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Business, Energy and Industrial
Strategy Committee

Leaving the EU: negotiation priorities for energy and climate change policy

Fourth Report of Session 2016–17

*Report, together with formal minutes
relating to the report*

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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.

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Summary

This Report is intended to inform the public and to influence the Government's negotiations on leaving the European Union in respect of energy and climate change policy.

Neither the referendum campaign, nor the evidence we have received, revealed widespread concerns that EU membership is damaging UK energy competitiveness or adversely affecting consumers. Whilst there are undoubtedly weaknesses in the operation of some EU policies on energy and climate change, notably the EU Emissions Trading System (ETS), the Secretary of State, the Rt Hon Greg Clark MP, acknowledged that co-operation with EU partners was generally mutually beneficial. The UK has consistently been a driver of high standards and ambitious climate change targets.

In the short term, we recommend that the Government, as part of its negotiations, seeks to avoid disruption to the energy sector and the domestic climate change agenda. Arrangements mirroring the status quo should be sought and implemented as far as possible. The Government should seek to provide as much clarity and stability as possible on domestic policy to support investment. In particular, we recommend that the Government should seek to maintain ongoing access to the Internal Energy Market, and resolve the particular difficulties faced by Northern Ireland, as it shares a single electricity market with the Republic of Ireland. We also recommend that the Government seeks to retain membership of the EU ETS until at least 2020. Longer term membership of the EU ETS should be conditional on progress of its future reform.

In the longer term, we are concerned that the UK will become a "rule taker" outside the EU, complying with, but unable to influence, rules and standards. If our formal standards diverge too far from those applying in European countries, there is a risk that the UK could become a dumping ground for energy inefficient products. We recommend that the Government retains or mirrors European energy product standards for the immediate future at least and should also, as far as possible, maintain routes to influence their development, for example through active UK participation in European standards bodies.

The Government has said that the UK will be leaving Euratom as a consequence of the referendum result. We share the concern of the nuclear industry that new arrangements for regulating nuclear trade and activity will take longer than two years to set up. We therefore recommend that the Government seeks to delay exit from Euratom, if necessary, to be certain that new arrangements can be in place on our departure from the EU.

Many of the biggest decisions in relation to energy and climate change policy are long term and not dependent on the outcome of negotiations. Brexit must not be allowed to distract the Government from the delivery of essential and long-term domestic policy decisions, such as the Clean Growth Plan, nor to undermine the Government's commitment to meeting emissions reduction targets, which are enshrined in domestic legislation. We recommend that the Government provides a clear and long-term vision for the UK energy sector to support investor confidence and that this should underpin its negotiating objectives.

1 Introduction

UK–EU integration on energy and climate change policy

1. The energy and climate change policies of the UK are closely aligned with those of the EU, and our energy sectors are integrated through trade, directives and interconnection of energy supply. Successive UK governments have championed a harmonised EU energy market characterised by competition, reduced consumer prices and increased security of supply, for the benefit of the country.¹ On climate change, the UK acts both domestically and internationally, in accordance with the Climate Change Act 2008 and EU climate-related directives.² This dual approach was reflected when the UK signed the 2015 UN Climate Change agreement (the ‘Paris Agreement’) as both a national signatory and as part of the EU ‘bloc’.

2. The UK has also led the development of the EU’s coordinated approach to emissions reductions. The Committee on Climate Change has recommended that the UK should continue to adhere to those EU policies and schemes that are working effectively. It has stated that if the UK is to remain on track to meet its target to reduce emissions by at least 80% of 1990 levels by 2050, some 55% of the emissions reductions required by 2030 would be achieved by retaining or replicating EU policies and initiatives, such as product and efficiency standards, the EU Emissions Trading System and sectoral targets.³

Our inquiry

3. Immediately after the referendum the Energy and Climate Change (ECC) Select Committee launched two parallel inquiries into the implications of leaving the EU on energy and climate change policy. This work was cut short by the Committee’s abolition in October 2016, and the creation of the Business, Energy and Industrial Strategy Committee, to reflect the changed departmental structure introduced by the new Prime Minister. Initial findings from the written evidence received were published in the ECC Committee’s final Report.⁴ The Committee highlighted several policy areas that could be significantly affected by the UK’s departure but did not have the opportunity to investigate these in detail and assess negotiating priorities accordingly.

4. On 18 November 2016 we launched our inquiry, *Leaving the EU: negotiation priorities for energy and climate change policy*, to build on the ECC Committee’s initial findings. We sought to focus on identifying the Government’s priorities on energy and climate change when negotiating the UK’s exit from the EU.⁵ In response to our call for evidence, we received 38 written submissions and held five oral evidence sessions between January

1 See for example: House of Lords EU Sub-Committee D, [No country is an energy island: Securing investment for the EU’s future](#), (HL Paper 161; May 2013). This concluded that there are “clear benefits to be derived from working within the EU on the energy challenge.”

2 [The Climate Change Act 2008](#) includes a commitment for the UK to achieve an 80% reduction in emissions by 2050 relative to 1990 levels. It established a regime of 5 year ‘carbon budgets’ - milestones to achieving the 2050 target.

3 Committee on Climate Change, [Meeting Carbon Budgets – Implications of Brexit for UK climate policy](#), (October 2013)

4 Energy and Climate Change Committee, Third Report of Session 2016–17, [The energy revolution and future challenges for UK energy and climate change policy](#), HC 705

5 Full Terms of Reference can be found on the Committee’s website.

and April 2017. These were in addition to the 129 submissions received by the ECC Committee, which we have also reconsidered. We are grateful to all those who took the time to contribute to the inquiries.

5. During this inquiry the Government has made steps in progressing the UK's departure from the EU. The Prime Minister set out twelve guiding principles for the negotiations on 17 January 2017, in her Lancaster House speech.⁶ These were built upon on 2 February by a White Paper, *The United Kingdom's exit from and new partnership with the European Union*.⁷ On 29 March, the Prime Minister wrote to the European Council President, Donald Tusk, to give formal notification of the UK's intention to leave.⁸ According to Article 50 of the Treaty on the European Union, this means that the UK will depart the EU no later than 29 March 2019.⁹ Immediately after the UK's notification, the European Council and European Parliament published their own draft principles for the negotiations.¹⁰

6. Following the decision of the House to support the Prime Minister's intention to hold a General Election on 8 June, we brought our inquiry to a conclusion before the Dissolution of Parliament. This Report provides recommendations on energy and climate change negotiation priorities for the new Government, and for all parties to consider in shaping their positions on our departure from the EU.

7. Chapter 2 of this Report summarises the negotiation parameters relevant to energy and climate change policy that have been set out by the UK Government, the European Council and the European Parliament. Chapter 3 explores the role of the Internal Energy Market in the UK energy system, with Chapter 4 examining the specific relevance of this to Northern Ireland. Chapter 5 discusses the role of the EU Emissions Trading System in our decarbonisation strategy. In Chapter 6, we investigate the implications of the Government's decision to leave Euratom alongside our departure from the EU. Chapter 7 assesses the potential effects of Brexit on investment and the realisation of the Government's ambitions for the energy sector, while its effects on wider European energy efficiency legislation and consumer protection is considered in Chapter 8. In Chapter 9 we provide an overview of cross-cutting issues that affect energy and climate change policy as a whole.

Climate change policy

8. Due to the constraints of time and in recognition of the work of the ECC Committee, we have not in this inquiry pursued certain non-controversial aspects of climate change policy. These include the EU Effort Sharing Decision, the UK's joint pledge with the EU under the Paris Agreement, and options to retain UK influence in international climate change negotiations. We share the view of many witnesses to our inquiry that the one of the best approaches for the UK to maximise its future influence in international climate

6 ["The government's negotiating objectives for exiting the EU"](#), Prime Minister's speech, 17 January 2017

7 Department for Exiting the European Union, [The United Kingdom's exit from, and new partnership with the European Union](#), Cm 9417, 2 February 2017

8 Letter, [Prime Minister to President of the European Union to trigger Article 50](#), 29 March 2017

9 [Article 50](#)

10 [Brexit: red lines and starting principles](#), Briefing paper 7938, House of Commons Library, 31 March 2017

negotiations is through leadership by example on domestic policy.¹¹ We have also not covered renewable energy in depth but clearly it is an important policy area, both as a means of meeting our emission reduction targets and for the success of the future green economy.

11 Chatham House-UKERC ([LEU0006](#)); Renewable Energy Association ([LEU0009](#)); Institution of Engineering and Technology ([LEU0010](#)); The Prince of Wales's Corporate Leaders Group ([LEU0012](#)); Polar Research and Policy Initiative ([LEU0016](#)); DONG Energy UK ([LEU0021](#)); Dairy UK ([LEU0027](#)); Oil & Gas UK ([LEU0032](#)); New Nuclear Watch Europe ([LEU0033](#)); Energy Saving Trust ([LEU0035](#))

2 Negotiating parameters for energy and climate change

The Government's general negotiating parameters

9. In her Lancaster House speech, the Prime Minister announced that the UK will pursue a “new, comprehensive, bold and ambitious Free Trade Agreement with the EU”.¹² The Government's guiding principles for the negotiations were set out in a White Paper and the letter to Donald Tusk, the President of the European Council, notifying the EU of the UK's departure. The White Paper stated that the Government “is considering all options for the UK's future relationship with the EU on energy”.¹³ Other general Government negotiating objectives likely to affect negotiations on energy and climate change include:

- ending the jurisdiction of the European Court of Justice in the UK, and seeking a new approach for dispute resolution and interpretation of agreements with the EU;
- leaving the Single Market;
- controlling the number of people immigrating to Britain from the EU;
- ending our current membership model in the Customs Union, and specifically leaving the Common Commercial Policy and the Common External Tariff, with no aim to replicate existing customs arrangements between the EU and third parties;
- making no contributions to the EU budget, although the UK will make ‘appropriate contribution’ to any EU programmes in which we participate;
- agreeing the terms of our future partnership alongside those of our withdrawal; and
- converting the body of existing EU law (the ‘*acquis*’) into British law at the point of our departure, and allowing Parliament to decide any future changes to that law.¹⁴

10. In her Lancaster House speech, the Prime Minister also indicated:

- a possibility to adopt “elements of current single market arrangements in certain areas”, for example for the production of cars and lorries as well as for financial services; and
- a possible option to “become an associate member of the Customs Union in some way, or remain a signatory to some elements of it”.¹⁵

12 [“The government's negotiating objectives for exiting the EU”](#), Prime Minister's speech, 17 January 2017

13 Department for Exiting the European Union, [The United Kingdom's exit from, and new partnership with the European Union](#), Cm 9417, 2 February 2017

14 Department for Exiting the European Union, [The United Kingdom's exit from, and new partnership with the European Union](#), Cm 9417, 2 February 2017; [“The government's negotiating objectives for exiting the EU”](#), Prime Minister's speech, 17 January 2017; Letter, [Prime Minister to President of the European Union to trigger Article 50](#), 29 March 2017

15 [“The government's negotiating objectives for exiting the EU”](#), Prime Minister's speech, 17 January 2017

The EU's negotiation parameters

11. The European Council and the European Parliament's published draft principles for the negotiations in some cases conflict with those of the Government. Key draft European principles for energy and climate change include:

- membership of the Single Market and the Customs Union entails acceptance of the four freedoms, the jurisdiction of the European Court of Justice, budgetary contributions and adherence to common commercial policy;
- a non-EU member without the obligations of a Member State cannot have the same (or similar) rights and benefits as a Member State;
- the Council is prepared to work towards an ambitious free trade agreement with the UK, to be concluded after the UK's departure, but this cannot amount to participation in the Single Market;
- participation in the Single Market on a sectoral basis is not allowed;
- a future relationship could be framed in terms of an association agreement;
- any future agreement will be conditional on the UK's continued adherence to the standards provided by international obligations, including EU legislation and policies on the environment, climate change, fair competition, trade and social policy, and tax evasion; and
- the UK must continue to enjoy its rights and respect its obligations under EU Treaties until it leaves.¹⁶

12. With regards to the scheduling of discussions, the European bodies have said that:

- discussions on our future relationship cannot be held until the terms of the UK's withdrawal are settled, and agreement on our future relationship cannot be concluded until the UK has withdrawn from the EU;
- negotiations can be held on transitional arrangements of up to three years, but only if and when good progress has been made towards the withdrawal agreement; the European Court of Justice must be responsible for settling legal challenges brought under transitional arrangements; and
- no separate negotiations can be held between individual Members States and the UK on withdrawal manners.¹⁷

There are clearly substantial differences in the starting positions of the two sides in the negotiation, as is to be expected. In making recommendations in this Report, we have sought to take into account these overarching parameters and the inevitable lack of certainty around the eventual outcome.

16 European Parliament, Draft Motion for Resolution, [negotiations with the United Kingdom](#), B8-0000/2017, 29 March 2017

17 Council of the European Union, [Note on draft guidelines following the United Kingdom's notification under Article 50](#), 31 March 2017

3 The Internal Energy Market

13. The Internal Energy Market (IEM), also known as the Single Energy Market,¹⁸ is a long-term project to liberalise and harmonise the energy markets of individual EU Member States, in which the UK has played a leading role.¹⁹ Between 1996 and 2009 the EU adopted three legislative packages on: market access; transparency and regulation; consumer protection and interconnection; and adequate levels of supply. These have enabled new gas and electricity suppliers to enter Member States' markets, and have ensured that both domestic and industrial consumers are free to select their own suppliers. Related EU policies focus on the security of energy supplies and the construction of trans-European networks to transport gas and electricity.²⁰ New ambitions to realise a "fully-integrated internal energy market" were laid out in the EU Energy Union Strategy,²¹ launched in February 2015.²² The fully-integrated IEM will use interconnectors to allow unconstrained trade of energy across the EU, with the intention of maximising competition.

14. Over one-third of the witnesses responding to our inquiry said that the UK should seek to remain in the IEM.²³ Several listed advantages of IEM participation and the detrimental effects of leaving, but without explicitly stating that we should remain. A small number said that Brexit provided an opportunity to reform the IEM.²⁴ No witnesses suggested that it would be preferable for the UK to leave the IEM. These views are broadly in line with the evidence provided to the ECC Committee.²⁵

15. When asked about the implications of leaving the IEM, the Secretary of State for Business, Energy and Industrial Strategy, the Rt Hon Greg Clark MP, appeared to imply that it would be in the country's best interests to remain in:

It is very much in our interest that we not only continue to participate in the energy market and expand those interconnections [to Europe], but

18 The term 'single energy market' is interchangeably used by respondents to denote the IEM in its current form, and the IEM in its future fully-integrated status. For clarity we use the terms IEM and fully-integrated IEM throughout this report.

19 Chatham House ([EUE0016](#)); UK Energy Research Centre ([EUE0026](#)); EDF Energy ([EUE0033](#)); Renewable Energy Association ([EUE0066](#)); E.ON UK ([EUE0073](#)); Oil & Gas UK ([EUE0075](#)); University of Cambridge ([LEU0005](#)); National Grid ([LEU0026](#)); Ofgem ([LEU0031](#)); Aldersgate Group ([LEU0038](#))

20 European Parliament, [Fact sheets on the European Union: Internal Energy Market](#), accessed 27 September 2016

21 The EU Energy Union Strategy aims to coordinate the transition of the European energy system to one that is low carbon, competitive and secure. It is based around the five interrelated principles of: security of supply, a fully-integrated internal energy market, energy efficiency, climate action - emission reduction, and research and innovation. European Commission, [Priority: Energy Union and Climate](#), accessed 27 September 2016.

22 European Commission, A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy [COM/2015/080](#), February 2015

23 Aldersgate Group ([LEU0038](#)); British Ceramic Confederation ([LEU0020](#)); Centrica ([LEU0042](#)); Dairy UK ([LEU0027](#)); DONG Energy UK ([LEU0021](#)); E3G ([LEU0017](#)); EDF Energy ([LEU0024](#)); Interconnector UK ([LEU0023](#)); New Nuclear Watch Europe ([LEU0033](#)); Nuclear Industry Association ([LEU0013](#)); Polar Research and Policy Initiative ([LEU0016](#)); Renewable Energy Association ([LEU0009](#)); RSPB ([LEU0011](#)); University of Cambridge ([LEU0005](#))

24 Energy UK ([LEU0040](#)); Interconnector UK ([LEU0023](#))

25 The ECC Committee noted that: "Almost 70% of witnesses highlighted the UK's relationship with the IEM as an importance influence on the future cost, security and decarbonisation objectives of the British energy system. 53% of witnesses were in favour of continued access to the IEM or the single market more broadly. 17% noted the importance of the issue, but did not provide a clear preference for the UK's future relationship. No witnesses suggested that the UK should leave the IEM." Energy and Climate Change Committee, Third Report of Session 2016-17, [The energy revolution and future challenges for UK energy and climate change policy](#), HC 705.

especially in places like Northern Ireland that is of very great importance. It follows from that that it would be better if we continue and it would be a bad thing if that were to be disrupted.²⁶

UK energy interconnection and trade with the EU

The European Network Codes and cross-border trading

16. The UK has been a net energy importer since 2004, in the wake of declining North Sea oil and gas production.²⁷ In 2015, 38% of energy used in the UK was imported.²⁸ Roughly half of our gas is imported, with typically 30% of imports from Norway, 10% from the EU, and 10% from liquefied natural gas.²⁹ Around 6% of our electricity supply in 2015 was imported from the EU.³⁰ The UK has 4GW of high-voltage electricity cables, and four natural gas pipelines, interconnected to the EU.³¹ Trading gas and electricity across these interconnectors is governed by European Regulations that underpin the IEM.³² In particular, the European Network Codes, developed by the European Network of Transmission System Operators for Electricity (ENTSO-e) and European Network of Transmission System Operators for Gas (ENSTOG), set out the detailed operational rules. This regulatory framework aims to maximise the efficient use of interconnectors for cross-border energy trading.³³

17. Over a third of witnesses highlighted the importance of the IEM and the European Network Codes for energy trading via interconnectors.³⁴ Many noted that any restrictions could reduce security of supply, increase energy costs and prices, and make it harder to achieve our decarbonisation goals cost-effectively.³⁵ For example, Martijn van Gemert, a Committee member of the European Federation of Energy Traders, told us that

You do not want to have different rules on each side of the border. We do not want to harmonise all the rules just for the sake of harmonising but, if you harmonise the rules, it will lead to more efficiency and more use of the physical interconnection.³⁶

26 Q249

27 UK Energy Research Centre ([EUE0026](#))

28 Digest of UK Energy Statistics ([DUKES](#)) 2016, p11

29 Q6 [Paul Hallas]

30 Digest of UK Energy Statistics ([DUKES](#)) 2016, p115

31 Ofgem ([LEU0031](#))

32 Ofgem ([LEU0031](#))

33 Q7 [Phil Sheppard, Martijn van Gemert]

34 Chatham House-UKERC ([LEU0006](#)); Institution of Engineering and Technology ([LEU0010](#)); Royal Society for the Protection of Birds ([LEU0011](#)); Prince of Wales's Corporate Leaders Group ([LEU0012](#)); Nuclear Industry Association ([LEU0013](#)); E3G ([LEU0017](#)); British Ceramic Confederation ([LEU0020](#)); Interconnector UK ([LEU0023](#)); EDF Energy ([LEU0024](#)); National Grid ([LEU0026](#)); Ofgem ([LEU0031](#)); New Nuclear Watch Europe ([LEU0033](#)); Aldersgate Group ([LEU0038](#)); Centrica ([LEU0042](#))

35 Chatham House-UKERC ([LEU0006](#)); Royal Society for the Protection of Birds ([LEU0011](#)); Prince of Wales's Corporate Leaders Group ([LEU0012](#)); E3G ([LEU0017](#)); British Ceramic Confederation ([LEU0020](#)); Dong Energy ([LEU0021](#)); Interconnector UK ([LEU0023](#)); National Grid ([LEU0026](#)); Oil & Gas UK ([LEU0032](#)); New Nuclear Watch Europe ([LEU0033](#)); Energy UK ([LEU0040](#)); Centrica ([LEU0042](#))

36 Q7

18. The Government has said that it will seek to maintain efficient cross-border trading of energy and avoid any market distortions arising from differences in UK and EU rules.³⁷

The role of increased interconnection in managing intermittent generation

19. Improved efficiency in trading gas and electricity is important not only in supporting security of supply and driving down energy prices, but also in supporting access to flexible supplies to help manage the network and support greater deployment of intermittent generation by renewable technologies.³⁸ The Committee heard from Antony Froggatt, Senior Research Fellow at Chatham House, that interconnectors would become increasingly important in providing this flexible supply when the system is dominated by renewables:

There are times of the year when you will be wanting to get energy from other parts of the system. In terms of when the wind is blowing in Norway or Denmark, the electricity may be cheaper and it may be good for us to be able to access that. Likewise we may want to export electricity when we have particular conditions. However, in the winter months when there is less sun, if we have a system that has lots of solar on the grid, we may want to be importing more from other places. Having that flexibility to enable you to import electricity from other parts of the world or other parts of the continent is really important.³⁹

20. These views were echoed by the Secretary of State, who told us that interconnection is important when there are lots of different sources of power that can offset some of the intermittency that comes from renewables. He said: “The ambitions are to go higher; to go more into interconnection”.⁴⁰

Financial benefits

21. Several reports have sought to estimate the benefits of the improved efficiency of the IEM.⁴¹ The UK benefits from harmonised rules for trading electricity, through ‘market coupling’ whereby electricity is traded across the EU without the need to separately purchase interconnector capacity. This was estimated by a report for National Grid to be worth about £90m every year.⁴² This is based on current levels of UK electricity interconnection. Further benefits were estimated to be of around £80–100m every year by the early 2020s, as a result of more efficient use of interconnectors to help keep the UK network stable in real time. (This assumes that alternative bilateral arrangements are not possible.)⁴³

37 Department for Business, Energy and Industrial Strategy ([LEU0036](#)); Business, Energy and Industrial Strategy Committee, Fourth Special Report of Session 2016–17, *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* HC 945

38 E3G ([EUE0011](#)); Energy Networks Association ([EUE0041](#)); Dong ([EUE0051](#)); Renewable Energy Systems Ltd ([EUE0059](#)); Vattenfall ([EUE0074](#)); Chatham House UKERC ([LEU0006](#)); E3G ([LEU0017](#)); National Grid ([LEU0026](#))

39 Q184

40 Q230

41 Chatham House UKERC ([LEU0006](#)); Table 1: Economic Impacts of Internal Energy Market

42 As above

43 As above

22. National Grid told the Committee that the report concluded UK consumers could face £500 million a year of costs by the early 2020s as a result of being outside the IEM.⁴⁴ We were told by Paul Hallas, Director of Regulation and Strategy at Centrica, that these numbers are “at the bleak end of the plausible envelope of possible outcomes”.⁴⁵

23. The benefits of efficient cross-border trading are not restricted to the UK. Increased integration of the European electricity market is estimated to save about €4bn every year across the EU. Further benefits of sharing resources to balance the network in real time between countries range from €5bn to €43bn by 2030.⁴⁶ Describing the mutual benefits, Martijn van Gemert told us:

You saw in one day that the power flows were such that the UK was helping the continent by exporting to France and the Netherlands during times of high demand, where they had some problems with their nuclear power plants in France. A few hours later, the direction was totally reversed to help the peak hours in the UK when demand was at its highest.⁴⁷

24. The Government should be prepared to provide estimates of financial costs and benefits arising from the outcome of its negotiations regarding interconnectors.

Opportunities and risks for the UK of leaving the Internal Energy Market

Security, efficiency and competitiveness of energy supplies

25. We sought to explore the potential benefits and risks of leaving the IEM. National Grid told the Committee the decision to leave the EU presents no immediate risk to how National Grid operates the UK energy system or the UK’s security of supply.⁴⁸ In terms of power supply, rather than affecting our security of supply (which could be supported through greater domestic generation) the Committee heard that the risk lies more in increasing consumer costs. Kevin Dibble, Director of Strategy and Communications at Engie UK, explained that:

There is a risk down the line, if any of those risks were to materialise, that those trading arrangements are not as efficient as they are today, which would affect the case for interconnection and would potentially impact somewhere down the line on cost to consumers.⁴⁹

26. In relation to the gas market, witnesses noted that as well as the benefits of efficient trading rules the EU also supports price stability and security by negotiating with other

44 Q10 [Phil Sheppard]

45 Q11

46 D. Newbery, G. Strbac, I. Viehoff (2015), [The benefits of integrating European electricity markets](#), Energy Policy Research Group, Working paper 1504, University of Cambridge, cited by Chatham House UKERC (LEU0006); Table 1: Economic Impacts of Internal Energy Market. This estimate is based on implementation of ‘market coupling’ whereby electricity is traded across the EU without the need for a separate purchasing of interconnector capacity.

47 Q12

48 National Grid ([EUE0079](#))

49 Q23

gas producing countries and internal EU coordination.⁵⁰ In particular National Grid said that a possible effect of Brexit might be exclusion from the EU's 'solidarity principle',⁵¹ increasing the risk of a gas supply crisis.⁵² However, the University of Cambridge stated that Great Britain is one of the best-connected countries to all sources of gas, and our participation in any security of supply initiatives is a net positive for Europe which should be acknowledged as part of the negotiations.⁵³

27. A small number of witnesses highlighted potential benefits of leaving the Internal Energy Market if the UK were no longer subject to EU state aid rules.⁵⁴ This would allow greater freedom to support infrastructure investment. However, E3G warned that any relaxation of state aid rules, designed to protect competition between Member States, would likely result in the imposition of tariffs and reduced UK access to the single market.⁵⁵ Some witnesses noted that state aid rules have been important for supporting efficient investment in UK renewables, which we explore further in chapter 7.

28. Some UK generators and trade associations see some current distortions in the UK power market, due to interconnectors not being subject to network charges or UK policy costs such as the Carbon Price Floor.⁵⁶ Energy UK suggested that:

Whilst Energy UK members are supportive of more economic and efficient electricity interconnection [...] [l]eaving the IEM might present the opportunity to reconsider the policy and regulatory distortions faced by GB generators and electricity traded over the interconnectors.⁵⁷

Ongoing influence over Internal Energy Market rules

29. Many witnesses highlighted the importance of retaining influence over future changes to the Internal Energy Market,⁵⁸ and continuing to engage with current draft legislation, such as the "Clean Energy Package" whilst we remain in the EU.⁵⁹ Several highlighted examples of changes currently being proposed by the EU that could be damaging for the

50 Chatham House ([EUE0016](#)); Storengy UK ([EUE0028](#)); Centre for Energy, Petroleum and Mineral Law and Policy ([EUE0044](#)); EEF, the Manufacturers Organisation and UK Steel ([EUE0062](#)); AES UK & Ireland ([EUE0065](#)); E.ON ([EUE0073](#)); Dong ([LEU0021](#))

51 The 'solidarity principle' is a policy designed to ensure that Member States receive immediate assistance in the event of a gas supply crisis.

52 National Grid ([EUE0079](#))

53 University of Cambridge ([LEU0005](#))

54 VPI Immingham ([EUE0012](#)); Rolton Group Ltd ([EUE0018](#)); Ricardo Energy & Environment ([EUE0035](#)); Centre for Energy, Petroleum, and Mineral Law and Policy ([EUE0044](#)); InterGen ([EUE0049](#)); EEF, the Manufacturers Organisation and UK Steel ([EUE0062](#)); Energy Institute ([EUE0063](#)); New Nuclear Watch Europe ([LEU0033](#)); University of Cambridge ([LEU0005](#))

55 E3G ([EUE0011](#))

56 ENGIE ([EUE0043](#)); InterGen ([EUE0049](#)); ADBA ([EUE0053](#)); ScottishPower ([EUE0067](#)); E.ON UK ([EUE0073](#)); Dong ([LEU0021](#)); Energy UK ([LEU0040](#))

57 Energy UK ([LEU0040](#))

58 National Farmers Union ([EUE0013](#)); ELEXON Limited ([EUE0014](#)); Chatham House ([EUE0016](#)); School of Law, University of Reading ([EUE0024](#)); Genserv ([EUE0025](#)); EDF Energy ([EUE0033](#)); Energy Networks Association ([EUE0041](#)); Aldersgate Group ([EUE0050](#)); European Federation of Energy Traders ([EUE0056](#)); EEF, the Manufacturers Organisation and UK Steel ([EUE0062](#)); Energy Institute ([EUE0063](#)); ScottishPower ([EUE0067](#)); UK Onshore oil and gas (UKOOG) ([EUE0072](#)); Vattenfall ([EUE0074](#)); Oil & Gas UK ([EUE0075](#)); National Grid ([EUE0079](#)); Institution of Engineering and Technology ([LEU0010](#)); Interconnector UK ([LEU0023](#)); National Grid ([LEU0026](#)); Oil & Gas UK ([LEU0032](#)); Energy UK ([LEU0040](#)); Centrica ([LEU0042](#))

59 Genserv ([EUE0025](#)); Energy Networks Association ([EUE0041](#)); National Grid ([EUE0079](#)); Renewable Energy Association ([LEU0009](#)); Energy UK ([LEU0040](#))

UK.⁶⁰ Oil & Gas UK suggested that ongoing influence would be important because the physical links between the UK and EU energy systems could mean that Internal Energy Market compliance becomes the *de facto* option, irrespective of our membership status.⁶¹

30. In order to maintain influence, the Government has said that Ofgem and National Grid should seek to retain membership of the Agency for the Cooperation of Energy Regulators (ACER), ENTSO-e and ENTSOG, a view shared by a number of witnesses.⁶² Ongoing input into the design of the European Network Codes was considered to be especially important if the UK remains in the IEM.⁶³ It is not clear whether we would be allowed to retain full membership in practice, but alternative options could be to retain observer status in ACER,⁶⁴ and to seek to participate ‘informally’ in working groups, a privilege that Norway currently enjoys.⁶⁵ The UK Transmission System Operators could continue to participate in ENTSO-e and ENTSOG, although voting rights would be reduced.⁶⁶

31. Chatham House suggested that the UK’s influence would be further eroded were the UK to leave the Internal Energy Market:

the only remaining formal channel of influence for the UK would be ENTSOE/G: [the Transmission System Operators], which are independent of government and [the regulatory authority], and would only be able to influence technical matters, which could in any case be overturned by ACER, where Ofgem would have no influence. This could lead to the UK Government losing its voice entirely in EU regulatory matters.⁶⁷

32. Both the Secretary of State and Nick Winser, Deputy President of the Institution of Engineering and Technology and a former President of ENTSO-e, were more optimistic about our ongoing influence. Nick Winser told us:

ENTSO-E has 34 countries in it, so it already includes six non-EU countries [...] those organisations are absolutely critical to [the Internal Energy Market]. They have put in place the markets; they have put in place the codes; they put in place system-operation co-operation, and they take a view on long-term system planning.⁶⁸

60 These include proposals for harmonising gas quality and the time periods for settling power trades across the EU, and concerns of growing activism in the upstream oil and gas sector that could affect the North Sea industry. Gemserv ([EUE0025](#)); E.ON UK ([EUE0073](#)); Oil & Gas UK ([EUE0075](#)); Energy UK ([LEU0040](#)); Centrica ([LEU0042](#))

61 Oil & Gas UK ([LEU0032](#))

62 Business, Energy and Industrial Strategy Committee, Fourth Special Report of Session 2016–17, *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* HC 945; University of Cambridge ([LEU0005](#)); Chatham House-UKERC ([LEU0006](#)); Institution of Engineering and Technology ([LEU0010](#)); Interconnector UK ([LEU0023](#)); National Grid ([LEU0026](#)); Ofgem ([LEU0031](#)); Energy UK ([LEU0040](#)); Centrica ([LEU0042](#))

63 ELEXON Limited ([EUE0014](#)); EDF ([EUE0033](#)); Energy Networks Association ([EUE0041](#)); European Federation of Energy Traders (EFET) ([EUE0056](#)); ScottishPower ([EUE0067](#)); Energy Institute ([EUE0063](#)); Chatham House-UKERC ([LEU0006](#)); Centrica ([LEU0042](#))

64 Chatham House-UKERC ([LEU0006](#)); Ofgem ([LEU0031](#)) Plans are underway to extend the option of full ACER membership to national regulators from non-EU Member States, but progress with this has stalled in recent months.

65 Ofgem ([LEU0031](#))

66 Chatham House-UKERC ([LEU0006](#))

67 As above

68 Q206

33. The Secretary of State focussed on opportunities to retain influence in technical areas, explaining:

When it comes to some of these technical matters, the UK's expertise and standing has proved very useful, by common consent, to everyone in these arrangements. I do not think it is necessarily the case that we would not be able to continue to have an influence where we have things to contribute and in an area in which we can do it, as energy is, in a constructive way, such as the technical codes. I think it is the case that in some of the interconnections with nonEU member states—Norway, for example—they do have some influence on the codes.⁶⁹

34. Alongside the EU's official groupings of energy regulators and system operators (ACER, ENTSO-E and ENTSOG), several witnesses suggested that the UK could seek to retain influence through participation in organisations such as the Council of European Energy Regulators (CEER), Gas Infrastructure Europe (GIE), and the European Standards bodies (which fall outside the EU).⁷⁰ More generally, National Grid suggested that the UK should aim to work closely with countries that still have EU voting rights.⁷¹

Alternative arrangements

35. Some witnesses noted that if membership of the Internal Energy Market is not feasible, a second-best option would be to retain unrestricted energy trade between the UK and Europe, or seek 'third party' access to the Market.⁷² Some witnesses suggested that the UK could also seek to remain a member of the Energy Community⁷³ or to expand the membership and remit of the Energy Union.⁷⁴ The University of Cambridge suggested that energy cooperation could be reframed as an issue of security rather than trade, and an energy security treaty could be established with neighbouring countries.⁷⁵ Several witnesses were, however, concerned that it could take a long time to set up new trading arrangements if we leave the IEM, and that this would be a complex process.⁷⁶

36. It is not obvious that alternative arrangements to the IEM would provide any particular opportunities or benefits. As Paul Hallas, Director of Regulation and Strategy at Centrica, told us:

The arrangements that we currently have, and that the Government intend to retain through the Great Repeal Bill [...] look like the most efficient ways to trade energy cross-border, with benefits on both sides.⁷⁷

69 Q239

70 Institution of Engineering and Technology ([LEU0010](#)); Interconnector UK ([LEU0023](#)); Ofgem ([LEU0031](#))

71 National Grid ([LEU0026](#))

72 New Nuclear Watch Europe ([LEU0033](#)); Oil & Gas UK ([LEU0032](#)); Renewable Energy Association ([LEU0009](#))

73 E3G ([LEU0017](#)); Institution of Engineering and Technology ([LEU0010](#)); University of Cambridge ([LEU0005](#)). The Energy Community is an international organisation dealing with energy policy, established by an international treaty in 2005. The Energy Community aims to extend the EU internal energy market to South East Europe and beyond on the basis of a legally binding framework.

74 Q211 [Antony Froggatt]; Q218 [Antony Froggatt]. The Energy Union is an EU strategy to improve the security, affordability and sustainability of energy supplies.

75 University of Cambridge ([LEU0005](#))

76 Vattenfall ([EUE0074](#)); Institution of Engineering and Technology ([LEU0010](#)); National Grid ([LEU0026](#))

77 Q31

Conclusions on membership of the Internal Energy Market

37. We have heard evidence from across the energy and wider industries that access to the Internal Energy Market is important for secure, clean, and affordable UK energy supply, and that it is in the interests of both UK and EU consumers to facilitate the most efficient sharing of energy resources established through the Internal Energy Market.

38. There are some technical differences between the UK and EU energy systems, and therefore there is a potential long term risk of the UK losing influence on the design and detailed rules underpinning the Internal Energy Market in order to access and share energy resources. Some witnesses have also raised concerns that network charges and the UK Carbon Price Floor may be distorting competition in favour of interconnection and continental generation.

39. We believe that membership of the Internal Energy Market has been beneficial to UK and EU consumers and has helped provide flexibility and certainty to the supply of energy. We therefore agree with the Government's intention to retain as free as possible access to this market and the intention to remain an influential player on energy in the EU.

40. *We recommend that the Government seeks continued access to the Internal Energy Market, with no accompanying tariffs or barriers to trade. This should include continued participation in the trading arrangements established by the European Network Codes to ensure the most efficient operation of UK interconnectors.*

41. *We recommend that the Government should seek continued UK influence over the rules of the Internal Energy Market. In particular it should explore continued full membership of the technical institutions for developing the detailed rules of the Internal Energy Market.*

4 Northern Ireland

Introduction

42. Energy policy is largely devolved to the Northern Ireland Executive, and the sector has significantly different characteristics to those in Great Britain. In terms of power, it has three major fossil-fuel based power plants and a number of renewable generators making up its indigenous production.⁷⁸ Interconnection with the Republic of Ireland and Scotland help to maintain its secure supply of electricity, with imports from the two countries together providing around 15% of its power in 2014.⁷⁹

43. The gas markets of Northern Ireland and the Republic are separate. However, both rely almost exclusively on importing gas from Great Britain. Together, Northern Ireland and the Republic of Ireland received about 62TWh of gas from Scotland in 2015, accounting for nearly 100% of their gas demand.⁸⁰ The land border between the UK and the EU in Northern Ireland presents important challenges in determining our new relationship with the EU. These challenges apply to the energy sector, just as much to other aspects of trade. The Brexit White Paper states that the Government will aim to avoid disruption to the all-island Single Electricity Market, which covers Northern Ireland and the Republic of Ireland.⁸¹

The Integrated Single Electricity Market

44. Since 2007, the island of Ireland has operated with a Single Electricity Market (SEM). This allows free trade of power across the island, with all generators and suppliers trading through a central mandatory wholesale market.⁸² It is regulated jointly by the Commission for Energy Regulation (CER) from the Republic of Ireland, and the Utility Regulator from Northern Ireland.⁸³

45. In order to comply with EU legislation adopted in 2009 the existing arrangements are being replaced by an enhanced wholesale market: the Integrated Single Electricity Market (I-SEM).⁸⁴ These new arrangements are planned to go live in 2018. It is designed closely around the rules of the Internal Energy Market, requiring exclusive short-term trading through European market coupling as established by the European Network Codes.⁸⁵ The new design should increase competition and “increase the economic efficiency of cross border electricity flows and reduce the level of curtailment of variable renewable generation on the island”.⁸⁶

78 AES UK & Ireland ([EUE0065](#)); Department of Enterprise, *Trade & Investment, Energy In Northern Ireland 2016*, pp31-32

79 Department of Enterprise, Trade & Investment, *Energy in Northern Ireland 2016*, p47

80 National Grid ([LEU0026](#))

81 Department for Exiting the European Union, *The United Kingdom's exit from, and new partnership with the European Union*, Cm 9417, 2 February 2017

82 Commission for Energy Regulation, *CER Factsheet on the Single Electricity Market*, April 2011

83 The single electricity market is governed by the SEM Committee, consisting of the Commission for Energy Regulation, the Utility Regulator, and an independent and deputy independent member Commission for Energy Regulation: *CER Factsheet on the Single Electricity Market*, April 2011

84 *Information note*, Proposed Amendment to the Electricity Regulation (Amendment) (Single Market) Act 2007

85 Single Electricity Market Committee, *Integrated Single Electricity Market Non-technical Summary*, September 2014, p4

86 Single Electricity Market Committee, *Integrated Single Electricity Market Non-technical Summary*, September 2014, p7

46. These benefits of the I-SEM are particularly relevant for Northern Ireland. Northern Ireland has a target of sourcing 40% of electricity consumption from renewable resources by 2020. Increased intermittent electricity generation from renewables poses particular challenges for the secure operation of the network.⁸⁷ In addition, Northern Ireland faces significant supply concerns, including an anticipated supply deficit in 2021.⁸⁸ The System Operator for Northern Ireland, SONI Ltd, stressed the seriousness of the situation to the Northern Ireland Affairs Committee last year: “Elected representatives across the political spectrum are obligated to understand and appreciate the acute nature of NI’s security of supply”.⁸⁹

47. The border on the island of Ireland marks two separate gas markets but, as noted above, both are reliant on gas imports from Great Britain. The Commission for Energy Regulation and the Utility Regulator had been leading a project, the Common Arrangements for Gas, seeking to operate the gas systems on a single all-island network basis. However, the project has been overtaken by the European Network Codes, which require implementation of enhanced trading arrangements across all Member States.⁹⁰

Implications of leaving the Internal Energy Market for the island of Ireland

48. The Single Electricity Market for the island of Ireland is considered an “exemplar of regional co-operation by the EU”, and successful in increasing competition and driving down energy prices.⁹¹ A number of witnesses to our inquiry stressed the importance of maintaining an integrated energy market across the whole island, and raised concerns that leaving the EU could undermine the SEM and I-SEM.⁹² AES UK & Ireland told the Committee in its written evidence that the nature of the new market design would make the imposition of any tariffs difficult.⁹³ According to the Chief Executive of the all-Ireland transmission system operator, EirGrid, disruption to the I-SEM project would set back a decade of effort to remove barriers to trade.⁹⁴

49. The implications of any disruption are not, however, only a question of re-addressing complex arrangements. Disruption affecting the efficient supply of energy and future investment could have serious implications for consumers. In particular, it could compromise a new interconnector between Northern Ireland and the Republic.⁹⁵ The

87 North South Inter-Parliamentary Association, [Third Meeting Energy Security](#), September 2013: Background briefing prepared by the Research and Information Services (RaiSe) of the Northern Ireland Assembly and the Library & Research Service (L&RS) of the Houses of the Oireachtas (Tithe an Oireachtais), p3

88 AES UK & Ireland ([EUE0065](#))

89 Written evidence submitted to the Northern Ireland Affairs Committee inquiry on the *Electricity Sector in Northern Ireland*, SONI Ltd ([ENI0024](#))

90 North South Inter-Parliamentary Association, [Paper1: Impact of Brexit on Cross-Border Activity](#), November 2016, Background briefing prepared by the Research and Information Service (RaiSe) of the Northern Ireland Assembly and of the Library & Research Service of the Houses of the Oireachtas (Tithe an Oireachtais), p71

91 North South Inter-Parliamentary Association, [Paper1: Impact of Brexit on Cross-Border Activity](#), p70

92 E3G ([EUE0011](#)); Chatham House ([EUE0016](#)); EDF Energy ([EUE0033](#)); European Federation of Energy Traders (EFET) ([EUE0056](#)); Renewable Energy Systems Ltd ([EUE0059](#)); AES UK & Ireland ([EUE0065](#)); Renewable Energy Association ([LEU0009](#)); National Grid ([LEU0026](#)); Ofgem ([LEU0031](#)); Energy UK ([LEU0040](#))

93 AES UK & Ireland ([EUE0065](#))

94 Chatham House ([EUE0016](#))

95 Centrica ([LEU0042](#))

System Operator for Northern Ireland, SONI Ltd, has stated that without the planned North South Interconnector, it cannot be confident that “we can keep the lights on beyond 2021”.⁹⁶

50. We were pleased to see that the risks of any disruption to both Northern Ireland and the Republic of Ireland are well recognised by the Government. The Secretary of State told us that:

this has been very high up the agenda in preparing for the negotiations that are about to happen. I have discussed this directly with the Northern Ireland Secretary and the Brexit Secretary. We know that this is a particular priority, as it is, of course, for the Republic of Ireland. They too have the same interest in making sure that our market continues to function very flexibly in the future as it does now.⁹⁷

51. **The free trade of energy across the island of Ireland and efficient use of interconnection with Great Britain are of critical importance to Northern Ireland, which is reliant on imports from the Republic of Ireland and Great Britain for gas and power supply. Any disruption to the development of and trading within the Single Energy Market of the island of Ireland (SEM), and the ongoing implementation of the Integrated Single Energy Market (I-SEM) project, may have serious implications for consumers across the island of Ireland.**

52. *We recommend that the Government protect the continued operation of SEM and implementation of the I-SEM project, through the UK’s wider access to the Internal Energy Market or alternatively through special arrangements for the island of Ireland.*

96 SONI Ltd ([ENI0024](#))

97 Q252

5 EU Emissions Trading System

Introduction

53. The EU Emissions Trading System (EU ETS) was established by the EU to meet its international obligations under the Kyoto Protocol.⁹⁸ The system sets an EU-wide cap on total greenhouse gas emissions from energy intensive sectors, including power stations and industrial plants. Over time the cap is lowered so that total emissions fall. Companies receive or buy emission allowances which they can trade with one another as needed, and they are fined if they do not buy adequate allowances to cover their emissions.⁹⁹ A robust carbon price within the system is an important driver for investment in climate change mitigation technologies.¹⁰⁰ The EU ETS is currently in its third phase, which is running from 2013 to 2020. Negotiations are also underway for Phase IV, which will run from 2021 to 2030, with plans for better targeted and more dynamic allocation of free allowances, and two new Funding Programmes.¹⁰¹

54. Around one third of witnesses in our inquiry suggested that the UK should remain in the EU Emissions Trading System.¹⁰² One said that the UK should leave,¹⁰³ and several were undecided, noting the need for reform,¹⁰⁴ or did not comment. A few witnesses argued that the UK should not leave the EU ETS until at least its third phase is completed in 2020, as this would cause unnecessary disruption.¹⁰⁵ These included witnesses that were both for and against remaining in the EU ETS longer term. The Minister of State for Climate Change and Industry, Nick Hurd MP, was unable to clarify the Government's intention on the UK's continued engagement with the EU ETS.¹⁰⁶

Performance of the EU Emissions Trading System

55. Emissions trading is widely seen as a cost-effective means of decarbonisation, at least in theory.¹⁰⁷ The Committee on Climate Change describe the EU ETS as having the potential to be a least-cost approach without creating competitiveness challenges for the industry.¹⁰⁸ The merits of the EU ETS were also recognised by Minister of State for Climate Change and Industry who told us that:

98 European Commission, *EU ETS Handbook*, p7

99 European Commission, EU ETS factsheet: *The EU Emissions Trading System*

100 Carbon Capture and Storage Association ([EUC0017](#)); European Commission, EU ETS factsheet: *The EU Emissions Trading System*

101 European Commission, EU ETS factsheet: *The EU Emissions Trading System*

102 Renewable Energy Association ([LEU0009](#)); The Prince of Wales's Corporate Leaders Group ([LEU0012](#)); Nuclear Industry Association ([LEU0013](#)); Grantham Institute, Imperial College London ([LEU0015](#)); DONG ([LEU0021](#)); EDF Energy ([LEU0024](#)); Grantham Research Institute, London School of Economics and Political Science ([LEU0029](#)); Oil & Gas UK ([LEU0032](#)); New Nuclear Watch Europe ([LEU0033](#)); Aldersgate Group ([LEU0038](#)); Energy UK ([LEU0040](#)); Centrica ([LEU0042](#))

103 British Ceramic Confederation ([LEU0020](#))

104 Chatham House-UKERC ([LEU0006](#)); E3G ([LEU0017](#)); RSPB ([LEU0011](#))

105 University of Sussex ([EUE0034](#)); British Ceramic Confederation ([LEU0020](#)); EDF Energy ([LEU0024](#)); Dairy UK ([LEU0027](#))

106 Q258

107 International Emissions Trading Association (IETA) ([EUC0003](#)); Shell International Petroleum Co Ltd ([EUC0015](#)); Ricardo Energy & Environment ([EUC0019](#)); RWE UK ([EUC0024](#)); Grantham Research Institute at the London School of Economics ([EUC0032](#)); ScottishPower ([EUC0035](#)); Aldersgate Group ([EUC0048](#)); Global Warming Policy Forum ([EUE0060](#)); Grantham Institute, Imperial College London ([LEU0015](#)); New Nuclear Watch Europe ([LEU0033](#)); Energy UK ([LEU0040](#)); Centrica ([LEU0042](#))

108 Q46 [Sara Vaughan]

The cap and trade system is an intelligent system, because a cap gives you certainty on emissions and the trade mechanism allows participants to pursue emission reductions at the lowest possible cost. It works. The mechanics of it work pretty well as a system.¹⁰⁹

56. A number of witnesses highlighted the role of the EU ETS, and the associated carbon price floor (discussed in Box 1), in driving climate ambitions and the transition to a low carbon economy.¹¹⁰ In the UK, the EU ETS is central to the delivery of our carbon budgets (see Box 2 for discussion). Witnesses noted that, despite criticisms, the EU ETS had delivered its 2020 targets. They also highlighted the strategic importance of the EU ETS for climate change action. The EU ETS is important globally as the first working demonstration of an emissions trading system. If it fails, this will have ramifications for the uptake of similar schemes elsewhere. Departure from the EU ETS, and therefore an implicit decision not to help other Member States to reform the System, would undermine the UK's reputation as a global leader on climate change. Professor Michael Pollitt from the University of Cambridge told us:

If we are serious about being a global leader on climate and if Europe is similarly serious, we cannot be seen to leave the European Emissions Trading System of our own choice, and we should do everything to stay a member of it... if we have a hard exit from that, it could seriously undermine global efforts on climate and certainly will undermine our role in global leadership on climate solutions.¹¹¹

57. However, the EU ETS has been subject to substantial criticism. It is not seen to be on course to deliver the EU's long term targets, and more generally it is not seen to be providing a carbon price that can drive the changes required to move to a low carbon economy.¹¹² The Royal Society for the Protection of Birds explained in its written submission that the scheme has struggled for a number of reasons, including the over-allocation of allowances and the financial crash of 2008, which drove down the carbon price due to reduced activity and emissions in the energy and industrial sector.¹¹³ Aldersgate Group told the Committee that the surplus of allowances is approximately 1.78 billion, and the price of carbon at the time of writing relatively weak, at €4.66 per tonne at the date of their submission.¹¹⁴

The case for reform

58. Short and long term reforms have already been made to the EU ETS to address the over-supply of allowances. For example the European Commission postponed the auctioning of 900 million allowances during Phase III, through so-called 'back-loading'. In the longer term, a market stability reserve, to allow an adjustment to the supply of

109 Q258

110 International Emissions Trading Association (IETA) ([EUC0003](#)); Shell International Petroleum Co Ltd ([EUC0015](#)); EDF Energy ([EUC0021](#)); Citizens Advice ([EUC0030](#)); Grantham Research Institute at the London School of Economics ([EUC0032](#)); E.ON ([EUC0038](#)); Aldersgate Group ([EUC0048](#)); Vattenfall UK ([EUC0055](#)); Renewable Energy Association ([LEU0009](#)); Centrica ([LEU0042](#))

111 Q206

112 Greenpeace ([EUC0052](#)); Renewable Energy Systems Ltd (RES) ([EUC0059](#)); Chatham House UKERC ([LEU0006](#)); RSPB ([LEU0011](#)); Nuclear Industry Association ([LEU0013](#)); E3G ([LEU0017](#)); Grantham Research Institute London School of Economics and Political Science ([LEU0029](#))

113 RSPB ([LEU0011](#))

114 Aldersgate Group ([EUC0048](#))

allowances, will be introduced in 2019.¹¹⁵ Further proposals have been put forward by the European Commission for negotiation for Phase IV, which will run between 2021 and 2030.¹¹⁶

59. Over a quarter of our witnesses argued that the EU ETS is in need of reform, and several witnesses noted that it will be important for the UK to retain influence during negotiations for Phase IV to drive more ambitious reforms.¹¹⁷ Some witnesses specified that reform and ongoing influence should be conditions of continued UK participation.¹¹⁸ The Minister of State for Climate Change and Industry acknowledged the issues with the system and the need for reform, explaining that:

There is a structural flaw with it [the EU ETS], which you will fully appreciate, which has not delivered a sufficiently robust price signal, and that is the focus of the reform negotiations at the moment.¹¹⁹

60. The Secretary of State also told the Committee that:

reform of the emissions trading scheme matters a lot to this country, and whether we are in or out, we are very active in being at the table to play a positive, constructive role in the negotiation of the reform of phase IV, which runs from 2021 [...] and our European partners, irrespective, are actively seeking our input.¹²⁰

The EU Emissions Trading System and the Carbon Price Floor

61. Energy intensive industries were concerned about the detrimental impact of the UK Carbon Price Floor (CPF)—which the Government introduced to deliver a stable price given the weak EU ETS (see Box 1 below). It was argued that the CPF causes competitive distortions for UK manufacturing and fossil fuel power plants.¹²¹ Kevin Dibble, Director of Strategy and Communications at Engie UK, explained to the Committee that the price floor was the main driver for the wholesale power price differential with the continent.¹²² The Committee was also told by Andrew McDermott, Technical Director at the British Ceramic Confederation, that

It is a unilateral UK-only measure, which increases industrial electricity prices by about 10% and makes us less competitive versus our EU competitors, let alone our international competitors.¹²³

115 European Commission, EU ETS factsheet: [The EU Emissions Trading System](#)

116 As above

117 EDF ([EUC0021](#)); E.ON ([EUC0038](#)); EEF ([EUC0047](#)); Chatham House-UKERC ([LEU0006](#)); Renewable Energy Association ([LEU0009](#)); RSPB ([LEU0011](#)); The Prince of Wales's Corporate Leaders Group ([LEU0012](#)); Nuclear Industry Association ([LEU0013](#)); E3G ([LEU0017](#)); DONG Energy UK ([LEU0021](#)); Oil & Gas UK ([LEU0032](#)); Department for Business, Energy and Industrial Strategy ([LEU0036](#)); Aldersgate Group ([LEU0038](#)); Centrica ([LEU0042](#))

118 Renewable Energy Systems Ltd (RES) ([EUC0026](#)); E3G ([LEU0017](#)); Oil & Gas UK ([LEU0032](#)); Energy UK ([LEU0040](#))

119 Q258

120 Q241

121 Energy Intensive Users Group ([EUC0031](#)); E.ON ([EUC0038](#)); BASF ([EUC0041](#)); British Ceramic Confederation ([LEU0020](#)); Energy Intensive Users Group ([EUC0031](#)); E.ON ([EUC0038](#)); BASF ([EUC0041](#)); British Ceramic Confederation ([LEU0020](#))

122 Q14

123 Q78

62. Sara Vaughan, Director of Strategy and Corporate Affairs at E.ON, argued that the UK should remain in the EU ETS and focus on fixing the roots of its problems to drive a stable carbon price, rather than applying a domestic Carbon Price Floor as a temporary solution:

We would be in favour of continuing... with a European-wide scheme... we would like to see broader trading schemes, rather than narrower trading schemes. I will make one point: from a UK perspective, as a company that operates in the UK and as an investor, we want to see continuing clear signals around decarbonisation. I would question whether the CPF is the right way of doing that.¹²⁴

63. Despite these concerns, several witnesses noted that the CPF has played a key role in the delivery of UK emissions reductions. Centrica noted that the doubling of the CPF in April 2015 played a key part in a coal-to-gas switch in power generation, which it highlighted as one of the cheapest ways of delivering UK carbon abatement.¹²⁵ National Grid also noted the success of the Carbon Price Floor in driving emission reductions, and the importance of sustaining it in providing investor confidence.¹²⁶

64. The difference of views and interests on the CPF across industry was acknowledged by the Minister of State for Climate Change and Industry, who told us that:

there has been consistent concern expressed by our energyintensive industries about the relative price of UK industrial electricity prices... there is another business voice that is saying what is important here is to continue on the high levels of ambition, to set a longterm trajectory and visibility, as far as possible, so that we can continue to invest in this transition to the low carbon economy.¹²⁷

65. Emissions Trading Systems are in theory the most effective means of reducing emissions at lowest cost. The UK and EU benefit by being part of a wider system able to import and export carbon allowances to reduce emissions in a way that is most cost efficient. The EU ETS is also a good example of international collaboration and ambition to tackle climate change. In practice, the EU ETS is performing poorly, due to a low target and domestic policies causing oversupply of EU ETS permits. We share concerns that not enough is being done to protect UK industry from carbon leakage, in particular due to the unilateral UK Carbon Price Floor.

124 Q47

125 Centrica ([LEU0042](#))

126 National Grid ([LEU0026](#))

127 Q260

Box 1: UK Carbon Price Floor

The Government introduced a Carbon Price Floor (CPF) of £16 per tonne of carbon in 2013 to mitigate fluctuations in the market price of carbon and support greater certainty for investors in low carbon technologies. The CPF means that UK industry effectively pays a top-up if the EU market price for carbon falls below this level. Following a subsequent fall in the EU market price of carbon to £4, the Government announced in 2014 that the UK's CPF would be capped at £18 per tonne from 2016 to 2020 to limit the competitive disadvantage faced by business and to reduce energy bills for consumers.¹²⁸ On 21 April 2017 the EU carbon price was €4.58, or £3.89.¹²⁹ This means that while companies based across the EU pay this amount to emit a tonne of carbon dioxide, UK companies also pay an additional £14.11 (as of April 2017) to HM Treasury for every tonne emitted.

Opportunities and risks of leaving the EU Emissions Trading System

66. Witnesses highlighted a range of risks of leaving the EU ETS, including increased cost and barriers to achieving our carbon reduction targets, and reduced access to funds for innovation.¹³⁰ The Grantham Research Institute at the London School of Economics and Political Science also noted that leaving the EU ETS would entail a need to change the accounting approach for the UK's carbon budgets (discussed in Box 2).¹³¹

67. Regarding the potential benefits of leaving, the Institution for Engineering and Technology noted that leaving the EU ETS could result in lower power production prices, giving large fossil-fuel powered plant an economic advantage over other fossil-fuelled plant in the EU. However, it also noted that such benefits were unlikely to be realised because the UK's Carbon Floor Price has to date exceeded the EU ETS' traded carbon price.¹³²

68. The Grantham Research Institute at the London School of Economics and Political Science noted that leaving the EU ETS could make it easier for the UK to introduce a more coherent carbon pricing system across the whole economy.¹³³

69. Energy intensive industries argued that Brexit should be used as an opportunity to take a more industry friendly approach to climate change policy. Andrew McDermot, Technical Director at the British Ceramic Confederation, raised concerns that the EU ETS incentivises a reduction in output, supports investment in renewables but not industrial technology, and creates uncertainty through a perpetual discussion and review of arrangements to prevent carbon leakage. He said that Brexit offers "a golden opportunity to do something else".¹³⁴

128 House of Commons Library, *Briefing Paper: The Carbon Price Floor*, Number CBP05927, 23 November 2016

129 According to Carbon Pulse: *EU Markets: EUAs hit 2017 low as pre-compliance slump continues*, 24 April 2017, Sterling value calculated use xe.com exchange rate of 1 EUR = 0.848901 GBP on 24 April 2017, <http://www.xe.com/currencyconverter/>

130 Carbon Capture and Storage Association ([EUC0017](#)); Mineral Products Association ([EUC0022](#)); Grantham Research Institute at the London School of Economics ([EUC0032](#)); Greenpeace ([EUC0052](#)); Energy UK ([EUC0049](#)); Scottish Carbon Capture & Storage ([EUC0050](#)); Renewable Energy Association ([LEU0009](#)); The Prince of Wales's Corporate Leaders Group ([LEU0012](#)); Aldersgate Group ([LEU0038](#)); Grantham Institute, Imperial College London ([LEU0015](#))

131 Grantham Research Institute, London School of Economics and Political Science ([LEU0029](#))

132 Institution of Engineering and Technology ([LEU0010](#))

133 Grantham Research Institute, London School of Economics and Political Science ([LEU0029](#))

134 British Ceramic Confederation ([EUC0013](#))

Box 2: The role of the EU ETS in delivering the UK's carbon budgets

The 5th Carbon Budget implies a 57% reduction in emissions from 1990 to 2030. It was adopted by the Government last summer following the Committee on Climate Change's recommendations, which were themselves based on continued UK participation in the EU ETS. The 57% figure is the target for the "net UK carbon account". This takes account of trading in the EU ETS, with the expectation that the UK will have net positive sales of emissions allowances. In other words, the target assumes that the UK's power and energy-intensive industries will make greater emissions reductions than they are required to, and they will sell these extra emissions allowances to companies in other Member States. The actual (gross) emissions reduction required by the Carbon Budget, without EU ETS trading, is 61%. This is necessary to keep the UK on the "cost-effective path"¹³⁵ to meeting our target of an 80% reduction by 2050.¹³⁶

70. The 5th Carbon Budget adopted in 2016 was calculated assuming ongoing UK participation in the EU ETS. If the UK leaves the EU ETS, the Carbon Budget will need to be revised upwards in order for the UK to remain on a cost-effective path to meeting our target of an 80% emissions reduction by 2050.

71. We recommend that—if the UK leaves the EU ETS—the Government revises the 5th Carbon budget, on the advice of the Committee on Climate Change.

Alternatives to the EU Emissions Trading System

72. The British Ceramic Confederation argued that the UK should leave the EU ETS and adopt an alternative emissions reduction scheme.¹³⁷ It proposed options including: voluntary climate change agreements already in operation, which allow relative targets; expanding the existing EU ETS small emitter opt-out; and amendment of environmental permitting regulations to include carbon.¹³⁸ However, these alternatives were challenged by Dr William Kyte, a fellow of the International Emissions Trading Association. He explained that voluntary climate change agreements provide no guarantee that the Government will meet its carbon caps, and that other command and control alternatives are extremely expensive.¹³⁹

73. The Committee received mixed views on the benefits and viability of setting up alternative national schemes, and the option of linking to the EU ETS. Some witnesses suggested that a withdrawal from the EU ETS could allow the UK to have more specific rules while retaining our climate change ambition.¹⁴⁰ Others emphasised that any national ETS would need to be linked with the EU ETS or another international ETS in order to retain the benefits of trading in a large market.¹⁴¹

135 The "cost effective path" is the term used by the Committee on Climate Change to denote the cheapest route to meeting the 2050 target.

136 Committee on Climate Change, [Meeting Carbon Budgets – Implications of Brexit for UK climate policy](#), (October 2016)

137 British Ceramic Confederation ([LEU0020](#))

138 Q50 (Andrew McDermott)

139 Q50 (William Kyte)

140 Carbon Connect ([EUC0005](#)); techUK ([EUC0043](#)); EEF ([EUC0047](#)); CF Fertilisers UK Limited ([EUC0051](#)); British Ceramic Confederation ([LEU0020](#)); Grantham Research Institute London School of Economics and Political Science ([LEU0029](#))

141 Grantham Research Institute at the London School of Economics (EUC0032); The Prince of Wales's Corporate Leaders Group ([LEU0012](#)); New Nuclear Watch Europe ([LEU0033](#))

74. Several witnesses stressed, however, the substantial cost and complexity of setting up a new national ETS.¹⁴² It was argued that agreeing links to other international ETS might take some time to achieve: we note that Switzerland has been in negotiations to link its national ETS to the EU ETS for several years, with talks currently stalled due to a separate disagreement on immigration. Sara Vaughan questioned the rationale behind arguments to abandon the EU ETS and establish a new system:

At the moment, the question I would ask is why you would rush to something else that will cause cost and disruption when you have something that is there already and in which we are playing a part.¹⁴³

In oral evidence, the Minister of State for Climate Change and Industry said that the Government had not yet evaluated alternative options to the EU ETS.¹⁴⁴

75. It is not clear that there are as yet any alternative options to membership of the EU ETS that could deliver our emissions reduction target at least cost. The most realistic aim should be a more ambitious EU ETS, with permit prices and the UK carbon price floor aligning across the EU to ensure the most cost efficient and competitive reduction in overall carbon emissions.

Timing of any potential departure

76. Whatever options are considered, witnesses giving oral evidence to the Committee were unanimous in their view that if the UK is to leave the EU ETS then it would be imprudent to do so before the end of Phase III in 2020.¹⁴⁵ A number of witnesses also stressed the importance of retaining membership in the short term to avoid disruption.¹⁴⁶ In particular, Dairy UK told us that failing to retain participation until the end of Phase III would cause the dairy industry and the food and drink sector a plethora of problems.¹⁴⁷ *We recommend that the Government seeks to retain membership of the EU ETS until at least end of Phase III in 2020, and that it seeks to negotiate longer term membership of the EU ETS on the condition of commitment to future reform.*

77. If sufficient reforms to the EU ETS do not appear achievable, we recommend that the Government considers alternative options, such as establishing a separate UK system linked with wider international schemes. We further recommend that the Government should not seek to leave the EU ETS until it has established clear and well-tested alternative approaches which can deliver our emissions reduction targets at low cost and without destabilising investment or undermining the UK's commitment and ambition to tackle climate change.

142 Renewable Energy Association ([LEU0009](#)); The Prince of Wales's Corporate Leaders Group ([LEU0012](#)); E3G ([LEU0017](#)); Dairy UK ([LEU0027](#)); Grantham Research Institute London School of Economics and Political Science ([LEU0029](#))

143 Q51

144 Q259

145 Q57 [John Lanchbery, Andrew McDermott, Sara Vaughan, William Kyte]

146 University of Sussex ([EUE0034](#)); British Ceramic Confederation ([LEU0020](#)); EDF Energy ([LEU0024](#)); Dairy UK ([LEU0027](#))

147 Dairy UK ([LEU0027](#))

6 Euratom

Introduction

78. The European Atomic Energy Community (Euratom) was established alongside the European Economic Community in 1957. The UK joined both communities in 1973. Euratom is a separate legal entity to the EU, although it is subject to the same institutions (including the European Court of Justice). In January 2017 the Government announced that, as part of the process of leaving the EU, the UK will also withdraw from Euratom.¹⁴⁸

79. Euratom was established to promote the growth of new nuclear industries, to improve the security of energy supplies, to ensure high nuclear safety standards and to prevent diversion of nuclear materials from civilian to military uses. The Euratom Treaty also established a Nuclear Common Market to enable free movement of nuclear professionals, materials, equipment and associated investment capital across the Community. Euratom also funds an extensive research and development programme.¹⁴⁹ Over time Euratom's remit has expanded, but the original Treaty remains largely unchanged.¹⁵⁰

80. The White Paper on the UK's exit from the EU stated the Government's intention to:

- cooperate closely with European and international partners on civil nuclear safeguards, safety and trade;¹⁵¹ and
- seek alternative arrangements to continue international collaboration on nuclear R&D.¹⁵²

Decision to leave—legal opinion

81. The Government has said that the UK's exit from Euratom results from the decision to leave the EU because the two Communities are “uniquely legally joined”,¹⁵³ rather than from any policy decision related to Euratom membership. The Secretary of State explained that:

We have been very satisfied with the arrangements in Euratom [...] The triggering of Article 50 on Euratom is not because we have a fundamental critique of the way that it works. It was because it was a concomitant decision that was required in triggering Article 50.¹⁵⁴

148 [Explanatory notes to the European Union \(Notification of Withdrawal\) Bill](#) [Bill 132 (2016–17) - EN] published 26 January 2017 and confirmed by [The United Kingdom's exit from and new partnership with the European Union](#), Cm 9417, published 2 February.

149 European Commission, [Nuclear Energy](#), accessed 24 April 2017; “[What Brexit means for UK nuclear energy policies](#)”, Newsweek, 31 January 2017; “[Treaty establishing the European Atomic Energy Community \(Euratom\)](#)” EUR-Lex, 19 October 2007

150 European Commission, [Nuclear Energy](#), accessed 24 April 2017; “[What Brexit means for UK nuclear energy policies](#)”, Newsweek, 31 January 2017; “[Treaty establishing the European Atomic Energy Community \(Euratom\)](#)” EUR-Lex, 19 October 2007; Ilina Cenevska, *The European Atomic Energy Community in the European Union Context: The ‘Outsider’ Within*, p 67; European Commission, [Nuclear fuel supply in the Euratom Treaty: the role of the Euratom Supply Agency](#), accessed 24 April 2017

151 [The United Kingdom's exit from and new partnership with the European Union](#), Cm 9417, published 2 February

152 As above

153 “[Britain quits European nuclear body](#)”, The Times, 27 January 2017

154 Q267

82. The Euratom Treaty does not have its own provisions on withdrawal. Legal opinion on the requirement to leave is divided, due to conflicting interpretations of Article 106a of the Euratom Treaty, which sets out the Treaty's relationship with the European Union Treaty. Article 106a states that:

Within the framework of this [the Euratom] Treaty, the references to the Union, to the 'Treaty on European Union', to the 'Treaty on the Functioning of the European Union' or to the 'Treaties' in the provisions referred to in paragraph 1 [including Article 50 of the European Union Treaty] and those in the protocols annexed both to those Treaties and to this Treaty shall be taken, respectively, as references to the European Atomic Energy Community and to this Treaty.¹⁵⁵

According to the European Economic and Social Committee, an EU advisory body, this implies that references to the "Union" in Article 50 of the EU Treaty also apply to Euratom.¹⁵⁶

83. Several lawyers have disputed this interpretation.¹⁵⁷ For example, Prospect Law argued that Article 106a creates a "similar but separate" exit process for Euratom that does not need to be triggered at the same time as leaving the EU.¹⁵⁸ Rupert Cowen of Prospect Law told the Committee that the UK's departure from Euratom "is a political issue, not a legal issue",¹⁵⁹ with the decision arising from the need to respect the jurisdiction of the European Court of Justice if we remain a Euratom member. Whilst this interpretation would not alter the Government's reasoning for leaving Euratom, it could allow for a delayed exit.¹⁶⁰

84. The Secretary of State noted that Prospect Law's argument is a "highly contested view".¹⁶¹ However, when asked whether continued membership of Euratom remained an option, he did not rule this out:

I do not want to get into that, precisely because we have not started to establish, as in some of the areas that Nick [Hurd] has been talking about, the possibilities. However, the clear requirement is very evident: that we need to not only maintain but allow the expansion of our nuclear industry.¹⁶²

85. The Government's objective to leave the jurisdiction of the European Court of Justice means that it is politically unfeasible for the UK to remain a member of Euratom in the long term, but a temporary extension to our membership—if legal—would allow time for new arrangements to be put in place. We are not aware of any substantive arguments in favour of leaving Euratom made either during the referendum campaign or afterwards. This outcome seems to be an unfortunate, and perhaps unforeseen,

155 Consolidated version of the Treaty establishing the European Atomic Energy Community, [2012/C 327/01](#)

156 European Economic and Social Committee (Rapporteur: Mr Brian Curtis), [Opinion](#) on a Communication from the Commission - Nuclear Illustrative Programme presented under Article 40 of the Euratom Treaty for the opinion of the European Economic and Social Committee [COM(2016) 177 final], TEN/596, September 2016, para 5.5

157 "[Brexiteur and Euratom: No rush to exit?](#)", World Nuclear News, 20 January 2017; [UK Could Leave EU Without Withdrawing From Euratom, Says Brussels Law Firm](#), Nuc Net, 20 July 2016; [Ensuring a 'soft Brexit' for the UK's nuclear industry](#), 24 November 2016

158 "[Brexiteur and Euratom: No rush to exit?](#)", World Nuclear News, 20 January 2017

159 Q121

160 Q116

161 Q268

162 Q273

consequence of the Prime Minister’s decision to leave the jurisdiction of the European Court of Justice. Safeguarding nuclear energy is a public policy area with a unique level of risk and therefore requires a robust legal regime. *We note that the necessity of leaving Euratom is subject to legal uncertainty, but that uncertainty puts the continuing operation of the nuclear industry in the UK at risk. The Government therefore has a responsibility to resolve this matter as urgently as possible.*

Safeguards

86. Nuclear safeguards require the inspection of nuclear facilities to ensure that materials are not being diverted for non-intended (i.e. military) purposes.¹⁶³ They are a prerequisite for international nuclear trade and research collaboration. In the UK, safeguards are currently governed and enforced by Euratom and the International Atomic Energy Agency (IAEA). Dame Sue Ion, Chair of the former Nuclear Innovation and Research Advisory Board (NIRAB), explained that:

Coming out of Euratom would not mean we were any less safe or any less compliant with any overarching international agreement, because the Euratom agreements are driven by the IAEA.¹⁶⁴

Together with David Senior of the Office for Nuclear Regulation (ONR), Dame Sue Ion further acknowledged that relinquishing our Euratom obligations could reduce the bureaucratic burden of safeguards compliance to a small extent.¹⁶⁵

87. However, leaving Euratom would also require the UK to establish new arrangements for safeguards inspections, which are mostly (and increasingly) conducted by Euratom officials.¹⁶⁶ David Senior asserted that setting up alternative arrangements within the two year negotiation period would be “very challenging”¹⁶⁷ because of, as Dame Sue Ion explained, the need to replace Euratom-owned infrastructure, equipment, skilled personnel and processes.¹⁶⁸ Mr Senior was concerned that “we would only be in a position in the two-year period to put a basic arrangement in place”.¹⁶⁹ A number of witnesses expressed concern that setting up new arrangements beyond safeguards—and specifically nuclear cooperation agreements—would not be possible within the two year negotiation.¹⁷⁰ Questioned on the feasibility of setting up new arrangements in this time frame, the Secretary of State said that “[i]t is too early to make that definitive judgement”.¹⁷¹

88. According to Chatham House, any new inspections arrangements “would add significant budgetary and staffing requirements to the UK’s Office for Nuclear

163 In contrast, nuclear safety regulations protect the health and safety of the public and the environment.

164 Q125

165 Q138

166 European Commission, [Report on the Implementation of Euratom Safeguards in 2014](#), 2015; Q126 [David Senior]; EDF Energy ([EUE0033](#))

167 Q129

168 Q125 [Dame Sue Ion]; Q127 [David Senior]; Q129 [David Senior]

169 Q129

170 Q128 [Dame Sue Ion]; Q128 [Rupert Cowen]; Q133

171 Q267

Responsibility [sic].¹⁷² Euratom’s total safeguards budget was estimated at €23.1 million in 2015.¹⁷³ The scale and number of British nuclear facilities mean that a quarter of all Euratom staff time dedicated to safeguards is spent in the UK.¹⁷⁴

Nuclear trade

89. Euratom facilitates international nuclear trade and collaboration through:

- (1) the Nuclear Common Market, which provides rights for the transport of nuclear materials, goods and personnel within the Euratom Community;
- (2) Nuclear cooperation agreements held between the Community and third countries. The UK does not hold any such agreements directly, but instead relies on those developed by Euratom, (which are themselves predicated on the application of Euratom’s safeguards regime).¹⁷⁵

90. On departure from Euratom, the UK will need to negotiate new agreements (and associated safeguards arrangements) before any nuclear goods can be moved between ourselves and other countries. Dame Sue Ion highlighted that:

A plethora of international agreements would have to be struck that would almost mirror those that are already in place with EURATOM, before we could even begin to move not just material but intellectual property and services—anything in the nuclear sector.¹⁷⁶

91. Some witnesses agreed that leaving Euratom could open up new trade opportunities in the long term.¹⁷⁷ However, they were concerned about any potential gap between leaving Euratom and setting up new agreements,¹⁷⁸ which could cause “major disruption to supply chains”.¹⁷⁹ This would have potentially serious impacts on existing generation and nuclear new build, as well as international research projects.¹⁸⁰ Rupert Cowen emphasised that “[i]f we cannot arrive at safeguards and other principles that allow compliance to be demonstrated, no nuclear trade will be able to continue”.¹⁸¹ The Secretary of State agreed that it was “a very high priority” to have arrangements allowing the movement of nuclear fuels in place.¹⁸²

Research and development

92. Euratom manages its own Research and Development (R&D) programme, with an agreed budget of €1.6 billion for the period 2014–18.¹⁸³ Benefits of participation include

172 Chatham House-UKERC ([LEU0006](#))

173 European Commission, [Report on the Implementation of Euratom Safeguards in 2014](#), 2015.

174 As above

175 Q122

176 Q115

177 Q138 [Tom Greatrex, Dame Sue Ion & Rupert Cowen]

178 Energy Institute ([EUE0063](#)); Nuclear Industry Association ([LEU0013](#)); Q131 [Tom Greatrex]; Q133 [Tom Greatrex]; Q138 [Rupert Cowen]

179 Nuclear Industry Association ([LEU0013](#))

180 As above

181 Q116 [Rupert Cowen]

182 Q270

183 “[Euratom programme for nuclear research \(2014 to 2018\)](#)”, Council of the European Union press release 17898/13, 16 December 2013.

access to high-cost facilities outside the UK, easy movement of research materials and intellectual talent, leverage for the funding of high-cost projects, and contracts for British businesses to supply equipment.¹⁸⁴ Widespread concern has been voiced about the impact that leaving Euratom may have on UK R&D.¹⁸⁵ The very large scale of nuclear energy research projects means they are almost always conducted as international collaborations, so there is a risk that the UK could lose access to new developments if an agreement is not reached.¹⁸⁶ Many stakeholders have called on the Government to negotiate a deal that will allow continued participation in Euratom programmes.¹⁸⁷ The Secretary of State told us that:

A lot of our research into fusion, for example, combines international researchers, and it would make no sense for any of the participants to seek to dissolve very effective working arrangements.¹⁸⁸

93. In France, Euratom is building the International Thermonuclear Experimental Reactor (ITER) which will be the world's largest fusion experiment.¹⁸⁹ Tom Greatrex, Chief Executive of the Nuclear Industry Association, estimated that British businesses have received "around €500 million" to participate in ITER.¹⁹⁰ Ongoing participation outside Euratom may entail an increased UK financial contribution to the project. Currently Europe funds 45% of ITER's budget, with non-European partners each contributing 9%.¹⁹¹ The US has estimated its national contribution at between 4 and 6.5 billion USD.¹⁹²

94. Euratom also provides 87% of the funding (around £60 million per annum) for the Joint European Torus (JET), a precursor to ITER based in Culham.¹⁹³ JET's current funding contract is due to expire in 2018. The UK Atomic Energy Authority was previously in discussions with Euratom to extend JET's funding until 2020, but it is now unclear whether and by whom the project will continue to be funded.¹⁹⁴ The Secretary of State said that "[w]e very much want and intend that that [JET] should continue".¹⁹⁵

95. Regarding the opportunities arising from departure, Dame Sue Ion said that leaving Euratom could help to open up new international research collaborations,

184 Q114, 139 [Dame Sue Ion]; Q114 [Tom Greatrex]

185 See, for example: "[Decision to leave Euratom 'bonkers', say experts: Future of UK nuclear research 'uncertain' after Brexit bill revelation](#)", Times Higher Education, 27 January 2017; "[Last week's poll: what will Euratom exit mean for UK nuclear?](#)", The Engineer, 7 February 2017; "[Scientists and engineers condemn government decision to leave the European atomic energy community](#)", Prospect press release, 27 January 2017; "[Researchers shocked at UK's plan to exit EU nuclear agency](#)", Nature, 27 January 2017; Nuclear Innovation and Research Advisory Board (LEU0018); Institution Of Mechanical Engineers (EUE0068); Q114 [Dame Sue Ion]; Q139 [Dame Sue Ion]

186 "[Decision to leave Euratom 'bonkers', say experts: Future of UK nuclear research 'uncertain' after Brexit bill revelation](#)", Times Higher Education, 27 January 2017

187 See footnote 185

188 Q231

189 European Commission Research and Innovation, [ITER: international research to tackle a global issue](#), accessed 21 April 2017

190 Q114

191 This includes contributions from the EU, Euratom and Switzerland, which participates as a third country with a Euratom cooperation agreement. See European Commission Fusion for Energy, [About Fusion for Energy: Organisation Structure](#), accessed 21 April 2017.

192 US Department of Energy, [U.S. Participation in the ITER Project](#), May 2016

193 See, for example: EUROfusion, [JET: Europe's largest fusion device – funded and used in partnership](#), accessed 21 April 2017; "[Government ministers visit Oxfordshire to open research centre and highlight risks to UK science and innovation from Brexit](#)", BIS press release, 23 May 2016.

194 Q141 [Tom Greatrex]

195 Q274

subject to the provision of funding.¹⁹⁶ **Exclusion from Euratom’s research programmes could disadvantage national nuclear research, limit the UK’s future access to global developments in fusion, and reduce the substantial business opportunities for UK firms supplying Euratom research projects. *The Government should explore options to maintain the benefits of our existing research cooperation with Euratom, such as third party membership. Special consideration should be given to funding arrangements that would allow continued operation of, and access to, world-leading research projects including JET and ITER.***

Alternative relationships

96. The Government has yet to set out its preferred option for a future relationship with Euratom.¹⁹⁷ Three feasible options were highlighted during our inquiry: complete exit at the point of EU departure; third party membership; and ongoing membership as a transitional arrangement.

Exit at the point of EU departure

97. The default option for our future relationship would be a full exit from Euratom at the point of our departure from the EU. The UK would, however, remain bound by the rules of the International Atomic Energy Agency. The burden of safeguards compliance would be slightly reduced, but we would need to establish and fund new safeguarding arrangements, including inspections previously managed by Euratom. It would be difficult, although perhaps not impossible, to set these up within the two year negotiation period. However, the UK would also need to negotiate new nuclear cooperation agreements with both Euratom Member States and our other partners in order to continue existing trade and research collaboration. Witnesses did not think that this would be possible within the two year timeframe.¹⁹⁸

Third party membership

98. The UK could aim to negotiate third party or associate membership of Euratom and ITER. It is unclear what level of financial contribution this would entail, and the conditions which we would have to accept. It may require the UK to comply with aspects of Euratom law, but with restricted power to influence its development. It is unclear whether third party membership could be negotiated for functions beyond R&D. Switzerland is an ‘associated state’ of Euratom’s research programme and of ITER, but not of the Community as a whole.¹⁹⁹ Its Euratom association is dependent on the free movement of persons.²⁰⁰

99. The nuclear industry has expressed strong concerns that new arrangements will take longer than two years to set up. Ministers have not been able to allay these concerns. An interval between the cessation of our Euratom membership and the entry into force of new arrangements could severely inhibit nuclear trade and research cooperation. We

196 Q138

197 HM Government, [The United Kingdom’s exit from and new partnership with the European Union](#), (Cm 9417), February 2017

198 Q128 [Dame Sue Ion]; Q128 [Rupert Cowen]; Q133 [Tom Greatrex]

199 Q132 [David Senior]

200 Q132 [Rupert Cowen]; [“Switzerland and EU join forces in science and research”](#), European Association for the Study of the Liver (EASL) press release, 14 December 2014

recommend that the Government seeks to delay our departure from Euratom. This would give the nuclear industry a realistic window for setting up alternative arrangements—including safeguards and international nuclear cooperation agreements—so as to minimise any disruptions to trade and threats to power supplies.

100. If the option of remaining a Euratom member proves untenable, we recommend that the Government seeks a transitional agreement to retain our existing arrangements until new arrangements can be put in place. The duration of this agreement may need to be longer than the three year transitional period proposed by the European Parliament.

7 Investor confidence and the future UK energy system

Introduction

101. The decision to leave the EU should not distract from the Government's policies to provide secure and affordable energy supply and to seek ambitious plans to decarbonise our energy system.²⁰¹ However, many submissions expressed concern that leaving the EU may undermine domestic policy, notably on investor confidence, access to skills and funding, research and development, and energy costs through wider supplier chains. This chapter provides a brief overview of the level of investment and growth in the sector, before considering the implications that Brexit may have in these areas.

102. The UK's energy sector requires significant investment. The Committee on Climate Change estimates that up to 200 TWh of new electricity generation will be needed in the 2020s to replace energy generation from retiring coal and nuclear plants and meet expected increases in demand.²⁰² The government's National Infrastructure Delivery Plan (2016) anticipates up to £138 billion of energy investment beyond 2021.²⁰³

103. This level of investment is driven in part by a profound transition in the UK energy system. The reduction of UK domestic gas and oil production and our commitments to emissions reductions are transforming our energy system; changing our energy mix, use of network, and consumption. Renewables now provide nearly 25% of our power, and new technologies including energy storage, smart meters, and electric vehicles, are expected to change our traditional demand profiles and the nature of our electricity networks, moving from 'one-way' flows to more a decentralised and dynamic system.²⁰⁴

104. The move towards a new UK energy system is seen as a real opportunity for the UK to take the lead in developing new technologies, services and products. The Committee heard from Ian Simm, Chief Executive of Impax Asset Management:

We are in the early years of a multi-decadal revolution in energy, prompted by storage technology, electric vehicles, distributed generation and opportunities for interconnection all around our region. The huge challenge is to structure a market using the grid transmission and distribution to facilitate the flow of electrons in the most efficient way possible. [...] It is an enormous opportunity and it will address the key elements of the energy trilemma very concretely. We really need to seize that.²⁰⁵

105. The Government highlighted the importance of maximising the economic and investment opportunities of the UK's transition to a low carbon economy through continuing to support Foreign Direct Investment in its submission to this inquiry.²⁰⁶

201 38 Degrees ([LEU0034](#))

202 Committee on Climate Change, [Power Sector Scenarios for the fifth carbon budget](#), October 2015, p6

203 HM Treasury, [National Infrastructure Pipeline 2016](#)

204 Digest of UK Energy Statistics ([DUKES](#)) 2016, p11. National Infrastructure Commission, [Smart Power](#), 4 March 2016, p16

205 Q178

206 Department for Business, Energy and Industrial Strategy ([LEU0036](#))

Investor confidence

106. In March 2016, the former Energy and Climate Change Committee concluded that the Government's actions over the previous summer had adversely affected investor confidence. It identified six factors, including a lack of transparency in decision-making and insufficient consideration of investor impacts. The Committee noted that given the scale of investment needed in our energy infrastructure they were hopeful that—if the Government was willing to learn from its mistakes—things could move in a more positive direction.²⁰⁷ In response to the Report, while the Department for Energy and Climate Change recognised that significant investment is needed in our energy sector and that it remained committed to ensuring investment continues, it noted there was no hard evidence to suggest the cost of financing had increased for renewables or other technologies.²⁰⁸

107. Submissions to our inquiry suggest investor concerns remain and have been exacerbated by policy uncertainty due to the EU referendum.²⁰⁹ National Grid cited analysis undertaken by Vivid Economics which suggests that:

Even a moderate change of 50 basis points on the cost of financing, arising from a potential drop in confidence following Brexit, could add hundreds of millions of pounds to costs, and therefore consumer bills, over the medium term.²¹⁰

108. We received anecdotal evidence that incoming investment had fallen following the referendum result, with one estimate of around a 10 percent reduction.²¹¹ The Renewable Energy Association also told us that some projects have become commercially untenable due to the weakening pound, and that financial uncertainty has meant there is little appetite for future projects.²¹² However, we also heard from two international banks that the last quarter of last year was probably one of their busiest periods.²¹³ Similarly, National Grid explained that uncertainty had not affected major projects such as a planned interconnector to France.²¹⁴

109. Kirsty Hamilton, an Associate Fellow at Chatham House, told us that:

Across the second half of last year [...] [i]n the environment of higher uncertainty caused by Brexit, there was a focus—particularly because there

207 Energy and Climate Change Committee, *Investor confidence in the UK energy sector*, Third Report of Session 2015–16

208 Energy and Climate Change Committee, *Investor confidence in the UK energy sector*, Third Report of Session 2015–16, Appendix: Government's response to our work on investor confidence in the UK energy sector

209 Carbon Connect ([EUE0005](#)); UK Energy Research Centre ([EUE0026](#)); Chartered Institution of Building Services Engineers ([EUE0040](#)); Kingspan Insulation Ltd ([EUE0046](#)); Aldersgate Group ([EUE0050](#)); RenewableUK ([EUE0055](#)); Renewable Energy Systems Ltd ([EUE0059](#)); AES UK & Ireland ([EUE0065](#)); Renewable Energy Association ([EUE0066](#)); Ecotricity ([EUE0071](#)); Polar Research and Policy Initiative ([LEU0016](#)); Dairy UK ([LEU0027](#)); Energy Savings Trust ([LEU0035](#)); Aldersgate Group ([LEU0038](#))

210 National Grid ([LEU0026](#))

211 Chatham House ([LEU0041](#))

212 Renewable Energy Association ([LEU0009](#))

213 Qs151-153 [Alejandro Ciruelos, Carol Gould]

214 Q11 [Ian Graves]

was a new Government and a new departmental setup—on what that meant for looking ahead. Transactions that were under way were continuing, because the environment around them was already known.²¹⁵

However, Kirsty Hamilton also drew attention to how the lack of clarity on the Government's longer-term objectives in the context of Brexit has complicated decisions for future investments:

Brexit is like a big moving part on top of another set of moving parts as the energy sector is under transition. Investors look for visibility on what that means in the UK market.²¹⁶

Alejandro Ciruelos, UK Head of Project & Acquisition Finance at Santander, similarly explained that uncertainty due to leaving the EU has not necessarily translated into a drop in investment, because the fundamentals of UK policy have not changed—but he again emphasised to the Committee that the Government's long term vision continues to be a concern:

For someone to have a project ready to build in 2020 or 2021, they basically have to make a decision today about investing in capital and resources. Some of what we are missing today is the vision beyond 2021. What is the right policy mix or energy mix that the Government are really looking for the investment community to deploy?²¹⁷

110. By far the most widely-suggested means of promoting investor confidence was clear, coherent, stable and long-term policy, including sign-posting of future changes and demonstrating consistency across related areas (e.g. energy and planning). Around one third of witnesses raised this.²¹⁸ Submissions highlighted the need for assurances on the continuation of existing policy commitments and support mechanisms, as well as clarity on the market environment in which investors will be operating both during and after the Brexit transition.²¹⁹ Some described the need for the Government to provide clarity on the negotiation process, including how stakeholders will be consulted, as well as the need to avoid conflicting messages from spokespersons and to set clear and realistic negotiation targets specific to the energy sector.²²⁰ Witnesses also called for clarity on the Government's long-term energy objectives,²²¹ and in particular highlighted the need

215 Q156

216 Q156

217 Q175

218 National Farmers Union ([LEU0004](#)); Renewable Energy Association ([LEU0009](#)); The Prince of Wales's Corporate Leaders Group ([LEU0012](#)); Nuclear Industry Association ([LEU0013](#)); E3G ([LEU0017](#)); British Ceramic Confederation ([LEU0020](#)); Dong Energy ([LEU0021](#)); EDF Energy ([LEU0024](#)); National Grid ([LEU0026](#)); Dairy UK ([LEU0027](#)); Oil & Gas UK ([LEU0032](#)); Energy Savings Trust ([LEU0035](#)); Aldersgate Group ([LEU0038](#)); Energy UK ([LEU0040](#)); Centrica ([LEU0041](#))

219 Aldersgate Group ([LEU0038](#)); Centrica ([LEU0041](#)); EDF Energy ([LEU0024](#)); Nuclear Industry Association ([LEU0013](#));

220 The Prince of Wales's Corporate Leaders Group ([LEU0012](#)); Dairy UK ([LEU0027](#))

221 Energy and Utilities Alliance ([EUE0039](#)); Institution of Building Services Engineers ([EUE0040](#)); Carbon Capture and Storage Association ([EUE0064](#)); AES UK & Ireland ([EUE0065](#)); Renewable Energy Association ([EUE0066](#)); Renewable Energy Association ([LEU0009](#)); E3G ([LEU0017](#)); National Grid ([LEU0026](#)); Energy Savings Trust ([LEU0035](#))

for prompt publication of a strong Clean Growth Plan (formerly known as the Emissions Reduction Plan).²²² ENGIE said that:

Despite the adoption of the fifth carbon budget, longer term uncertainty over the UK Government's climate change and emissions reduction plans exist. Given the strong link between climate and energy policy, it is clear that uncertainty in long-term climate change ambitions directly impacts the UK's ability to provide a clear signal to the energy industry. Clarity in this area is vital for investment within the energy industry, particularly given the Government's priority is to ensure a secure and affordable supply of energy in the UK.²²³

111. We stress that the lessons of the previous inquiry on investor confidence should be reflected upon during the process of leaving the EU, and that the Government should provide clear long term commitment to its energy and climate change policy. Responding to our request for a commitment to an ambitious forthcoming Clean Growth Plan, the Minister of State for Climate Change and Industry told us:

UK leadership is enormously important to us. We have the potential to build on real leadership in lowcarbon vehicle technology. We have existing leadership in offshore wind and smart energy systems. There are huge new opportunities in lowcarbon heating, energy efficiency services, advanced manufacturing and, last but not least, one thing we know about this transition to a lowcarbon economy is that it will require a lot of private capital.²²⁴

Opportunities outside the EU

112. Whilst most witnesses saw few positives in leaving the EU, we did hear examples of opportunities arising from the removal of some constraints of EU membership, such as the Renewable Energy Directive and state aid rules.²²⁵ The Energy Intensive Users Group told us that arbitrary and uncosted targets for renewable energy consumption have resulted in significantly increased costs for users, and that freedom from the EU could allow us to abandon this approach.²²⁶ The University of Cambridge noted opportunities to relax state aid rules and unbundling requirements, and to shift away from a technology-focused strategy.²²⁷

113. For others, the Renewable Energy Directive and state aid rules were seen as important for supporting investor confidence and efficient delivery of low carbon technologies.²²⁸

222 ENGIE ([EUC0046](#)); National Farmers Union ([LEU0004](#)); The Prince of Wales's Corporate Leaders Group ([LEU0012](#)); Enjergy Savings Trust ([LEU0035](#)); Aldersgate Group ([LEU0038](#)); Centrica ([LEU0042](#)). The 'Clean Growth Plan' is the new name for the Emissions Reduction Plan, also previously known as the Carbon Plan, which will set out the Government's strategy to deliver the fourth and fifth carbon budgets.

223 ENGIE ([EUC0046](#))

224 Q263

225 Brian Catt Individual ([LEU0028](#)); Energy Intensive Users Group ([EUE0036](#)); University of Cambridge ([LEU0005](#)); New Nuclear Watch Europe (NNWE) ([LEU0033](#))

226 Energy Intensive Users Group ([EUE0036](#))

227 University of Cambridge ([LEU0005](#))

228 Renewable Energy Association ([LEU0009](#)); Energy Saving Trust ([LEU0035](#)); BEAMA ([EUE0021](#)); Citizens Advice ([EUE0032](#)); E.ON UK ([EUE0073](#)); Overseas Development Institute ([EUC0023](#)); Renewable Energy Systems Ltd ([EUC0026](#)); Mineral Wool Manufacturers' Association (MIMA) ([EUC0027](#)); University of Manchester ([EUC0036](#)); Energy UK ([EUC0049](#))

Energy UK told the Committee that the EU Renewable Energy Directive has been effective in driving investment in renewable energy in the UK and other Member States.²²⁹ E.ON also emphasised that state aid guidelines have helped preserve the principle of being technology neutral and warned of potential increased costs if the Government was to drift towards “picking technological winners”.²³⁰

114. In response to speculation that the Government is preparing to withdraw from a commitment to meet the EU energy targets after leaving the EU,²³¹ the Secretary of State told us that the Government had not made any decisions about the targets after we have left the EU.²³² ***We recommend that the Government provides a clear and long term vision for the UK energy sector to support investor confidence, and this should underpin its negotiating objectives on energy and climate change.***

EU funding and research and development

115. The UK currently receives substantial EU funding for energy infrastructure projects and research and development. Chatham House and the UK Energy Research Centre (UKERC) told the Committee that the UK energy sector received €8 billion from the European Investment Bank (EIB) between 2011 and 2015, and that the EU’s Horizon 2020 research funding scheme had provided UK based organisations €2.6 billion—the second largest share of any country.²³³ Chatham House and UKERC also noted that while both the EIB and Horizon 2020 allow access to non-EU members, 90% of EIB funding and 86% of Horizon 2020 recipients were from EU member states.²³⁴

116. Carol Gould, Head of Power and Renewables of the European Investment Banking Division at the Bank of Tokyo Mitsubishi UFJ, told the Committee that:

We see the EIB as most useful in the very large offshore wind projects, where maybe you need to raise £1.5 billion to £2 billion in what is still a relatively niche market. [...] It will certainly leave a funding gap of around £250 million that will need to be filled by other banks, and potentially more expensive banks, bringing up the cost of the debt across the whole piece.²³⁵

117. In its written evidence, National Grid noted that Horizon 2020 acts as a key platform for collaboration. It also highlighted that the Connecting Europe Facility (CEF) as important in stimulating cross-border infrastructure.²³⁶ According to Chatham House, the UK received £59 million in 2014 and 2015 from CEF, and ranked as fourth highest recipient under the scheme.²³⁷

229 Energy UK ([EUC0049](#))

230 E.ON UK ([EUE0073](#))

231 Reported in The Independent, [Government ‘preparing to scrap EU’s energy targets after Brexit’](#), 15 April 2017, and The Telegraph, [Britain preparing to scrap EU green energy targets as part of a bonfire of red tape after Brexit](#), 14 April 2017

232 Q279

233 Chatham House UKERC ([LEU0006](#))

234 As above

235 Q165

236 National Grid ([LEU0026](#))

237 Chatham House ([EUE0016](#))

118. Witnesses highlighted the need for clarity on the retention of funds awarded by other schemes, and the UK's longer term access to EU funds and financial institutions.²³⁸ Noting the dependence of some energy projects on EU finance, stakeholders emphasised that if access cannot be preserved, the Government should commit to replacing EU funds and institutions with credible alternatives.²³⁹ Antony Froggatt, Senior Research Fellow at Chatham House, emphasised the point:

A lot of the R&D and the co-operation is funded by the EU, so my guestimate is that around 400 million a year of research undertaken on energy and transport in the UK is funded by the EU. I guess the Government can choose to take some of the money that is not given to the EU and spend that on UK energy research, [and] it needs to do that if it wants to maintain the current level [of research], and then it can have the opportunity to choose its partners in other parts of the world.²⁴⁰

The University of Cambridge noted however that while priority should be given to ensuring collaborative European energy projects continue, increased domestic funding may allow expansion in collaboration with other leading countries such as the US, Japan and China.²⁴¹

119. The Government stated that the UK would “welcome agreement to continue to collaborate with our European partners on major science, research, and technology initiatives”, including on “clean energy”.²⁴² It has also guaranteed to underwrite the payment of Horizon 2020 awards made before the UK leaves the EU, an initiative welcomed by witnesses. While the Secretary of State would not confirm whether he thought the UK may continue to get access to EU funds, he assured us that:

There is a lot of common ground about countries needing to work together on this, so a focus on energy innovation—in the context of the biggest funding commitment to science research and innovation in this country since 1979—I can confidently expect will be a core pillar of the Clean Growth Plan.²⁴³

120. The UK energy sector currently receives substantial funding from the EU, for infrastructure projects and for research and development. Maintaining collaboration with the EU in funding and research and development is important for investment in, and long term development of, our energy system. These are also opportunities for the UK to increase domestic funding and wider international collaboration in the energy sector to support the UK as a leader in low carbon technology. We recommend that the Government should seek ongoing access to EU financial institutions and funds and continued collaboration on science and technology. Where this is not possible, we

238 BEAMA ([EUE0021](#)); Aldersgate Group ([EUE0050](#)); RenewableUK ([EUE0055](#)); Carbon Capture and Storage Association ([EUE0064](#)); National Grid ([EUE0079](#)); The Prince of Wales's Corporate Leaders Group ([LEU0012](#)); British Ceramic Confederation ([LEU0020](#)); Centrica ([LEU0042](#)); Grantham Institute, Imperial College London ([LEU0002](#))

239 E3G ([EUE0011](#)); Citizens Advice ([EUE0032](#)); RenewableUK ([EUE0055](#)); Carbon Capture and Storage Association ([EUE0064](#)); Greenpeace UK ([EUE0070](#)); Chatham House UKERC ([LEU0006](#)); UKOTCF ([LEU0007](#))

240 Q189

241 University of Cambridge ([LEU0005](#))

242 “[The government's negotiating objectives for exiting the EU](#)”, Prime Minister's speech, 17 January 2017.

243 Q262

recommend that the Government seeks to develop credible alternatives to ensure that the UK does not lose out in these areas. It should also seek to expand domestic opportunities for research and development, and wider international collaboration.

Wider supply chains and skills

Trade barriers

121. A number of witnesses raised concerns that leaving the single market may have a detrimental impact on energy sector supply chains, as well as the efficient trading of energy over interconnectors.²⁴⁴ Witnesses did not envisage that restrictions on trade and labour, through tariffs or other barriers, would affect the operation of energy systems, but rather that they would increase the cost of energy services. According to a survey undertaken by Dong, its suppliers are already losing contracts due to uncertainty over future exchange rates and potential export tariffs.²⁴⁵

122. Centrica provided a detailed discussion of the effects of reverting to WTO rules, which it considered would likely have a moderate impact on costs across its supply chain. These would require the EU to trade with the UK on tariff terms which are no less favourable than those offered to other WTO members (this is known as the ‘most favoured nation’ rule). A range of goods and services in the energy sector would attract a tariff ranging from 1% to 4%. Centrica noted that some UK companies would be hit by both import and export tariffs, although gas and electricity imports are currently exempt from duty and import VAT, and would likely remain so. They further suggested it was imprudent to assume that the UK would automatically enjoy its current concessions and rights as a WTO member upon exiting the EU.²⁴⁶

123. Dr Nina Skorupska CBE, Chief Executive of the Renewable Energy Association, explained the effects of falling back to WTO rules on the cost-competitiveness and sustainability of bioenergy technologies:

For one-third of the renewable power we enjoy today, we import biomass, and we anticipate that [WTO rules] will impact the cost of that fuel [...] All of a sudden we will see a rebasing of how some renewable technologies can deliver value-for-money electricity²⁴⁷

Nobody has talked about those [new free trade] agreements undercutting what we already do now, for instance [if they lead to] importing very cheap biofuel from the likes of America or Canada because maybe they have lower quality standards than we introduce or different priorities or poorer quality [...] I am concerned that we automatically think we can default to WTO and everything will be fine on the night.²⁴⁸

She also raised concerns about the scale of tariffs that might be applied to imported storage technologies: “we could see some tariffs increasing, up to 24% on the cost of those

244 Renewable Energy Association ([LEU0009](#)); DONG Energy UK ([LEU0021](#)); Centrica ([LEU0042](#)); Ecotricity ([EUE0071](#))

245 Dong ([LEU0021](#))

246 Centrica ([LEU0042](#))

247 Q218

248 Q218

wonderful batteries that we want to be able to use".²⁴⁹ **Leaving the single market may increase overall energy costs through additional tariffs or other barriers to wider supply chains.**

Skilled labour

124. We also heard widespread concerns about access to skilled labour. A recent Energy Institute survey of 543 energy professionals showed a widely perceived shortage of qualified workers across almost every area of the UK energy sector.²⁵⁰ The Committee was told that the loss of easy access to European skilled workers may increase employment costs and have operational implications.²⁵¹ The Institution of Engineering and Technology highlighted for example how French technicians have been used to repair storm damage to distribution equipment.²⁵²

125. The impact of leaving the EU on access to skills appears to already have affected the UK. Dr Nina Skorupska told the Committee that some UK developers have already experienced problems hiring foreign expertise.²⁵³ Witnesses also noted concerns that energy sector innovation, research and development would be adversely affected by restrictions on the movement of labour.

126. However, some witnesses were optimistic, highlighting opportunities for UK expansion in energy skills and for wider international collaboration. For example, Nick Winsor, Deputy President of the Institution of Engineering and Technology, argued that the UK should grasp the opportunity to attract skills into new energy innovation and technology.²⁵⁴ Professor Michael Pollitt, from the University of Cambridge, argued that:

In terms of where the action is in energy, clearly the most interesting countries in the world continue to be the US, China and perhaps Japan in terms of energy R&D and innovation, and accessing the talent pool there or the research networks there is just as important as accessing the EU ... if we take Brexit as an opportunity to widen where we look for talent, that could be a good thing.²⁵⁵

127. The Secretary of State was clear on the importance of continuing to access skills and on the opportunities to look further afield:

it seems clear to me that where you have people of very high technical skills working in an international business, there has never been any suggestion that they should be excluded from this country... there are opportunities beyond the EU member states, but I come back to the point that it is in all our interests, selfevidently, to maintain the strength of our relationship on energy with our European neighbours and friends.²⁵⁶

249 Q218

250 Energy Institute, *Energy Barometer 2015: Views from UK energy professionals* (December 2015), pp 24-25

251 Institution of Engineering and Technology ([LEU0010](#)); EDF Energy ([LEU0024](#)); New Nuclear Watch Europe ([LEU0033](#)); Energy UK ([LEU0040](#)); Centrica ([LEU0042](#))

252 Institution of Engineering and Technology ([LEU0010](#))

253 Q189

254 Q190

255 Qs187-189

256 Qs234-236

128. We recommend that the Government, as part of its negotiations, seeks arrangements to ensure that the UK energy sector can access a skilled and mobile workforce, while recognising public concerns about migration levels.

8 Wider European legislation: energy efficiency and consumer protection

Introduction

129. Stakeholders highlighted many wider areas of EU energy and climate change policy that will be affected by Brexit. Energy efficiency, including the energy performance of buildings and products, was one of the most commonly raised issues. Prior to the referendum, EU policies were expected to achieve 50% of the UK's emissions reductions needed from buildings between 2015 and 2030, to remain on track to meet cost-effectively our 2050 target.²⁵⁷ EU energy product standards were also expected to be the largest contributor to energy bill reductions over the period to 2020.²⁵⁸

130. The main EU laws governing energy efficiency are:

- **2012 Energy Efficiency Directive**—sets a non-binding, EU-wide target to save 20% of primary energy consumption by 2020 and specifies binding measures to help achieve this goal;
- **2010 Energy Performance of Buildings Directive**—sets a target for all new buildings to be “nearly zero energy” by 2020; requires Member States to set minimum energy standards for major renovations and retrofits; requires energy performance certificates to be included in sale and rental adverts;
- **2009 Ecodesign Directive**—sets energy efficiency standards for products; and
- **2010 Energy Labelling Directive**—sets requirements for energy labelling of products.

131. Many witnesses expressed a preference to retain the standards set out in these Directives, albeit with some proposed reforms.²⁵⁹ For example, energy-intensive users suggested that the Energy Efficiency Directive's target-setting approach should be revised.²⁶⁰ A number of witnesses also proposed reforms to national measures that have been introduced in response to the Directives.²⁶¹ For example, the Mineral Wool Manufacturer's Association proposed revising the Energy Company Obligation, since it only targets fuel-

257 This figure includes emissions reductions from building-integrated renewables, as well energy efficiency measures applied to buildings and products. See: Committee on Climate Change, [Meeting Carbon Budgets – Implications of Brexit for UK climate policy](#), (October 2016).

258 DECC, [Estimated impacts of energy and climate change policies on energy prices and bills](#), (November 2014); Citizens Advice ([EUE0032](#))

259 Max Fordham LLP ([EUC0007](#)); Mineral Wool Manufacturers' Association (MIMA) ([EUC0027](#)); techUK ([EUC0043](#)); Chartered Institution of Building Services Engineers ([EUE0040](#)); Citizens Advice ([EUE0032](#)); Which? ([LEU0037](#)); Ricardo Energy & Environment ([EUC0019](#)); BRUFMA ([EUE0045](#)); Kingspan Insulation Ltd ([EUE0046](#)); Sustainable Energy Association ([EUE0061](#)); Energy Saving Trust ([LEU0035](#)); E3G ([EUC0037](#)), Chatham House ([EUE0016](#)), BEAMA ([EUE0021](#)), Energy and Utilities Alliance ([EUE0039](#)), Aldersgate Group ([EUE0050](#)), E.ON UK ([EUE0073](#)); Environmental Change Institute, University of Oxford ([EUC0002](#)); AECB the association for environment conscious building ([LEU0014](#))

260 Energy Intensive Users Group ([EUC0031](#)); British Ceramic Confederation ([EUC0013](#)); Energy Intensive Users Group ([EUE0036](#)); Energy and Utilities Alliance ([EUE0039](#)); AECB the association for environment conscious building ([LEU0014](#)); Q100 [Isaac Occhipinti]

261 Energy Intensive Users Group ([EUC0031](#)); British Ceramic Confederation ([EUC0013](#))

poor homes,²⁶² and TechUK proposed linking the Energy Savings Opportunity Scheme to financial incentives, citing concerns that it had been a “poor driver of action with high levels of non-compliance”.²⁶³

132. Professional and industry associations, as well as consumer protection groups, credited energy performance certificates with driving improvements in buildings energy efficiency,²⁶⁴ and the Ecodesign and Energy Labelling Directives with driving up the efficiency of electrical products and removing the least efficient from the market.²⁶⁵ BEAMA further highlighted the consumer protection benefits of standards, notably the avoidance of false performance claims, and non-compliant and counterfeit products.²⁶⁶ Stew Horne, Energy Regulations Principal Policy Manager at Citizens Advice, said that the UK has driven the development of European consumer protections in energy.²⁶⁷ He emphasised the need “to make sure that the current level of consumer protection is maintained and that British industry continues to be influential within the European forums”.²⁶⁸

133. The Government has said it will work with the British Standards Institution to ensure that our future relationship with the European Standards Organisations (which are not EU bodies) continues to support a productive, open and competitive business environment in the UK.²⁶⁹

Opportunities and risks of diverging from European energy efficiency standards

134. We explored the potential opportunities arising from leaving the EU regime of energy efficiency standards. Several witnesses saw an option to revise the VAT regime.²⁷⁰ Others saw potential divergence on standards and loss of influence over their establishment as key risks.

Revisions to VAT

135. During the Vote Leave campaign Boris Johnson MP and Michael Gove MP said that once outside the EU, the UK would be able to scrap VAT on household energy bills.²⁷¹ Witnesses disagreed about the social benefits of reducing VAT on energy bills. Stew Horne asserted that:

262 Mineral Wool Manufacturers Association, (EUC0027). See also Energy and Climate Change Committee, [Home Energy Efficiency and Demand Reduction](#), Fourth Report of Session 2015–16, HC 552

263 techUK (EUC0043)

264 BEAMA (EUE0021); Citizens Advice (EUE0032); Ricardo Energy & Environment (EUE0035); Chartered Institution of Building Services Engineers (EUE0040); BRUFMA (EUE0045); Kingspan Insulation Ltd (EUE0046); Sustainable Energy Association (EUE0061); Energy Saving Trust (LEU0035); UK Green Building Council (LEU0025). See also DECC, [An investigation of the effect of EPC ratings on house prices](#), June 2013

265 Committee on Climate Change, [Meeting Carbon Budgets – Implications of Brexit for UK climate policy](#), October 2016; BEAMA (EUE0021); Energy and Utilities Alliance (EUE0039); Chartered Institution of Building Services Engineers (EUE0040); Energy Saving Trust (LEU0035).

266 BEAMA (EUE0021)

267 Q107

268 Q93

269 HM Government, [The United Kingdom's exit from and new partnership with the European Union](#), (Cm 9417), February 2017

270 University of East Anglia (EUC0039), BEAMA (EUE0021), Valero Energy Ltd (EUE0030), Energy Institute (EUE0063); Which? (LEU0037)

271 [“We Could Scrap VAT On Energy Bills - Vote Leave”](#), SKY News, 31 May 2016

Removing VAT from energy bills is one of the most progressive tax changes that can be made, because it would largely benefit those on lower incomes, proportionately more so than those on higher incomes.²⁷²

136. On the other hand, Joanne Wade, Vice President of the European Council for an Energy Efficient Economy, argued that: “higher income consumers spend more on energy than lower income consumers. If you cut VAT, you give them more back”.²⁷³ She asserted that by cutting VAT on energy bills, the Government could “potentially end up with higher carbon emissions”.²⁷⁴ The Secretary of State told us that cutting VAT on household bills “is not something we [BEIS] have been actively looking at”.²⁷⁵

137. There was broad agreement that scrapping VAT on energy efficiency products would help to deliver emissions reductions and address fuel poverty.²⁷⁶ According to Stew Horne this “would really get to the heart of the problem, because you build in a year-on-year reduction and year-on-year savings on bills”.²⁷⁷ **A reduction in VAT on energy efficiency products would support consumers in using less energy. This would help to address both fuel poverty and decarbonisation objectives. We recommend that the Government reduces VAT on energy efficiency products after the UK leaves the EU.**

Divergence from European product standards

138. The Committee heard that the majority of European energy product standards have been driven by industry, with “only about 25% of the standards ... derived from European legislation”.²⁷⁸ Many witnesses noted that weakened and divergent UK standards could reduce trade opportunities for manufacturers, increase production costs (if differentiated product lines are required for the UK and EU), and lead to less efficient products being dumped on the UK market.²⁷⁹ Witnesses further expected that European energy standards would be retained in practice, because UK manufacturers wishing to export to the EU will need to continue to abide by EU standards, and EU manufacturers are unlikely to develop new, lower-efficiency products specifically for the UK. This is already the situation for most goods sold in Switzerland and Norway.²⁸⁰ In general, witnesses were keen for the UK to retain European energy product standards, or to develop domestic standards that match and track these.²⁸¹

272 Q107

273 Q108

274 Q109

275 Q278

276 University of East Anglia ([EUC0039](#)); BEAMA ([EUE0021](#)); Valero Energy Ltd ([EUE0030](#)); Energy Institute ([EUE0063](#)); Q107 Stew Horne; Q108 Philip Sellwood; Q109 Joanne Wade, Q111 Joanne Wade

277 Q107

278 Q93

279 E3G ([EUC0037](#)); Chatham House ([EUE0016](#)); BEAMA ([EUE0021](#)); Citizens Advice ([EUE0032](#)); Energy and Utilities Alliance ([EUE0039](#)); Aldersgate Group ([EUE0050](#)); E.ON UK ([EUE0073](#)); Environmental Change Institute, University of Oxford ([EUC0002](#)); AECB ([EUC0056](#)); Q93 Joanne Wade; Q95 Isaac Occhipinti; Q97 Isaac Occhipinti; Q185 Nick Winser

280 Chatham House ([EUE0016](#)); BEAMA ([EUE0021](#)); Citizens Advice ([EUE0032](#)); Energy and Utilities Alliance ([EUE0039](#)); Aldersgate Group ([EUE0050](#)); E.ON UK ([EUE0073](#)).

281 Environmental Change Institute, University of Oxford ([EUC0002](#)); Chatham House ([EUE0016](#)); BEAMA ([EUE0021](#)); Citizens Advice ([EUE0032](#)); E3G ([EUC0037](#)); Energy and Utilities Alliance ([EUE0039](#)); Aldersgate Group ([EUE0050](#)); E.ON UK ([EUE0073](#)); Q92 Isaac Occhipinti.

139. Several stakeholders were concerned that the UK's departure could reduce our role in determining European standards. This was because European Standards, which are developed separately from EU policies, in practice often seek to underpin and reflect them. They emphasised the importance of retaining influence, notably through ongoing UK presence inside European standards bodies.²⁸² Stew Horne called on the Government to conduct a cost-benefit analysis of any potential divergence to ensure that consumers are not disadvantaged by any changes in protections.²⁸³

140. EU-derived polices have contributed to significant improvements in the energy efficiency of buildings and products, with benefits in terms of emissions reductions, reduced household bills and consumer protections. A small number of organisations have called for changes to EU energy efficiency policies, but in general there is widespread support for maintaining the status quo. *The Government should consider retaining the majority of our EU-derived energy efficiency regulations, due to their economic, social and commercial benefits.*

141. Industry would in particular prefer European energy product standards to be retained. These are likely to be applied in practice, due to the continuing need to trade with EU countries. If our formal standards diverge too far from those applying in European countries, there is a risk that the UK could become a dumping ground for energy inefficient products.

142. *We recommend that the Government retains or mirrors European energy product standards for the immediate future at least, and should also, as far as possible, maintain routes to influence their development, for example through active UK participation in the European standards bodies. Any potential divergence from European energy product standards should be carefully evaluated, to avoid undermining consumer protection and competitiveness.*

282 Chatham House ([EUE0016](#)); BEAMA ([EUE0021](#)); Citizens Advice ([EUE0032](#)); Energy and Utilities Alliance ([EUE0039](#)); Aldersgate Group ([EUE0050](#)); Q93 Stew Horne.

283 Q107

9 Cross-cutting issues for energy and climate change policy

Introduction

143. UK–EU collaboration on energy and climate change policy offers long-term mutual benefits in terms of security of supply, consumer costs and decarbonisation at least cost. Our departure from the EU has potential ramifications across all areas of energy and climate change policy. Responses to this inquiry and the former inquiries of the Energy and Climate Change Committee highlighted several critical issues for the sector’s future functioning and direction, notably:

- the scope of our relationship with the Internal Energy Market and the European Network Codes, in particular in Northern Ireland, which will affect the security of energy supplies and consumer energy costs;
- our role in the operation and reform of the EU ETS, which has considerable implications for the feasibility of achieving emissions reductions at least cost, not only in the UK but also internationally;
- our international trade and research collaborations in nuclear energy, which will halt if there is a hiatus between our departure from Euratom and the entry into force of new cooperation agreements; and
- potential barriers to investment in low carbon infrastructure, the development of supply chains, maintenance of consumer protections, and research and innovation.

144. The Government has yet to set out clear and comprehensive aims for energy and climate change in the departure negotiations. It has said that it is “considering all options”.²⁸⁴ The balance of stakeholder opinions we heard lies with maintaining the status quo in most aspects of energy and climate policy. The feasibility of this objective is limited, however, by the overarching negotiation principles which have been proposed by both the UK Government and European bodies, which are summarised in Chapter 2. This chapter draws together cross-cutting themes and makes recommendations for general negotiation priorities across the energy and climate change space.

Policy direction

145. Whilst the motivations behind the referendum result were many and various, we can be reasonably confident that the UK’s decision to leave the EU was not driven by a desire to reform energy and climate change policy. Witnesses to our inquiry repeatedly emphasised the short- and long-term importance of current and anticipated EU-derived policy initiatives for the Government’s objectives on security of supply, energy prices and decarbonisation. They highlighted the importance of retaining close links with major energy institutions (such as the Internal Energy Market, the EU ETS and Euratom), and of barrier-free access to goods, services and skills, as well as retaining financing and funding

284 Department for Exiting the European Union, [The United Kingdom’s exit from, and new partnership with the European Union](#), Cm 9417, 2 February 2017

opportunities equivalent to those available through the EU. The Secretary of State also acknowledged that co-operation with EU partners was generally mutually beneficial,²⁸⁵ and appeared to imply that it was in the country's best interests to continue participating in the Internal Energy Market.²⁸⁶ **We agree with stakeholders, and the Secretary of State, that business as usual should generally be the way forward as far as possible for energy and climate change policy.**

146. *We recommend that the Government seeks to avoid disruption to the energy sector and the domestic climate change agenda. Arrangements mirroring the status quo should be implemented as far as possible. Furthermore, the Government should seek to provide clarity, stability and foresight on domestic policy to support investment, including a long-term vision, sectoral aims and dedicated funding.*

147. The influence and significance of domestic energy and climate change policy extends far beyond our immediate agenda to depart the EU. **Brexit must not be allowed to distract the Government from the delivery of essential and long-term domestic policy decisions such as the Clean Growth Plan. These are of paramount importance to the sector.** Many witnesses asserted that the Government can and should boost investor confidence across the energy sector by providing clarity, stability and foresight on the direction of, and future changes, to its long-term domestic policy. **Given that the Government will retain control over domestic policy throughout the negotiations, there is no justification for further delay to decisions which are necessary to facilitate much-needed investment in the UK energy market. The Government must continue to advance the delivery of domestic energy and climate change policy without delay, including publication of the Clean Growth Plan.**

148. Witnesses also highlighted the role of domestic policy in maximising the industrial opportunities of the decarbonisation agenda. The Minister of State for Climate Change and Industry told the Committee that he was determined that “the Clean Growth Plan [...] is embedded now into our Industrial Strategy”.²⁸⁷

149. **Whilst the details of our exit agreement will necessarily remain uncertain for the immediate future, we are disappointed that the Government has been unwilling to announce its overall objectives in respect of energy and climate change. Such an indication would better enable stakeholders to adjust their investment and operational plans. We recommend that the Government publishes its overall objectives in the field of energy and climate change policy without delay.**

Balance of mutual benefits

150. There are many areas in which EU initiatives have benefitted the UK. However, UK participation has also benefitted the remaining 27 Member States. For example: market coupling increases the flexibility and responsiveness of the British electricity grid in European grid balancing; the UK contributes a proportionately high share of overall emissions reductions in the EU ETS; and the European JET facility hosted at Culham is presently the most advanced fusion reactor in the world.

285 Q229; Q231; Q233; Q236; Q249; Q250; Q254; Q267; Q280

286 Q249

287 Q261

151. It is widely recognised that the UK has led the development of many progressive EU energy and climate change policies, which have often been based on earlier UK initiatives.²⁸⁸ Examples include energy market liberalisation, the emissions trading system and the decarbonisation agenda. Strong UK ambitions and influence—in particular on climate change—are understood to have led to the adoption of more ambitious EU policies than might have otherwise been the case.

152. The leverage that UK benefits to the EU offer in the negotiations should not, however, be overplayed. The UK's influence in EU energy policy has not been uniformly welcomed, and Member States with opposing views and differing economic circumstances may well view a reduced UK influence—and thus an opportunity to change the direction of EU policy—as advantageous. Furthermore, not all Member States regard our departure as a major ongoing concern. Antony Froggatt of Chatham House explained that:

If you go to Brussels and you discuss energy and climate issues, Brexit is not number one. It may be in the top five, but if you go to Poland it is not going to be in the top 10.²⁸⁹

153. It is right for the Government to note the benefits of UK participation in EU energy and climate change initiatives for the remaining 27 Member States. However, given the stated position of the European Council, the Government should be realistic and not rely on these benefits to provide undue leverage.

Dispute resolution and enforcement

154. We recognise that one of the overarching aims of our departure is to remove the UK from the jurisdiction of the European Court of Justice. Whatever the extent and scope of our future energy and climate change partnership with the EU, it will be necessary to establish a new independent body for arbitration and enforcement. This will be especially important if the UK is to retain participation in the Internal Energy Market and the EU ETS, as non-compliance with the regulations of these bodies is ultimately a matter for the ECJ. It will also be key to ensure that legislation retained through the Great Repeal Bill remains enforceable. Professor Andrew Jordan, from the University of East Anglia, said in July that:

were all the legislation to be grandfathered outside the EU framework—in other words, carried across but without the European Environment Agency, the European Commission and the European Court of Justice—there is a real risk it would become zombie legislation; it would not have that power behind it to keep it updated and properly enforced.²⁹⁰

We recommend that the Government prioritises the establishment of new joint dispute resolution and enforcement arrangements with the EU.

288 Institute for European Environmental Policy, [The potential policy and environmental consequences for the UK of a departure from the European Union](#), March 2016

289 Q224

290 Oral evidence taken before the House of Lords Select Committee on the European Union on 20 July 2016, [Q5 \[Professor Andrew Jordan\]](#)

Influence over future changes to EU rules

155. There is a trade-off between protecting the status quo in energy and climate policy—with accompanying restrictions in terms of policymaking—and, on the other hand, greater policy flexibility—but with potentially lower efficiencies arising from reduced integration and resource sharing. In general, witnesses favoured ongoing alignment with EU policy, reflecting perhaps a natural affinity with the status quo. However, they expressed strong concerns about the UK becoming a rule-taker. Chatham House noted that:

Outside of the EU, the UK will see its influence over the drafting of EU legislation drastically reduced... The Department for Business, Energy and Industrial Strategy would lose its voice during the comitology process²⁹¹. The UK government would also lose its voting rights in the Council and there would be no British MEPs in Parliament.²⁹²

156. The Prime Minister has recently acknowledged that the UK will lose influence over the development of EU rules, and therefore that we will become a rule-taker, at least in trade.²⁹³ **We welcome the Government’s published intention to retain UK participation in European regulatory bodies. We recommend that the Government seeks to maximise the extent of our influence in these bodies, such as in respect of voting rights and participation in working groups.**

157. **We further recommend that the Government seeks to maximise other opportunities to retain influence in EU and European bodies, for example through membership of the European standards bodies, regulators’ associations and industry associations, and by increasing the resources of the UK energy and climate change delegation in Brussels.**

158. A number of major new EU energy and climate change policies are currently being developed, and are expected to be adopted before our departure. These include the Clean Energy Package and Phase IV of the EU ETS. **In all cases, it will be important to engage proactively with the development of new EU policies throughout the negotiation period, to ensure that the laws we adopt under the Great Repeal Bill support our national policy ambitions and represent a good deal for the UK energy industry. We recommend that the Government engages proactively with the development of new EU policies throughout the negotiation period.**

Transitional issues

159. Witnesses welcomed the Government’s intention to convert all existing EU law into UK law under the Great Repeal Bill. It was also noted that additional transitional arrangements may be required, for two reasons:

- (1) The extent and complexity of existing integration between the UK and EU energy sectors may mean that additional time will be needed to develop the detail of some arrangements.²⁹⁴

291 Comitology in the European Union refers to a process by which EU law is modified or adjusted and takes place within “comitology committees” chaired by the European Commission.

292 Chatham House UKERC ([LEU0006](#))

293 Letter, [Prime Minister to President of the European Union to trigger Article 50](#), 29 March 2017

294 E3G ([LEU0017](#)); Centrica ([LEU0042](#)); EDF Energy ([LEU0024](#))

- (2) Even where long-term solutions are clear, it may be necessary to allow time to unwind existing commitments in an orderly fashion, so that potentially serious adverse market impacts can be avoided.²⁹⁵

160. Several witnesses suggested that arrangements should be made to retain the existing framework, including full participation in the Internal Energy Market, until a mutually beneficial alternative can be developed.²⁹⁶ This would avoid the risk of a legislative hiatus, which could result in a sudden cessation of collaborative research agreements, funding streams and nuclear trade.

161. We welcome the Government's intention to retain existing EU law at the point of departure, through the Great Repeal Bill. We recommend that existing membership of energy-specific institutions, such as the Internal Energy Market and the EU ETS, be retained, at least as a transitional arrangement, until alternatives can be developed in detail.

²⁹⁵ EDF Energy ([LEU0024](#))

²⁹⁶ E3G ([LEU0017](#)); Centrica ([LEU0042](#)); EDF ([LEU0024](#))

Conclusions and recommendations

The Internal Energy Market

1. We have heard evidence from across the energy and wider industries that access to the Internal Energy Market is important for secure, clean, and affordable UK energy supply, and that it is in the interests of both UK and EU consumers to facilitate the most efficient sharing of energy resources established through the Internal Energy Market. (Paragraph 37)
2. There are some technical differences between the UK and EU energy systems, and therefore there is a potential long term risk of the UK losing influence on the design and detailed rules underpinning the Internal Energy Market in order to access and share energy resources. Some witnesses have also raised concerns that network charges and the UK Carbon Price Floor may be distorting competition in favour of interconnection and continental generation. (Paragraph 38)
3. We believe that membership of the Internal Energy Market has been beneficial to UK and EU consumers and has helped provide flexibility and certainty to the supply of energy. We therefore agree with the Government's intention to retain as free as possible access to this market and the intention to remain an influential player on energy in the EU. (Paragraph 39)
4. *We recommend that the Government seeks continued access to the Internal Energy Market, with no accompanying tariffs or barriers to trade. This should include continued participation in the trading arrangements established by the European Network Codes to ensure the most efficient operation of UK interconnectors.* (Paragraph 40)
5. *We recommend that the Government should seek continued UK influence over the rules of the Internal Energy Market. In particular it should explore continued full membership of the technical institutions for developing the detailed rules of the Internal Energy Market.* (Paragraph 41)

Northern Ireland

6. The free trade of energy across the island of Ireland and efficient use of interconnection with Great Britain are of critical importance to Northern Ireland, which is reliant on imports from the Republic of Ireland and Great Britain for gas and power supply. Any disruption to the development of and trading within the Single Energy Market of the island of Ireland (SEM), and the ongoing implementation of the Integrated Single Energy Market (I-SEM) project, may have serious implications for consumers across the island of Ireland. (Paragraph 51)
7. *We recommend that the Government protect the continued operation of SEM and implementation of the I-SEM project, through the UK's wider access to the Internal Energy Market or alternatively through special arrangements for the island of Ireland.* (Paragraph 52)

EU Emissions Trading System

8. Emissions Trading Systems are in theory the most effective means of reducing emissions at lowest cost. The UK and EU benefit by being part of a wider system able to import and export carbon allowances to reduce emissions in a way that is most cost efficient. The EU ETS is also a good example of international collaboration and ambition to tackle climate change. In practice, the EU ETS is performing poorly, due to a low target and domestic policies causing oversupply of EU ETS permits. We share concerns that not enough is being done to protect UK industry from carbon leakage, in particular due to the unilateral UK Carbon Price Floor. (Paragraph 65)
9. The 5th Carbon Budget adopted in 2016 was calculated assuming ongoing UK participation in the EU ETS. If the UK leaves the EU ETS, the Carbon Budget will need to be revised upwards in order for the UK to remain on a cost-effective path to meeting our target of an 80% emissions reduction by 2050. (Paragraph 70)
10. *We recommend that—if the UK leaves the EU ETS—the Government revises the 5th Carbon budget, on the advice of the Committee on Climate Change.* (Paragraph 71)
11. It is not clear that there are as yet any alternative options to membership of the EU ETS that could deliver our emissions reduction target at least cost. The most realistic aim should be a more ambitious EU ETS, with permit prices and the UK carbon price floor aligning across the EU to ensure the most cost efficient and competitive reduction in overall carbon emissions. (Paragraph 75)
12. *We recommend that the Government seeks to retain membership of the EU ETS until at least end of Phase III in 2020, and that it seeks to negotiate longer term membership of the EU ETS on the condition of commitment to future reform.* (Paragraph 76)
13. *If sufficient reforms to the EU ETS do not appear achievable, we recommend that the Government considers alternative options, such as establishing a separate UK system linked with wider international schemes. We further recommend that the Government should not seek to leave the EU ETS until it has established clear and well-tested alternative approaches which can deliver our emissions reduction targets at low cost and without destabilising investment or undermining the UK's commitment and ambition to tackle climate change.* (Paragraph 77)

Euratom

14. The Government's objective to leave the jurisdiction of the European Court of Justice means that it is politically unfeasible for the UK to remain a member of Euratom in the long term, but a temporary extension to our membership—if legal—would allow time for new arrangements to be put in place. We are not aware of any substantive arguments in favour of leaving Euratom made either during the referendum campaign or afterwards. This outcome seems to be an unfortunate, and perhaps unforeseen, consequence of the Prime Minister's decision to leave the jurisdiction of the European Court of Justice. Safeguarding nuclear energy is a public policy area with a unique level of risk and therefore requires a robust legal regime. *We note that the necessity of leaving Euratom is subject to legal uncertainty, but that*

uncertainty puts the continuing operation of the nuclear industry in the UK at risk. The Government therefore has a responsibility to resolve this matter as urgently as possible. (Paragraph 85)

15. Exclusion from Euratom's research programmes could disadvantage national nuclear research, limit the UK's future access to global developments in fusion, and reduce the substantial business opportunities for UK firms supplying Euratom research projects. *The Government should explore options to maintain the benefits of our existing research cooperation with Euratom, such as third party membership. Special consideration should be given to funding arrangements that would allow continued operation of, and access to, world-leading research projects including JET and ITER.* (Paragraph 95)
16. The nuclear industry has expressed strong concerns that new arrangements will take longer than two years to set up. Ministers have not been able to allay these concerns. An interval between the cessation of our Euratom membership and the entry into force of new arrangements could severely inhibit nuclear trade and research cooperation. *We recommend that the Government seeks to delay our departure from Euratom. This would give the nuclear industry a realistic window for setting up alternative arrangements—including safeguards and international nuclear cooperation agreements—so as to minimise any disruptions to trade and threats to power supplies.* (Paragraph 99)
17. *If the option of remaining a Euratom member proves untenable, we recommend that the Government seeks a transitional agreement to retain our existing arrangements until new arrangements can be put in place. The duration of this agreement may need to be longer than the three year transitional period proposed by the European Parliament.* (Paragraph 100)

Investor confidence and the future UK energy system

18. *We recommend that the Government provides a clear and long term vision for the UK energy sector to support investor confidence, and this should underpin its negotiating objectives on energy and climate change.* (Paragraph 114)
19. The UK energy sector currently receives substantial funding from the EU, for infrastructure projects and for research and development. Maintaining collaboration with the EU in funding and research and development is important for investment in, and long term development of, our energy system. These are also opportunities for the UK to increase domestic funding and wider international collaboration in the energy sector to support the UK as a leader in low carbon technology. *We recommend that the Government should seek ongoing access to EU financial institutions and funds and continued collaboration on science and technology. Where this is not possible, we recommend that the Government seeks to develop credible alternatives to ensure that the UK does not lose out in these areas. It should also seek to expand domestic opportunities for research and development, and wider international collaboration.* (Paragraph 120)
20. Leaving the single market may increase overall energy costs through additional tariffs or other barriers to wider supply chains. (Paragraph 123)

21. *We recommend that the Government, as part of its negotiations, seeks arrangements to ensure that the UK energy sector can access a skilled and mobile workforce, while recognising public concerns about migration levels. (Paragraph 128)*

Wider European legislation: energy efficiency and consumer protection

22. A reduction in VAT on energy efficiency products would support consumers in using less energy. This would help to address both fuel poverty and decarbonisation objectives. *We recommend that the Government reduces VAT on energy efficiency products after the UK leaves the EU. (Paragraph 137)*
23. EU-derived polices have contributed to significant improvements in the energy efficiency of buildings and products, with benefits in terms of emissions reductions, reduced household bills and consumer protections. A small number of organisations have called for changes to EU energy efficiency policies, but in general there is widespread support for maintaining the status quo. *The Government should consider retaining the majority of our EU-derived energy efficiency regulations, due to their economic, social and commercial benefits. (Paragraph 140)*
24. Industry would in particular prefer European energy product standards to be retained. These are likely to be applied in practice, due to the continuing need to trade with EU countries. If our formal standards diverge too far from those applying in European countries, there is a risk that the UK could become a dumping ground for energy inefficient products. (Paragraph 141)
25. *We recommend that the Government retains or mirrors European energy product standards for the immediate future at least, and should also, as far as possible, maintain routes to influence their development, for example through active UK participation in the European standards bodies. Any potential divergence from European energy product standards should be carefully evaluated, to avoid undermining consumer protection and competitiveness. (Paragraph 142)*

Cross-cutting issues for energy and climate change policy

26. We agree with stakeholders, and the Secretary of State, that business as usual should generally be the way forward as far as possible for energy and climate change policy. (Paragraph 145)
27. *We recommend that the Government seeks to avoid disruption to the energy sector and the domestic climate change agenda. Arrangements mirroring the status quo should be implemented as far as possible. Furthermore, the Government should seek to provide clarity, stability and foresight on domestic policy to support investment, including a long-term vision, sectoral aims and dedicated funding. (Paragraph 146)*
28. Brexit must not be allowed to distract the Government from the delivery of essential and long-term domestic policy decisions such as the Clean Growth Plan. These are of paramount importance to the sector. Many witnesses asserted that the Government can and should boost investor confidence across the energy sector by providing clarity, stability and foresight on the direction of, and future changes, to its long-term domestic policy. Given that the Government will retain control over domestic

policy throughout the negotiations, there is no justification for further delay to decisions which are necessary to facilitate much-needed investment in the UK energy market. *The Government must continue to advance the delivery of domestic energy and climate change policy without delay, including publication of the Clean Growth Plan.* (Paragraph 147)

29. Whilst the details of our exit agreement will necessarily remain uncertain for the immediate future, we are disappointed that the Government has been unwilling to announce its overall objectives in respect of energy and climate change. Such an indication would better enable stakeholders to adjust their investment and operational plans. *We recommend that the Government publishes its overall objectives in the field of energy and climate change policy without delay.* (Paragraph 149)
30. It is right for the Government to note the benefits of UK participation in EU energy and climate change initiatives for the remaining 27 Member States. However, given the stated position of the European Council, the Government should be realistic and not rely on these benefits to provide undue leverage. (Paragraph 153)
31. *We recommend that the Government prioritises the establishment of new joint dispute resolution and enforcement arrangements with the EU.* (Paragraph 154)
32. We welcome the Government's published intention to retain UK participation in European regulatory bodies. *We recommend that the Government seeks to maximise the extent of our influence in these bodies, such as in respect of voting rights and participation in working groups.* (Paragraph 156)
33. *We further recommend that the Government seeks to maximise other opportunities to retain influence in EU and European bodies, for example through membership of the European standards bodies, regulators' associations and industry associations, and by increasing the resources of the UK energy and climate change delegation in Brussels.* (Paragraph 157)
34. In all cases, it will be important to engage proactively with the development of new EU policies throughout the negotiation period, to ensure that the laws we adopt under the Great Repeal Bill support our national policy ambitions and represent a good deal for the UK energy industry. *We recommend that the Government engages proactively with the development of new EU policies throughout the negotiation period.* (Paragraph 158)
35. We welcome the Government's intention to retain existing EU law at the point of departure, through the Great Repeal Bill. *We recommend that existing membership of energy-specific institutions, such as the Internal Energy Market and the EU ETS, be retained, at least as a transitional arrangement, until alternatives can be developed in detail.* (Paragraph 161)

Formal Minutes

Tuesday 25 April 2017

Members present:

Mr Iain Wright, in the Chair

Richard Fuller	Antoinette Sandbach
Peter Kyle	Amanda Solloway
Amanda Milling	Michelle Thomson

Draft Report (*Leaving the EU: negotiation priorities for energy and climate change policy*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 161 read and agreed to.

Summary agreed to.

Resolved, That the Report be the Fourth Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

Written evidence was ordered to be reported to the House for publishing with the Report (in addition to that ordered to be reported for publishing on 17 January, 21 February and 21 March).

[Adjourned

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the [inquiry publications page](#) of the Committee's website.

Wednesday 25 January 2017

Question number

Paul Hallas, Regulation and Strategy Director, Centrica, **Kevin Dibble**, Director of Strategy and Communications, Engie UK, **Phil Sheppard**, Director of System Operations, National Grid, **Ian Graves**, Director of Business Development, National Grid, and **Martijn van Gemert**, Electricity Committee Member, European Federation of Energy Traders

[Q1–42](#)

Tuesday 7 February 2017

Sara Vaughan, Strategy and Corporate Affairs Director, E.ON UK, **John Lanchbery**, Principal Climate Advisor, The Royal Society for the Protection of Birds, **Andrew McDermott**, Technical Director, British Ceramic Confederation, and **Dr William Kyte OBE**, International Emissions Trading Association Fellow, IETA

[Q43–82](#)

Philip Sellwood, Chief Executive, Energy Saving Trust, **Isaac Occhipinti**, Head of External Affairs, Energy and Utilities Alliance, **Stew Horne**, Energy Regulations Principal Policy Manager, Citizens Advice, and **Joanne Wade**, Vice President, European Council for an Energy Efficient Economy

[Q83–111](#)

Tuesday 28 February 2017

David Senior, Director of Assurance, Policy and International, Office for Nuclear Regulation, **Dame Sue Ion**, Chair, Nuclear Innovation and Research Advisory Board, **Tom Greatrex**, Chief Executive, Nuclear Industry Association, and **Rupert Cowen**, Senior Commercial and Nuclear Energy Lawyer, Prospect Law

[Q112–149](#)

Ian Simm, Chief Executive Officer, Impax Asset Management, **Alejandro Ciruelos**, UK Head, Project and Acquisition Finance, Santander Global Banking & Markets, **Kirsty Hamilton**, Associate Fellow, Chatham House, and **Carol Gould**, Head of Power and Renewables, European Investment Banking Division, The Bank of Tokyo-Mitsubishi UFJ

[Q150–179](#)

Tuesday 21 March 2017

Dr Nina Skorupska CBE, Chief Executive, Renewable Energy Association, **Nick Winser CBE**, Deputy President of the Institution of Engineering and Technology, and **Antony Froggatt**, Senior Research Fellow, Chatham House, Professor Michael Pollitt, University of Cambridge

[Q180–227](#)

Wednesday 19 April 2017

Rt Hon Greg Clark MP, Secretary of State for Business, Energy and Industrial Strategy, **Jesse Norman MP**, Under Secretary of State for Industry and Energy, and **Nick Hurd MP**, Under Secretary of State for Climate Change, Department for Business, Energy and Industrial Strategy

[Q228–316](#)

Published written evidence

The following written evidence was received and can be viewed on the [inquiry publications page](#) of the Committee's website.

LEU numbers are generated by the evidence processing system and so may not be complete.

- 1 Aldersgate Group ([LEU0038](#))
- 2 Brian Catt ([LEU0028](#))
- 3 British Ceramic Confederation ([LEU0020](#))
- 4 Centrica ([LEU0042](#))
- 5 Chatham House ([LEU0041](#))
- 6 Chatham House – UKERC ([LEU0006](#))
- 7 Dairy UK ([LEU0027](#))
- 8 Department for Business, Energy and Industrial Strategy ([LEU0036](#))
- 9 DONG Energy UK ([LEU0021](#))
- 10 E3G ([LEU0017](#))
- 11 EDF Energy ([LEU0024](#))
- 12 Energy Saving Trust ([LEU0035](#))
- 13 Energy UK ([LEU0040](#))
- 14 Grantham Institute, Imperial College London ([LEU0002](#), [LEU0015](#))
- 15 Grantham Research Institute, London School of Economics and Political Science ([LEU0029](#))
- 16 Institution of Engineering and Technology ([LEU0010](#))
- 17 Interconnector UK ([LEU0023](#))
- 18 Met Office ([LEU0039](#))
- 19 National Farmers Union ([LEU0004](#))
- 20 National Grid ([LEU0026](#))
- 21 New Nuclear Watch Europe (NNWE) ([LEU0033](#))
- 22 Nuclear Industry Association ([LEU0013](#))
- 23 Nuclear Innovation and Research Advisory Board ([LEU0018](#))
- 24 Ofgem ([LEU0031](#))
- 25 Oil & Gas UK ([LEU0032](#))
- 26 Polar Research and Policy Initiative ([LEU0016](#))
- 27 Prince of Wales's Corporate Leaders Group ([LEU0012](#))
- 28 Renewable Energy Association ([LEU0009](#))
- 29 RSPB ([LEU0011](#))
- 30 techUK ([LEU0008](#))
- 31 UK Green Building Council ([LEU0025](#))
- 32 UK Overseas Territories Conservation Forum ([LEU0007](#))
- 33 University of Cambridge ([LEU0005](#))
- 34 Which? ([LEU0037](#))

List of Reports from the Business, Innovation and Skills Committee during the current Parliament

All publications from the Committee are available on the [publications page](#) of the Committee's website.

The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

Session 2015–16

First Report	The UK steel industry	HC 546
Second Report	The Government's Productivity Plan	HC 466 (HC 931)
Third Report	The Teaching Excellence Framework: Assessing quality in Higher Education	HC 572
First Special Report	Competition in the postal services sector and the Universal Service Obligation: Responses to the Committee's Ninth Report of Session 2014–15	HC 476
Second Special Report	Education, skills and productivity: commissioned research	HC 565
Third Special Report	The UK steel industry: Government Response to the crisis: Response to the Committee's First Report of Session 2015–16	HC 861

Session 2016–17

First Report	Careers education, information, advice and guidance	HC 205
Second Report	The Digital Economy	HC 87 (HC 930)
Third Report	Employment practices at Sports Direct	HC 219
Fourth Report	BHS	HC 54
Fifth Report	The use of UK-manufactured arms in Yemen	HC 679

List of Reports from the Business, Energy and Industrial Strategy Committee during the current Parliament

All publications from the Committee are available on the [publications page](#) of the Committee's website.

The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

Session 2016–17

First Report	Access to finance	HC 84 (HC 980)
Second Report	Industrial Strategy: First Review	HC 616
Third Report	Corporate governance	HC 702
Second Special Report	The Government's Productivity Plan: Government Response to the Business, Innovation and Skills Committee's Second Report of Session 2015–16	HC 931
Third Special Report	The Digital Economy: Government Response to the Business, Innovation and Skills Committee's Second Report of Session 2016–17	HC 930
Fourth Special Report	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	HC 945
Fifth Special Report	Access to finance: Government Response to the Committee's First Report	HC 980