meet these different objectives. (Paragraph 122)**

As the response to recommendation 15 sets out, differing types of generation respond to different incentives. The Government will therefore vary the key features of the FiT CfD to develop an approach that is best suited to each of the low-carbon generation types. The key aspects of the FiT CfD designs are discussed in detail in Annex B to the White Paper.

**17. If it is the Government's policy objective to develop large amounts of new nuclear generation, then it is almost certain that it will require policy or financial support that will amount to forms of subsidy. While a Contract for Difference Feed-in Tariff may be the best option for nuclear generation, it may not be the best for all low-carbon generation. The Government must not go down the route of Contracts for Difference for all low-carbon generation just because it does not feel able to differentiate between nuclear energy and other low-carbon technologies. The White Paper should address the advantages, risks and challenges of promoting new nuclear generation head-on and honestly; it should not distort the market merely to save political face about the precise meaning of the Coalition Agreement for Government. (Paragraph 132)**

The Government does not believe that measures taken to offset environmental externalities – such as the EU ETS and FIT CfDs – are properly regarded as subsidies. They are

corrections to market failures. The EMR package outlined in the White Paper will mean that by 2030 we will have a flexible, smart and responsive electricity system, powered by a diverse and secure range of low-carbon sources of electricity, with competition between low-carbon technologies helping to keep costs down. This is the rationale for having one CfD mechanism for all forms of low carbon technology.

Our analysis shows that a FiT CfD, as long as it is appropriately designed for each technology group, is expected to produce the greatest reduction in the cost of capital for all forms of low carbon generation. It will be appropriate to provide extra support – beyond what is necessary to correct environmental externalities – to early stage technologies on “infant industry” grounds.

Please see in addition the responses to recommendations 15 and 16.

**18. The White Paper should identify which institution will be given power to create appropriate contracts and set this up as quickly as possible. If this role is not taken on by Ofgem, a shadow body should be set up in advance of legislation. Government should concentrate on the powers of this institution rather than the detail of the contracts and clarify its role, objectives, composition and funding as soon as possible. The agency must be totally independent and not susceptible to political influence. (Paragraph 135)**

The Committee's report and the consultation responses on the EMR institutional framework highlighted several key criteria such as independence, durability, accountability, credit-worthiness, skills and value for money. The Government has endorsed these key criteria in the White Paper.

It is also crucial to design a robust institutional framework that is durable and tailored to the specific delivery needs of the policies being designed. Due to the potential interdependencies between the delivery needs of the different policies, the final decision on institutional framework will be made and published in a technical update at the turn of the year.

**19. We have heard no justification for the departure of the final proposals on Carbon Floor Price from those modelled in the consultation. We would welcome such a justification from HM Treasury. (Paragraph 139)**

The tax rates announced at Budget 2011 are consistent with the floor price set out in the consultation. The consultation asked how the carbon price support rates should be calculated. As a result of the consultation responses the rates were set according to the market price of carbon. The market price was lower than the Government's central published “traded sector” carbon values used in policy appraisal.

The Budget 2011 announced the carbon price support rates for 2013-14, which represent the difference between the Government's target carbon price (the floor) and the futures market price for carbon in the EU ETS in 2013. The target carbon price in the calendar

year 2013 is £15.70/tCO<sub>2</sub> (2009 real prices)<sup>2</sup>, which is the same as in the consultation. The carbon price support rates to meet this target carbon price were calculated at £4.94/tCO<sub>2</sub> in 2013-14.

**20. The Carbon Price Support was introduced as one of the four “pillars” of Electricity Market Reform and will interact significantly with other measures. We are disappointed that the Government chose to introduce the Carbon Price Support before the Electricity Market Reform process is complete. (Paragraph 142)**

A carbon price floor (CPF) is the first facet of the Government's four point plan to reform the UK's electricity market as announced in the Electricity Market Reform consultation. The different timetable was required to fit in with the tax policy making process and Finance Bill legislation. The carbon price floor provides an early and credible signal to investors now that the Government is serious about encouraging low-carbon electricity. Consequently, though carbon price floor is led by HM Treasury and HMRC as it is a tax matter, DECC have been closely involved in the policy development and analysis.

A key criterion for the development of the market reform package is coherence. The carbon price floor complements the FiT CfD outlined in the White Paper. The CPF is not sufficient on its own to encourage all the investment needed, therefore, it needs to be combined with a Feed-in Tariff mechanism to be able to meet both the decarbonisation and renewables objectives. For the CPF to drive all of the decarbonisation which is necessary, it would have to rise significantly higher than the level delivered through EU ETS (i.e. to at least £50/tCO<sub>2</sub> by 2020 – £20/tCO<sub>2</sub> higher than the current CPF level).

**21. A UK Carbon Price Support is a necessary compromise to support low-carbon electricity generation in this country. The Government must continue to push for a European greenhouse gas emissions reduction target of 30% by 2020 in order to strengthen the effectiveness and credibility of the EU Emissions Trading System. The White Paper must include a persuasive strategy for achieving this aim. (Paragraph 148)**

The Government remains a leading supporter of the EU ETS and the important role the carbon market plays in cost-effective CO<sub>2</sub> abatement across the EU. The EU ETS is already delivering emissions reductions across Europe and will be responsible for about half of UK emissions reductions up to 2020. It will remain at the centre of the UK's long-term decarbonisation and climate mitigation strategies. However, we consider that there is a case for tightening of the EU ETS cap. This would ensure improved environmental effectiveness and a strengthened investment signal without cutting across fiscal sovereignty issues. A tighter cap would ensure that any reductions delivered are locked in and do not result in allowances being banked for use in the future. However, this is not currently an option.

The Government is also committed to continuing to push for the EU to adopt a 30% target at the earliest opportunity. Our strategy will be to build on the support shown by Environment and Climate Ministers for the Commission's Low Carbon Roadmap, which

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<sup>2</sup> HM Treasury, "Carbon price floor consultation: the Government response", Box 2.C, [http://www.hm-treasury.gov.uk/d/carbon\\_price\\_floor\\_consultation\\_govt\\_response.pdf](http://www.hm-treasury.gov.uk/d/carbon_price_floor_consultation_govt_response.pdf)



was published in March and to encourage the Commission to bring forward policy options for delivering reductions consistent with the Roadmap. The Roadmap set out analysis showing that a 20% target was not enough, that the cost-effective trajectory to 2050 passes through domestic EU milestones of 25% in 2020, 40% in 2030 and 60% in 2040. We believe that delivering an internal EU 25% target would be broadly equivalent to delivering a 30% target overall that includes international offset credits, providing all the existing credit access is utilised. But we should not underestimate the challenge of achieving 30%. The political conditions remain very challenging.

**22. We acknowledge the contribution to decarbonisation that a high and reliable carbon price could make in the long-term. We also recognise the good intentions of the Government in attempting to underpin the carbon price. However, we are aware that when it comes to low-carbon investment, the effect of the Carbon Price Support will depend on the confidence of investors in the long-term reliability of the Carbon Price Support. (Paragraph 160)**

We agree entirely with the Committee's view. We have designed the price floor to provide the certainty that we can within the tax system. We believe it will work with the FiT CfD to provide more certainty of revenues to generators and make investment in low-carbon technology more attractive.

**23. We recommend the Government explains how it plans to deal with the problem of potential windfall profits arising from the introduction of a Carbon Price Support in its White Paper. The White Paper should set out under what circumstances the Government would take action to address windfall profits resulting from the introduction of the Carbon Price Support. If such measures involved a tax, then any revenues should be matched by an increase in the budget of the Green Investment Bank. (Paragraph 167)**

The CPF is about putting a price on carbon emissions and providing long-term certainty about the cost of carbon. This provides support to all forms of low carbon generation thereby enabling the transition to a low carbon economy. To the extent that the floor remains above the EU ETS price up to 2020 there will be effects on the profits of existing low carbon generators. In practice, the impact on individual company profitability will depend on their generation mix: some may become more profitable and others may experience a decline in profits. This will depend on the carbon intensity of their generating portfolios and future plans to invest in low carbon.

Any benefit arising to existing low-carbon infrastructure is a result of marginally higher costs for high-carbon generation feeding through to the wholesale electricity price. In other words, it is a result of past decisions already taken by companies on their generation portfolio, not because of any subsidy or State aid. The price floor does not subsidise any specific technology, as it allows the market to decide on the most cost-effective mix of generation, not the Government.

Decisions on any further capitalisation of the Green Investment Bank, and limits on the amount of borrowing required, will need to be taken in the context of the wider fiscal position and spending plans for the next Spending Review period.

**24. Reporting carbon consumption figures alongside production figures would help provide greater transparency about the UK's impact on climate change. We recommend that the Government should consider this option. (Paragraph 173)**

The Government believes that the ideal solution to addressing embedded emissions would be a global deal to reduce emissions. Currently there is no prospect of a global switch to a consumption approach to account for emissions. The territorial approach is what has been agreed internationally as it would be very difficult to base international emissions reduction targets and agreements on embedded emissions figures because they are much more difficult to calculate accurately and to verify.

Countries have a much greater ability to influence production activities in their own territory than to influence emissions from goods consumed in their country but produced overseas. This means that the most effective way to design policies to reduce global emissions is to account accurately for all global greenhouse gas emissions on a production basis, and to reach a broad international agreement with ambitious commitments for developed and developing countries to reduce emissions according to their capabilities. This is the basis for the UK's approach to carbon budgets and the climate negotiations.

**25. We believe that the Carbon Price Support will not influence investment decisions until 2018 at the earliest. We would have preferred the Government to establish a nominal Carbon Price Support level until 2018 and then set a long term trajectory based on advice from the Committee on Climate Change. Until then, the Carbon Price Support represents little more than an additional energy tax, which will be passed on to consumers. (Paragraph 175)**

The carbon price floor is aimed at promoting stability and certainty in the carbon price to encourage investment in low carbon generation now. Investment decisions are taken years in advance. This measure gives an early and credible long-term signal to investors that the Government is serious about encouraging investment in low-carbon electricity generation now to meet the investment challenge of the future.

A linear trajectory starting in 2013 is simple to understand and credible as it does not defer steeper increases to a future Parliament. We are committed to being the greenest government ever and taking the difficult decisions about the future of this country. The policy would lack credibility and investors - who need to take decisions four years or longer in advance of new capacity coming on line - would not believe a future Parliament may follow their plans through.

**26. We suggest that Carbon Price Support tax revenues should be matched by increased budget for the Green Investment Bank. (Paragraph 176)**

The Budget announced that the Government will provide the Green Investment Bank (GIB) with an initial capitalisation of £3bn, including £1 billion from departmental budgets and the remainder from asset sales. Of this, £775 million has already been received from the sale of High Speed One. The Budget also announced that the GIB will be given borrowing powers from 2015-16 and once the target for Public Sector Net Debt to be falling as a percentage of GDP has been met. Decisions on any further capitalisation of the Bank, and limits on the amount of borrowing required, will need to be taken in the context of the wider fiscal position and spending plans for the next Spending Review period.

**27. The Carbon Price Support must not systematically distort electricity prices between the UK and other countries. In an increasingly interconnected market, this could mean significant transfers of capital abroad and the “offshoring” of UK generation. (Paragraph 177)**

Generators outside of the UK may have a relative cost advantage; however, this will depend on wider factors affecting the structure and cost base of electricity generation in other EU Member States.

The scope for imports into the UK is limited by both the amount of spare generation and interconnector capacity in the short to medium term. The choice of location to invest will also be affected by the UK's competitive rates of corporation tax and wider factors such as the cost of capital and planning rules. As set out in Budget 2011, the Government is taking measures to reduce corporation tax and to reform the UK's planning system to better support investment and domestic growth.

Over the longer term it may be possible for generators to make additional investment in generation and interconnector capacity, which currently provides around 2 per cent of total UK generation capacity. However, the carbon price would have to be considerably higher than the EU ETS price for such investment to be considered commercially attractive. Please also see the response to recommendation 12.

**28. Carbon Price Support is a short-term solution to the failure of the EU Emissions Trading System to deliver a meaningful carbon price. It poses risks to UK energy security and the UK economy more widely. The White Paper needs to justify its costs and benefits and provide a persuasive plan for its integration with the EU Emissions Trading System. (Paragraph 178)**

Supporting the carbon price will marginally increase the cost of generating electricity. But over the long term the UK stands to benefit from cleaner, cheaper and more reliable sources of low carbon energy. A CPF complements the EU ETS by strengthening the carbon price signal in the UK enabling higher levels of investment in low-carbon infrastructure and therefore a faster rate of decarbonisation. It is our intention, as we announced at Budget 2011, to set the floor at a low level initially and allow it to rise gradually.























