



House of Commons

Business, Energy and Industrial  
Strategy Committee

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**The energy revolution  
and future challenges  
for UK energy and  
climate change policy:  
Government Response to  
the Energy and Climate  
Change Committee's  
Third Report of Session  
2016–17**

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**Fourth Special Report of Session  
2016–17**

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## Business, Energy and Industrial Strategy Committee

The Business, Energy and Industrial Strategy Committee is appointed by the House of Commons to examine the expenditure, administration, and policy of the Department for Business, Energy and Industrial Strategy. The Committee's name was changed, from the Business, Innovation and Skills Committee, on 17 October 2016.

### Current membership

[Mr Iain Wright MP](#) (*Labour, Hartlepool*) (Chair)

[Richard Fuller MP](#) (*Conservative, Bedford*)

[Peter Kyle MP](#) (*Labour, Hove*)

[Amanda Milling MP](#) (*Conservative, Cannock Chase*)

[Albert Owen MP](#) (*Labour, Ynys Môn*)

[Amanda Solloway MP](#) (*Conservative, Derby North*)

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[Kelly Tolhurst MP](#) (*Conservative, Rochester and Strood*)

[Craig Tracey MP](#) (*Conservative, North Warwickshire*)

[Anna Turley MP](#) (*Labour (Co-op), Redcar*)

[Chris White MP](#) (*Conservative, Warwick and Leamington*)

### 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

Committee reports are published on the Committee's website at [www.parliament.uk/beis](http://www.parliament.uk/beis) and in print by Order of the House.

Evidence relating to this report is published on the [inquiry publications page](#) of the Committee's website.

### Committee staff

The current staff of the Committee are Chris Shaw (Clerk), Martin Adams (Second Clerk), Josephine Willows (Senior Committee Specialist), Becky Mawhood (Committee Specialist), Ian Cruse (Committee Specialist), James McQuade (Senior Committee Assistant), Jonathan Olivier Wright, (Committee Assistant) and Gary Calder (Media Officer).

### Contacts

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## Fourth Special Report

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The Energy and Climate Change Committee published its Third Report of Session 2016–17, [\*The energy revolution and future challenges for UK energy and climate change policy\*](#) (HC 705), on 15 October 2016. The Government’s response was received by the Business, Energy and Industrial Strategy Committee on 19 December 2016 and is appended to this report.

In the Government response, the Committee’s recommendations appear in **bold text** and the Government’s responses are in plain text.

## Appendix: Government Response

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Minister: Greg Clark – Secretary of State for Business, Energy and Industrial strategy

December 2016

### Introduction

1. We welcome the Committee’s final report and recognise that it highlights a number of challenges for UK energy and climate change policy. We agree with the Committee that the energy sector is rapidly changing and addressing the energy trilemma will involve a number of innovative and evolving approaches.
2. The Committee has recommended that Government create a credible long-term strategy for the UK energy system. Government is working closely with stakeholders and is committed to ensuring the UK has a reliable, low cost and clean energy system. We want to meet our needs for the future by upgrading and diversifying our energy supplies – ensuring they are smarter, cleaner, more secure and affordable for consumers and businesses.
3. As part of this, Government recognises the role that flexibility can play in contributing to a resilient, affordable and low carbon energy system. Government and Ofgem have been working with stakeholders to ensure we develop the right policy, regulatory and market frameworks. This is why on 10 November the Government and Ofgem launched a call for evidence on a smart, flexible energy system. This will be followed by a Smart Systems Plan in spring 2017 which will set out the specific actions that we and Ofgem will take.
4. The Committee set out a number of recommendations for digital engagement of energy consumers. The call for evidence on a smart, flexible energy system, along with commissioned research, will help gauge stakeholder views to inform future policy direction.
5. With regard to the economic opportunities around an energy revolution, Government is strongly committed to delivering an ambitious Industrial Strategy. We will lay the foundations for reinvigorating UK economic performance. This will require an ambitious, long-term Industrial Strategy which has science and innovation at its core, builds on our local strengths and fosters enterprise to ensure every place meets its potential. This is as true in energy and climate, as it is across the UK economy.

6. The Committee's recommendations on the implications of leaving the EU on UK energy and climate change policy propose a number of guiding principles for the Government to consider when preparing for exit negotiations. Government will continue to engage constructively on new and existing EU energy and climate change legislation and regulation while we remain in the EU. BEIS is working with DExEU and other departments to understand the impacts of exiting the EU on business, consumers and other economic actors.

7. The Government welcomes the Committee's consideration of these important issues and our response to each of the recommendations is set out below.

## Energy revolution

### *Recommendation 1*

**We reiterate our previous call on Government to move quickly on addressing regulatory barriers faced by storage: there must be a clear definition for storage, double-charging must come to an end, and a separate asset class for grid-level electricity storage should be established as a matter of urgency. The Government must also review the outdated Capacity Market rules and regulations in relation to storage, including considering increasing the contract length and addressing restrictions around stacking of revenues for storage projects. We further recommend that Government sets out a high-level public commitment to making the UK a world-leader in storage and sets a storage procurement target for 2020. The Government should also consider a possible subsidy framework for energy storage to accelerate deployment given the importance of storage to unlocking the full potential of renewable energy.**

8. The Government has been clear on the value and benefits of a Smart Energy System both in our Smart Systems Call for Evidence, published on 10 November 2016, and our 2015 position paper "Towards a Smart Energy System". To create a sustainable and cost effective system we want flexibility providers to compete in supporting the system, rather than relying on subsidy, to keep downward pressure on costs for the benefit of consumers and businesses.

9. We have committed to delivering the National Infrastructure Commission (NIC)'s recommendations on flexibility and smart technologies, including storage. The Smart Systems Call for Evidence is part of that process and it is right that we take views from a wide range of stakeholders on the most effective ways to work with industry on the development of the storage industry. As Government has previously made clear, the Call for Evidence will seek views on how to address a number of hurdles for storage, including how it can best be incorporated within the regulatory framework.

10. Storage has the potential to play an important role in providing cost-effective security of electricity supply, including in the Capacity Market (CM). That is why storage is eligible to participate as a generation resource in the CM and is already able to access 15 year agreements in the four year auction.

11. The design of the CM already enables the stacking of revenue. All capacity market units (CMUs) that deliver against a relevant balancing service despatch request during a system stress event will have their capacity load following obligation adjusted in recognition

of their balancing services contracts. However, not all balancing services are considered a 'relevant' balancing service for example Long Term STOR (Short-term Operating Reserve) contracts, which are excluded to safeguard value for money to consumers. The list of relevant balancing services will be kept under review.

12. Government announced in the March 2016 that at least £50m would be available over the next five years to support innovation in smart grid technologies, including storage, and the Call for Evidence asks for views on the best use of innovation funding in order to make storage cost effective.

## **Recommendation 2**

**Changes to Government policy with regards to DSR participation in the Capacity Market need to be implemented and we urge the Government to implement these in time for the upcoming T-4 and T-1 auctions in the winter 2016–17. The contract bond requirement for DSR providers bidding in the Capacity Market is an unnecessary cost for businesses. It should be removed, and if not, it must be reduced to a level that is a more reasonable percentage of the cost of the projects that are bidding. Government must update its evidence base to justify why it thinks the DSR projects should be limited to one-year contracts. Our view is that significantly longer contract periods should be available to DSR providers. Finally, the Government should reconsider its decision to reduce the volume of the T-1 auction.**

13. The Government strongly believes that Demand Side Response (DSR) can help support the move towards a smarter, more flexible energy system that delivers lower bills, lower carbon emissions and enhanced security of supply. Government is working with Ofgem on a broad programme of work, particularly through the Call for Evidence (para 8), which will identify the steps we need to take to manage the transition to a smart energy system.

14. The design of the Capacity Market (CM) was developed with the DSR sector. Key design features were implemented to support DSR participation, including the Transitional Arrangements (TA) auctions which are ring-fenced for DSR.

15. We continue to listen to stakeholders and have amended the CM rules and regulations where possible to enable greater participation. As a result, we have seen levels of DSR in the CM increase year on year, and are keen to see this sector continue to grow.

## **Credit cover requirements for DSR**

16. The Capacity Market aims to provide a firm level of capacity for delivery, and the purpose of bid bonds is to incentivise applicants to give accurate and realistic information on how much capacity can be delivered.

17. The Government recognises that bid bonds represent a cost to business and has introduced some special provisions for DSR. For example, if DSR providers undertake DSR Tests prior to prequalification, the need to lodge credit cover is removed entirely. Additionally, whilst we have doubled the level of credit cover to £10k/MW for new build generation in response to concerns about non-delivery new build projects, we have maintained the level for unproven DSR at £5k/MW.

18. We are currently consulting on possible changes to the credit cover requirements for DSR, recognising the need to balance ensuring security of supply with minimising barriers to DSR participation. We are seeking evidence on whether the level of credit cover should be increased (to the same level as new build CMUs), maintained at the current level or lowered.

### *Longer agreement lengths for DSR*

19. In the 2015 four-year-ahead auction, 98% of all resources secured one year agreements. Longer term agreements represent poor value for consumers, unless strictly needed, as they risk locking consumers into paying a long term price. New build and refurbished plants are the only resources that can access longer agreements in recognition that investors require more certainty prior to committing significant expenditure in large capital projects.

20. Whilst there can be challenges to encouraging businesses to engage in DSR, the same capital costs do not apply as for new build generating plant. The Government would need to see clear evidence to suggest that longer agreements are necessary to ensure DSR can compete effectively. The Smart Systems Call for Evidence invites DSR providers to submit new evidence supporting why longer term agreements are necessary for DSR.

### *Volume of the T-1 auction*

21. The one-year-ahead auction will continue to be held. We believe that by buying more capacity and earlier (i.e. at the four-year-ahead auction), we will better meet our security of supply objectives at the least cost to consumers. It will also provide greater resilience against increased capacity risks as the energy market transitions away from coal and as older plants close.

### ***Recommendation 3***

**The market should also be given a clear signal that DSR capacity is to be procured as a strongly preferred alternative to diesel generation plants. We recommend investigating the use of a merit order for meeting capacity needs in the UK when margins are tight, which places DSR high on the list.**

22. The Capacity Market ensures the long term adequacy in the electricity market, however, it does not determine the short-term dispatch or merit order when margins are tight. National Grid's balancing and ancillary services are used for this purpose.

23. The Capacity Market is technology neutral and the clearing price is set through competitive annual auctions, and to the extent that DSR capacity has low capital cost, it should be able to bid competitively and clear in the auction. In addition, two specific DSR pilot auctions have been put in place to support less mature DSR.

24. We acknowledge the concerns raised by the Committee on DSR participation in the Capacity Market and we will continue to engage with stakeholders, including via the Smart Systems Call for Evidence, to inform future policy direction in this area.

#### **Recommendation 4**

**The Government should itself become a beacon of good practice by demonstrating the use of flexible demand solutions in its buildings in Whitehall and around the country. Parliament should also use the opportunities of the restoration and renewal of the Palace of Westminster to embed flexible demand and other new energy technologies within the Parliamentary estate.**

25. BEIS is working with the Crown Commercial Service (CCS) to encourage greater participation in DSR on the Government estate and in the wider public sector. CCS is also working with National Grid's Power Responsive campaign and have undertaken joint awareness sessions with public sector organisations such as hospitals.

#### **Recommendation 5**

**The Government must stay on top of the developing challenges associated with data protection and privacy. While these issues are being considered in relation to the smart-meter roll-out, the Government needs to ensure that it is thinking ahead about these issues in the context of more fully-connected smart homes and businesses.**

26. The Government agrees with the Committee that the move to a smarter energy system will increase the volume, need for and availability of data. Appropriate consumer safeguards need to be designed which strike the right balance between protecting individuals' privacy and allowing proportionate access to, and sharing of, data. This will facilitate the move towards smart homes and businesses and deliver benefits to consumers and the energy system as a whole.

27. Government will draw on the knowledge gained from the development of the smart metering Data Access and Privacy Framework to inform data protection policy in the context of more fully-connected smart homes and businesses. The Smart System's Call for Evidence is seeking stakeholders' views in this area.

#### **Recommendation 6**

**It is vital to communicate effectively to consumers the benefits of smart meters and intelligent devices to manage energy use in homes and businesses. However, the Government must also develop methods to nudge the energy sector towards embracing the opportunities arising from developing a smarter market in which consumers are more engaged and where reduction of demand is valued over increasing supplies of energy. The Government should investigate the pros and cons of alternative approaches to do this, including the potential for a demand reduction obligation.**

28. The Government agrees with the importance of effective communication to consumers on smart metering – this is central to ensuring consumers understand and realise the benefits available.<sup>1</sup> Visibility, control and confidence in energy are key drivers for greater consumer engagement and smart meters are the first step in facilitating each of

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1 The Government's approach to consumer engagement was set out in the smart metering Consumer Engagement Strategy (2012). See: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/43042/7224-gov-resp-sm-consumer-engagement.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/43042/7224-gov-resp-sm-consumer-engagement.pdf)

these – they will bring an end to estimated billing and the offer of an In-Home Display to all domestic consumers at no extra cost will enable households to see what energy they are using (in near real time) and how much it is costing (in pounds and pence).

29. Consumer engagement and subsequent empowerment is expected to develop as familiarity with smart metering grows, and the services it enables become more widespread. Most consumers will receive smart meters between 2017 and the end of 2020, at which point they will begin the transition to a digital energy market and smart homes.

30. Learning from the approach taken to smart metering, the Government considers that it will be important for consumers to understand both the opportunities available to them and what their participation will entail, and have a clear choice about whether and how to participate in the future smart energy system.

31. In September 2016, Government launched a tender for a rapid evidence assessment on the use of DSR by smaller energy users.<sup>2</sup> This will be inform policy making and improve the Department's understanding of:

- a) the motivating factors and barriers that drive consumers' decision making around DSR;
- b) the most effective products, services, policies and engagement strategies for achieving DSR at scale amongst domestic and smaller non-domestic consumers.

32. The Government has published material explaining how smart meter data can transform the market for energy services.<sup>3</sup> Access to energy consumption data by third parties (with consumer consent) via the national smart metering infrastructure is expected to provide opportunities for innovative organisations whose business models focus on helping consumers become more energy savvy.

33. The Government will continue to engage with industry to promote these opportunities and we are working with stakeholders to seek views via the Smart Systems Call for Evidence and wider stakeholder engagement on how to catalyse innovation which encourages new solutions to emerge and compete in the market.

34. On a demand reduction obligation, a number of obligations on energy suppliers already exist and they can be an effective way of delivering policy objectives. The Energy Company Obligation has been successful at driving installation of energy efficiency measures in homes thereby reducing demand and allowing low income and vulnerable households to heat their homes to a better standard. We are conscious of limiting the number of controls on energy suppliers that exist to help fulfil wider objectives, unless they are demonstrably able to protect consumers. However, we are willing to explore new ideas for promoting reductions in energy demand and will work with a range of stakeholders on this.

### **Recommendation 7**

**It is clear that the digitisation of the energy system alongside the increasing availability of “internet of things”-enabled technologies and appliances will revolutionise not only**

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2 See: <https://www.contractsfinder.service.gov.uk/Notice/9259cf19-d9d8-49fb-8bde-3fe0f2f1b00d>

3 See: <https://www.gov.uk/government/publications/smart-meters-smart-data-smart-growth>

**the energy market but also the consumer experience. Government will want to ensure that this opportunity for UK households is not held back by regulation or a lack of understanding within Whitehall.**

35. The Government agrees that a positive consumer experience will be an important consideration in the move to a smarter energy system. In addition to the points made in response to the previous recommendation, Government considers that consumers who want to participate in a smart energy system need to find it easy and appealing to do so.

36. In terms of the market, the Government's aim is to create a system that allows disruptive innovation. New business models could challenge incumbents' positions and where they bring benefits to consumers we should allow them to do so. The Government and Ofgem are engaging industry in considering what needs to change, for example through the Future Power Systems Architecture project and the Energy System Catapult.<sup>4</sup>

37. The Government has an important role in setting frameworks that support the development of a smart energy system while ensuring appropriate consumer protections are in place, including on security, data access and privacy.

### **Recommendation 8**

**The Government hopes to establish the UK as a global leader in the Small Modular Reactor (SMR) market. Our successors may in due course wish to investigate progress on the development and deployment of SMRs.**

38. The Government recognises the potential benefits that SMRs could offer the UK, in terms of the possibility of shorter deployment times, reduced costs of nuclear energy and industrial opportunities.

39. To explore this potential, in March 2016 the Government launched phase one of the SMR competition, with the objective of gauging market interest in developing, commercialising and financing SMRs in the UK. Over the summer, officials met with 32 eligible phase one participants, including technology vendors, service providers and potential investors.

40. As the Committee suggested in its 2014 report *Small nuclear power*, it is important to establish the commercial viability of SMRs. To gain a better understanding of this and other key aspects of SMR technologies, the Government is drawing on the outcome of Phase One meetings, the Expressions of Interest documents submitted by applicants, the findings of the Techno-Economic Assessment, and our continuing discussions with regulators.

41. It is only through a robust evidence base that the potential benefits of SMRs can be accurately evaluated, and it is this evidence that is now shaping the Government's considerations for the future of the competition.

42. SMRs are only one element within the wider field of nuclear innovation that the government is looking to support. As part of the nuclear research and development programme announced by the Government at Spending Review 2015, BEIS has now invited the first tenders to access funding worth more than £20 million. This financial

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4 See: <https://es.catapult.org.uk/what-we-do/fpsa/>

support will help foster the next generation of nuclear innovation, in areas such as reactor safety and efficiency, fuel research and materials science. The progress made in these and other areas will deliver benefits to the whole nuclear sector, including in the development of any future UK SMR.

### **Recommendation 9**

**Fusion is an innovation for the next generation. In the United States, the prospect of over-regulation was clearly a worry. The UK is already involved in fusion projects and is home to some of the world-leading companies exploring this field. There is an opportunity to be a pioneer and world-leader in this area. Such is the potential of this technology, the Government should monitor and engage with developments in fusion research and plan ahead to minimise regulatory barriers to development and deployment.**

43. As the Committee notes, nuclear fusion power reactors are not currently available for commercial deployment and it may be a number of decades before this changes. The UK remains a key actor leading global innovation in fusion. It hosts the world's largest and most capable fusion reactor, the Joint European Torus (JET), at the UK Atomic Energy Authority's site in Culham, which has informed understanding of how to control and produce energy from fusion fuels for over three decades. This spearheads the way towards developing a high capacity fusion power plant and is essential to the development of the International Thermonuclear Experimental Reactor (ITER): the next phase of an international collaborative programme to develop fusion energy, which is being constructed in France and to which the UK has access through its Euratom membership.

44. The UK is also home to the developers of other innovative fusion energy systems, which may offer more compact, efficient devices, as well as alternative approaches to heating and handling the fusion fuel. Phase One of the UK Government's Small Modular Reactor competition, mentioned above, has attracted and included developers of innovative fusion energy systems alongside those of fission systems.

### **Recommendation 10**

**Technological leadership can be lucrative, but often occurs on longer timescales than private investment is comfortable with so there is a role for Government in driving energy innovation. The UK has world-leading universities: leveraging these to attract and retain international talent, and support innovation throughout its cycle, is crucial to achieving an energy revolution. The Government should support efforts to get the next generation of students interested in (1) energy research, and (2) the policy implications of their research. The Government should embrace tripartite collaboration between academia, industry and government where projects help to address the UK's long-term decarbonisation goals.**

45. As we develop policies to meet our carbon budget targets set out in the Climate Change Act, innovation will play a critical role in developing affordable, low carbon, and secure energy supplies.

46. In the energy sector, Government plays a key role by intervening to tackle market failures which limit the potential for innovation and the take up of new technologies.

These market failures include: limited availability of private funding for new entrants, innovations often being complex and capital-intensive high risk projects, and a sector culture with a focus on using proven technologies.

47. Since 2011, the Government has supported at least £1.27bn (a combination of programmes from EPSRC, DfT, DfID, DECC, BIS, Innovate UK, and the Energy Technologies Institute) in low carbon innovations across the energy sector. In Autumn Statement 2015, the Government announced that it would double the UK's energy innovation over the next 5 years, such that by 2021, it would amount to over £400m per year. This also forms part of the UK's commitment to the global clean energy research and development initiative, Mission Innovation.

48. To deliver these innovation programmes, the Government is working closely with partner bodies including Innovate UK, the Energy Systems Catapult, and the Offshore Renewables Catapult, National Nuclear Laboratory as well as with industry and academia, including through the Energy Technologies Institute and Energy Research Partnership.

49. One example where the Government is already working with Universities on energy research and the policy implications of their research is the SUPERGEN programme. Managed by Research Councils UK, SUPERGEN was launched in 2003 and supports seven hubs of University research, in partnership with industry and policy experts, to develop solutions to radically improve the sustainability and resilience of the UK's power generation and supply.

50. Interest in studying STEM (Science, Technology, Engineering, and Mathematics) subjects is growing at a high rate. The University Colleges Admissions Service (UCAS) acceptances in STEM subjects have risen at rate of 17% between 2010 and 2015, as compared to only a 2% for other subjects. In addition, the Research Councils UK Energy Programme provides focused support for postgraduate student training through 21 networked centres for doctoral training and industrial doctorate centres. These provide students with a better whole systems understanding and improved learning environment in priority areas for the Energy Programme.

51. With the implementation of Sir Paul Nurse's recommendations and the establishment of the new UK Research and Innovation (UKRI) body, these reforms will strengthen the UK's world-class research and innovation system, linking research and Universities and labs across the country with Innovate UK. UKRI will have a strategic vision for research and innovation, to respond strategically to future challenges, including building a low carbon energy system.

52. In the Autumn Statement 2016, a new National Productivity Investment Fund was announced. This will provide an additional £2bn of funding for innovation per year by 2020–2021. Through this fund, the Government will fund the Industrial Strategy Challenge Fund and innovation, applied science and research. The Industrial Strategy Challenge Fund is a new, cross-disciplinary fund to support collaborations between businesses and the UK's science base, which will set identifiable challenges for UK researchers to tackle. The fund for innovation, applied science and research will offer additional funding to increase research capacity and business innovation to further support the UK's world-leading research base and to unlock its full potential.

### **Recommendation 11**

**The energy revolution presents a huge economic opportunity for the UK. With the appropriate strategy, policies and regulatory framework in place, Britain can become a world leader in the green technology sector. The Government should make green technology a top priority in its forthcoming industrial strategy.**

53. The formation of the new Department for Business, Energy, and Industrial Strategy (BEIS) has brought together the responsibilities for business, industrial strategy, science, innovation, energy, and climate change.

54. The UK is a global leader in science, research and innovation and this will be at the heart of our industrial strategy. We need to capitalise on these strengths and make sure the relationships between research and the commercial world are strong across the country.

55. The Government is working to develop a sustainable, modern, long-term industrial strategy and further details will be set out in due course.

### **Leaving the EU**

#### **Recommendation 12**

**The EU Emissions Trading System (ETS) is highly valued as a policy instrument for reducing greenhouse gas emissions across the EU. The System requires reform but stakeholders are optimistic that the next reformed phase of the EU ETS—with clearer price signals more closely aligned to the UK's carbon price floor and improved governance—will better incentivise low carbon investment and reduce emissions. Several therefore make the case for the UK's continued participation in the System after it has left the EU. Government should bear in mind the challenges associated with alternative options. These include the potentially costly and complex option to establish a UK ETS linked to the EU System, and the politically difficult creation of a direct carbon tax. Government must consider the impact of any alternative approaches on consumers and the competitiveness of UK industry.**

56. The UK has been strongly supportive of reforming the EU ETS, and was a key advocate for the Market Stability Reserve (MSR) which was agreed last year to come into force in 2019 and will address the surplus of allowances that has built up in the system.

57. Whilst the UK remains a full member of the European Union, it retains all of the rights, obligations and benefits that membership brings. We will therefore continue to be fully engaged in EU negotiations on reforming the EU ETS framework, which have been underway since July last year.

58. We are carefully considering the implications of a range of options regarding future UK participation in the EU ETS, as part of delivering a wider settlement in the best interests of the UK and in consultation with stakeholders. Irrespective of the future decision on EU ETS participation, the UK Government has set ambitious emissions reductions targets and action to tackle these is framed by the Climate Change Act.

### **Recommendation 13**

Stakeholders agree that there is little risk to the UK in signing up to its proposed contribution to EU Effort Sharing proposals up to 2030, as it aligns closely with the UK's domestic targets. Renegotiating these proposals could be burdensome. We note that because of the UK's higher than average contribution to the proposed target, the onus would be on the rest of the EU to step up its ambition and push forward more stretching emissions reduction targets for the remaining Member States.

59. Response under following section.

### **Recommendation 14**

The recent vote to leave the EU does not change the UK's requirement to reduce emissions in line with the Paris Agreement and domestic legislation. The required levels of emissions reduction through to the early 2030s, during the fifth carbon budget period, have already been set by the UK Parliament. We have highlighted the prevailing stakeholder view that the Government consider maintaining UK participation in the EU ETS and in the EU Effort Sharing process, both of which will contribute significantly to the EU's Nationally Determined Contribution up to 2030.

60. Response under following section

### **Recommendation 15**

The Government should explore the options for maintaining a relationship with the EU on climate change negotiations going forward. After 2030 there may continue to be value in pursuing the joint fulfilment of climate change goals. In this way the UK might retain its positive influence over EU nations and, by maintaining a progressive climate change agenda among that group of nations, exert greater influence elsewhere in the world too.

61. Our strong domestic framework for climate action and long term targets laid out in the Climate Change Act provide stability in our move to a low carbon future. The Government remains committed to meeting the targets under the Climate Change Act. The Act underpins our contribution to the historic Paris Agreement, to which we are a Party individually as well as through the EU. Under the Act, the Government recently set the UK's fifth domestic carbon budget and we also ratified the Paris agreement in Marrakesh.

62. Whilst the UK remains a full member of the European Union it retains all of the rights, obligations and benefits that membership brings. We will therefore continue to engage in EU legislative negotiations on climate change including the Effort Share Regulation and EU Emissions Trading System.

63. While we cannot know at this stage what our future participation in EU climate measures may be, the EU will remain an important partner. We are carefully considering the options and implications for the UK's future engagement in EU climate arrangements as part of delivering a wider settlement in the best interests of the UK.

64. At the same time, the UK will not step back from international leadership in Climate Change negotiations. We have built extremely strong relationships around the world which stand us in strong stead as we deliver on the promises made in Paris, and through which we will continue to build partnerships for action to tackle climate change.

### **Recommendation 16**

**Stakeholders are in favour of continued UK access to the Internal Energy Market (IEM). In deciding the nature of the UK's future relationship with the market, the Government will need to weigh the costs of associated legislation and regulation against the economic, security of supply and carbon reduction benefits afforded by IEM membership. We recognise that negotiations around this will be affected by broader issues, including freedom of movement. We note that:**

- a) **If IEM participation is to be pursued the Government will need to explore potential membership models, such as the Energy Community Treaty.**
- b) **If continued IEM participation looks doubtful, the Government should undertake a thorough assessment to ensure that policy risks are understood and minimised.**
- c) **In the event that the UK loses its membership of but retains access to the IEM, the Government will need to identify new routes to shape the development of IEM policy. Without this the UK risks losing its role as an IEM 'rule-maker', instead becoming a 'rule-taker'.**

65. Response under the following section.

### **Recommendation 17**

Continued participation in the Internal Energy Market is expected to entail compliance with the European Network Codes (ENCs). Ofgem and National Grid should therefore seek to retain membership of ACER, ENTSO-E and ENTSO-G so that the UK can continue to shape the development of new codes. If on the other hand the UK sought to resign from the European Network Codes, the Government must take care to ensure that resultant gaps in domestic network codes are filled. We set out further conclusions regarding ENCs in relation to interconnectors.

66. Response under the following section.

### **Recommendation 18**

**Northern Ireland's electricity system is highly integrated with that of the Republic of Ireland, which will continue to be bound by Internal Energy Market (IEM) rules. The Government should carefully consider how any changes to the UK's relationship with the IEM will have particular significance for Northern Ireland. It may be appropriate to differentiate between the approach taken for Northern Ireland and that for Great Britain.**

67. The Government agrees that in negotiating the nature of the UK's future relationship with the internal energy market, we will need to weigh the costs of the associated legislation

and regulation and broader issues against the benefits afforded by various models of membership. Whatever the future relationship may be we will seek to ensure that we maintain the efficient cross-border trading we have today which increases security of supply, reduces costs for consumers and increases the efficiency of low carbon generation. We will pay particular attention to the impact that a different relationship with the internal energy market may have on the Single Electricity Market (SEM) in Northern Ireland and the Republic of Ireland and seek to ensure that the SEM continues to operate efficiently, bringing security of supply and reduced costs for consumers in both Northern Ireland and the Republic of Ireland.

### ***Recommendation 19***

**The UK is heavily dependent on Europe for its electricity and gas imports. Pan-European coordination has helped to improve the UK's security of supply. The Government should seek to build investor confidence, to avoid exacerbating difficulties in bringing forward investment in new electricity capacity and new indigenous resources. The Government should also examine the role of the 'solidarity principle' in managing potential gas crises, specifically how the UK can continue to participate. If excluded from the 'solidarity principle' the UK Government must urgently investigate alternative back-up arrangements to ensure security of supply in the event of a crisis.**

68. Response under the following section.

### ***Recommendation 20***

**Interconnections improve security of supply, facilitate cross-border trading and enable grid-balancing to be managed more cost-effectively. Substantial expansion of interconnection has been proposed for the coming decade, and we support this. The Government should continue to progress planned and proposed new interconnections with Europe.**

69. Response under the following section.

### ***Recommendation 21***

**The European Network Codes (ENCs) may need to be retained to ensure the functionality of energy trading and system operations across interconnectors with Europe. As noted in paragraph 103, Ofgem and National Grid should seek to retain membership of ACER, ENTSO-E and ENTSO-G so that the UK can continue to shape the development of new ENCs. If the UK resigns from the IEM and the ENCs, the Government must take care to ensure that interconnector trade and operations are not distorted by differences between European and UK energy market design.**

70. The UK has a wide range of gas supplies and sources. This includes significant levels of domestic gas production, access via pipelines to Norwegian gas production, interconnection with the continent and some of the largest and most modern LNG infrastructure in Europe.

71. In particular, the GB market has two gas interconnectors with continental Europe (one with Belgium and one with the Netherlands). Interconnectors allow gas to flow where

it is needed at the best price, offering an important flexible source of gas supply. This means that day-to-day, the percentage of GB gas demand being met through interconnection can be positive or negative depending on price. In 2015 interconnectors provided 8% of GB imports (6% of winter demand) and were an important source of gas during the highest demand days in winter.

72. GB also has import pipelines from Norway. Norway is the UK's single largest source of imported natural gas: in 2015 it supplied around 37.8% of demand, 61% of total imports. The remaining 30% of GB imports in 2015 came from LNG; there is capacity to increase the amount of gas imported through LNG terminals.

73. The solidarity principle is consistent with the longstanding arrangements we have with the Republic of Ireland where, in the event of a significant shortage of gas supply, there would be a proportionate reduction ('shared pain') of supplies between ROI, NI and GB. Fortunately, because of GB's diverse supply portfolio and because the countries of North West Europe have the most liberalised and liquid markets in the EU, these arrangements have never needed to be triggered. We are confident that price signals, will continue to attract gas to meet UK demand in the future and therefore to Ireland. Whilst we cannot predict the exact nature of regional co-operation with mainland Europe in the future, the operation of open and price efficient trading markets is in everyone's interest.

74. So far as electricity is concerned, the Capacity Market was put in place to ensure sufficient security of electricity supply. It incentivises new plant to be financed and built by successful bidders in return for a commitment that they will be available to provide electricity when needed. To further strengthen market signals we recently committed to buy more capacity, sooner, and to bring forward the start of the Capacity Market from 2018/19 to 2017/18.

75. The Government continues to support the development of electricity interconnection which brings benefits for countries at both ends of the interconnectors. The current framework, under which developers identify and develop new projects, has resulted in a strong pipeline of work being brought forward by the market. 7.7GW of additional capacity has been granted regulatory approval, and there is the potential for more to follow. Construction has already begun on two of these new links, to Belgium and Norway.

76. The Government agrees that trading across interconnectors is important for the UK's security of supply. Net imports through interconnectors contributed 5.8 per cent of electricity supply in 2015. Interconnection increases security of supply, reduces costs for consumers and increases the efficiency of low carbon generation. We will therefore seek to ensure that arrangements are in place that facilitate efficient cross-border trade and avoid any market distortions arising from differences in UK and EU rules. In the meantime, the Government is continuing to oversee the implementation of the European Network Codes in GB, working closely with Ofgem, National Grid and other parties.

## **Recommendation 22**

**The EU has provided substantial financial support for energy infrastructure and R&D in the UK. The Government should provide clarity to Parliament on whether funds awarded from EU schemes other than Horizon 2020 will be retained and/or underwritten. The Government should also ascertain whether access to EU financial**

**institutions and funds, including but not limited to the European Investment Bank, will be available to British applicants in the longer term. It should develop credible alternatives where this is not possible.**

77. Under the guarantee announced by the Chancellor of the Exchequer, HM Treasury has committed to underwrite competitive EU funding where recipients bid directly to the European Commission for funds.

78. Where projects are signed before the UK leaves the EU, HM Treasury will underwrite the funding even if it continues beyond the point at which the UK has left the EU. This guarantee covers all direct bid EU funding, not only Horizon 2020, but others such as the Connecting Europe Facility (CEF) which supports energy infrastructure.

79. HM Treasury has also provided assurances related to funding for structural and investment fund projects which are signed before the UK's departure from the EU and which continue after we have left the EU. Funding for these projects will be honoured by HM Treasury, so long as they provide strong value for money and are in line with domestic strategic priorities.

80. Leaving the EU means we will want to take our own decisions about how to deliver the policy objectives previously targeted by EU funding. Over the coming months the Government will consult closely with stakeholders to review all EU funding schemes in the round to ensure that any continuing funding commitments best serve the UK's national interest, whilst ensuring appropriate investor certainty.

81. While the UK remains a full member of the European Union it retains all of the rights, obligations and benefits that membership brings. So, in particular, there are no changes to European Investment Bank (EIB) lending to UK projects, though the long-term relationship between the UK and the EIB will need to be resolved as part of the UK's withdrawal from the EU.

### **Recommendation 23**

**The vote to leave has reduced already-weak investor confidence in the energy sector. The Government should promote investment by providing clear signals on the direction of domestic energy policy to be followed throughout, and after, the exit negotiations, for example through the timely publication of a detailed Emissions Reduction Plan.**

82. Response in following section.

### **Recommendation 24**

**EU-derived legislation retained in UK law will need to be reviewed and amended in the light of the UK's relationship with the EU once it has formally left. It is essential that Parliament has adequate time to fully scrutinise any proposed legislative changes. There are also questions about how relevant such laws will remain once the UK is no longer in the EU, and how enforceable they will be when the directives from which they are derived no longer apply and there is no longer any recourse to the European Court of Justice.**

83. Response in following section.

### **Recommendation 25**

The UK's departure from the EU is not expected to change the general direction of UK energy policy, since this is perceived to be driven primarily by the Climate Change Act 2008, and domestic concerns about supply security and affordability. However, the absence of external enforcement and accountability mechanisms could weaken the imperative to deliver on policy targets. EU energy and climate change policies have historically played an important role in underpinning UK policy and providing a 'double-lock' to decarbonisation commitments. This has bolstered investor confidence by providing policy stability beyond the five-year domestic parliamentary cycle. As the UK Government prepares for the exit negotiations, we set out the following guiding principles:

- a) In the absence of certainty on the status of policies derived from the EU, build investor confidence by providing clarity on the long-term strategic domestic energy and climate change policy framework.
- b) Maximise the future opportunities to cooperate with the EU and other partners to retain the UK's wider international standing in climate leadership and as a hub for low carbon innovation.
- c) Avoid a rushed decision on the Internal Energy Market. Participation is highly valued by UK stakeholders, and it is important to ensure that the energy sector has a voice in future changes to rules and regulations that may affect it after the UK has formally left the EU.
- d) Maintain the ease of UK-EU trade across interconnectors to secure supply and reduce costs, and seek tariff-free access to goods and services that supply the energy sector and low carbon manufacturing facilities.
- e) Ensure that arrangements are in place to provide the energy sector with a skilled and mobile workforce, while recognising public concerns about levels of migration.

84. The Government is currently considering all the possible options and opportunities following the result of the EU Referendum including the issues the Committee raises. The Government will consider all factors carefully in implementing the decision of the people of the United Kingdom, including the points the Committee have raised.

### **Highlights from 2015–16**

#### **Recommendation 26**

We urge our successors to press the Government on the timeline for developing its Emissions Reduction Plan to meet the fourth and fifth carbon budgets. Delaying the publication and implementation of a robust plan risks further uncertainty on the direction of UK energy and climate policy which could damage investor confidence and call into question the UK's ability to meet its long-term decarbonisation targets. Our report, *Investor confidence in the UK energy sector*, set out a number of

**detailed recommendations and questions that remain ignored by Government. The Government's engagement with this report has been wholly inadequate, and we urge our successors and other Members to continue to press for an adequate response.**

85. The Government acknowledges that investor confidence is a matter of significant importance and that it is imperative that the energy sector continues to attract private financing over the next decade.

86. The ECC Committee published a wide range of recommendations and questions in its report. The Government reviewed the report in detail and has since published [recent announcements e.g CFD next round £290m, £730m for renewables over the parliament). It is important to note that on a number of the Committee's recommendations, the Government has not yet published the details as these are areas of ongoing policy work by the new Government and its ministers. These include:

- a) Publication of the Emissions Reduction Plan
- b) Carbon price floor beyond 2020; and
- c) Policy tools (including the Levy Control Framework) beyond 2020.

87. We recognise the Emissions Reduction Plan will form an important signal to the markets, businesses and investors. We want to invest the time now to undertake critical preparatory work to ensure we get this right. This includes engaging across businesses, industry and other stakeholders on the shared challenge of moving to a low carbon economy.

88. The transition to the low carbon economy offers real economic and investment opportunities that we will also be working to maximise as part of the Industrial Strategy, for example cutting energy use can cut costs and raise productivity, as well as cut emissions, and developing low carbon sectors such as offshore wind, storage and nuclear offer huge economic opportunities for the UK. The merger of the business and energy portfolios under the Department for Business, Energy and Industrial Strategy is a significant opportunity to develop cohesive policies for all UK businesses in this area.