House of Commons

Scottish Affairs Committee

The renewable energy sector in Scotland

First Report of Session 2016–17

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The Scottish Affairs Committee

The Scottish Affairs Committee is appointed by the House of Commons to examine the expenditure, administration, and policy of the Scotland Office (including (i) relations with the Scottish Parliament and (ii) administration and expenditure of the offices of the Advocate General for Scotland (but excluding individual cases and advice given within government by the Advocate General)).

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1 Our inquiry

1. Scotland's geography and natural resources, combined in recent years with supportive policies at Holyrood and Westminster, have enabled the renewable energy sector in Scotland to grow significantly over the last decade. In 2014, Scotland produced 29% of the UK's renewable electricity,[1] and it has been particularly successful at attracting the deployment of onshore wind technology, with 60% of the UK's onshore wind generating capacity located in Scotland, and hydro technology, with over 85% of the UK's hydro capacity located in Scotland.[2]

2. The renewable sector is important because renewable technologies generate electricity without producing the high levels of carbon emissions that result from traditional sources of electricity, such as coal and gas plants. Around a quarter of the UK's carbon emissions are produced by generating electricity,[3] and there are challenging targets, at a Scottish, UK and international level for combatting climate change by reducing carbon emissions and increasing the proportion of the UK's energy which is generated by renewable technology. To date a significant focus of the UK's efforts to reduce carbon emissions has been on decarbonising the supply of electricity. Broadly, this involves moving away from conventional electricity generators—such as coal and gas plants—which emit high levels of carbon, to low-carbon generators such as nuclear power plants and renewable technologies which are powered by natural resources such as wind and solar energy.

3. The wholesale price of electricity has been too low to support investment in renewable electricity generators by itself, so the UK Government has established various subsidies to support the generation of renewable electricity. These subsidies work by providing additional revenue, on top of the sale of electricity at market prices, for renewable generators, making them commercially viable in order to encourage investment. The cost of this support is, ultimately, paid for by electricity users through their energy bills.

Devolution settlement

4. Responsibility for policy areas relating to renewable energy and carbon emissions is divided between the UK and Scottish governments. In Scotland and Wales electricity, including support for the generation of renewable electricity, is a reserved matter and therefore the responsibility of the UK Government. Responsibility for electricity is devolved to Northern Ireland (which shares an electricity market with the Republic of Ireland). The UK Government therefore has responsibility for the electricity market across Great Britain, but not the whole of the UK. The control and regulation of carbon emissions is not reserved, and is therefore a matter for the Scottish Government, although the UK Government still sets UK-wide targets for reducing carbon emissions. As with all areas of policy, the Scotland Office is responsible for representing Scottish interests within the UK Government, and representing the UK Government in Scotland.

1 Department of Energy and Climate Change, Energy Trends December 2015, December 2015
2 Department of Energy and Climate Change, Energy Trends: September 2015, special feature article - Renewable electricity in Scotland, Wales, Northern Ireland and the regions of England in 2014, September 2015
3 Committee on Climate Change, UK Emissions by Sector, accessed June 2016

Recent policy changes

5. Following the 2015 General Election, the UK Government has made several changes to support for generators of renewable electricity, restricting access to some subsidies, reducing the level of support which is offered by others, and delaying the process of awarding new contracts to support the deployment of new renewable electricity generators.[4] These changes have been prompted by a projected overspend on support for renewables, and also a manifesto commitment by the Conservative Party to end new subsidies for onshore wind.[5]

Our inquiry

6. In light of recent changes to support for renewables, and the importance of Scotland's renewable sector—both to the Scottish economy and to the ability of both the whole UK and Scotland to meet legally-binding carbon emission targets—in January 2016 we launched an inquiry into the renewable energy sector in Scotland to consider the impact of recent policy changes and the future prospects for this sector.[6] Because Scotland's renewable sector is predominantly concerned with the generation of electricity, and it is Scotland's renewable electricity sector which has been most affected by recent policy announcements, the focus of this Report is on renewable electricity.

7. To inform our inquiry we have taken evidence from representatives of the renewable sector, experts and academics from a range of institutions, community groups and ministers from the UK and Scottish governments. We also visited Orkney to discuss our inquiry with representatives of the local renewables industry, visit Hammars Hill wind farm and tour the European Marine Energy Centre. We are grateful to all those who have helped inform this report, and particularly to those who facilitated our visit to Orkney.[7]

8. The evidence which informed this Report was taken ahead of the EU referendum, and we did not look in detail at the consequences the UK's withdrawal from the EU could have for the renewable sector. We present our findings on that basis.

Work by other Committees

9. Other Committees at both Westminster and Holyrood have looked at some of the issues we consider in this report, and we have referred to their evidence and findings where relevant. These include the House of Commons Energy and Climate Change Committee's reports on *Investor confidence in the UK energy sector*, the *Future of carbon capture and storage in the UK*, *Setting the fifth carbon budget* and *Low carbon network infrastructure*.[8] Also of relevance to our work are the Scottish Parliament's Economy, Energy and Tourism Committee inquiry into security of supply, and a one-off oral evidence session that Committee held looking at *Renewable energy in Scotland*.[9]

4 See Chapter 3 for details of these changes.

5 Department for Energy and Climate Change, Controlling the cost of renewable energy, July 2015, The Conservative Party, The Conservative Party Manifesto 2015

6 The full terms of reference are available online: Renewable energy sector in Scotland inquiry launched

7 A full list of the evidence the Committee received is available on pages 49–52.

8 Energy and Climate Change Committee, Investor confidence in the UK energy sector, Third Report of Session 2015–16, HC 542, Energy and Climate Change Committee, Future of carbon capture and storage in the UK, Second Report of Session 2015–16, HC 692, Energy and Climate Change Committee, Setting the fifth carbon budget, Fifth Report of Session 2015–16, HC 659, Energy and Climate Change Committee, Low carbon network infrastructure, First Report of Session 2016–17, HC 267

9 Scottish Parliament, Economy, Energy and Tourism Committee, Plugged-in Switched-on Charged-up: Ensuring Scotland's Energy Security, Eighth Report of Session Four, SP Paper 780, Scottish Parliament, Economy, Energy and Tourism Committee, Renewable energy in Scotland, December 2015

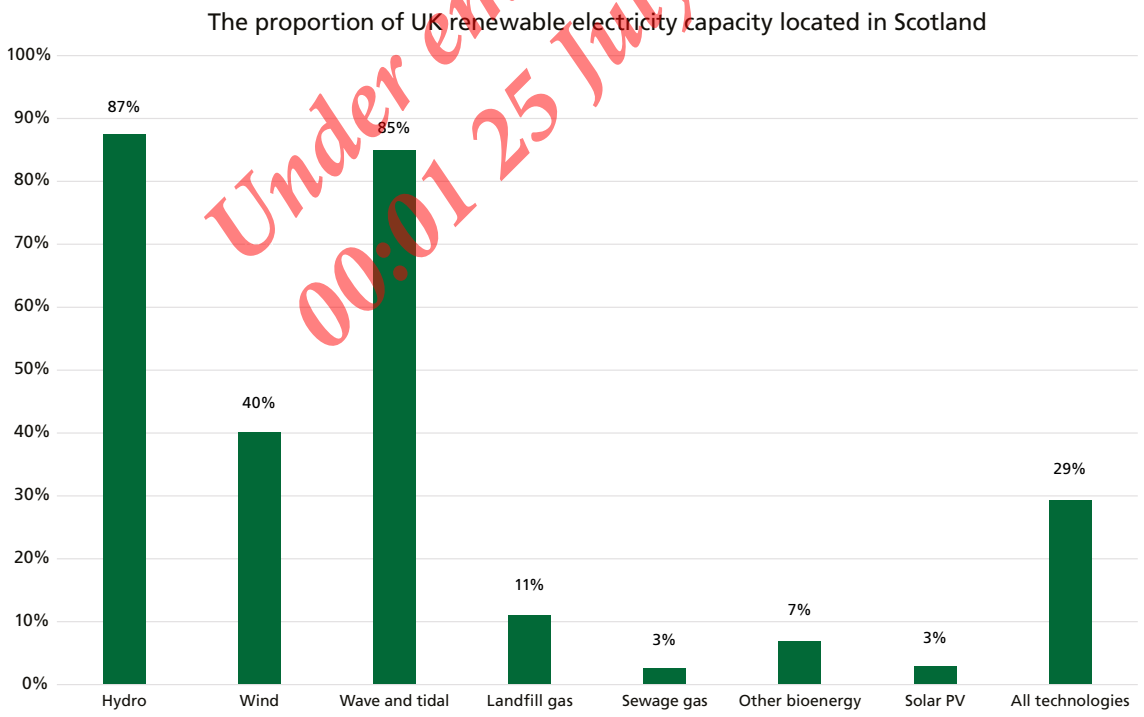
2 The renewable sector in Scotland

10. Scotland has a thriving renewables sector, particularly when it comes to renewable electricity. In 2014, 38% of the electricity generated in Scotland was produced by renewable technology—the highest proportion of any part of the UK—and Scotland accounted for 29% of renewable electricity generated across the whole of the UK.[10] As in other parts of the UK, less progress has been made on using renewables to meet heat and transport energy needs, with just under 4% of heat and transport needs met by renewables.[11]

11. The unique geography and natural resources of Scotland mean that different technologies have thrived there compared to other parts of the UK. As a result, as well as producing a disproportionate volume of the UK's renewable electricity, Scotland also accounts for the majority of the UK's total capacity of several technologies. In 2014, Scotland accounted for:

- Over 60% of onshore wind capacity (and over 40% of all wind capacity).
- 85% of wave and tidal capacity.
- Over 85% of hydro capacity.[12]

Conversely, Scotland has significantly lower deployment of solar generators, with just under 3% of the UK's total solar PV (photovoltaic) capacity. The below table shows the proportion of renewable capacity located in Scotland. For comparison, Scotland accounts for 8% of the UK's total population.



Source: Department of Energy and Climate Change, Energy Trends: September 2015, special feature article - Renewable electricity in Scotland, Wales, Northern Ireland and the regions of England in 2014, September 2015

10 Department of Energy and Climate Change, Energy Trends December 2015, December 2015
11 Scottish Government, Energy in Scotland 2015, April 2015
12 Department of Energy and Climate Change, Energy Trends: September 2015, special feature article - Renewable electricity in Scotland, Wales, Northern Ireland and the regions of England in 2014, September 2015

12. There is significant additional renewable generating capacity in the development and planning stages in Scotland. Over 13 GW of new capacity is in the planning or development stages, almost twice the capacity currently deployed in Scotland.[13] Not all of this additional capacity is likely to be deployed, but this figure gives an indication of the opportunities for further growth of Scotland's renewable sector.

13. The success of Scotland's renewable sector means that it contributes significantly to the Scottish economy. The sector is estimated to support the employment of 21,000 people and deliver over £1 billion a year in investment.[14] The Convention of Scottish Local Authorities has also argued that renewable energy schemes alleviate fuel poverty in remote and rural communities across Scotland, and also offer significant opportunities for job creation and economic growth in these areas, where they are particularly important.[15]

14. The growth of Scotland's renewable sector over the past decade has been enabled by the combination of supportive policies at both Westminster and Holyrood.[16] Niall Stuart, Chief Executive of Scottish Renewables, told us that "the most important [intervention] at a UK level has been the Renewables Obligation", stating that this had "seen the sector in Scotland triple between 2007 and 2014."[17] Given that Scotland accounts for such a significant proportion of the UK's renewable electricity, renewable generators in Scotland have also attracted a disproportionate amount of public support for renewables. The Department for Energy and Climate Change noted that:

- Around a quarter of the support provided under the Renewables Obligation goes to Scottish projects.
- For the Feed in Tariff scheme, Scotland represents over 10% of the renewable electricity capacity installed to date, particularly in the wind and hydro sectors.
- The majority of the onshore wind pipeline is in Scotland.
- Across UK, there is a total of 1.7GW of installed hydropower, of which 1.5GW is in Scotland.
- Of the 25 successfully signed Contracts for Difference to date, 11 have been awarded to projects in Scotland.[18]

15. Both the UK and Scottish governments have recognised the importance of, and future opportunities for, Scotland's renewable sector. Paul Wheelhouse MSP, the Scottish Government Minister for Business, Innovation and Energy, told us that "This growing sector of the Scottish economy is at the centre of our ambitions on both climate change and inclusive growth" and that he believed "Scotland has a lot to offer the renewables industry".[19] Lord Dunlop, Parliamentary Under-Secretary of State at the Scotland Office, also acknowledged that "Scotland has played a very important part in the renewables story of the UK and will continue to play a very major part as we look to the future."[20]

13 Scottish Renewables, Renewables in numbers, accessed June 2016
14 Scottish Renewables (RSS0018)
15 COSLA (RSS0006)
16 Q5
17 Q3
18 Department of Energy and Climate Change (RSS0055)
19 Q401
20 Q437

16. **The renewable electricity sector in Scotland is an exemplar of how this sector can thrive, provided there is a supportive policy environment. Scotland has been immensely successful at attracting investment in renewable electricity generation, and leads the UK in the proportion of its electricity which is generated by renewable technology, producing almost 30% of the UK's renewable electricity in 2014. We welcome the recognition by Lord Dunlop, Parliamentary Under-Secretary of State for Scotland, of Scotland's importance to the success of the UK's renewable sector, which mirrors the importance assigned to this sector by the Scottish Government.**

Support for renewable electricity

17. The wholesale price of electricity has been too low to support investment in renewable electricity generators by itself, so the UK Government has established various subsidies to support the generation of renewable electricity, because of the important role this plays in decarbonising Great Britain's electricity supply. The main subsidies are:

- The Renewables Obligation (RO): A system which grants certificates to generators of renewable electricity. These certificates can be sold to electricity suppliers—which must purchase a certain number—in addition to the sale of electricity. This will close to all new applicants in 2017, and closed to new onshore wind generators and small scale solar PV generators in 2016 (although grace periods apply).
- Contracts for Difference (CfD): A system which guarantees a minimum energy price to generators of renewable electricity.[21] Contracts are made available for different types of renewable energy generation and potential suppliers bid for contracts on the basis of lowest price.
- The Feed-in Tariff: A scheme which pays households or businesses that generate their own low-carbon electricity, with an additional payment if they produce more electricity than they need, as this can be exported to the electricity grid.

All three of these schemes are types of revenue support, which increase the value of electricity generated through renewable technologies above the market rate, and so increase the returns of investing in renewable technology.

18. Support for renewables is currently in a state of flux, with one support mechanism—the Renewables Obligation—being closed to new entrants in 2017 (and having already been closed in 2016 for onshore wind and small scale solar), and support for new capacity being provided through Contracts for Difference. CfDs are a substantial reform to how support for renewable electricity generators is provided, as contracts are only offered up to a certain value, whereas the RO was open to all new generators which fulfilled the eligibility criteria. In addition, CfDs are secured by the lowest bidder, meaning there is a competitive element to the process. The evidence we have received is broadly supportive of the move from the Renewables Obligation to Contracts for Difference, and has welcomed the element of competition which has been added to the process, as this has incentivised cost reduction.[22]

21 Contracts for Difference are predominantly used for supporting renewable electricity, although the agreement the Government made for a new nuclear power plant at Hinkley is also a Contract for Difference.

22 Q9, Q330, ABO Wind UK Ltd (RSS0020), ScottishPower (RSS0051)

Cost of support for renewable electricity

19. The costs of subsidising renewable technology through ROs, CfDs and FIT are met, ultimately, by the consumer. The various subsidies for renewable generators are funded by electricity suppliers, and these costs are then passed on to consumers in their electricity bills. To limit the cost of supporting the generation of low-carbon electricity, the Government has established the Levy Control Framework (LCF), which places a cap on total payments (over and above payment for the electricity itself) to low-carbon energy generators for each year until 2020–21. The Government has set the following limits for spending under the LCF.

Table 1: Levy Control Framework limits

2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
£4.30bn	£4.90bn	£5.60bn	£6.45bn	£7.00bn	£7.60bn

Note: Figures are in 2011–12 prices

Source: Department for Energy and Climate Change, Annex D: Levy Control Framework Update, July 2013

With regards to the proportion of support which goes to Scotland, in 2014–15 Scotland received 24% of Renewables Obligation support, and around 14% of Contract-for-Difference support is expected to go to Scotland in 2020–21.[23]

20. The Department of Energy and Climate Change estimated in 2013 that the Government's climate change policies accounted for approximately 14% of the average electricity bill in 2013, but that this will increase to around 30% by 2020.[24]

Public opinion and the planning process

21. As with many areas of pubic policy, and especially those which involve large infrastructure developments, there is significant public interest in the deployment of renewable technology, particularly where installations are in close proximity to residential areas. It is therefore no surprise that, over the course of our inquiry, we have received submissions from a number of individuals and interest groups which raise concerns about the level of deployment of renewable electricity generators in Scotland, and in particular the presence and impact of onshore wind farms.[25] These raise a diverse range of issues, with some of the key ones being:

23 Department of Energy and Climate Change (RSS0093)

24 Department of Energy and Climate Change, Estimated impacts of energy and climate change policies on energy prices and bills, March 2013

25 Dr George Lindsay (RSS0001, RSS0013), Mr Angus Scott Dickins (RSS0002), David Bowen (RSS0003), Laird David Whannel (RSS0009), Mr Douglas Brodie (RSS0010), Endrick Valley Action Group (RSS0011), Mr Stuart Young (RSS0012), Lyndsey Ward (RSS0015), Mrs Christine Metcalfe (RSS0021), Mr James Taylor (RSS0024), Mrs Pat Wells (RSS0025), Anne Burke (RSS0039), Christopher Walsh (RSS0042), Renewable Energy Foundation (RSS0058), Sustainable Shetland (RSS0060, RSS0096), John Muir Trust (RSS0062), Scotland Against Spin (RSS0063, RSS0095) Alison Chapman (RSS0064), Brian Smart (RSS0068), Mrs Aileen Jackson (RSS0070), Save Your Regional Park (RSS0071), Stuart Young (RSS0073), Brenda Herrick (RSS0074), Mrs Mary Young (RSS0075), Rumster anti-Windfarm Group (RSS0076), Flemington Against Wind Turbines (RSS0077), Lyndsey Ward (RSS0078), Moscow and Waterside Community Council (RSS0079), Mr John Edmondson (RSS0081), Miss Karen Gallagher (RSS0084), Save Straiton for Scotland (RSS0086, RSS0091), Crosshill, Straiton and Kirkmichael Community Council (RSS0087), Laird David Whannel (RSS0090)

Concerns about deployment of renewable electricity generators

- The costs to consumers of subsidising renewable generators.
- Questionable value of the renewables sector to Scotland's economy.
- That the UK has enough renewable generating capacity to meet targets.
- That there is no evidence man-made carbon emissions are causing climate change.

Concerns about the deployment of onshore wind

- That wind turbines do not generate electricity when it is needed.
- Adverse impact on local house prices.
- Constraint payments to wind farms.
- Adverse impact on local environment.
- Adverse impact on scenery.
- Adverse impact on the health of local residents.

22. Given the substantial number of submissions we received raising concerns of the sort listed above, we decided to take evidence from Linda Holt, a representative of Scotland Against Spin—a campaign group set up to challenge the Scottish Government's policy on wind energy. Ms Holt argued strongly that local communities in Scotland did not want more onshore wind farms, and that the Scottish Government's ambitions for the equivalent 100% of Scotland's electricity to be generated by renewables by 2020 had resulted in the over deployment of onshore wind generators.[26]

23. In terms of broader public opinion on the deployment of renewable electricity technology in Scotland, a 2016 poll commissioned by Scottish Renewables found that 70% of respondents wanted to see more renewable energy such as wind, solar, wave and tidal, and two-thirds of respondents agreed that the next government should "continue to take forward policies that tackle greenhouse gas emissions and climate change", although we note this does not specifically relate to the deployment of onshore wind farms.[27] In relation to environmental considerations, we also note that RSPB Scotland has stated that it supports greater deployment of renewable technology, objecting to only around 10% of planning applications, where it considers the impacts to be too high.[28]

24. The Scottish Government Minister for Business, Innovation and Energy told us that he was aware of the concerns some people had about the deployment of renewable technology in their communities, but he did not necessarily agree with them.[29] He said that the Scottish Government had commissioned research around the impact of wind turbines, and that the Government was willing to engage with people about their concerns.[30]

26 Q258
27 Scottish Renewables, Majority of Scots want next Scottish Government to make renewables a priority, March 2013
28 RSPB Scotland (RSS0041)
29 Q422
30 Q429, SLR and HoareLea consultants, Wind Farm Impacts Study: Review of the visual, shadow flicker and noise impacts of onshore wind farms, July 2015

25. A number of contributions to our inquiry raised specific concerns with the planning system in Scotland, and the fact that—unlike in England and Wales, following passage of the Energy Act 2016—it is Scottish Government ministers, rather than local authorities, who grant permission for the development of large-scale (over 50 MW) onshore wind farms.[31] Ms Holt told us that she thought "people in Scotland now are very envious of people in England where the community veto has been brought in", and that the planning process in Scotland did not work in the interests of local communities.[32]

26. In addition to decisions regarding large-scale power plants, the Scottish Government also deals with appeals on planning application decisions, and we have heard that in effect this has meant that local decisions refusing applications for wind farms were being overturned by the Scottish Government.[33] Mr Wheelhouse told us that ideally decisions affecting local communities would be taken locally, but that it was important there was a right of appeal if an applicant felt that the decision which had been reached was not correct.[34] He also said that decisions by Scottish ministers on planning appeals for wind farms were not more favourable than decisions regarding other types of planning appeal.[35] He told us he was not aware of any plans to adopt the approach the UK Government had opted for in England and Wales, of giving local authorities a greater role in the approval of new wind farms.[36]

27. **We note the serious concerns many Scottish residents have about the impact of onshore wind turbines on the environment and their communities. It is important that such concerns are taken into account in the process for approving the installation of new power plants, but as planning is a devolved policy area this is a matter for the Scottish Government and Scottish Parliament. We also note the evidence that the Scottish public support the Scottish Government in taking action to tackle greenhouse gas emissions and climate change, and that the Scottish Government must balance local considerations with how national goals around carbon emissions and renewables are achieved. We would encourage the Scottish Parliament to ensure that people's objections are properly heard and considered at the appropriate level within the planning system.**

31 Endrick Valley Action Group (RSS0011), Lyndsey Ward (RSS0015), John Muir Trust (RSS0062), Stuart Young (RSS0073), Brenda Herrick (RSS0074)
32 Q280–4
33 Q280, Mrs Pat Wells (RSS0025)
34 Q423
35 Q429, Scottish Government, Wind Turbine appeal decision stats, accessed June 2016
36 Q425

3 Recent policy changes

28. Following the 2015 General Election the UK Government has made several changes to the policy framework which supports the deployment of new renewable electricity generators. The key changes which have been made are:

- Closing the Renewables Obligation scheme to onshore wind and small scale solar PV a year early, in 2016.
- Reducing the level of support available through the Feed-in-Tariff scheme.
- Delaying the next round of Contracts for Difference, and indicating that these will not be made available to all renewable technologies.

We set out below the background to these changes and the impact they are likely to have on Scotland.

Projected overspend and manifesto commitments

29. In July 2015 it was forecast that, under policy as it stood then, support for renewables would cost significantly more than the limits the Government had set, with actual spending projected to be £1.5bn above the Government's limit by 2020–21.[37] Forecast spending, compared to the limits set by Government, is set out below.

Table 2: Levy Control Framework limits and projected overspend

	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Limit	£4.30bn	£4.90bn	£5.60bn	£6.45bn	£7.00bn	£7.60bn
Forecast	£4.34bn	£5.46bn	£6.26bn	£7.21bn	£8.38bn	£9.10bn
Overspend	**£0.04bn**	**£0.56bn**	**£0.66bn**	**£0.76bn**	**£1.38bn**	**£1.5bn**

Source: Department for Energy and Climate Change, Controlling the cost of renewable energy, July 2015

The then Minister of State for Energy and Climate Change, Andrea Leadsom MP, told us that the recent changes had been intended to control costs, in light of the projected overspend on support for renewables.[38] She said that the Government's targets for the deployment of renewable electricity generators had been exceeded, and it was therefore appropriate to take action to limit costs to consumers.[39]

30. Although reducing costs to the consumer is clearly a significant factor in the recent changes, the projected overspend on renewables is not the only thing which has informed recent policy changes. The Conservative Party's 2015 manifesto, produced months before the Office of Budget Responsibility published its projections that the Levy Control Framework limits would be exceeded, committed to ending any new public subsidy for onshore wind farms.[40] The Conservative manifesto noted that onshore wind "makes a meaningful contribution to our energy mix and has been part of the necessary increase in

37 Department for Energy and Climate Change, Controlling the cost of renewable energy, July 2015
38 Q437
39 Q446
40 The Conservative Party, The Conservative Party Manifesto 2015

renewable capacity", but stated that onshore wind farms "often fail to win public support" and "are unable by themselves to provide the firm capacity that a stable energy system requires", and they would therefore end any new public subsidy for them.

Early closure of the Renewables Obligation to onshore wind and small solar PV

31. The first announcement made by the current Government about changes to support for renewables was the announcement, on 18 June 2015, of the early closure of the Renewables Obligation to onshore wind. The Government announced that it intended "to end new public subsidies for onshore wind farms by legislating to close the Renewables Obligation across Great Britain to new onshore wind generating stations from 1 April 2016".[41] This was subsequently provided for by the Energy Act 2016, which also established grace periods for projects which already had in place, by the date of the announcement of the RO's early closure, planning approval, arrangements for a grid connection, and ownership of the relevant land.[42]

32. Following the projected overspend of the LCF, the Government also launched a consultation on controlling subsidies for solar PV of 5MW and below under the RO,[43] and subsequently decided to bring forward the closure of the RO to new solar PV projects at 5MW or below, also from 1 April 2016.[44] This was provided for by the Renewables Obligation Closure Etc. (Amendment) Order 2016, which also established grace periods similar to those for onshore wind.[45]

Cuts to Feed-in-Tariffs

33. As a further part of its efforts to reduce the costs of supporting renewables, in July 2015 the Government announced that it would be reviewing Feed-in-Tariffs so as to "drive significant further savings".[46] The Government consulted on changes to the FIT scheme, and their consultation document noted that "there have been significant reductions in technology deployment costs, beyond 50% in certain tariff bands".[47] Around 90% of consultation responses disagreed with the Government's proposed tariffs, stating that they were too low to bring forward new generation.[48] The final tariff rates brought forward by the Government for solar PV were cut less drastically than initially proposed, but tariff rates fell by an even greater level than proposed for hydro and wind.

41 Department of Energy and Climate Change, Changes to onshore wind subsidies protect investment and get the best deal for bill payers, June 2015
42 Energy Act 2016, Sections 79–80
43 Department of Energy and Climate Change, Controlling the cost of renewable energy, July 2015
44 Department of Energy and Climate Change, Changes to financial support for solar PV, July 2015
45 The Renewables Obligation Closure Etc. (Amendment) Order 2016
46 Department of Energy and Climate Change, Controlling the cost of renewable energy, July 2015
47 Department of Energy and Climate Change, Consultation on a review of the Feed-in Tariffs scheme, August 2015
48 Department of Energy and Climate Change, Review of the Feed-in Tariffs Scheme: Government response, December 2015

Delays to next round of Contracts for Difference

34. The first round of CfDs was held in October 2014, offering contracts worth £315 million to support the deployment of over 2 GW new generating capacity.[49] The allocation of funds was divided into different "pots", with £65 million set aside for established technologies such as onshore wind and solar PV, and £260 million set aside for less established technologies such as offshore wind and biomass.[50] The vast majority of contracts were offered to offshore and onshore wind projects—89% of contracts by capacity, and 91% by value.[51] The Government stated that the competitive nature of the CfD process meant the new generating capacity would be provided £110 million more cheaply than it would have been under the Renewables Obligation.[52]

35. A second round of CfDs was originally planned for the autumn of 2015, but it was reported in July 2015 that organisations enquiring about the next round of CfDs were told "There will be no CfD round this October. In the autumn, the Government will set out its plans in respect of the next CfD allocation round."[53] There was no official announcement about future rounds of CfDs until November 2015, when the then Secretary of State for Energy and Climate Change, Amber Rudd MP, stated that the Government intended to make funding available for three auctions in the current Parliament, with the first to be held by the end of 2016.[54] We consider the next round of CfDs in more detail below.

Ad hoc responses and lack of transparency

36. Much of our evidence complained about the UK Government's lack of clarity about future support for renewables, and the process which was followed to implement recent changes.[55] The Government has consistently stated that recent policy changes were made in response to the projected overspend of the Levy Control Framework, but the actual changes show little sign of being part of a strategic plan for energy policy. The changes which have been made have been announced, consulted on (where consultation has occurred at all) and implemented in an ad hoc manner, and there is little indication of why certain technologies or support mechanisms have been cut in favour of others. Andy Kerr, Executive Director of Edinburgh Centre for Carbon Innovation, told us that there had been "a series of announcements that came in at very short notice", and this meant businesses were "immensely frustrated".[56]

37. Joan MacNaughton, Executive Chair of the World Energy Trilemma Study Group for the World Energy Council, questioned the process by which recent policy changes have been made. Ms MacNaughton told us:

49 Department of Energy and Climate Change, World-leading auctions to provide major green electricity boost, February 2015
50 Department of Energy and Climate Change, Electricity Market Reform: Contracts for Difference, February 2015
51 Department of Energy and Climate Change, Contracts for Difference (CFD) Allocation Round One Outcome, February 2015
52 Department of Energy and Climate Change, World-leading auctions to provide major green electricity boost, February 2015
53 edie.net, DECC postpones next Contracts for Difference auction, July 2015
54 Department of Energy and Climate Change, Amber Rudd's speech on a new direction for UK energy policy, 18 November 2015
55 Green Highland Renewables Ltd (RSS0007), NFU Scotland (RSS0017), ABO Wind UK Limited (RSS0020), Scottish Council for Development and Industry (RSS0035), E3G (RSS0034), Scottish Government (RSS0047), Binn Group (RSS0053)
56 Q36

> large parts of the industry were not clear just what the exemptions would be, what the grace periods would be, at that time and they didn't have long from the announcement last summer until the closure. I think there is something about the way in which you handle the change, the way in which you allow people the time to adjust.[57]

38. When the Levy Control Framework was established, HM Treasury produced a "control framework" for levy-funded DECC spending, which required that in the event of a forecast that DECC's cap on spending would be exceeded, HM Treasury must be satisfied that there is "a robust, agreed plan in place to bring spend back down to within the cap".[58] The Energy and Climate Change Committee's recent Report on *Investor confidence in the UK energy sector* suggested that it was not clear whether DECC had agreed a plan with the Treasury regarding its response to the projected LCF overspend, and recommended that "DECC develops and publishes a structured response plan, setting out how any future overspend would be dealt with".[59]

39. **Although the Government has stated that recent policy changes were necessary to respond to the projected overspend of the Levy Control Framework, these changes have been implemented in an ad hoc way. There has not been enough transparency regarding how decisions have been made, and it is therefore not clear how the Government arrived at the specific options it has chosen. The way in which the Government has responded to the projected overspend has created uncertainty for the renewables sector.**

40. ***We concur with the Energy and Climate Change Committee's recommendation that the Department of Energy and Climate Change should develop and publish a structured response plan, setting out how any future projected overspend of the Levy Control Framework would be dealt with. We also recommend that the Government establish procedures for the communication of any future projected overspend, and also the Government's response to that overspend. This should be developed with a view to ensuring the renewables sector is as well-informed as it can be as soon as possible, and that it is transparent how the Government has come to its decisions.***

Impact on the renewable electricity sector in Scotland

41. The central concern of this Report is how recent changes to renewables policy have affected Scotland, and the overwhelming message in the evidence we have received is that these changes will have a negative effect on the renewables sector, both in Scotland and across the UK.[60] Uncertainty about support for onshore wind has resulted in many projects being pulled, and a significant reduction in new projects being brought forward.

57 Q73

58 HM Treasury, Control framework for DECC levy-funded spending, March 2011

59 Energy and Climate Change Committee, Investor confidence in the UK energy sector, Third Report of Session 2015–16, HC 542

60 Q224, Bob Glen (RSS0004), COSLA (RSS0006), Green Highland Renewables Ltd (RSS0007), Scottish Renewables (RSS0018), Civil Engineering Contractors Association (RSS0019), ABO Wind UK Ltd (RSS0020), Comhairle nan Eilean Siar (RSS0022), Edinburgh Centre for Carbon Innovation (RSS0026), E.ON (RSS0029), RWE Innogy UK (RSS0030), Independent Renewable Energy Generators Group (RSS0031), Institution of Engineering and Technology (RSS0032), Scottish and Northern Ireland Plumbing Employers' Federation (RSS0034), Stop Climate Chaos Scotland (RSS0037), Statkraft UK Ltd (RSS0038), Anaerobic Digestion and Bioresources Association (RSS0040), RSPB Scotland (RSS0041), E3G (RSS0044), Solar Trade Association (RSS0046), Scottish Government (RSS0047), Energy Saving Trust (RSS0048), Vattenfall (RSS0049), Binn Group (RSS0053), British Hydropower Association (RSS0054), Mackay Consultants (RSS0059), Nuclear Free Local Authorities Scotland (RSS0065), Viking Energy Shetland LLP (RSS0085)

The cancellation of projects which were already in development means lost capital for investors who include local authorities, community groups and private companies. We have also heard that changes to FIT tariffs could mean Scotland's hydro industry will "all but disappear",[61] and cuts to support for solar PV could prevent deployment in Scotland from ever reaching the levels of other parts of the UK.[62] The Edinburgh Centre for Carbon Innovation told us that "The approach of the UK Government since its election last May has been extremely disruptive to the renewables industry in Scotland, and hinders its ability to grow in future."[63] Angus McCrone, Chief Editor at Bloomberg New Energy Finance, summarised the current Government's policy regarding renewables as "unfriendly",[64] and it would be fair to say that this characterises the majority of evidence we received from the renewables industry. We look specifically at the Government's decision to end support for onshore wind in more detail in the next section.

42. The Committee on Climate Change has recognised that recent policy changes by the UK Government will affect renewables projects in Scotland, with particular implications for the onshore wind industry, stating that:

> a number of the projects with planning permission may not have finance in place as they cannot meet the deadline for the closure of the Renewables Obligation and have not yet secured a Contract for Difference. There is also greater uncertainty in investment in Scottish renewables following the announcement of subsidy cuts for onshore wind energy from April 2016. With 66% of planned onshore wind farms in the UK located in Scotland, this could have a greater impact on future development than for other areas of the UK.[65]

43. In terms of the direct impact on Scotland's renewable industry, Scottish Renewables has estimated that early closure of the Renewables Obligation to onshore wind will cost Scotland up to £3 billion in lost investment and put 5,400 jobs at risk.[66] Scottish Enterprise and the Independent Renewable Energy Generators Group have also argued that recent policy changes will limit the routes to market for renewable electricity projects, and stated that this will inevitably have a knock-on effect for jobs and the economy.[67] Although the Government did undertake impact assessments of these policy changes,[68] these did not consider the impact on Scotland, and the then Minister of State was unable to present us with any evidence that the Government had assessed the particular impact these changes would have on Scotland.

44. To mitigate the impact of the early closure of the Renewables Obligation to onshore wind and small scale solar PV, the Government has introduced grace periods for both technologies.[69] ScottishPower Renewables welcomed the grace period for onshore wind, saying that this had softened "what would otherwise have been a shock", and that the grace

61 Green Highland Renewables Ltd (RSS0007), Energy Saving Trust (RSS0048), British Hydropower Association (RSS0054)
62 Q428
63 Edinburgh Centre for Carbon Innovation (RSS0026)
64 Q71
65 Committee on Climate Change, The Fifth Carbon Budget, November 2015
66 Scottish Renewables, Early end of onshore wind support could cost £3bn investment in Scotland, June 2015
67 Independent Renewable Energy Generators Group (RSS0031), Scottish Enterprise (RSS0036)
68 Department of Energy and Climate Change, Onshore wind: closure of renewables obligation on 31st March 2016, October 2015 Department of Energy and Climate Change, Government response on changes to financial support for solar PV projects at 5MW and below under the Renewables Obligation, December 2015, Department of Energy and Climate Change, Government response to consultation on a review of the Feed-in Tariff scheme, December 2015
69 Energy Act 2016, Section 80

period applied to those projects which had seen most investment.[70] Other submissions argued that the grace periods did not take into account the significant investment that may already have been made in projects which would not be covered.[71] Concern about the scope of the grace periods is one of the key issues the Scottish Government raised in correspondence with UK ministers, ahead of the enactment of the Energy Act 2016.[72]

45. Another key feature in our evidence was that the suddenness of policy changes, the lack of consultation, and the lack of clarity about future policy had hurt investor confidence.[73] We have been told time and again that investors require a stable policy framework in order to have the necessary confidence to invest, and that at present there is a cloud of uncertainty around support for renewables. This is illustrated by the UK's fall from 8th to 11th place in the EY Renewable Energy Country Attractiveness Index, which ranks 40 countries according to the attractiveness of renewable energy investments. Along with many other witnesses, the Scottish Government expressed concerns about investor confidence in Scottish renewables. The Scottish Government Minister for Business, Innovation and Energy told us:

> Industry respondents have highlighted that these uncertainties are leading to reduced investor confidence, cancellation or postponement of projects and, inevitably, to job losses. The Scottish Government have criticised some of the U-turns in UK energy policy by lobbying the UK Government and outlining that, above all else, the industry needs clarity of vision and stability of approach rather than recent examples of sudden policy changes—for example, the cancellation of the carbon catchment and storage competition without any warning.[74]

46. The evidence we have received reflects the view the Energy and Climate Change Committee came to in its Report on *Investor confidence in the UK energy sector*, which concluded that "the Government's actions have clearly had an impact on the confidence of many investors". That Committee concluded that several factors—sudden and numerous policy announcements, a lack of transparency in the decision-making process, insufficient consideration of investor impacts, policy inconsistency and contradictory approaches, lack of a long-term vision, and a policy "cliff-edge" in 2020—had resulted in a damaging effect on investor confidence, and that this could result in reduced investment in the UK's energy sector.[75] The Scottish Parliament's Economy, Energy and Tourism Committee received similar evidence during a one-off evidence session it held into *Renewable energy in Scotland*.[76]

70 Q324

71 Convention of Scottish Local Authorities (RSS0006)

72 Scottish Government (RSS0094)

73 Bob Glen (RSS0004), MEG Renewables (RSS0005), ABO Wind UK Limited (RSS0020), E.ON (RSS0029), Independent Renewable Energy Generators Group (RSS0031), Scottish Energy Association (RSS0033), Stop Climate Chaos Scotland (RSS0037), E3G (RSS0044), Scottish Government (RSS0047), Vattenfall (RSS0049), Binn Group (RSS0053), Mackay Consultants (RSS0059)

74 Q401

75 Energy and Climate Change Committee, Investor confidence in the UK energy sector, Third Report of Session 2015–16, HC 542

76 Scottish Parliament, Economy, Energy and Tourism Committee, Renewable energy in Scotland, 9 December 2015

47. **The Government's recent changes to support for the renewable sector—early closure of the Renewables Obligation to onshore wind and solar, cuts to Feed-in-Tariffs and delaying the next round of Contracts for Difference—will affect the renewable industry across the UK. However, the fact that cuts fall particularly heavily on onshore wind, where the majority of capacity is deployed in Scotland, means that these changes will have a disproportionate impact on the prospects of Scotland's renewable sector. Scottish Renewables told us that early closure of the Renewables Obligation to onshore wind will cost Scotland up to £3 billion in lost investment and put 5,400 jobs at risk. We have also heard that recent changes will mean Scotland could potentially lose out on significant additional investment and job creation. It is of serious concern that the UK Government implemented these changes without assessing the impact they would have on Scotland.**

48. ***We recommend that the Government include in its response to this Report an assessment of the impact of recent policy changes on the renewable sector in Scotland, and that sector's prospects for future growth, as compared to other parts of the UK.***

Withdrawal of new subsidy for onshore wind

49. The UK Government had a clear manifesto commitment to "end any new public subsidy" for onshore wind,[77] and the then Minister of State was clear that this was the basis for the early closure of the Renewables Obligation to onshore wind,[78] but we have received some evidence questioning whether this commitment justifies the actions which the Government has taken to withdraw all public support from onshore wind.[79] Several witnesses questioned whether the Government's manifesto commitment could reasonably be taken to have indicated that support for onshore wind would be withdrawn early, by closing the Renewables Obligation to onshore wind in 2016 rather than 2017. Niall Stuart, Chief Executive of Scottish Renewables, told us:

> The Conservative party manifesto if I remember correctly said, "We will end new subsidies to onshore wind". That could have been done in many, many different ways. In fact, subsidies to onshore wind through the Renewables Obligation were due to finish anyway in 2017, so my understanding of a manifesto is that it is normally for a programme of Government and commitments are made for that five-year term of Government. I don't think you can say that it was a clear statement of intention by the Conservative party that if they came into Government they would close the Renewables Obligation a year early because that is not what the wording in the manifesto said.[80]

50. We have also heard that the Government's commitment to decarbonising electricity at the lowest price to the consumer is in conflict with its decision to end subsidies for onshore wind, which is one of the cheapest means of generating renewable electricity.[81] Given the relatively low cost of onshore wind compared to other sources of renewable electricity, focusing funding on less developed technologies will increase the cost of increasing renewable generating capacity. The limit on the strike price (the sum renewable

77 The Conservative Party, The Conservative Party Manifesto 2015
78 Q445
79 Qq7, 72, 232
80 Q7
81 Scottish Council for Development and Industry (RSS0035)

generators are guaranteed to receive for their electricity) for onshore wind in the first round of CfDs was £95/Mwh, and the onshore wind projects which were offered contracts actually came in at £79–82.50/Mwh.[82] The Government has indicated that the limit for offshore wind will start at £105/Mwh, falling to £85/Mwh for projects commissioning by 2026.[83] These limits are significantly lower than those offered to offshore wind in the first round of CfDs, which started at £155/Mwh.[84] The offshore wind projects which received CfDs in the first round of allocations had strike prices of £119.89/Mwh and £114.39/Mwh.[85]

51. There has been some indication that the Government thinks onshore wind projects no longer need subsidy, and public support should therefore be focused on "those technologies that have not yet reached a point where they can stand on their own feet without subsidy".[86] However, it is widely acknowledged that no form of power plant is currently commercially viable without some form of public subsidy.[87] The evidence we have received largely supports the view that no technology should receive subsidies for longer than necessary, but that the early end of subsidies to onshore wind will prevent the further deployment which is necessary to bring costs down to the point where the technology would be commercially viable without subsidy.[88] The evidence is clear that cost reductions are best achieved by consistent support, and uncertain or delayed funding limits the opportunities for costs to be reduced.[89]

52. In addition to the early closure of the Renewables Obligation to onshore wind, the Government's statement that there will be no more subsidies for onshore wind indicates that CfDs will not be available to onshore wind projects in the future. This decision was criticised by many of our witnesses, who argued that this meant there would be no route to market for onshore wind.[90] Lindsay McQuade, Policy and Innovation Director at ScottishPower Renewables, told us they would like to see onshore wind continue to be a part of the CfD mechanism, as "we think it will deliver the best value for the consumer and it would ensure that the most cost-effective technologies can continue to deliver low carbon generation to the customers that are attached to the grid."[91]

53. The then Minister of State told us that the Government had spent all it was prepared to on onshore wind, and is now focusing on other technologies,[92] and Lord Dunlop, Parliamentary Under-Secretary of State at the Scotland Office said that this had been "very clearly signalled" in the Conservative manifesto.[93] However, despite reiterating that the Government is "absolutely committed to no subsidies for onshore wind", the Minister

82 Department of Energy and Climate Change, Contract for Difference: Final allocation framework for the October 2014 allocation round, October 2014, Department of Energy and Climate Change, Contracts for Difference (CFD) Allocation Round One Outcome, February 2015
83 HM Treasury, Budget 2016, March 2016
84 Department of Energy and Climate Change, Contract for Difference: Final allocation framework for the October 2014 allocation round, October 2014
85 Department of Energy and Climate Change, Contracts for Difference (CFD) Allocation Round One Outcome, February 2015
86 Q442
87 Department of Energy and Climate Change, Amber Rudd's speech on a new direction for UK energy policy, November 2015
88 Independent Renewable Energy Generators Group (RSS0031), Statkraft UK Ltd (RSS0038), ScottishPower (RSS0051)
89 Q228
90 Scottish Renewables (RSS0018), RWE Innogy UK (RSS0030), Independent Renewable Energy Generators Group (RSS0031), Vattenfall (RSS0049)
91 Q327
92 Q519
93 Q456

did not rule out the possibility of future CfDs being open to onshore wind, telling us that the Government "have not taken a decision on that as yet." The Minister went on to say that the Government "are still considering whether there is any way that we can help the [onshore wind] industry but we have not made any decisions on that."[94] It is not clear what this "help" could be if it is not some form of public subsidy, although we have received several submissions calling for a "market stabilisation" mechanism which could guarantee a price for onshore wind but at a "subsidy-free" rate.[95] Given that no form of power plant is currently investable on the basis of the wholesale electricity price alone, it is hard to imagine how any such mechanism could operate without, in effect, providing a subsidy.

54. **We recognise that the Conservative Party had a clear manifesto commitment to "end any new public subsidy" to onshore wind, but the decision to close the Renewables Obligation—an already existing support mechanism, which was due to close to new entrants in 2017—to onshore wind a year early appears to go beyond this. It is not helpful that the Government has made significant changes to renewables policy, without consultation or engagement with the renewables industry, on the basis of a manifesto commitment which could have been implemented in any number of different ways.**

55. **Onshore wind farms are one of the cheapest means of generating renewable electricity, and the Government's decision to deny any further subsidy to onshore wind therefore appears to be in conflict with the Government's focus on reducing the costs of renewable technology, a principle the majority of our witnesses accepted. This decision will almost inevitably increase the costs of deploying additional renewable electricity generating capacity, and is likely to restrict the prospects of further reductions in the cost of onshore wind technology as new developments will have no realistic route to market.**

56. ***We recommend that the Government review its decision to bar onshore wind schemes from accessing subsidies, and explain in its response to this Report how its decision to withdraw support for onshore wind, one of the cheapest forms of renewable energy, tallies with its commitment to keep down the costs of supporting renewable electricity.***

57. ***The Government should also end uncertainty for the sector by saying whether onshore wind will be eligible for future rounds of Contracts for Difference, and set out its view on whether a "market stabilisation" mechanism for onshore wind could be introduced.***

Future rounds of Contracts for Difference

58. The Government has faced significant criticism for the repeated delays and lack of clarity about future rounds of CfDs, and particularly the next round, which was originally intended to take place in 2015.[96] Complainants have said that the absence of clarity about future funding means that investors have been unable to make decisions, and many projects have been put on hold. We have heard repeated calls for the Government to clearly

94 Q479
95 Statkraft UK Ltd (RSS0038), Vattenfall (RSS0049), ScottishPower (RSS0051)
96 Q6, Statkraft UK Ltd (RSS0038), Vattenfall (RSS0049), Viking Energy Shetland LLP (RSS0085)

set out its plans for future rounds of CfDs.[97] The Government responded to these concerns to some extent in the 2016 Budget, delivered on 16 March 2016, where the Government set out the value of CfDs which would be offered this Parliament, but gave no details on timing and little indication of how the funding would be distributed between different technologies. The Budget stated:

> The government is committed to driving down the costs of decarbonisation. Budget 2016 announces that the government will auction Contracts for Difference of up to £730 million this Parliament for up to 4 GigaWatts of offshore wind and other less established renewables, with a first auction of £290 million. Support for offshore wind will be capped initially at £105/MWh (in 2011–12 prices), falling to £85/MWh for projects commissioning by 2026. The government will continue to control costs on consumer bills–further details will be announced in the autumn.[98]

The then Minister subsequently told us that the first auction for this Parliament will be held in the last three months of 2016.[99] The timing of the other two rounds to take place this Parliament is still not clear.

59. The information set out in the Budget has been welcomed by the renewables sector—for example, ScottishPower Renewables welcomed the information which has been provided about the three rounds of CfDs to be held this Parliament,[100] and particularly the indication of support for offshore wind—but Scottish Renewables has said that despite the announcements made in the Budget, "there still remain a number of uncertainties for the renewable energy sector as a whole".[101] In particular, Scottish Renewables noted that the announcement gave no indication of whether established technologies such as onshore wind and solar PV would be eligible to bid for contracts. In addition, although the Government has stated that the next round of CfDs will be open to less developed technologies, it is still not clear precisely which technologies this will include.[102] The then Minister of State told us: "we are finalising our decisions on what will be the less established technologies and how that auction in Q4 will work. That is something that we will be announcing in the near future."[103] It should be noted that the final guidance documentation for the first round of CfDs was only published a month before the auction was opened.[104]

60. **It is regrettable that the second round of Contracts for Difference has been delayed by at least a year. This has created a void where renewables projects have been unable to progress because there is no support mechanism available to them. This stop-start funding is bad for investor confidence and for the maintenance of supply chains, which are most efficient when there is a stable policy framework and steady stream of support.**

97 Q20, WWF Scotland (RSS0016), Scottish Renewables (RSS0018), Independent Renewable Energy Generators Group (RSS0031), Scottish Council for Development and Industry (RSS0035)
98 HM Treasury, Budget 2016, March 2016, para 1.246
99 Q442
100 Q331
101 Scottish Renewables (RSS0066)
102 Independent Renewable Energy Generators Group (RSS0031)
103 Q495
104 Department of Energy and Climate Change, Electricity Market Reform: Contracts for Difference, September 2014

61. ***Although the Government has finally indicated that the next round of Contracts for Difference will be held in the last three months of 2016, there remain a number of important details to be confirmed. It is essential that the Government set out, at the earliest possible opportunity, the full details for the next round of Contracts for Difference. This should include the dates of the auction, eligible technologies and strike prices. The Government should indicate the timing of the remaining auctions due to take place this Parliament, ahead of providing more detailed information regarding funding levels and which technologies will be eligible for contracts.***

Representation of Scottish interests

Consultation on changes to support for onshore wind

62. We have received evidence that there was an almost complete lack of consultation with the Scottish Government and Scottish industry on ending subsidies for onshore wind.[105] The Scottish Government has been particularly critical of the UK's decision to proceed with the withdrawal of support for onshore wind, given the significant presence of this sector in Scotland. We have seen correspondence from Scottish ministers to UK ministers which shows that the Scottish Government repeatedly raised concerns about the impact this change would have on Scotland's renewable sector, and which makes it clear that the Scottish Government was not made aware of the proposal until it was reported in the press.[106]

63. It is also not clear what role the Scotland Office played in representing Scottish interests—one of the key purposes of that Department—on this issue. Several submissions we received questioned the Scotland Office's role in recent policy changes,[107] although others recognised that the Scotland Office had been helpful in promoting Scotland's renewable sector.[108] Lord Dunlop told us that the Scotland Office did facilitate engagement on the Government's proposals,[109] but was unable to tell us of any representations he had made to ministerial colleagues on behalf of Scotland's renewable sector.

64. **Scotland is home to around 60% of the UK's onshore wind capacity, and withdrawing access to funding for future onshore wind developments will therefore have a disproportionate impact on Scotland. It is unclear to what extent the interests of Scotland's renewable sector were considered by the UK Government when it formulated recent policy changes, but it is clear that the decision to bar onshore wind schemes from public support was pursued despite very clear opposition from the Scottish Government. It is not clear what, if any, role the Scotland Office played in representing Scottish interests within the UK Government in relation to a policy change which will have a significant impact on a key sector of the Scottish economy.**

105 Scottish Council for Development and Industry (RSS0035), E3G (RSS0044), Scottish Government (RSS0047)
106 Scottish Government (RSS0093)
107 Scottish Renewables (RSS0018), ABO Wind UK Ltd (RSS0020), British Hydropower Association (RSS0054)
108 Anaerobic Digestion and Bioresources Association (RSS0040), ScottishPower (RSS0051), Binn Group (RSS0053), Viking Energy Shetland LLP (RSS0085)
109 Q456

Improving engagement between the UK and Scottish governments

65. Although there are particular concerns about the extent to which Scottish interests were considered in relation to recent policy changes, and the degree to which the Scottish Government was consulted on these changes, engagement between the UK and Scottish governments on energy policy is a much wider issue. Several witnesses told us there needed to be better engagement between the UK and Scottish governments, particularly given the division of responsibility around renewables incentives, carbon emissions and planning.[110]

66. As we noted in the previous chapter, the scale of Scotland's renewable sector means that it is important Scottish interests are taken into account in the development of policy which affects the renewable sector. Expanding on this point, Niall Stuart, Chief Executive of Scottish Renewables, told us:

> The key thing for me is to come back to that statistic of Scotland providing 30% of the UK's renewable electricity. By definition, it has a key role to play in the UK achieving its renewable energy targets. We would like a sense of a more joined up and shared sense of the challenges ahead and, therefore, a shared sense of the solutions that we are going to put in place to encourage and keep the momentum of the sector and continue the growth of the sector.[111]

He went on to say that he thought there needed to be a cultural shift in the UK Government's coordination with the Scottish Government:

> We would like to see Ministers from Scotland sitting round the table with Ministers from DECC agreeing the contribution that Scotland can make and how that is best achieved, because if the UK is to meet the levels of renewable deployment that we think are necessary to hit our future climate change targets—the agreement that was made in Paris last year—Scotland is going to have to make a disproportionate contribution.[112]

67. There is some evidence that the UK Government is changing how it engages with the Scottish Government on energy policy. The Smith Commission, established to agree new powers for Scotland following the referendum on Scottish independence, recommended that that the Scottish Government and Scottish Parliament have a formal consultative role in designing renewables incentives and the strategic priorities set out in the Energy Strategy and Policy Statement to which Ofgem must have due regard.[113] The Scotland Act 2016 provided for the Scottish Government to be consulted on establishing a renewable electricity incentive scheme that applies in Scotland, or amending such a scheme as it relates to Scotland.[114] The Government has stated that there "are already provisions concerning the consultation of Scottish Ministers on the Strategy and Policy Statement", and that it will work with the Scottish Parliament and Scottish Government to devise a proportionate and workable method of consulting the Scottish Parliament on this.[115]

110 Scottish Renewables (RSS0018), Scottish Council for Development and Industry (RSS0035), Statkraft UK Ltd (RSS0038)
111 Q29
112 Q30
113 The Smith Commission, Report of the Smith Commission for further devolution of powers to the Scottish Parliament, November 2014
114 Scotland Act 2016, Section 61
115 HM Government, Scotland in the United Kingdom: An enduring settlement, January 2015

68. Several witnesses argued that the recommendations made by the Smith Commission did not appear to be reflected in recent policy changes.[116] For example, the Scottish Council for Development and Industry stated that the process followed in relation to recent policy changes "showed that the Smith Commission's recommendations have not yet been implemented effectively as there was very little meaningful consultation on the proposed changes to the Renewable Obligation and CfD for onshore renewables."[117] With a view to improving the representation of Scottish interests, the SCDI has called for the Scotland Office to play a more active role on renewables policy, telling us:

> The Scotland Office should have an important role in ensuring that the needs and aspirations of the Scottish renewables sector, and the strong support for the development of the sector in Scotland, are understood and considered by the UK Government.[118]

69. The Scottish Government has clearly stated that it wants to work constructively with the UK Government to "get the best, cost-effective outcome for the industry and consumers, and ensure that the interests of Scotland are taken into account when making future decisions about support for renewables."[119] The Scottish Government Minister for Business, Innovation and Energy told us:

> the Scottish Government are committed to working with the UK Government and Ofgem to deliver the strongest partnership possible to secure a thriving and equitable energy sector in Scotland. I want the UK Government to view us that way and to seek to collaborate with us better, perhaps, in order to achieve our transition towards a decarbonised economy. It is something that is in Scotland's interests, surely, it is in the UK's interests, and I would say it is in the global community's interests as well.[120]

70. Lord Dunlop told us that now the Scotland Act 2016 had implemented the Smith Commission's recommendations on "important energy-related powers", he looked forward to implementation of the new devolution settlement.[121] He went on to say that it was time to "put flesh on the bones" of the Smith Commission recommendations, and told us that the UK Government was determined to do that.[122] However, when questioned about the role the Scottish Government would actually have under the new consultative process, Lord Dunlop said that "the Scottish Government is a very important interested party", but that "ultimately" energy policy remained a reserved matter.[123] It appears, from the evidence we received from Lord Dunlop, that despite the Scottish Government's unhappiness with the way it was consulted ahead of the early withdrawal of subsidies to onshore wind, this process would have fulfilled the UK Government's new obligation to consult the Scottish Government.

116 MEG Renewables (RSS0005), ABO Wind UK Limited (RSS0020), RWE Innogy UK (RSS0030), Scottish Council for Development and Industry (RSS0035), Vattenfall (RSS0049), Binn Group (RSS0053), British Hydropower Association (RSS0054)
117 Scottish Council for Development and Industry (RSS0035)
118 Scottish Council for Development and Industry (RSS0035)
119 Scottish Government (RSS0047)
120 Q401
121 Q437
122 Q475
123 Q476

71. **Given the significant interest Scotland has in UK energy policy, particularly where this affects the renewable sector, it is crucial that the UK and Scottish governments engage constructively on this subject. Both governments have acknowledged the need for improved engagement, and have committed to taking this forward. Lord Dunlop's statement that it is now time to "put flesh on the bones" of the Smith Commission recommendations regarding consultation between the UK and Scottish governments on energy policy recognises that there is still work to be done on improving engagement between the two governments. This is also evidenced by the Scottish Government's dissatisfaction with the way recent policy changes have been pursued. The two governments should be encouraged to take a constructive approach to discussions.**

72. **Although we welcome the implementation of the Smith Commission's recommendation that the Scottish Government have a formal consultative role in designing renewables incentives, it is not clear what benefits this will have in practice. It is essential that the UK Government engage in substantive consultation with the Scottish Government when it comes to policy affecting the renewables sector, and that this is not simply conducted as a tick-box exercise.**

73. ***We recommend that, to complement the provisions of the Scotland Act 2016, the UK Government put in place a clear process for consulting the Scottish Government on the design of, or amendment to, renewables incentives. We expect to see details of this process in the Government's response, and will monitor how it works practice.***

4 Infrastructure and security of supply

74. Infrastructure and security of supply are two of the main challenges which need to be faced in order for Great Britain's electricity supply to accommodate an increasing proportion of electricity from renewable generators. The main infrastructure challenge is connecting renewable generators—which need to be located where the natural resources they rely on to produce electricity are located—with the transmission network and electricity users. Security of supply is concerned with making sure electricity is available as and when it is needed, something which is complicated by the fact that many forms of renewable electricity generation produce electricity intermittently, and therefore cannot be relied upon to supply electricity on demand.

Infrastructure and the transmission network

75. The UK Government is responsible for setting high level policy regarding Great Britain's electricity market but the actual installation and maintenance of the GB transmission network—which transports electricity from where it is generated to where it is used—is managed by the National Grid and a number of companies which act as Distribution Network Operators. This is regulated by Ofgem, which is responsible for monitoring Great Britain's gas and electricity networks.

76. The costs of building and maintaining the transmission network are, just like the costs of building power plants and generating electricity, borne by the consumer. National Grid aims to invest in transmission capacity where it will be most needed, and keep costs down.[124] Similarly, Ofgem have chosen a system of transmission charging which is cost-reflective, so as to keep costs down and reduce consumer bills. The costs of transmitting and distributing electricity account for approximately 24% of the average consumer bill.[125]

Transmission charging

77. The costs of installing and maintaining the transmission network are met in part by electricity generators, and in part by electricity suppliers, although ultimately the full cost is accounted for in the bills of electricity consumers. The regime for transmission charging is cost-reflective, and this means that charges vary based on location—because power plants located in certain places will cost more to connect to the network than those located elsewhere. The purpose of the cost-reflective model is to signal to generators and electricity users the long-run costs of their decisions, and thereby help them to decide where to build and where to close, so as to keep the overall costs to the consumer down. Historically, there has been significant discontent from electricity generators located in Scotland because the distance of power plants, and particularly renewable generators, from population centres meant that transmission charges were significantly higher than in other parts of the UK. Because of their remoteness, transmission costs for the Scottish Islands are particularly high—with the local authority for the Outer Hebrides describing them as prohibitive to the deployment of renewable generators.[126]

124 Q359
125 Q485
126 Comhairle nan Eilean Siar (RSS0022)

78. The Energy and Climate Change Committee recently reported on the UK's low carbon network infrastructure, and recommended that Ofgem analyse the costs and benefits of levelling connection costs across Great Britain.[127] Levelling connection costs, so that they did not reflect the additional costs associated with the location of a power plant, would mean that transmission charges were the same no matter where a generator chose to locate their plant. Ofgem has considered regional differences in network charges, and in October 2015 concluded that levelling network charges would raise bills for 16 million households while lowering them for 11 million, though "in most cases the increase or decrease would be small".[128] Kersti Berge, Head of Scotland for Ofgem, told us that the cost of levelling transmission charges would be around £7 billion.[129] The then Minister of State for Energy and Climate Change told us that the charging system was governed by the principle that "the user pays", and was designed to limit the overall costs to consumers across the country.[130]

79. The Scottish Parliament's Economy, Energy and Tourism Committee looked at transmission charging as part of its inquiry into the security of supply of electricity. That Committee noted the conflict between proponents of a flat-charging system and proponents of a cost-reflective system, and called for greater clarity when it comes to communicating the costs and benefits to customers and generators, and also explaining how the charging regime fits with other public policy aims. That Committee said it would welcome Ofgem's suggestions on how this could be achieved.[131]

80. In addition to the costs of maintaining the transmission network, there are also complaints that, because of inadequate transmission infrastructure, the electricity grid is sometimes unable to cope with distributing electricity generated by wind farms.[132] This means that the wind farms have to be told to stop generating electricity—as it cannot be used—and the generators are eligible for compensation for lost income. Although it is obviously desirable in principle that all electricity produced by renewable generators is used, Dr John Constable, Director of the Renewable Energy Foundation, told us that the costs of improving transmission infrastructure meant that in some cases investing in improvements would actually be more expensive than paying wind farms to stop generating.[133]

81. ***Transmission charging has been a source of discontent for Scottish electricity generators for many years, and particularly for renewable generators which are often located in remote areas and pay significantly higher transmission charges. We endorse the Energy and Climate Change Committee's recommendation that Ofgem analyse the costs and benefits of levelling connection costs across Great Britain, and look forward to seeing their response.***

127 Energy and Climate Change Committee, Low carbon network infrastructure, 1st Report of Session 2016–17, HC 267
128 Ofgem, Regional differences in network charges, October 2015
129 Q398
130 Department of Energy and Climate Change (RSS0093)
131 Scottish Parliament, Economy, Energy and Tourism Committee, Plugged-in Switched-on Charged-up: Ensuring Scotland's Energy Security, October 2015
132 Endrick Valley Action Group (RSS0011), Lyndsey Ward (RSS0015), ABO Wind UK Limited (RSS0020), Mrs Pat Wells (RSS0025), Hoolan Energy Ltd (RSS0050), Scientific Alliance Scotland (RSS0057), Renewable Energy Foundation (RSS0058), Scotland Against Spin (RSS0063)
133 Q272

Connections to the Scottish Islands

82. Some of the best natural resources for generating renewable electricity are found on the Scottish Islands. However, adequacy of connections to the electricity grid, and costs for the same, is a particular issue for these islands. The costs to generators located in the Western Isles of maintaining the transmission infrastructure can be seven times higher than the costs for a generator located in North Scotland.[134] This is significantly limiting the opportunities for further deployment of renewable technology.[135] Given the excellent natural resources of the Scottish Islands, we have been told that supporting generation on the islands should be a high priority, and the deployment of additional onshore wind, combined with the improvements to transmission infrastructure this would require, would also unlock opportunities for the deployment of wave and tidal technology.[136] With regard to marine technology, when we were in Orkney we visited the European Marine Energy Centre—a test centre for wave and tidal technologies—and we have since been told that developers of marine technology are being dissuaded from testing new technology in Orkney because of the limitations of the grid.[137]

83. As part of our inquiry we took evidence from the various organisations involved in installing and maintaining Scotland's distribution and transmission network. Andrew Huthwaite, Director of Commercial and Connections at SSEPD—the network operator and owner of the distribution network for the north of Scotland, including the islands—told us that there was a desire to provide improved connections to the islands, and it was just a question of how these investments would be funded and costs to the consumer kept down.[138] Mr Huthwaite recognised that a lot of work had been done on the social and economic benefits of improving transmission links to the islands, but said that as a networks company, they had to "present a fully justified needs case for those investments and that sits within the regulatory framework".[139] Assuming regulatory approval was given, and there were enough developers coming forward to justify the connection, we were told that an improved connection to the Western Isles could be in place in 2020, one to Shetland in 2021, and improved connections to Orkney in 2022.[140]

84. Approval for significant investments in transmission infrastructure is given by Ofgem, the regulator of the GB electricity system, following the submission of a needs case by the system operator. Kersti Berge, Head of Scotland at Ofgem, said that whether or not improved transmission connections to the islands were justified came down to whether there was going to be generation coming online there, and this would be determined by the level of support the Government intended to provide to renewable deployment on the islands.[141] Ms Berge told us that "transmission links and subsea links are very expensive, so you need to have a critical mass of plant coming on to justify that".[142]

134 Comhairle nan Eilean Siar (RSS0022), Comhairle nan Eilean Siar (RSS0022), Scottish Council for Development and Industry (RSS0035), RSPB Scotland (RSS0041), Hoolan Energy Ltd (RSS0050)
135 WWF Scotland (RSS0016)
136 Q234
137 Orkney Renewable Energy Forum (RSS0092)
138 Q373
139 Q374
140 Q378
141 Q379
142 Q397

85. Improving connections to the Scottish Islands is something the UK and Scottish governments have been collaborating on. In June 2014 a Scottish Island Renewables Delivery Forum was established to look at connecting the islands to the mainland transmission grid, and is jointly chaired by the UK Government's Secretary of State for Energy and the Scottish Government Minister for Business, Energy and Tourism.[143] However, little progress on this issue has been made following the establishment of the group, and in March 2016 the then Scottish Government Minister for Business, Energy and Tourism and Council leaders from the islands wrote to the then Secretary of State for Energy and Climate Change urging her Department to make progress on supporting grid connections to the Scottish Islands.[144] The Scottish Government Minister for Business, Energy and Tourism told us that no response to that letter had been received, [145] and questioned the UK Government's investment in this issue, telling us:

> Even in areas where we have worked closely together over many years to pursue a common agenda, for instance grid connections to the Scottish islands and support for renewables development, we have cause to pause and consider the strength or otherwise of the UK Government's commitment.[146]

The Minister raised particular concerns that uncertainties about future support under CfDs for marine technology, which has particular opportunities on the islands, could damage the long-term prospects of this sector.[147] The then Minister of State for Energy and Climate Change told us that the then Secretary of State had spoken with the Scottish Government Minister regarding future rounds of CfDs and support for island renewables, and said that a response to the former Scottish minister's letter would be issued shortly.[148]

86. In terms of the prospects for future support of renewables on the Scottish Islands, the UK Government is currently considering whether Remote Island technologies will be included in the list of "less established technologies" which will be able to apply for Contracts for Difference later this year. The Scottish Parliament's Economy, Energy and Tourism Committee was told by Kersti Berge, the Head of Scotland at Ofgem, that a decision about CfDs and the islands was essential to informing what progress would be made on improving transmission links to the islands.[149] Chris Stark, Director of Energy and Climate Change for the Scottish Government, said that there had been several calls on this issue between the then Secretary of State for Energy and Climate Change and the former Scottish Government Minister for Business Energy and Tourism, but the Secretary of State had "refused to be drawn on her intentions for the Contract for Difference."[150]

87. **Inadequate connections between the Scottish Islands and the mainland are a significant barrier to the growth of the renewables sector based there, including the development of emerging technologies. Given the excellent opportunities for wind, wave and tidal technology on the Scottish Islands, it is essential that infrastructure be improved to enable these sectors to meet their full potential. We understand that this**

143 Scottish Government, Scottish Island Renewables, January 2015
144 Scottish Government, Renewables could boost Scottish islands, March 2016
145 Q432
146 Q401
147 Q406
148 Department of Energy and Climate Change (RSS0093)
149 Scottish Parliament, Economy, Energy and Tourism Committee, Renewable energy in Scotland, Oral evidence on 3 June 2015
150 Q432

will only happen if there is sufficient generating capacity coming online to justify the link, which requires a clear signal from the Government that it will support renewable projects located on the islands.

88. ***We recommend that the UK Government include Remote Island technology in the list of less established technologies which will be eligible to bid for funding in the next round of Contracts for Difference. Strike prices for this category should be set at a rate which will enable sufficient deployment to allow for improved transmission infrastructure to be installed between the Scottish Islands and the mainland.***

Intermittency and security of supply

89. Most renewable technologies only produce electricity under the right conditions—wind turbines only generate electricity when the wind is blowing, solar cells only generate electricity when the sun is shining, and tidal installations only generate electricity when the tide comes in or goes out. This means that the supply of electricity from these technologies is intermittent, and cannot be relied upon to supply electricity at the moment it is required. Several submissions to the Committee have raised concerns about the limitations of intermittent generators when it comes to providing a secure electricity supply.[151]

90. The National Grid is responsible for making the necessary arrangements which ensure that electricity demand can be met by supply. This involves securing agreements with generators about producing electricity as needed, and stopping generation if supply is going to exceed demand. In terms of the impact renewable electricity generators have had on the UK's security of supply, Kersti Berge, Head of Scotland at Ofgem, told us that the risks for security of supply were slightly higher than they had been in the past. She said that there had historically been very high margins, and the currents risks were within the Government's targets for what was acceptable.[152] National Grid told us that they were confident in the process they were following to achieve security of supply,[153] and Ofgem were also comfortable that National Grid had the tools at its disposal to manage security of supply.[154]

91. Dr John Constable, representing the Renewable Energy Foundation, told us that it was always going to be possible to guarantee secure supply, but the relevant issue was the cost of doing so. He noted that these costs had increased significantly over the past decade, as the deployment of intermittent generators had increased.[155] He went on to say that because of these additional costs, the true cost to the consumer of electricity generated by renewable technology was higher than the costs of generation itself.[156] Professor Iain McLeod, from the Institution of Engineers and Shipbuilders in Scotland, told us that there was a need to develop a clear plan for how the GB electricity system would accommodate the electricity mix which is expected in the future,[157] and that supporting the deployment of renewable electricity generators in the absence of such a plan was unwise.

151 Q250, Institution of Engineers and Shipbuilders in Scotland (RSS0052), Scientific Alliance Scotland (RSS0057), Scotland Against Spin (RSS0063), Alison Chapman (RSS0064), Brian Smart (RSS0068)
152 Q387
153 Q385
154 Q386
155 Q251
156 Q254
157 Q256

92. One of the key technologies which could mitigate the intermittency of renewable generators is electricity storage, as this allows electricity generated by renewable technology to be stored until it is needed.[158] We have heard that the costs of this technology are at a level which most investors would find "prohibitive", but that it is expected these will come down.[159] National Grid has found there is significant interest in energy storage from potential investors, and Ofgem are working with the UK and Scottish governments to make sure that the regulatory regimes facilitate storage.[160] The Scottish Minister for Business, Innovation and Energy recognised the opportunities for increased investment in storage, and said he looked forward to discussing the potential of this technology with UK ministers.[161]

93. The Government has signalled that it intends to support innovation to strengthen the future security of supply, reduce the costs of decarbonisation and boost industrial and research capabilities. The 2015 Autumn Statement announced that funding for DECC's innovation programme would be doubled to £500 million,[162] although it is still not clear how this will be disbursed. Niall Stuart welcomed the Government's focus on innovation, and the then Secretary of State's "commitment to put significant financial investment into research and development in clean energy", and noted that funding would be available to technologies in the renewables sector or for supporting storage, which created an opportunity to increase the levels of research and development in these areas.[163]

94. In addition to the development of technologies, such as storage, which will support the increased deployment of renewable electricity generators, National Grid has also been looking at ways of influencing demand for electricity, so that large commercial electricity users can match their energy use to when electricity is cheapest, and so reduce the burden on the system during periods of peak demand.[164] This would mean that less investment was needed in order to secure peak electricity demand, and has been recognised by the Committee on Climate Change as an important element of the UK's response to meeting carbon emission targets.[165]

95. We have also heard that increased integration with the European electricity network could help mitigate the costs of increased deployment of renewable electricity generators.[166] Phil Sheppard, Director of System Operator Operations at National Grid, told us that access to a bigger electricity market meant it was less influenced by disturbances in generation.[167] This reflects the views of the Energy and Climate Change Committee, which recently concluded that "interconnector expansion will help balance a low-carbon network".[168] The then Minister of State for Energy and Climate Change also acknowledged that "having access to other countries' electricity is a good thing", but stated that the UK still needed

158 ScottishPower (RSS0051)
159 Q342
160 Q400
161 Q417
162 HM Treasury, Spending Review and Autumn Statement 2015, November 2015
163 Q9
164 Q358
165 Committee on Climate Change, The Fifth Carbon Budget The next step towards a low-carbon economy, November 2015
166 Q365, Statkraft UK Ltd (RSS0038), Vattenfall (RSS0049)
167 Q366
168 Energy and Climate Change Committee, Low carbon network infrastructure, First Report of Session 2016–17, HC 267

to secure its own energy supplies.[169] The Minister told us that interconnections with the European electricity network would not necessarily be affected by the UK's withdrawal from the EU, as the interconnections are commercial arrangements.[170]

96. **Increasing the proportion of Great Britain's electricity which is supplied by intermittent renewable technology necessarily creates additional challenges for balancing supply and demand of electricity. However, these challenges are not new, and the operators involved are developing increasingly sophisticated means of balancing supply and demand whilst also accommodating an increasing proportion of renewable electricity. There is a lot more to be done to ensure that decarbonising Great Britain's electricity generation mix does not jeopardise security of supply. Nevertheless, there is no reason that this cannot be achieved, with the right long-term strategy and policy framework.**

169 Q524
170 Q525

5 Carbon emission and renewables targets

97. The driving force behind support for the renewable energy sector is the widely recognised need to reduce global carbon emissions, and so reduce the risks of climate change. This need is recognised in several international, UK and Scottish targets for reducing carbon emissions, and increasing the proportion of energy needs which are met by renewable technology. These are set out below.

Global

- The Paris Agreement, adopted (but not yet ratified) by 195 countries in December 2015, committed adoptees to taking action to limit the increase in global average temperature to less than 2°C above pre-industrial levels.[171]

EU

- The Renewables Directive 2009 mandated levels of renewable energy deployment within the European Union, requiring that 20% of energy in the EU is generated by renewable means by 2020, with a target for the UK of 15%.[172] The directive did not set specific targets for electricity, transport and heat, but the UK's National Renewable Energy Action Plan suggested that the target could be met by using renewables to meet 30% of electricity demand, 12% of heat demand, and 10% of transport demand.[173]

- The EU 2030 Framework set targets for reducing greenhouse gas emissions by 40%, increasing the share of renewable energy to 27% and improving energy efficiency by 27% by 2030.[174]

UK

- The Climate Change Act 2008 set a legally binding target for the Government to reduce the UK's greenhouse gas emissions by at least 80% (from a 1990 baseline) by 2050.[175] The Act provided for the Secretary of State to set "carbon budgets"—the allowable amount of greenhouse emissions for each five year period up to 2050. The Act also established the Committee on Climate Change, an independent body to advise the Government on carbon targets, including the appropriate level for the five-yearly carbon budgets.

Scotland

- The Climate Change (Scotland) Act 2009 created a statutory framework for reducing greenhouse gas emissions by 42% by 2020, and 80% by 2050.[176] The Scottish Government has also set a target of delivering the equivalent of at least 100% of gross electricity consumption from renewables by 2020.

171 European Commission, Paris Agreement, February 2016
172 Renewables Directive, Directive 2009/28/EC
173 UK Government, National Renewable Energy Action Plan for the United Kingdom, 2009
174 European Commission, 2030 climate and energy framework, February 2016
175 Climate Change Act 2008
176 Climate Change (Scotland) Act 2009

98. Around a quarter of the UK's carbon emissions are produced by the generation of electricity.[177] Decarbonising the electricity supply is therefore a key part of meeting carbon emission targets. The Committee on Climate Change has stated that meeting the UK's climate targets requires a largely decarbonised power sector by 2030,[178] and increasing the proportion of electricity which is generated by renewable technology is recognised as an important element of this response.[179] The evidence we received from the Department of Energy and Climate Change noted the importance of renewables to meeting carbon targets:

> The Climate Change Act sets a target to reduce UK greenhouse gas emissions by 80% by 2050, compared to 1990 levels. Scotland also has a 2050 emissions target which is aligned with the UK's. Renewables are playing an important role in decarbonising heat, power and transport sectors, and helping us to meet carbon budgets on the way to meeting our 2050 target.[180]

99. Given the significant commitments the EU has made to reducing carbon emissions, and increasing the deployment of renewable technology, it is impossible not to note the possible implications the UK's withdrawal from the EU could have for renewables in the UK. Although both the UK and Scotland have their own carbon emission targets which go as far as any international commitments, ahead of the referendum concerns were expressed that the UK's departure from the EU would create two years of uncertainty while negotiations regarding the UK's withdrawal from the EU proceed,[181] and also make it easier for a UK Government to change its policy regarding climate change obligations, as only domestic commitments would need to be rescinded.[182]

100. We have received some evidence questioning the assumption that man-made carbon emissions have contributed or will contribute to global warming,[183] but this is set against an overwhelming consensus that the risks posed by carbon emissions and climate change are significant, and that action must be taken to respond to them. Successive governments, including the present one, have recognised the threat posed by climate change, and committed to taking action to reduce the UK's carbon emissions.[184]

101. **It is widely recognised that climate change is a real and present danger at a global and national level. Reducing carbon emissions is essential to combat the risks posed by climate change. To that end, international communities, the UK and Scotland have all committed to challenging targets for reducing carbon emissions and increasing the proportion of the UK's energy which is generated by renewable technology. We welcome these targets and note that, in order to meet them, it is essential that the UK has the right policy framework to support the development of a thriving renewable sector.**

177 Department of Energy and Climate Change, 2014 UK Greenhouse Gas Emissions, February 2016
178 Committee on Climate Change, Next steps on Electricity Market Reform – securing the benefits of low-carbon investment, May 2013
179 HM Government, The Carbon Plan: Delivering our low carbon future, December 2011
180 Department of Energy and Climate Change (RSS0055)
181 UK Energy Research Council, Brexit vote likely to mean two years of uncertainty for UK energy, May 2016
182 The Royal Institute of International Affairs, UK Unplugged? The Impacts of Brexit on Energy and Climate Policy, May 2016
183 Douglas Brodie (RSS0010)
184 HC Deb, 17 September 2015, col 1172 [Commons Chamber], Prime Minister's Office, PM speech to the COP21 summit in Paris, November 2015, HM Government, The Coalition: our programme for government, May 2010, Department for Trade and Industry, Our Energy Challenge: Creating a Low Carbon Economy, Cm 5761, February 2003

Meeting carbon emission and renewables targets

102. Although there is a general consensus that the UK is on track to meet 2020 targets for renewable electricity and carbon emissions, there are fears that the Government has taken too short-term a view when it made recent policy changes, and that they will make it more difficult to meet future targets.[185] The Committee on Climate Change has stated that the Government's £7.6 billion spending limit for 2020–21 should be sufficient for the UK to meet 2020 carbon budgets, but has warned that action to limit spending could risk undermining investor confidence, creating a stop-start profile for renewable projects, and lead to missed opportunities if some projects have to be abandoned.[186]

103. Several of our witnesses highlighted the short-term focus of the Government's recent decisions, and argued that this would create challenges for meeting post-2020 targets. Joan MacNaughton, Executive Chair of the World Energy Trilemma Study Group for the World Energy Council, told us she was disappointed that the sole focus of recent policy announcements seemed to be 2020, and said there were going to be real challenges in meeting the carbon budgets after 2020.[187] Similarly Gareth Williams, Head of Policy for the Scottish Council for Development and Industry, told us: "The 2020 targets are not unimportant, but we need to be thinking about 2030, 2050 and how we hit carbon budgets to climate change targets at those times. I am not sure we can say that the strategy that is in place is taking us in that direction."[188] The Committee on Climate Change has described the absence of planning for support post-2020 as a "policy gap" which needs to be addressed.[189]

104. In terms of Scotland-specific targets, it was recently announced that Scotland had achieved its carbon emission reduction target for 2020, of reducing emissions by at least 42% of the 1990 baseline, six years early.[190] This was in no small part down to Scotland's success decarbonising the generation of electricity in Scotland. However, recent policy changes have created a substantial risk that the Scottish Government's 2020 target, to generate the equivalent of 100% of Scottish electricity using renewable technology, will not be met.[191] Scottish Renewables has stated that the recent policy changes mean that "Scotland is now likely to fall short of its 2020 renewable energy targets", because new projects are unlikely to proceed before 2020.[192] Similarly, the Scottish Government Minister for Business, Innovation and Energy told us that "Scotland's ability to achieve its renewable energy targets is now being put at risk by the decision of the UK Government to cut support for renewable projects" and the withdrawal of funding from onshore wind meant it was going to be more challenging to meet their target of generating the equivalent of 100% of Scotland's electricity from renewables.[193]

185 Green Highland Renewables Ltd (RSS0007), WWF Scotland (RSS0016), Stop Climate Chaos Scotland (RSS0037), Energy Saving Trust (RSS0048)
186 Committee on Climate Change, Technical note: Budget management and funding for low-carbon electricity generation, September 2014
187 Q76
188 Q233
189 Committee on Climate Change, Meeting Carbon Budgets – 2016 Progress Report to Parliament, June 2016
190 Scottish Government, Scotland exceeds 2020 climate targets, June 2016
191 Q23, E.ON (RSS0029), RSPB Scotland (RSS0041), Nuclear Free Local Authorities Scotland (RSS0065)
192 Scottish Renewables (RSS0018)
193 Qq 401, 416

105. We have also heard that there is a possibility the UK will miss its overall renewable energy target for 2020, as so little progress has been made on heat and transport.[194] The UK's 2020 target for renewables is to generate 15% of energy from renewables. The total energy target takes into account heat and transport as well as electricity and although the UK Government has stated that it is on target to meet its sub-goal of 30% of electricity generation from renewables, we have heard that in light of the fact targets on heat and transport are highly unlikely to be met, the target for renewable electricity should be increased, and recent policy changes are inconsistent with such an ambition.[195] The National Grid recently published a report looking at future energy scenarios for the UK, and found that there was no scenario where the UK met its 2020 renewable energy targets.[196]

106. The then Minister of State told us that "even with the cost control measures we have taken, we are still on track to deliver 35% of the UK's electricity from renewables in 2020, exceeding our ambition of 30%."[197] She also made it clear that the Government was "committed to meeting our climate change targets".[198] The Minister acknowledged that the Government still needed to finalise some of the policies which would be needed to achieve Fourth Carbon Budget, covering 2023–28.[199] The Government has accepted the Committee on Climate Change's recommendation for the Fifth Carbon Budget, that carbon emissions be reduced to 57% of 1990 levels by 2032,[200] but has yet to set out its plans for how this will be achieved.

107. **There is a significant risk that recent policy changes, and in particular the UK Government's decision to end all new subsidies for onshore wind, will mean that the Scottish Government is unable to achieve its goal of generating the equivalent of 100% of Scotland's electricity needs from renewable technology by 2020. The Scottish Government developed this target at a time when UK Government policy was considerably more supportive of the deployment of renewable technology, including onshore wind. It is disappointing that the Scottish Government's ambitions in this area appear to have been stymied by actions taken by the UK Government, particularly given the clear evidence we have received about the lack of meaningful consultation with the Scottish Government over these decisions.**

108. **Although recent policy changes are unlikely to mean the UK's carbon emission or renewable electricity targets for 2020 are missed, the Government has not set out how recent policy decisions will affect the UK's ability to meet post-2020 targets. The Government's recent decisions about support for renewables over the next few years will have implications for the deployment and cost-reduction of renewable technology in Scotland and across the UK which will affect the UK's ability to meet carbon and renewables targets far beyond 2020. It is not clear the Government has taken this into account in the formation of recent policy affecting renewables.**

194 Independent Renewable Energy Generators Group (RSS0031)
195 MEG Renewables (RSS0005)
196 National Grid, Future Energy Scenarios, July 2016
197 Q437
198 Q447
199 Q502
200 Department of Energy and Climate Change, Carbon Budgets, accessed July 2016

Gas plants and Carbon Capture and Storage

109. The Government has been clear that it sees gas power plants as a "bridge" between conventional generators and cleaner energy,[201] and expects gas power plants to form part of the UK's electricity mix through to at least the mid-2030s.[202] However, although generating electricity from gas power plants produces considerably lower carbon emissions than coal power plants, it is far from being a low-carbon means of electricity generation.[203] The Committee on Climate Change has stated that Carbon Capture and Storage (CCS) is of "critical importance" to meeting the UK's climate targets,[204] and Joan MacNaughton told us that gas can only form part of a low-carbon network if there is Carbon Capture and Storage technology.[205] The National Grid's recent report on future energy scenarios for the UK also argued that CCS is one of the key technologies which will be needed to meet future carbon emission targets.[206]

110. The UK Government had been planning to invest £1 billion to support the design, construction and operation of the UK's first commercial-scale CCS projects.[207] This funding was intended to generate learning that would help drive down the costs of CCS, test and build familiarity with the regulatory framework for CCS, and encourage industry to develop suitable business models. One of the projects under consideration, which would have been based in Aberdeenshire, planned to capture around 85% of the carbon dioxide from an existing combined cycle gas turbine (CCGT) power station at Peterhead. However, in November 2015, the Government announced that "the £1 billion ring-fenced capital budget for the Carbon Capture and Storage (CCS) Competition is no longer available" and that "the CCS Competition cannot proceed on its current basis".[208]

111. Several of our witnesses expressed disappointment at the Government's decision to pull funding for CCS.[209] The Scottish Government Minister for Business, Innovation and Energy told us that this was a case of the UK Government raising hopes and then "pulling the rug from under those who have invested a lot of money in developing the proposals."[210] The Energy and Climate Change Committee has said that pulling the plug on the CCS competition came as a shock to the industry and investors, and "was damaging both to the relationship between Government and the industry, and to investment into the UK". That Committee recommended that DECC promptly devise a new strategy for CCS.[211] The then Minister of State for Energy and Climate Change told us that she thought CCS would be "part of our future", but that it was still extremely expensive and the intended investment had been pulled as part of the Spending Review process of looking at the value for money of planned spending.[212] She said that DECC looked forward to "making announcements on our ongoing strategy for CCS during this year".

201 Q507
202 Department of Energy and Climate Change, Updated energy and emissions projections: 2015, November 2015
203 Committee on Climate Change, Power sector scenarios for the fifth carbon budget, October 2015
204 Committee on Climate Change, Meeting Carbon Budgets – 2016 Progress Report to Parliament, June 2016
205 Q89
206 National Grid, Future Energy Scenarios, July 2016
207 Department of Energy and Climate Change, UK carbon capture and storage: government funding and support, 22 January 2013
208 Department of Energy and Climate Change, HM Government Statement to Markets Regarding Carbon Capture and Storage Competition, 25 November 2015
209 Scottish Council for Development and Industry (RSS0035), E3G (RSS0044)
210 Q419
211 Energy and Climate Change Committee, Future of carbon capture and storage in the UK, Second Report of Session 2015–16, HC 692
212 Q505

112. **If, as the UK Government hopes, gas power plants are to act as a bridge from conventional electricity generation to low carbon electricity generation, it is desirable that Carbon Capture and Storage (CCS) technology be installed on gas power plants. In light of this, the Government's decision to pull the £1 billion it had planned to invest in CCS is extremely disappointing, and has put at risk the UK's chances of leading on the development of a technology which will be of global importance in the coming years. We therefore welcome the Minister of State's indication that the Government will be making announcements this year about its strategy for CCS, and look forward to seeing these.**

6 The need for a long-term strategy

The importance of a stable policy framework

113. We have heard repeated criticisms of the ad hoc approach the UK Government has taken to policy formation, and been told about the negative effect this has had on the renewable electricity sector in Scotland. Recent changes have undermined confidence in the renewable sector and increased the costs of deploying renewable technology. Our witnesses have argued that recent policy changes have been made without any reference to long-term goals,[213] and that lack of certainty about the Government's commitment to decarbonise the electricity supply will mean investors don't have the confidence to invest in the UK.[214]

114. The overwhelming message which came through in our evidence was that the Government needs to set out a clear, long-term strategy for the UK's energy supply, including the role of renewables, so that a consistent set of policies can be put in place to achieve this.[215] As an example of the many submissions we have received calling for such a plan, the Scottish Council for Development and Industry told us:

> There is an increasing need for the UK and Scottish Governments to work together to develop a comprehensive energy strategy. This would incorporate renewable development beyond 2020 and address the potential challenges to security of supply.[216]

115. A clear indication of policy support over the medium to long term is particularly important for the renewable sector, because the lead times for deploying renewable electricity generators can be up to 10 years.[217] We have repeatedly been told that it is imperative that Government provide long-term signals that give investors the confidence to invest.[218] For example, Lindsay McQuade, Policy and Innovation Director at ScottishPower Renewables, said that "understanding where we need to get to if we are to achieve the targets at 2030 and again at 2050, how that can then best be supported through more specific policy initiatives, would be very, very helpful."[219]

116. The Energy and Climate Change Committee has stated that "the Government must turn its attention to creating a credible long-term vision for the future of the UK's energy system", and that responding to the Fifth Carbon Budget "presents an ideal opportunity" for the Government to do this.[220] More recently, that Committee's report on *Low carbon network infrastructure* recommended that the Government commission a study on the future of large-scale storage in the UK, set out a more detailed strategy for Demand Side

213 E3G (RSS0044)
214 E3G (RSS0044)
215 Q343, WWF Scotland (RSS0016), Scottish Renewables (RSS0018), Civil Engineering Contractors Association (RSS0019), Scottish Energy Association (RSS0033), Scottish Council for Development and Industry (RSS0035), Statkraft UK Ltd (RSS0038), RSPB Scotland (RSS0041), E3G (RSS0044), Vattenfall (RSS0049), Hoolan Energy Ltd (RSS0050), Royal Society of Edinburgh (RSS0056), Viking Energy Shetland LLP (RSS0085)
216 Scottish Council for Development and Industry (RSS0035)
217 Q348
218 Green Highland Renewables Ltd (RSS0007)
219 Q343
220 Energy and Climate Change Committee, Investor confidence in the UK energy sector, Third Report of Session 2015–16, HC 542

Response, and develop greater interconnections with Europe.[221] The Scottish Parliament's Economy, Energy and Tourism Committee also received similar evidence during the one-off evidence session they held into *Renewable energy in Scotland*.[222]

Future spending on renewables

117. As well as a lack of clarity about specific policies for supporting the renewables sector, the Government has been criticised specifically for failing to set out future spending limits for the Levy Control Framework, which will indicate the overall level of support for renewable electricity.[223] The Government has set spending limits through to 2020–21, but industry groups and the Committee on Climate Change have called for detail on limits for future years to be published. In terms of the likely level of future limits, Matthew Bell, Chief Executive of the Committee on Climate Change, told us that "by the mid 2020s [the levy control framework] needs to increase by another £1 billion to £2 billion per year to be consistent with the ambitions under the carbon budget."[224] The Energy and Climate Change Committee has said that the "Government should urgently set out what the budget for the LCF will be post-2020", and that available funding must be "consistent with meeting our longer-term carbon commitments".[225]

118. Although most of the evidence we have received has called for clarity on future spending limits, and stated that these will need to go up to allow for the deployment of new renewable electricity capacity, we have also received some evidence questioning whether the cost of reducing emissions could exceed the costs of higher levels of carbon emissions. John Constable, Director of the Renewable Energy Foundation, questioned the case for the Government's spending on decarbonising the electricity market, telling us that "We are harming the case for a low-carbon economy by producing emission savings at such an extraordinarily and needlessly high cost."[226] Professor Iain McLeod, from the Institution of Engineers and Shipbuilders in Scotland, argued that the risks posed by carbon emissions were "not very well quantified",[227] that it was therefore not sensible to implement policies which cost a great deal, and that it would be possible to adapt to the consequences of global warming if this did occur.[228] In terms of the costs to consumers, the Taxpayers' Alliance has said that the necessary investment in renewables to meet 2030 targets would involve doubling consumer bills, and that this is unlikely to be politically justifiable.[229]

119. The then Minister of State acknowledged that the limits for the Levy Control Framework would need to be increased, and told us that the funding which had been announced in the 2016 Budget for future rounds of CfDs was not currently accounted for. She said that the Government's intention was to set out limits for future years in the 2016 Autumn Statement.[230]

221 Energy and Climate Change Committee, Low carbon network infrastructure, First Report of Session 2016–17, HC 267
222 Scottish Parliament, Economy, Energy and Tourism Committee, Renewable energy in Scotland, 9 December 2015
223 E.ON (RSS0029)
224 Q200
225 Energy and Climate Change Committee, Investor confidence in the UK energy sector, Third Report of Session 2015–16, HC 542
226 Q316
227 Q312
228 Q315
229 TaxPayers' Alliance (RSS0069)
230 Q482

120. Because the Levy Control Framework is intended to capture support for low-carbon electricity generators, there are concerns that because nuclear is a low-carbon generator, the subsidies which the Government has agreed to pay for electricity generated by Hinkley Point C will be included in the limits for the Levy Control Framework, and that this could then further limit funds available to renewables.[231] The then Minister of State could not tell us whether future subsidies for nuclear would come under the Levy Control Framework, but accepted that including the costs of support for Hinkley under the LCF would affect what is available to renewables.[232]

The importance of renewable electricity

121. It is accepted that increased deployment of renewable electricity will play a significant role in achieving future carbon emission targets, and given the scale of Scotland's renewable sector it is clear Scotland will be extremely important in that regard.[233] We have heard that the UK needs to more than double its renewable capacity in order to meet 2030 targets,[234] by which time the Committee on Climate Change has said the UK will need to have largely decarbonised its power supply. Given the current wholesale electricity prices and costs of renewable technology, this will require significant public support. A number of submissions have also argued that as heat and transport is likely to be increasingly electrified, even more needs to be done to ensure electricity supply can be decarbonised.[235] The National Grid's recent report on future energy scenarios for the UK concluded that the best path for meeting carbon emissions was to focus on decarbonising electricity, then use this as a basis to decarbonise heat and transport.[236] A recent report by the Energy and Climate Change Committee noted that if heat were completely electrified this would result in a five-fold increase in electricity demand.[237]

What a long-term strategy would look like

122. Broadly, those calling for a long-term strategy from the UK Government have asked for a vision for Great Britain's electricity supply, along with a strategy for how this will be achieved. We have noted in this and previous chapters several areas which would need to be covered—including, but not limited to, the desired electricity mix, future spending limits for renewables, clarity over which technologies will be supported, and a plan for the deployment of electricity storage and CCS.

123. A key point made by many of those petitioning for a clear strategy for the UK's energy sector was that this must be produced in collaboration with the Scottish Government. The division of responsibilities between the two governments, and the particular importance of Scotland to the UK's renewable electricity sector, means that intergovernmental cooperation on this is essential. We note that the Northern Ireland Affairs Committee has received similar evidence, calling for a joined-up approach between the Northern Ireland

231 MEG Renewables (RSS0005)
232 Q523
233 National Grid, Future Energy Scenarios, July 2016
234 Scottish Renewables (RSS0018)
235 Q235, Scottish Energy Association (RSS0033)
236 National Grid, Future Energy Scenarios, July 2016
237 Energy and Climate Change Committee, Low carbon network infrastructure, First Report of Session 2016–17, HC 267

Executive and UK Government on energy policy, to ensure the views of the energy sector in NI, and the NI Executive, are taken into account in the formation of UK Government policy.[238]

124. Although the focus of this report has been on renewable electricity, action is also necessary to decarbonise the energy needs of the heat and transport sectors.[239] This is an area where every part of the UK needs to take further action, and the UK Government has acknowledged that it does not have the right policies to achieve targets on renewable heat and transport.[240]

Conclusion

125. **The Government has been too slow to set out its intentions and ambitions for the electricity market and renewable energy sector post-2020. Given the long lead times for deploying renewable technology, it is essential that the Government gives a clear indication what future support it will provide so investment decisions can be made and new generation capacity secured at the lowest cost to the consumer. The scale of Scotland's renewable sector, and the obvious impact UK Government energy policy has on Scotland, means that it is essential the Scottish Government is involved in the development of not just support for renewables, but the UK's wider energy policy.**

126. ***We recommend that the UK Government, as part of its response to the Fifth Carbon Budget, work with the Scottish Government to produce a long-term strategy for the future of Great Britain's electricity supply, and detail how this will be achieved. This should cover:***

- ***A plan for future energy mix which is compatible with meeting carbon emission targets.***
- ***An indication of support for renewable electricity generators, and which technologies will be supported.***
- ***The role of Carbon Capture and Storage (CCS) in mitigating the carbon emissions of gas power plants.***
- ***How the deployment of electricity storage will be encouraged.***
- ***The role of demand side response in reducing electricity demand.***

238 Written evidence received by the Northern Ireland Affairs Committee from the Northern Ireland Chambers of Commerce (ENI0020)

239 Scotland Gas Networks plc (RSS0014), Scottish Renewables (RSS0018)

240 Oral evidence taken before the Energy and Climate Change Committee on 10 November 2015, HC (2015–16) 554, Q4

Conclusions and recommendations

The renewable sector in Scotland

1. The renewable electricity sector in Scotland is an exemplar of how this sector can thrive, provided there is a supportive policy environment. Scotland has been immensely successful at attracting investment in renewable electricity generation, and leads the UK in the proportion of its electricity which is generated by renewable technology, producing almost 30% of the UK's renewable electricity in 2014. We welcome the recognition by Lord Dunlop, Parliamentary Under-Secretary of State for Scotland of Scotland's importance to the success of the UK's renewable sector, which mirrors the importance assigned to this sector by the Scottish Government. (Paragraph 16)

2. We note the serious concerns many Scottish residents have about the impact of onshore wind turbines on the environment and their communities. It is important that such concerns are taken into account in the process for approving the installation of new power plants, but as planning is a devolved policy area this is a matter for the Scottish Government and Scottish Parliament. We also note the evidence that the Scottish public support the Scottish Government in taking action to tackle greenhouse gas emissions and climate change, and that the Scottish Government must balance local considerations with how national goals around carbon emissions and renewables are achieved. We would encourage the Scottish Parliament to ensure that people's objections are properly heard and considered at the appropriate level within the planning system. (Paragraph 27)

Recent policy changes

3. Although the Government has stated that recent policy changes were necessary to respond to the projected overspend of the Levy Control Framework, these changes have been implemented in an ad hoc way. There has not been enough transparency regarding how decisions have been made, and it is therefore not clear how the Government arrived at the specific options it has chosen. The way in which the Government has responded to the projected overspend has created uncertainty for the renewables sector. (Paragraph 39)

4. *We concur with the Energy and Climate Change Committee's recommendation that the Department of Energy and Climate Change should develop and publish a structured response plan, setting out how any future projected overspend of the Levy Control Framework would be dealt with. We also recommend that the Government establish procedures for the communication of any future projected overspend, and also the Government's response to that overspend. This should be developed with a view to ensuring the renewables sector is as well-informed as it can be as soon as possible, and that it is transparent how the Government has come to its decisions.* (Paragraph 40)

5. The Government's recent changes to support for the renewable sector—early closure of the Renewables Obligation to onshore wind and solar, cuts to Feed-in-Tariffs and delaying the next round of Contracts for Difference—will affect the renewable

industry across the UK. However, the fact that cuts fall particularly heavily on onshore wind, where the majority of capacity is deployed in Scotland, means that these changes will have a disproportionate impact on the prospects of Scotland's renewable sector. Scottish Renewables told us that early closure of the Renewables Obligation to onshore wind will cost Scotland up to £3 billion in lost investment and put 5,400 jobs at risk. We have also heard that recent changes will mean Scotland could potentially lose out on significant additional investment and job creation. It is of serious concern that the UK Government implemented these changes without assessing the impact they would have on Scotland. (Paragraph 47)

6. *We recommend that the Government include in its response to this Report an assessment of the impact of recent policy changes on the renewable sector in Scotland, and that sector's prospects for future growth, as compared to other parts of the UK.* (Paragraph 48)

Withdrawal of new subsidy for onshore wind

7. We recognise that the Conservative Party had a clear manifesto commitment to "end any new public subsidy" to onshore wind, but the decision to close the Renewables Obligation—an already existing support mechanism, which was due to close to new entrants in 2017—to onshore wind a year early appears to go beyond this. It is not helpful that the Government has made significant changes to renewables policy, without consultation or engagement with the renewables industry, on the basis of a manifesto commitment which could have been implemented in any number of different ways. (Paragraph 54)

8. Onshore wind farms are one of the cheapest means of generating renewable electricity, and the Government's decision to deny any further subsidy to onshore wind therefore appears to be in conflict with the Government's focus on reducing the costs of renewable technology, a principle the majority of our witnesses accepted. This decision will almost inevitably increase the costs of deploying additional renewable electricity generating capacity, and is likely to restrict the prospects of further reductions in the cost of onshore wind technology as new developments will have no realistic route to market. (Paragraph 55)

9. *We recommend that the Government review its decision to bar onshore wind schemes from accessing subsidies, and explain in its response to this Report how its decision to withdraw support for onshore wind, one of the cheapest forms of renewable energy, tallies with its commitment to keep down the costs of supporting renewable electricity.* (Paragraph 56)

10. *The Government should also end uncertainty for the sector by saying whether onshore wind will be eligible for future rounds of Contracts for Difference, and set out its view on whether a "market stabilisation" mechanism for onshore wind could be introduced.* (Paragraph 57)

Future rounds of Contracts for Difference

11. It is regrettable that the second round of Contracts for Difference has been delayed by at least a year. This has created a void where renewables projects have been unable to progress because there is no support mechanism available to them. This stop-start funding is bad for investor confidence and for the maintenance of supply chains, which are most efficient when there is a stable policy framework and steady stream of support. (Paragraph 60)

12. *Although the Government has finally indicated that the next round of Contracts for Difference will be held in the last three months of 2016, there remain a number of important details to be confirmed. It is essential that the Government set out, at the earliest possible opportunity, the full details for the next round of Contracts for Difference. This should include the dates of the auction, eligible technologies and strike prices. The Government should indicate the timing of the remaining auctions due to take place this Parliament, ahead of providing more detailed information regarding funding levels and which technologies will be eligible for contracts.* (Paragraph 61)

Representation of Scottish interests

13. Scotland is home to around 60% of the UK's onshore wind capacity, and withdrawing access to funding for future onshore wind developments will therefore have a disproportionate impact on Scotland. It is unclear to what extent the interests of Scotland's renewable sector were considered by the UK Government when it formulated recent policy changes, but it is clear that the decision to bar onshore wind schemes from public support was pursued despite very clear opposition from the Scottish Government. It is not clear what, if any, role the Scotland Office played in representing Scottish interests within the UK Government in relation to a policy change which will have a significant impact on a key sector of the Scottish economy. (Paragraph 64)

14. Given the significant interest Scotland has in UK energy policy, particularly where this affects the renewable sector, it is crucial that the UK and Scottish governments engage constructively on this subject. Both governments have acknowledged the need for improved engagement, and have committed to taking this forward. Lord Dunlop's statement that it is now time to "put flesh on the bones" of the Smith Commission recommendations regarding consultation between the UK and Scottish governments on energy policy recognises that there is still work to be done on improving engagement between the two governments. This is also evidenced by the Scottish Government's dissatisfaction with the way recent policy changes have been pursued. The two governments should be encouraged to take a constructive approach to discussions. (Paragraph 71)

15. Although we welcome the implementation of the Smith Commission's recommendation that the Scottish Government have a formal consultative role in designing renewables incentives, it is not clear what benefits this will have in practice. It is essential that the UK Government engage in substantive consultation with the Scottish Government when it comes to policy affecting the renewables sector, and that this is not simply conducted as a tick-box exercise. (Paragraph 72)

16. *We recommend that, to complement the provisions of the Scotland Act 2016, the UK Government put in place a clear process for consulting the Scottish Government on the design of, or amendment to, renewables incentives. We expect to see details of this process in the Government's response, and will monitor how it works practice.* (Paragraph 73)

Infrastructure and security of supply

17. *Transmission charging has been a source of discontent for Scottish electricity generators for many years, and particularly for renewable generators which are often located in remote areas and pay significantly higher transmission charges. We endorse the Energy and Climate Change Committee's recommendation that Ofgem analyse the costs and benefits of levelling connection costs across Great Britain, and look forward to seeing their response.* (Paragraph 81)

18. Inadequate connections between the Scottish Islands and the mainland are a significant barrier to the growth of the renewables sector based there, including the development of emerging technologies. Given the excellent opportunities for wind, wave and tidal technology on the Scottish Islands, it is essential that infrastructure be improved to enable these sectors to meet their full potential. We understand that this will only happen if there is sufficient generating capacity coming online to justify the link, which requires a clear signal from the Government that it will support renewable projects located on the islands. (Paragraph 87)

19. *We recommend that the UK Government include Remote Island technology in the list of less established technologies which will be eligible to bid for funding in the next round of Contracts for Difference. Strike prices for this category should be set at a rate which will enable sufficient deployment to allow for improved transmission infrastructure to be installed between the Scottish Islands and the mainland.* (Paragraph 88)

20. Increasing the proportion of Great Britain's electricity which is supplied by intermittent renewable technology necessarily creates additional challenges for balancing supply and demand of electricity. However, these challenges are not new, and the operators involved are developing increasingly sophisticated means of balancing supply and demand whilst also accommodating an increasing proportion of renewable electricity. There is a lot more to be done to ensure that decarbonising Great Britain's electricity generation mix does not jeopardise security of supply. Nevertheless, there is no reason that this cannot be achieved, with the right long-term strategy and policy framework. (Paragraph 96)

Carbon emission and renewables targets

21. It is widely recognised that climate change is a real and present danger at a global and national level. Reducing carbon emissions is essential to combat the risks posed by climate change. To that end, international communities, the UK and Scotland have all committed to challenging targets for reducing carbon emissions and increasing the proportion of the UK's energy which is generated by renewable technology. We welcome these targets and note that, in order to meet them, it is essential that the UK has the right policy framework to support the development of a thriving renewable sector. (Paragraph 101)

22. There is a significant risk that recent policy changes, and in particular the UK Government's decision to end all new subsidies for onshore wind, will mean that the Scottish Government is unable to achieve its goal of generating the equivalent of 100% of Scotland's electricity needs from renewable technology by 2020. The Scottish Government developed this target at a time when UK Government policy was considerably more supportive of the deployment of renewable technology, including onshore wind. It is disappointing that the Scottish Government's ambitions in this area appear to have been stymied by actions taken by the UK Government, particularly given the clear evidence we have received about the lack of meaningful consultation with the Scottish Government over these decisions. (Paragraph 107)

23. Although recent policy changes are unlikely to mean the UK's carbon emission or renewable electricity targets for 2020 are missed, the Government has not set out how recent policy decisions will affect the UK's ability to meet post-2020 targets. The Government's recent decisions about support for renewables over the next few years will have implications for the deployment and cost-reduction of renewable technology in Scotland and across the UK which will affect the UK's ability to meet carbon and renewables targets far beyond 2020. It is not clear the Government has taken this into account in the formation of recent policy affecting renewables. (Paragraph 108)

24. If, as the UK Government hopes, gas power plants are to act as a bridge from conventional electricity generation to low carbon electricity generation, it is desirable that Carbon Capture and Storage (CCS) technology be installed on gas power plants. In light of this, the Government's decision to pull the £1 billion it had planned to invest in CCS is extremely disappointing, and has put at risk the UK's chances of leading on the development of a technology which will be of global importance in the coming years. We therefore welcome the Minister of State's indication that the Government will be making announcements this year about its strategy for CCS, and look forward to seeing these. (Paragraph 112)

The need for a long term strategy

25. The Government has been too slow to set out its intentions and ambitions for the electricity market and renewable energy sector post-2020. Given the long lead times for deploying renewable technology, it is essential that the Government gives a clear indication what future support it will provide so investment decisions can be made and new generation capacity secured at the lowest cost to the consumer. The scale of Scotland's renewable sector, and the obvious impact UK Government energy policy has on Scotland, means that it is essential the Scottish Government is involved in the development of not just support for renewables, but the UK's wider energy policy. (Paragraph 126)

26. *We recommend that the UK Government, as part of its response to the Fifth Carbon Budget, work with the Scottish Government to produce a long-term strategy for the future of Great Britain's electricity supply, and detail how this will be achieved. This should cover:*

    - *A plan for future energy mix which is compatible with meeting carbon emission targets.*

- *An indication of support for renewable electricity generators, and which technologies will be supported.*
- *The role of Carbon Capture and Storage (CCS) in mitigating the carbon emissions of gas power plants.*
- *How the deployment of electricity storage will be encouraged.*
- *The role of demand side response in reducing electricity demand.* (Paragraph 126)

Formal Minutes

Wednesday 13 July 2016

Members present:

Pete Wishart, in the Chair

Kirsty Blackman	Mr Stephen Hepburn
Mr Christopher Chope	Chris Law
Mr Jim Cunningham	John Stevenson
Margaret Ferrier	Maggie Throup

Draft Report (*The renewable energy sector in Scotland*), proposed by the Chair, brought up and read.

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

Paragraphs 1 to 126 read and agreed to.

Resolved, That the Report be the First 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 (Standing Order No. 134).

[Adjourned till Tuesday 19 July at 1.45 pm

Witnesses

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

	Question number
Wednesday 24 February 2016	
Niall Stuart, Chief Executive, Scottish Renewables	Q1–34
Andy Kerr, Executive Director, Edinburgh Centre for Carbon Innovation, **Professor Keith Bell**, Co-Director, UK Energy Research Centre, and **Simon Skillings**, Senior Associate, E3G	Q35–67
Wednesday 2 March 2016	
Joan MacNaughton, Executive Chair of the World Energy Trilemma Study Group for the World Energy Council, and **Angus McCrone**, Chief Editor, Bloomberg New Energy Finance	Q68–110
Monday 14 March 2016	
Councillor James Stockan, Chair, Development Infrastructure Committee, Orkney Islands Council, **Lorna Richardson**, Policy Manager, Convention of Scottish Local Authorities, and **Felix Wight**, Development Manager, Community Energy Scotland	Q111–146
Ian Johnstone, Senior Consultant, Aquatera, **Alistair Gray**, Chairman, Hammars Hill Energy, and **Neil Kermode**, Managing Director, European Marine Energy Centre	Q147–175
Tuesday 15 March 2016	
Matthew Bell, Chief Executive, Committee on Climate Change, and **Professor Jim Skea CBE**, Member, Committee on Climate Change	Q176–221
Wednesday 13 April 2016	
Gareth Williams, Head of Policy, Scottish Council for Development	Q222–246
Dr John Constable, Director, Renewable Energy Foundation, **Linda Holt**, Scotland Against Spin, and **Professor Iain McLeod**, Institution of Engineers and Shipbuilders in Scotland and the Scientific Alliance Scotland	Q247–320
Thursday 9 June 2016	
Lindsay McQuade, Policy and Innovation Director, ScottishPower Renewables	Q321–352

Kertsi Berge, Head of Scotland, Ofgem, **Phil Sheppard**, Director of System Operator Operations, National Grid, and **Andrew Huthwaite**, Director of Commercial and Connections, Scottish and Southern Energy Power Distribution — Q353–400

Paul Wheelhouse MSP, Minister for Business, Innovation and Energy, Scottish Government, and **Chris Stark**, Director of Energy and Climate Change, Scottish Government — Q401–436

Tuesday 14 June 2016

Lord Dunlop, Parliamentary Under-Secretary of State for Scotland, Scotland Office, **Andrea Leadsom MP**, Minister of State, and **Tom Luff**, Head of the Renewables Programme team, Clean Electricity Directorate, Department of Energy and Climate Change — Q437–527

Published written evidence

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

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

1 ABO Wind UK Ltd (RSS0020)
2 Anne Burke (RSS0039)
3 Ayrenergy (RSS0061)
4 Binn Group (RSS0053)
5 Bob Glen (RSS0004)
6 Brenda Herrick (RSS0074)
7 Brian Smart (RSS0068)
8 British Hydropower Association (RSS0054)
9 Christopher Walsh (RSS0042)
10 Civil Engineering Contractors Association (RSS0019)
11 ClimateXChange (RSS0028)
12 Comhairle nan Eilean Siar (RSS0022)
13 COSLA (RSS0006)
14 CS&K Community Council (RSS0087)
15 David Bowen (RSS0003)
16 Department of Energy and Climate Change (RSS0055)
17 Department of Energy and Climate Change (RSS0093)
18 Doosan Babcock (RSS0023)
19 Dr George Lindsay (RSS0001)
20 Dr George Lindsay (RSS0013)
21 E.ON (RSS0029)
22 E3G (RSS0044)
23 Edinburgh Centre for Carbon Innovation, University of Edinburgh (RSS0026)
24 Endrick Valley Action Group (RSS0011)
25 Energy Saving Trust (RSS0048)
26 Flemington Against Wind Turbines (RSS0077)
27 Flex Marine Power Ltd (RSS0043)
28 Gaia-Wind Ltd (RSS0027)
29 Green Highland Renewables Ltd (RSS0007)
30 Hoolan Energy Ltd (RSS0050)
31 Independent Renewable Energy Generators Group (RSS0031)
32 Institution of Engineers and Shipbuilders in Scotland (RSS0067)
33 Institution of Engineers and Shipbuilders in Scotland (RSS0052)

34 John Muir Trust (RSS0062)
35 Laird David Whannel (RSS0009)
36 Laird David Whannel (RSS0090)
37 Lyndsey Ward (RSS0015)
38 Lyndsey Ward (RSS0078)
39 Mackay Consultants (RSS0059)
40 MEG Renewables (RSS0005)
41 Miss Karen Gallagher (RSS0084)
42 Moscow and Waterside Community Council (RSS0079)
43 Mr Angus Scott Dickins (RSS0002)
44 Mr Douglas Brodie (RSS0010)
45 Mr James Taylor (RSS0024)
46 Mr John Edmondson (RSS0081)
47 Mr Stuart Young (RSS0012)
48 Mr Stuart Young (RSS0073)
49 Mrs Aileen Jackson (RSS0070)
50 Mrs Alison Chapman (RSS0064)
51 Mrs Christine Metcalfe (RSS0021)
52 Mrs Mary Young (RSS0075)
53 Mrs Pat Wells (RSS0025)
54 NFU Scotland (RSS0017)
55 Nuclear Free Local Authorities Scotland (RSS0065)
56 Orkney Renewable Energy Forum (RSS0092)
57 Renewable Energy Foundation (RSS0058)
58 RSPB Scotland (RSS0041)
59 RSPB Scotland (RSS0088)
60 Rumster anti-Windfarm Group (RSS0076)
61 RWE Innogy UK (RSS0030)
62 Save Straiton for Scotland (RSS0086)
63 Save Straiton for Scotland (RSS0091)
64 Save Your Regional Parkcampaign (RSS0071)
65 Scientific Alliance Scotland (RSS0057)
66 Scotland Against Spin (RSS0063)
67 Scotland Against Spin (RSS0095)
68 Scottish Council for Development and Industry (RSS0035)
69 Scottish Energy Association (RSS0033)
70 Scottish Enterprise (RSS0036)
71 Scottish Government (RSS0047)

72 Scottish Government (RSS0094)
73 Scottish Renewables (RSS0018)
74 Scottish Renewables (RSS0066)
75 ScottishPower (RSS0051)
76 SGN (RSS0014)
77 SNIPEF (RSS0034)
78 Solar Trade Association (RSS0046)
79 Statkraft UK Ltd. (RSS0038)
80 Stop Climate Chaos Scotland (RSS0037)
81 Sustainable Shetland (RSS0060)
82 Sustainable Shetland (RSS0096)
83 The Anaerobic Digestion and Bioresources Association (ADBA) (RSS0040)
84 The Institution of Engineering and Technology (RSS0032)
85 The Royal Society of Edinburgh (RSS0056)
86 The TaxPayers' Alliance (RSS0069)
87 Vattenfall (RSS0049)
88 Viking Energy Shetland LLP (RSS0085)
89 WWF Scotland (RSS0016)

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the publications page of the Committee's website.

Session 2015–16

First Report	Work of the Scottish Affairs Committee	HC 331
Second Report	Creative industries in Scotland	HC 332
Third Report	Revising Scotland's fiscal framework	HC 660
Fourth Report	Post-study work schemes	HC 593

Session 2016–17

First Special Report	Creative industries in Scotland: Government Response to the Committee's Second Report of Session 2015–16	HC 394