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Scottish Affairs Committee

The future of the oil and gas industry

Sixth Report of Session 2017–19

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to the report*

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The Scottish Affairs Committee

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Large parts of the strategy are being delivered by industry itself through efforts to achieve cost and efficiency improvements through the adoption of new technologies, improved collaboration between companies, and by securing additional investment.¹⁵ However, the industry is also asking for support from the UK Government through its sector deal proposal.

9. Sector deals are partnerships between the Government and industry on sector-specific issues which aim to “boost productivity, employment, innovation and skills.”¹⁶ Sector deals have already been agreed for some industries, including nuclear energy and life sciences and, as part of its Industrial Strategy, the Government is planning on extending these partnerships to other parts of the economy.¹⁷

10. The oil and gas sector deal aims to “contribute to Vision 2035, securing highly-skilled jobs, providing energy security and generating up to £1 trillion of revenue for the UK economy.”¹⁸ The overall objectives are to:

- Increase productivity, competitiveness and investment;
- Anchor and grow the oil and gas domestic supply chain and double market share of exports;
- Develop transformational technologies to support competitiveness and energy transition.¹⁹

15 Oil & Gas UK ([OGI0010](#))

16 BEIS, [Introduction to Sector Deals](#), 27 November 2017

17 BEIS, [Introduction to Sector Deals](#), 27 November 2017

18 Sector Deal team ([OGI0030](#))

19 Sector Deal team ([OGI0030](#))

11. At the centre of the deal’s proposal is the creation of three Innovation Hubs or “centres of excellence” co-funded by the sector and the UK Government which will “connect academic and scientific research institutions [...] working with industrial partners to leverage expertise, knowledge and funding to deliver clean growth, increase productivity and sustain high-value jobs”.²⁰ The areas of focus for the three centres of excellence would be:

- **Transformational technology:** Focused on developing and deploying technology to support the energy transition to a lower carbon economy while “harnessing the digital revolution to drive productivity, competition and clean growth”. The proposal is for industry and Government to co-invest £50 million (£25 million each) to create a hub as part of the Oil and Gas Technology Centre. It aims to deliver the recovery of 200 million additional boe,²¹ productivity improvements worth £2.8bn partially through investment in automation and remote operations, and £10bn of benefits in low carbon technologies through a mixture of less carbon intensive production techniques and research into “the production of low carbon, market-ready products” such as hydrogen.²² The sector deal team believe that the total potential value of this centre of excellence is £22.8bn.²³
- **Underwater innovation:**²⁴ Aimed at capitalising on the UK’s global leadership in underwater engineering through investment in R&D in industrial best practice, skills and education to “anchor and diversify” the sector at a time when the global market is expected to grow rapidly. The proposal is for industry and Government to co-invest £88 million (£53 million from industry and £35 million from the UK Government) to create a National Underwater Innovation Hub. The sector deal says that this would deliver 1.3bn additional barrels of production and a 5% share of the global market by 2035, which it estimates to be worth £44bn.
- **Decommissioning:** Prioritising developing and deploying technology that delivers cost effective decommissioning, with over 100 platforms forecast for removal over the next decade. It also aims to promote decommissioning supply chain capability and export this expertise to global markets. This is already underway through the National Decommissioning Centre, which opened in January 2019 through a partnership between the Oil and Gas Technology Centre and the University of Aberdeen and funded by both the UK and Scottish Governments through the Aberdeen City Region Deal. The key request in the sector deal is for the UK Government to support the development and implementation of a Decommissioning Export Strategy.²⁵

20 Sector Deal team ([OGI0030](#))

21 Barrels of oil equivalent

22 Sector Deal team ([OGI0030](#))

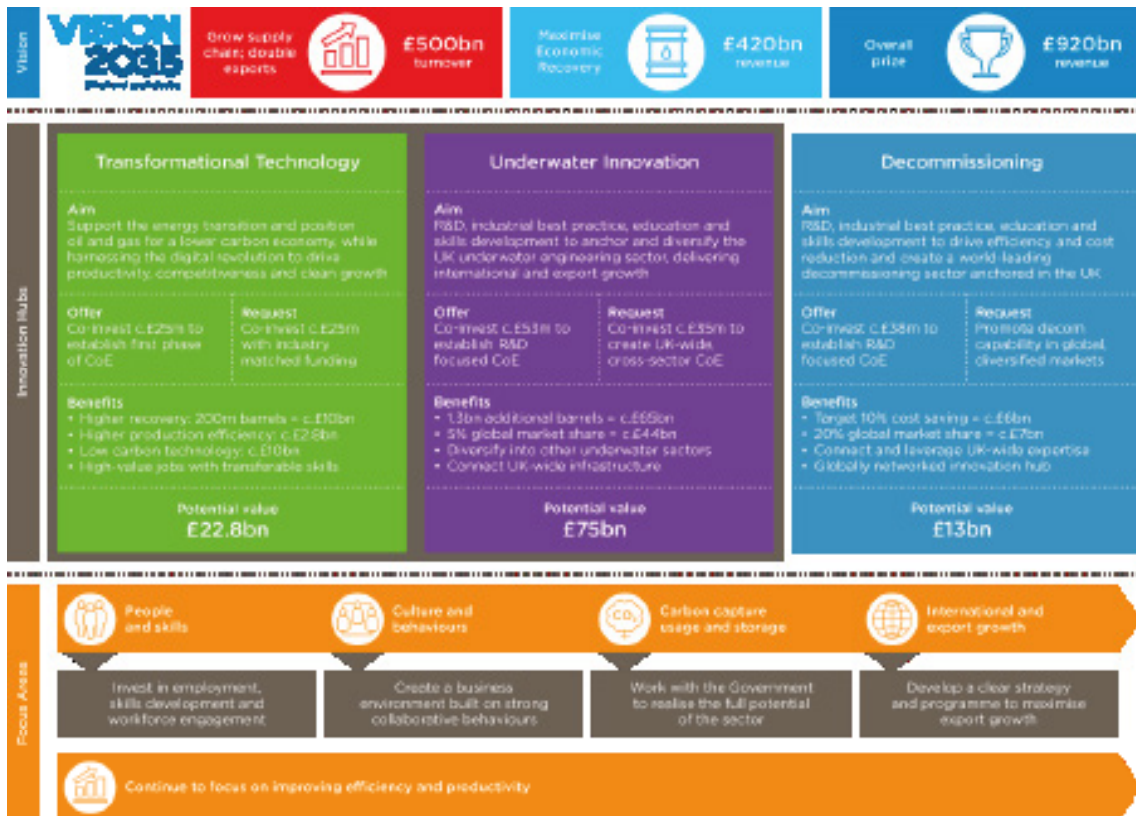
23 Sector Deal team ([OGI0030](#))

24 During this inquiry most witnesses used the terms “subsea engineering” and “underwater engineering” interchangeably and we have followed this approach.

25 Sector Deal team ([OGI0030](#))

12. The proposed sector deal has five supporting focus areas which are:

- **People and skills** focuses on developing the next generation of workers, retaining and re-skilling existing workers and exporting the industry’s skills.
- **Culture and behaviours** prioritises creating a business environment “built on strong collaborative behaviours”, for example, by enabling companies to work together to deliver plans when operating in the same area.
- **Carbon Capture, Usage and Storage (CCUS)** is described by the sector deal team as “a significant enabler of the UK’s cost-effective transition to a lower carbon economy”. There is a link between oil and gas exploration and production and the expertise needed for CCUS. The sector deal aims to provide input into the Government’s CCUS programme.
- **International and export growth** focuses on the Vision 2035 aim to increase the UK’s share of the global oil and gas services and technology market. Currently, 80% of supply chain firms do not export. The sector deal seeks to address this by developing a joint strategy with Government to maximise international and export growth.
- **Efficiency and productivity** seeks to build on the improved efficiency of operations on the UKCS in the past few years through a “commitment to cultural change, improved processes and simplification.”²⁶



13. Oil & Gas UK have said that “these centres will play an important part in maintaining the global recognition of the expertise in oil and gas based in Scotland.”²⁷ The sector deal team told us that their proposals create the opportunity for the industry and the Government to “align behind Vision 2035”.²⁸ The sector deal proposal estimates that a total investment of £176 million can deliver up to £110 billion of potential value between now and 2035 (which is 38% of the total identified in the industry’s Vision 2035). They said that the sector deal is central to achieving Vision 2035:

Without this deal—or a similar focused intervention—we will not deliver Vision 2035. We will not achieve the full potential of MER UK or the additional supply chain value from increased UKCS production or significant additional value from growth in international markets.²⁹

Evaluating the sector deal proposal

14. When we took evidence from the sector deal team we explored how confident they were in their projection that an investment of £176 million could deliver up to £110 billion between now and 2035 and what these projections were based on. Trevor Garlick, from the sector deal team, said while it was difficult to put “a hard prize” against specific investments they had tried to estimate “the scale of the prize.”³⁰ He also said that most of the benefits would come from the expansion of the underwater engineering sector and these figures were based on work done by Scottish Enterprise. He added that while the exact number could be hard to determine “the significant point is that there is a big prize to go for and we feel this helps us get it.”³¹

15. We also asked the sector deal team what work had been done to develop an implementation plan and governance model for the sector deal. The Government’s Industrial Strategy White Paper, says that sector deal proposals should provide evidence:

that industry commitments can be delivered and that clear governance arrangements will be set up [...] To be credible, deal proposals should include specific delivery plans covering each component of the proposal.³²

16. Trevor Garlick told us that the sector deal team had secured funding:

to build an implementation plan and a better business case. What that will be doing is focusing the scope, improving the cost estimates, improving perhaps the business case, but particularly focusing the scope and making sure that whatever we try to put in place in this co-investment model does not duplicate anything else and that it really does fill a gap that we think will make a difference to industrial growth.³³

The sector deal team expected these studies to be finished by “the end of the year (2018)”.³⁴ We were also told that the implementation plans would contain concrete milestones that

27 Oil & Gas UK ([OGI0010](#))

28 Sector Deal team ([OGI0030](#))

29 Sector Deal team ([OGI0030](#))

30 [Q138](#)

31 [Q138](#)

32 UK Government, [Industrial Strategy](#), 2017, page 210

33 [Q121](#)

34 [Q122](#)

could be used to check the investment was delivering what was promised,³⁵ and that the team envisaged a similar governance model to the Oil and Gas Technology Centre, with a board including academic, industry and sector representatives, with an independent Chair and possible representation from the regulators.³⁶

17. The response to the sector deal from both Governments has been positive. Paul Wheelhouse, Minister for Energy, Connectivity and the Islands, Scottish Government said he “certainly welcomed the oil and gas sector deal,”³⁷ and that he had spoken to the relevant UK Minister and was “keen to engage with the UK Government on how we can support it.”³⁸

18. For the UK Government, Claire Perry, Minister of State, Department for Business, Energy and Industrial Strategy said that she had “been extremely impressed in the work that Trevor Garlick and others have done in [...] thinking hard about what the sector needs to do jointly to improve its productivity.” She said that there were on-going conversations about the deal, which she was understandably unwilling to discuss in a public forum:

All the sector deals are a conversation about, “In order to give you X, what will you do?” [...] For example, if I can refer to the offshore wind sector deal [...] where, in return for clarity [on] the future auction structure, we are asking for commitments, particularly about the onshoring of UK supply chains and jobs.³⁹

19. Emily Bourne, Director for Energy Development and Resilience, BEIS, said that the department was “very positive about the proposals that the industry has put forward. We would like to talk to it more about some particular areas [...] including the role of the sector in energy transition. There may be iterations to be discussed.” When she appeared before us at the end of December, the Minister said that she hoped that there would be an announcement on government support for the industry “in weeks, not months”, she also suggested that this sector deal may be announced in stages and might look different from previous sector deals.

The other thing with sector deals is you get version 1.0 and, as we have done with this sector over many years, you then get iterations. It may be that we announce some things that we are going to do together, but then we put on the table bigger conversations or other directions we would like to work at together. Whether we call that a sector deal or an ongoing partnership is a moot point, but clearly this is a sector that is absolutely vital to our economy.⁴⁰

20. We support the proposals for an oil and gas sector deal which we believe is an ambitious and timely plan of action to strengthen an industry which is so vital to Scotland and the UK’s economy and energy supply. A sector deal would support Scotland’s oil and gas industry through a time of change; cementing its place as a global leader while it responds to new challenges.

35 [Q139](#)

36 [Q144](#)

37 [Q336](#)

38 [Q337](#)

39 [Q360](#)

40 [Q364](#)

21. When we took evidence from the sector deal team it was clear that there was more work to be done in developing the detail of the proposal and we welcome that the Government is seeking clear commitments on what would be delivered in return for this additional investment. *We recommend that the UK and Scottish Governments work with the sector to convert the ambition and vision of the sector deal into a plan that will deliver the significant benefits it envisions and prepares the sector for future challenges.* There are some areas where we believe the industry could be more specific or ambitious in the commitment it is making in return for this investment, which we will address later in this Report.

3 Maximising economic recovery

22. In June 2013 the then Secretary of State for Energy and Climate Change asked Sir Ian Wood to conduct an independently led review of UKCS oil and gas recovery, specifically looking at how economic recovery could be maximised.⁴¹ The central recommendation was the creation of the “Maximising Economic Recovery” (MER) strategy, and the establishment of the Oil and Gas Authority to oversee it.

23. The Government accepted all the Wood review recommendations which were implemented by the Infrastructure Act 2015. In March 2016, the MER Strategy came into force. The MER strategy is a legally binding document, which covers the OGA, petroleum licence holders, operators appointed under those licences, infrastructure owners, planners and commissioners. Its Central Obligation is that “relevant persons must, in the exercise of their relevant functions, take all steps necessary to ensure that the maximum value of economically recoverable petroleum is recovered from the strata beneath relevant UK waters”.⁴²

24. The Central Obligation was designed to address what Sir Ian Wood described as the “highly individualistic” behaviours of actors operating in the UKCS.

There [was] no thought of UK plc. There [was] no thought of the potential impact if I collaborate with whoever is next door or if I can get an exploration programme working with information that they and I may have. There is a whole range of ways in which they can collaborate. You can add a huge amount of value. That just did not exist. Worse than that [...] there was actually the opposite of collaboration, which I found extremely unacceptable.⁴³

25. The Review emphasised the need for a collaborative approach to be extended across all activities - whether in areas such as production effectiveness and efficiency, rig sharing, more effective deployment of new technology, improved shutdown coordination or sharing access to key spares or decommissioning. Colette Cohen, CEO, Oil and Gas Technology Centre, emphasised the importance of collaboration for the industry, saying that “we will not deliver MER UK unless we get this collaboration, unless we work together.” The Institution of Chemical Engineers cited sharing resources such as supply ships and helicopters and developing shared infrastructure on geographically-concentrated but separately-owned fields, as the kind of collaboration that the sector needed to see more of.⁴⁴

26. The OGA has produced guides to support the sector in meeting the obligations under the strategy, including the Collaborative Behaviour Quantification Tool,⁴⁵ and an Asset Stewardship Collaboration Implementation Guide, which details how an organisation can demonstrate it is meeting the OGA’s stewardship expectations.⁴⁶ In addition, where the OGA believes that an operator has not acted in accordance with the MER Strategy the OGA has the power to sanction that operator.

41 Gov.uk, [Wood Review Implementation](#), accessed 7 January 2019

42 Oil and Gas Authority, [The Maximising Economic Recovery Strategy for the UK](#), 18 March 2016

43 [Q63](#)

44 Institution of Chemical Engineers (IChemE) ([OGI0023](#))

45 Oil and Gas Authority, [Collaborative Behaviour Quantification Tool](#), 20 April 2017

46 Oil and Gas Authority, [Asset Stewardship Implementation Guides](#), 4 July 2017

27. The majority of commentators felt that the OGA had made a good start at encouraging collaboration within the industry but that there was further room for improvement. Professor Paul de Leeuw, Director of the Oil and Gas Institute at Robert Gordon University, said that “the creation of the MER UK strategy, and particularly the OGA, has been a hugely powerful catalyst to help the industry to work on a collaborative model.” Deirdre Michie CEO, Oil & Gas UK said that overall the level of collaboration was improving but that there remained “pockets of bad behaviours.”⁴⁷ Professor Alex Kemp, Aberdeen University, gave a slightly more cautious reply noting the challenges of operating in an environment where operators and licensees were competitors:

collaborating with competitors is not so easy. I see a challenge for the OGA going forward which is to ensure that all the clear advantages of collaboration are realised, and that will require a lot of skill, because after all, companies are competitors as well.

MER and the environment

28. The main criticism of the MER strategy has come from the environmental sector. Friends of the Earth Scotland stated that the current MER strategy is “inconsistent” with meeting the UK’s emissions reduction targets, arguing that the majority of reserves in the UKCS need to remain unburnt.⁴⁸ According to a 2015 study in the scientific journal *Nature*, an estimated third of oil reserves, half of gas reserves and more than 80% of known coal reserves should remain unused in order to meet global temperature targets under the Paris Agreement.⁴⁹ Friends of the Earth recommended that the UK Government should assess the MER policy against its legal commitments under the Paris Agreement and the Climate Change Act 2008, and propose an alternative objective for the UK Continental Shelf which would be in line with it.⁵⁰ Dr Dixon, Friends of the Earth Scotland, expanded on this point when he appeared before the Committee, arguing that under the current MER strategy:

“economic” depends on the price of oil. If the price of oil reflected the true cost of burning that oil to society, then we would have a very different equation in working out what maximising economic recovery was.⁵¹

29. In response Oil and Gas UK has argued that “in the foreseeable future, oil and gas is going to play a key part in the energy mix, representing two thirds of primary energy in the UK in 2035” and that in this context maximising domestic production was important because it would reduce reliance on fuel imports which can be more carbon intensive.⁵² Similarly, the National Union of Rail Maritime Transport Workers noted that it is “estimated that oil and gas will continue to contribute significantly to the national

47 [Q42](#)

48 Friends of the earth Scotland ([OGI0026](#))

49 McGlade, C & Rkins P, [The geographical distribution of fossil fuels unused when limiting global warming to 2C](#), *Nature* 517, 187–190, January 2015

50 Friends of the earth Scotland ([OGI0026](#))

51 [Q170](#)

52 Oil & Gas UK, Economic Report, 2017

energy mix for decades to come “;⁵³ and the Scottish Government’s evidence states that “Oil and gas will still provide two-thirds of total UK primary energy by 2035 according to the Department for Business, Energy & Industrial Strategy.”⁵⁴

30. Claire Perry, Minister of State, BEIS told us that currently “80% of our homes are heated by gas and 65% use gas for cooking” and “ every scenario we see for our cleaner future has some element of fossil fuels in the mix.”:

I guess the view is that if we are going to be using fossil fuels, we would like to use those that are generated from our domestic assets and that employ people in the United Kingdom.⁵⁵

This projection of future reliance on gas is also reflected in the National Grid’s future energy scenarios. In three of the four scenarios “gas continues to provide more energy than electricity by 2050 [...and] remains the dominant form of heating well into the 2030s”, although its usage patterns will change.⁵⁶

31. **We believe that maximising economic recovery is the right approach for the sector and welcome the steps the OGA has taken to improve collaboration. Whilst we acknowledge environmental concerns about the MER strategy, oil and gas looks likely to form a substantial part of the UK’s energy mix for at least the next 15 years. As such, we believe it makes sense to meet as much of this need as possible from domestic sources.** We will return to the sector’s environmental impact in more detail later in this Report.

Accessing remaining reserves

32. During this inquiry we heard a range of estimates about the remaining reserves in the UKCS, but the most frequently cited estimates was that there remains between 10 – 20 billion boe, although some groups placed the estimate as low as 2 –4 billion.⁵⁷ The wide range of this estimate reflects the fact that it covers “existing proven and probable reserves, but [also] contingent resources, other discoveries within areas of existing discoveries, and yet-to-find resources.”⁵⁸ This compares to 44 billion barrels that have been produced since 1967.⁵⁹ The exact amount recoverable will depend on the oil price and how efficiently and effectively it can be extracted; the OGA’s evidence shows how the future projections scenarios have changed over time, and how it might change again if the Vision 2035 strategy is delivered.

53 National Union of Rail, Maritime & Transport Workers (RMT) ([OGI0012](#))

54 Scottish Government ([OGI0027](#))

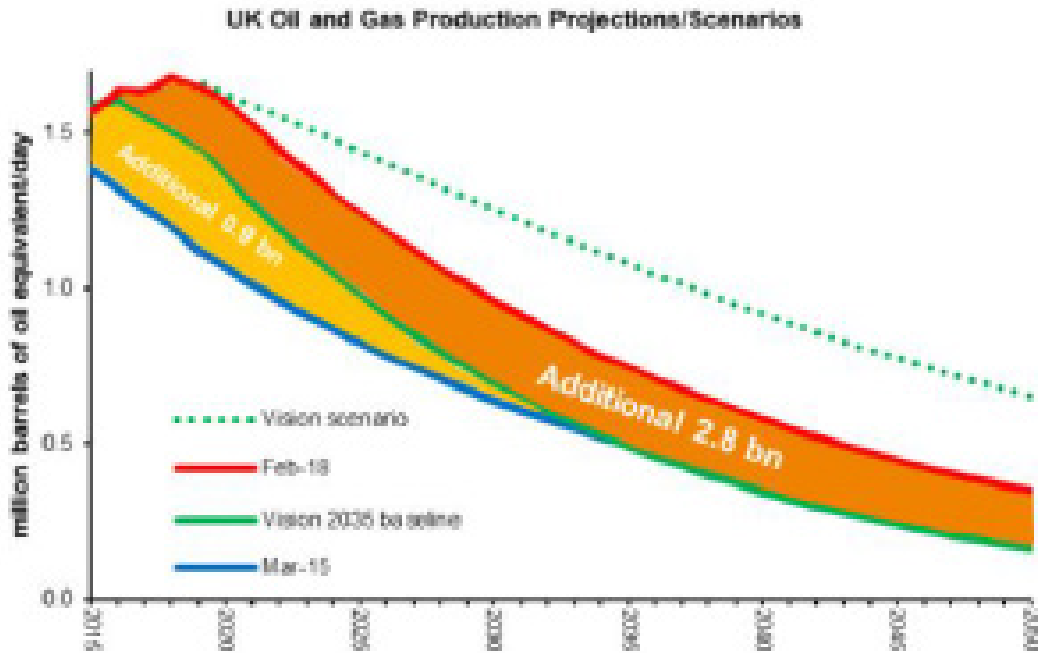
55 [Q387](#)

56 National Grid, [Future Energy Scenarios](#), July 2018, page 5

57 [Q166](#)

58 Professor Alex Kemp ([OGI0019](#))

59 Professor Alex Kemp ([OGI0019](#))



33. During this inquiry we heard how accessing these reserves would depend on a range of factors, including industry’s willingness to invest in the exploration of new reserves, technological developments that will change the economics of exploiting smaller and more difficult to access reserves as well as the ability to transfer assets between operators who are able to make best use of them at different points in their life cycles.

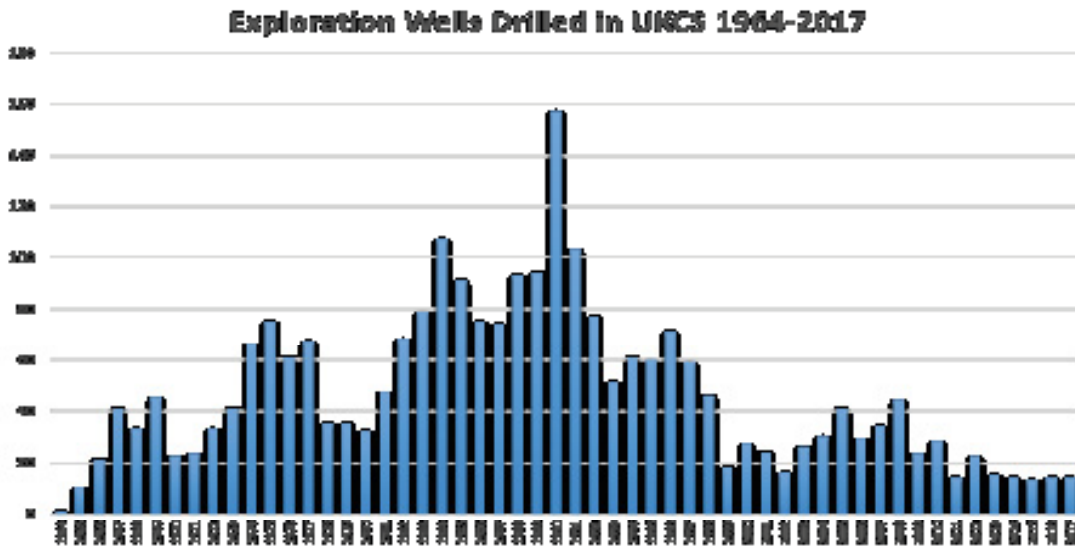
Exploration

34. Exploration is the search for natural gas fields or crude oil fields, the drilling of exploration wells and drilling into established wells to recover oil and gas. Research from the University of Edinburgh suggested that the UK’s oil and gas industry is entering the last decade of significant production and that this is due, in part, to the low rate of exploration.⁶⁰ The number of wells drilled in the UKCS declined in recent years to around 14 per year (see graph below).⁶¹ The OGA’s May updates show that only one exploration and no appraisal wells were drilled in the first quarter of 2018 across the UKCS.⁶²

60 Professor Roy Thompson, School of Geo Sciences, University of Edinburgh ([OGI0006](#))

61 Professor Alex Kemp ([OGI0019](#))

62 Professor Alex Kemp ([OGI0019](#))



35. Oil & Gas UK stated they are approaching the future of the industry with “determined optimism”,⁶³ but that there needed to be a strong investment case for companies to continue exploration activity in the UKCS, as there was significant international competition for investment.⁶⁴ Sir Ian Wood told us:

Exploration is disappointing. The government quite rightly spent a lot of money on investigating [in] new areas and we’ve had quite a good licensing round but we [are] still vastly short in terms of exploration. There’s no way we’re going to get close to 20 billion barrels unless there’s some serious exploration.⁶⁵

There have been some significant new investments in exploration, notably BP’s investment at Clare Ridge.⁶⁶

36. The OGA regulates the exploration for, and development and production of, the UK’s offshore oil and gas resources. They are responsible for granting licenses that give companies the right to “search and bore for, and get” oil and gas. The UKCS is divided into blocks and licences are issued via periodic licensing rounds. The most recent licencing round was supported by the release of data by the OGA, including from OGA-funded seismic surveys of areas where there was believed to be untapped potential, which was available to all potential licensees to help inform their investment decisions.⁶⁷

37. In May 2018, as part of the 30th Offshore Licensing Round, the OGA offered to award 123 licences to 61 companies, focussing on mature areas and undeveloped discoveries, opening up potentially 320 million boe of resource in undeveloped discoveries.⁶⁸ This was followed in summer 2018 by the 31st Offshore Licencing Round which focused on less-explored areas of the UKCS—which ended on 7 November 2018. On the results of the 30th round, Professor Alex Kemp said:

63 [Q7](#)

64 [Q9](#)

65 [Q63](#)

66 BBC News, [Oil flows from BP Clair Ridge development off Shetland](#), 23 November 2018

67 Professor Alex Kemp ([OGI0019](#))

68 The Oil and Gas Authority ([OGI0009](#))

In current circumstances this can be interpreted as reflecting considerable interest among investors. [...] The offers are made to a wide range of players, including the major oil companies and a large number of small companies, involving many new or recent entrants. It may be that the latter are willing to pursue leads or prospects where the materiality of the discoveries may be quite modest but is still considered acceptable by small players. This view is reinforced by the interesting revelation that 14 licences have been offered to companies which will now proceed to field development planning relating to existing discoveries.⁶⁹

However, Professor Roy Thompson, University of Edinburgh, stated:

The recently announced 30th round saw a large number of bids, but only a small number of committed exploration wells, suggesting that future exploration and appraisal drilling activity will remain weak.⁷⁰

38. Speaking about the results of the 31st licensing round, which concluded shortly before the OGA appeared before us, we were told that the OGA received 36 bids from 35 companies, with a range of different sized companies applying. Tom Wheeler, Director of Regulation said that the OGA was pleased to have attracted more smaller companies “because they are the people who will do the detailed work at low cost to try to find some of these opportunities that then get picked up”.⁷¹ However he added that the total level of interest was not significantly higher than the previous comparable round.⁷²

39. The OGA is proposing to build on its approach to the use of data through the creation of a National Data Repository supported by new regulations on petroleum-related information and samples.⁷³ Hedvig Ljungerud, Director of Policy, OGA, explained that:

we have a number of data sources. We have the energy portal that enables us to interact with operators. We have on our website the open data source, which has made available for absolutely everyone more data than we have ever had out before in the UK and really moved into a world-leading position. We have had millions and millions of hits on those sites and then we are planning to build a national data repository. That will be the real step change because [... the OGA's] powers are now coming into force where we can get pretty much anything from the companies. There are different time limits to when it can be released, but over time it will build up an almost complete repository over all the work that has been done in the UK, the wells, exploration and so forth available. I think it will really change how exploration is done.⁷⁴

69 Professor Alex Kemp ([OGI0019](#))

70 Professor Roy Thompson, School of Geo Sciences, University of Edinburgh ([OGI0006](#))

71 [Q280](#)

72 [Q281](#)

73 Oil and Gas Authority, [OGA Overview](#), 2018.

74 [Q285](#)

40. We welcome the work that the Oil and Gas Authority is doing to stimulate exploration in the sector and its innovative approach to data use. These developments have the potential to deliver much needed improvements in the rate of exploration. We ask that the Oil and Gas Authority update us on its progress establishing the National Data Repository in its response to this Report.

Role of Technology.

41. The UKCS is one of the most mature offshore basins in the world, and new discoveries of pockets of oil and gas are generally smaller and more expensive to exploit.⁷⁵ Therefore, as Colette Cohen, CEO of the Oil and Gas Technology Centre, told us, more advanced technology will be needed to access these pockets—and doing so is a key part of maximising the economic return from the basin.⁷⁶

42. Deidre Michie, Oil and Gas UK, said that the UK sector was already exploiting reserves that would have been viewed as impossible 20 or 30 years ago. She saw wider potential benefits in the UK developing this expertise; “the upside is that you become very skilled in it and you develop an expertise, which we as an industry can then look to export to the rest of the world... [because] every other basin is a maturing basin” and will therefore encounter similar challenges at some point in its future.⁷⁷ The Wood Review states that developing new and existing technologies will “encourage the UK to build further on its position as a global centre of expertise for offshore hydrocarbon basin exploitation.”⁷⁸

43. Both the UK and Scottish Governments have already invested in technological research for the sector through the establishment of the Oil and Gas Technology Centre (OGTC) in October 2016, which received £180 million in funding as part of the Aberdeen City Region Deal. Colette Cohen, CEO, OGTC said the Centre was already looking at which technologies could unlock those potential assets, and that workshops it had hosted on this topic during the recent licencing round was one of the reasons for its success.⁷⁹ Oil and Gas UK have also mentioned the work being done by the OGA and OGTC on technological solutions “such as an optimised subsea infrastructure that could have an important role to play in reducing the cost of developing small pools.” Subsea engineering is one of the areas the sector deal is seeking additional investment in through the proposed underwater innovation centre of excellence.

44. **Continued investment in technology will be crucial to the future of the oil and gas industry. We welcome that investment that industry and both Governments have already made in technology that will make it easier and more efficient to access smaller pockets of oil and gas, which will contribute to maximising economy recovery from the UK basin. If sector deal funding for the underwater innovation centre is to be used to support further work in this area, the Government must ensure that it will deliver additional benefits beyond what has already been funded through the Oil and Gas Technology Centre.**

75 Sir Ian Wood, [UKCS Maximising Recovery Review: Final Report](#), February 2014

76 [Q93](#)

77 [Q8](#)

78 Sir Ian Wood, [UKCS Maximising Recovery Review: Final Report](#), February 2014

79 [Q93](#)

Transferable Tax History

45. We heard that one barrier to maximising recovery from current wells was the financial disincentives in transferring licences between companies that specialise in exploration and production to those that specialise in later life production. This is because later life producers are not willing to take on full financial liability for decommissioning costs when production ends. To address this the Government is introducing a Transferable Tax History (TTH) mechanism for oil and gas companies operating on the UKCS. This will allow a seller with an interest in a UKCS oil licence to transfer some of its tax history to the buyer of the field. The buyer will then be able to set the decommissioning cost of the field against the TTH.

46. This measure was introduced in the Finance Bill 2018. Robert Jenrick, Exchequer Secretary, told the Bill Committee that the TTH mechanism “provides new investors with the certainty that they require about the tax relief they will receive for decommissioning costs. That will allow new deals to proceed”.⁸⁰ Similarly Graeme Fergusson, Managing Director, Decom LTD, told us that the policy should “allow lower cost and more nimble operators to take hold of assets and continue to produce them for longer into the future.” ensuring that “the right assets [are] in the right hands”.⁸¹

47. The Scottish Government told us it welcomed this policy, saying that it has “worked with stakeholders to support and champion the introduction of Transferable Tax Histories by the UK Government at the 2017 Budget. However, the Labour party spokesperson on the Finance Bill Committee described the policy as “fiscally irresponsible”⁸² arguing that it “put the Exchequer on the hook for exorbitant future decommissioning liabilities, which the Government have set aside no money to pay for”, and cited research by Global Witnesses that “there could be a loss of over £3 billion in tax revenue for the Exchequer over 10 years.”⁸³ Responding to this argument, Robert Jenrick, Exchequer Secretary, said that neither the Government or the Office of Budget Responsibility had seen evidence to support the figure of £3 billion loss and that the Treasury estimated that the scheme would raise an additional £65 million of revenue. When she appeared before us, BEIS Minister Claire Perry told us that this policy would “reduce tax barriers to new investment in the North Sea” and that she had received reports that prior to introduction the policy was already starting to have the desired effect with “assets changing hands and them being reinvested in.”⁸⁴

48. We welcome the introduction of Transferable Tax History which should help deliver the MER strategy by enabling assets to be transferred to companies who can make the best use of them. We invite the Government to set out in response to this Report how it will monitor the impact of this policy to ensure that it is delivering these benefits.

80 Finance Bill (No.3) Committee, [4 December 2018](#), col 181

81 [Q254](#)

82 Finance Bill (No.3) Committee, [4 December 2018](#), col 184

83 Finance Bill (No.3) Committee, [4 December 2018](#), col 188

84 [Q379](#)

4 Decommissioning

49. Decommissioning refers to the point at which production of oil or gas ceases and infrastructure is removed. Decommissioning is an integral part of the life cycle of oil and gas assets, as Colette Cohen, CEO, Oil and Gas Technology Centre told us:

There is not a decommissioning industry. That is like saying there is an exploration industry. Exploration to decommissioning is cradle to grave in our industry. As a result, decommissioning needs to be done hand in hand with the general activities of the oil and gas industry [...] so we need to start integrating decommissioning into business as usual and stop trying to treat it as a separate activity.⁸⁵

50. The Oil and Gas Authority (OGA) estimates that there are over 250 fixed installations, over 250 subsea production systems, 10,000 km of pipeline, and 5,000 oil wells which will need to be decommissioned.⁸⁶ Decommissioning in the UKSC is particularly complex because of how integrated the oil and gas infrastructure is, with many installations relying on each other to produce and transport hydrocarbons to shore. The OGA has said that this level of complexity and integration will “require careful planning and execution.”⁸⁷

51. Graeme Fergusson, Managing Director, Decom Energy, told us that “the scale of the challenge is material. [...] Everybody is beginning to get their heads around what the basin faces now. It is a mature basin and irrespective of what the oil price does, we believe decommissioning is here to stay.”⁸⁸ The graph below from Oil and Gas UK’s Decommissioning Insight Report 2018 sets out the different parts of the process and their costs.⁸⁹

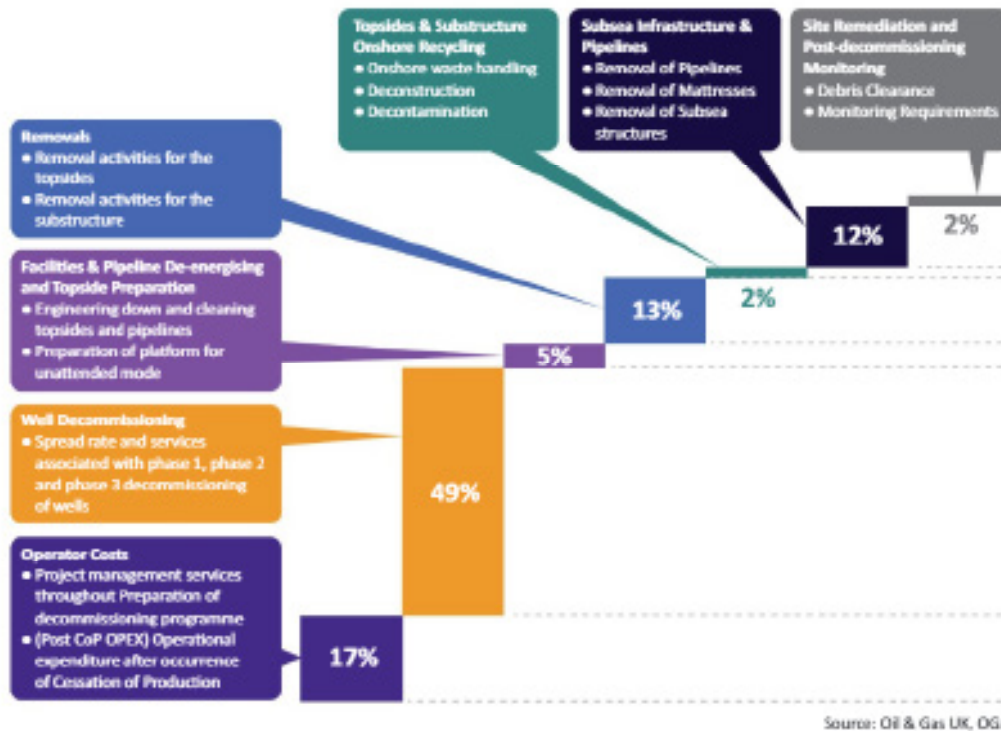
85 [Q113](#)

86 OGA, [Decommissioning Strategy](#), September 2016

87 OGA, [Decommissioning Strategy](#), September 2016

88 [Q205](#)

89 Oil and Gas UK, [Decommissioning Insight Report 2018](#)



52. The current mid-point cost estimate for UKCS decommissioning to 2050, is approximately £47 billion.⁹⁰ Under the current fiscal regime around half of the cost could be paid by the UK Government, through industry tax relief, with HM Revenue and Customs estimating the cost to the Exchequer being £24.2bn.⁹¹ However, there is significant uncertainty surrounding this estimate, with an “uncertainty range” of +/-40%. Hedvig Ljungerud, Director of Policy, OGA told us that the large uncertainty range reflected the long timescale over which decommissioning will happen.⁹²

53. As part of the Government’s Maximising Economic Recovery strategy the industry regulator, the OGA, has set a cost reduction target of at least 35%. Ms Ljungerud said that this target was set in collaboration and discussion with industry and that there was “an element of aspiration in it.” However, she said that the industry’s view was that it was achievable and that their most recent report on this subject had already seen cost projection reduced by 7%.⁹³ Trevor Garlick, Director, Opportunity North East described cost reduction as “one of the biggest prizes” in decommissioning.⁹⁴

54. As can be seen from the graph above, the plugging and well abandonment account for almost half the cost of decommissioning. The UK Government has committed to reducing the cost of decommissioning, through supporting technological innovation, particularly for the plugging and abandonment of wells.⁹⁵ Support has already been

90 OGA, [Decommissioning Strategy](#), September 2016
 91 HM Revenue & Customs, [Annual Report and Accounts 2016–17](#), July 2017, p171
 92 [Q289](#)
 93 [Q286](#)
 94 [Q129](#)
 95 Scottish Wildlife Trust ([OGI0008](#))

provided through £1.9m of funding to establish the Decommissioning Centre of Excellence, as part of the Aberdeen City deal.⁹⁶ The Scottish Government has also established a £5 million Decommissioning Challenge Fund (DCF), which aims to support feasibility work and innovation in respect of decommissioning.⁹⁷

55. Professor Neilson, School of Engineering, Aberdeen University said the Centre, which was opened in January this year, had issued a call for research proposals and was looking for industry partners.⁹⁸ He also said that the Centre was bidding for the Scottish Government’s decommissioning fund to allow it to set up the first stage of design of a qualification system for decommissioning wells and was looking to build a qualification rig. He said these new facilities would “give the supply chain opportunities to test things.”⁹⁹

56. **We welcome the current focus on reducing the cost of decommissioning and the ambition of the cost reduction target. We recommend that the Oil and Gas Authority work with industry and academia to set out a roadmap for meeting this target.**

Economic Opportunity

57. Decommissioning also represents a significant export opportunity for Scottish businesses. The Institution of Chemical Engineers has argued that Scotland has the opportunity to become “a base for global support to decommissioning.”¹⁰⁰ Professor Neilson told the Committee that the opportunities were “relatively large” and that any reduction the Scottish sector could achieve in the cost of well plug and abandonment support would deliver particular benefits.¹⁰¹ Other commentators were less positive, arguing that while decommissioning creates opportunities in the short term, there is a natural limit to the contribution it can make to the economy in the longer term. Dr Tom Baxter, Aberdeen University argues that:

While it’s true you create short-term employment and that the employees and service companies will pay taxes, you don’t build any factories or provide new infrastructure to serve society and the economy. Also, much of the removal money will go to the heavy-lift companies—the UK has none.¹⁰²

As part of the proposed oil and gas sector deal, the industry is asking for the Government’s support in developing and implementing a Decommissioning Export Strategy.¹⁰³

58. The UK Government has also emphasised the opportunities presented by decommissioning, saying that Scotland will “pioneer the future of global oil and gas industry”, noting that “the North Sea is one of the first regions in the world to start decommissioning on such a large scale” and there is potential for innovation. This point was echoed by Professor Neilson, who said that as “the most mature basin, we have some experience and, therefore, we lead the edge at this point”.¹⁰⁴ The challenging

96 Aberdeen University, [£1.9 million in funding for National Decommissioning Centre of Excellence](#), 27 April 2018

97 Scottish Government ([OGI0027](#))

98 [Q215](#)

99 [Q242](#)

100 Institution of Chemical Engineers (IChemE) ([OGI0023](#))

101 [Q213](#)

102 Dr Tom Baxter, Aberdeen University, [Five myths about dismantling North Sea oil rigs](#), The Conversation

103 Sector Deal team ([OGI0030](#))

104 [Q248](#)

decommissioning environment in the North Sea was also seen as being an asset, with Trevor Garlick, Opportunity North East, agreeing with the sentiment that “if you can decommission a well in the north of the North Sea you can do it anywhere”.¹⁰⁵

59. In the 2018 Budget, the UK government said it would launch a call for evidence and work together with the Oil and Gas Authority to identify what more should be done to further strengthen Scotland and the UK’s position as a global hub for decommissioning.¹⁰⁶ The Minister said that this represented a change in the way the Government was thinking about decommissioning:

we have been focused on decommissioning, but I think we have been focused on it historically as a cost problem to be solved, and indeed many of the fiscal measures have been directed at decommissioning in the safest possible way and at the lowest cost way. My sense is—and it may just be my perception—that the sudden realisation that this is a massive export opportunity for the UK, frankly, is like so many things we do in the energy space.¹⁰⁷

60. The Minister also said that the call for evidence would allow the Government to engage with how technological developments, such as AI and robotics, were changing how the industry approached decommissioning, which linked into some of the main themes in the Government’s Industrial Strategy.¹⁰⁸

61. Decommissioning represents a significant export opportunity for Scottish businesses. Scotland has the opportunity to become a global base for the decommissioning industry. We therefore endorse the call in the sector deal for the Government to work with the sector to develop a decommissioning export strategy.

Impact of regulation

62. Decom Energy argued that the current regulatory requirements for decommissioning “have the potential to cause significant delays and added costs.” They were critical of the requirements for operators to produce new studies of all decommissioning options “without being able to rely upon previous successfully executed projects as ‘analogies’ to simplify planning and expedite approval.” Their evidence continued that data must be collected from each asset being decommissioned “even where it is available for near identical assets, leading to the same conclusions yet adding to costs” and that “it would be beneficial for OPRED¹⁰⁹ to permit the re-use of established data, studies and even the methodologies defined in approved Decommissioning Programmes for similar assets.”¹¹⁰ When he appeared before the Committee Graeme Fergusson, Managing Director, Decom Energy expanded on this point:

To use my own asset as a specific example, which is nine concrete gravity-based structures, we have spent a considerable amount of time reviewing all of the options, including removing the concrete gravity-based structure in

105 [Qq160–161](#)

106 HM Treasury, [Budget 2018](#), HC 1629, October 2018

107 [Q372](#)

108 [Q372](#)

109 Offshore Petroleum Regulator for Environment and Decommissioning, which regulates decommissioning.

110 Decom Energy Limited ([OGI0022](#))

its entirety. I think there is general opinion, general acceptance that it is not possible and not feasible to remove that concrete gravity-based structure right now.

Our question is: is there an opportunity now, as we look forward and redraw the lines for those other seven concrete gravity-based structures that come ahead in the passage of time, to be able to use some of the lessons of ourselves and the other operator, who has a similar asset, again?¹¹¹

He said that he was not suggesting that you can just use a “cookie-cutter” approach but that, looking at the future of the industry, “there is significant learning with each one that could bear fruit for the streamlining of the process”.¹¹²

63. In response, Pauline Innes, Director of Decommissioning (Offshore Oil and Gas), OPRED said that it “already encourages operators to share studies. If you have a similar installation in a similar environment and you have done an environmental study, it seems to make perfect sense for an operator to share that information with another operator. That is something that we strongly encourage.”¹¹³ She went on to say that as decommissioning was at its early stages all parties were still learning and that operators were becoming more comfortable about collaborating and sharing data:

Until recently some operators may have thought that in order for them to make the decisions that their organisation needs, they need to conduct their own studies and therefore they would only put trust in their own study. Operators need to get a little bit more comfortable about sharing information and trusting the studies from one operator to another. The system currently allows it. It is set out in our guidance notes that that is acceptable and [...] it is something that we strongly encourage on a regular basis.¹¹⁴

64. There is a clear difference in perspective between industry and the regulator on what re-use of information about previous decommissioning projects is possible under the current rules. We recommend that OPRED review how it communicates its requirement to businesses and consider how it can promote the re-use and sharing of information between companies, without compromising the need for the decommissioning company to be accountable for the evidence their plans are based on. The Government must support the industry in sharing best practice and learning important lessons from previous exercises and should consider supporting the creation of an industry standards.

Rigs to Reefs

65. One proposal for an alternative to complete decommissioning and removal of oil and gas rigs that is currently being debated, is leaving them in place to provide environments for marine life. In their evidence the Scottish Wildlife Trust argued in favour of this “rig to reefs” proposal saying that:

111 [Q219](#)

112 [Q219](#)

113 [Q294](#)

114 [Q294](#)

Over the lifetime of an oil and gas platform, the subsea structure acts as an artificial reef and a diverse community of marine species establishes on and around the platform. The platform provides a hard, vertical surface in an environment dominated by sand and silt, and can provide:

a refuge for mobile and juvenile fish species (including commercially important species like cod),

a suitable surface for sessile species (immobile species that attach to hard surfaces) to colonise, which has been found to include a rare species of cold-water coral, and

protection from fishing activities (all active platforms have a 500m exclusion zone).¹¹⁵

66. Decom Energy and others argued that the decommissioning process, and in particular removing structures and cutting up and flushing them clean may mean a more significant short-term environmental impact than leaving them in place because of the potential for leakage of residual hydrocarbons and damage to the sea bed from the removal of pipelines.¹¹⁶ When he gave evidence, Jonathon Hughes, CEO, Scottish Wildlife Trust argued that a different approach could be “a triple win”:

there could be substantial savings to the taxpayer and substantial savings to the operator. There could be a net positive effect on the environment in the retention of these sometimes highly biodiverse areas around rigs and other structures.¹¹⁷

67. This view is not universally shared. In their evidence Greenpeace argued that “the best way to ‘help’ marine ecosystems is to restore them to as natural a state as possible once a structure is no longer in use, and instead focus greater attention on reducing pressures [...] from other human activities”.¹¹⁸ They continued that there are already regulations surrounding the creation of artificial rigs which “require such reefs to be deliberately designed and positioned for a specific purpose (i.e. to meet specific conservation criteria) and not to be constructed conveniently from waste materials and/or in locations that are convenient to facilitate disposal of such materials.”¹¹⁹ The Scottish Fisherman’s Federation have also expressed scepticism about the benefits arguing that “any possible benefits to fish stocks are viewed as minimal in relation to the sizes and geographical distribution of North Sea and West of Scotland fish stock”;¹²⁰ they have also raised concerns about the risk of fishing net snagging on any infrastructure left in place.¹²¹

68. Mr Hughes told the Committee that the scientific evidence on this subject was “growing all the time”, and that according to a recent paper 94.7% of experts agreed that a more flexible case-by-case approach to decommissioning could benefit the North Sea

115 Scottish Wildlife Trust ([OGI0008](#))

116 Decom Energy Limited ([OGI0022](#)), Dr Tom Baxter, Aberdeen University, [Five myths about dismantling North Sea oil rigs](#), The Conversation

117 [Q257](#)

118 Greenpeace ([OGI0031](#))

119 Greenpeace ([OGI0031](#))

120 Energy Voice, [Fishermen call for platforms to be ‘completely removed’ from North Sea in decommissioning](#), 29 August 2018

121 Scottish Fishermen’s Federation, [Offshore oil and gas decommissioning policy](#), August 2018

environment.”¹²² A collaborative research project called INSITE, (Influence of Man-made Structures in the Ecosystem) based in the University of Edinburgh, has reported that some North Sea rigs act like “small offshore islands,” supporting marine communities that need hard surfaces and attracting predators such as fish, mammals and seabirds.¹²³ According to this research, the platforms have encouraged the recovery of cold water corals that had been endangered by the activities of North Sea trawlers.¹²⁴ However, Greenpeace argued that this research was preliminary in scope and “certainly does not provide strong arguments for, nor strong evidence to support, a move away from the current policy of removing rigs.”¹²⁵

69. The UK’s international obligations on decommissioning are governed by the 1992 Convention for the Protection of the Marine Environment of the North East Atlantic (the OSPAR Convention), in particular clause 98/3 on the disposal of disused offshore installations.¹²⁶ This prohibits the “dumping, and the leaving wholly or partly in place, of disused offshore installations within the maritime area.”¹²⁷ There are a few exemptions (‘derogations’) to this general rule, which are based on technical rather than environmental considerations, which apply to:¹²⁸

- steel installations weighing more than ten thousand tonnes in air;
- gravity based concrete installations;
- floating concrete installations;
- any concrete anchor-base which results, or is likely to result, in interference with other legitimate uses of the sea.

70. The Scottish Wildlife Trust argued that the current OSPAR regulations do not allow for all decommissioning options to be considered, more specifically the option of leaving a platform in place once operations have finished. In contrast, Greenpeace have said that the current exemptions were recently reaffirmed by representative bodies of the offshore oil and gas industry:

they were satisfied that the existing derogation categories provided operators with the scope they needed and that all other structures could and should therefore be removed.¹²⁹

71. When we discussed this issue with OPRED, we were told that under current rules 58 subsea installations in the North Sea would be subject to an exemption (derogation) that will means they are able to apply to remain in place.¹³⁰ Wendy Kennedy, Chief Executive, OPRED said that the rest were “generally quite small” and that “anything that was put in after 1998 was put in with a view to it being easily removed so most of the newer ones are

122 [Q259](#)

123 The Influence of Man-made Structures in the North Sea (INSITE), Synthesis and Assessment of Phase 1

124 Decom Energy Limited ([OGI0022](#))

125 Greenpeace ([OGI0031](#))

126 Decom Energy Limited ([OGI0022](#))

127 OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations

128 North Sea Futures, Background Briefs on Offshore Installations and Decommissioning in the North Sea, September 2017

129 Greenpeace ([OGI0031](#))

130 [Q296](#)

designed to be removed, so that will not be hugely difficult or expensive to do.”¹³¹ OPRED also questioned the extent of cost saving this could deliver, arguing that “the cost savings are not quite as big as I think some people are putting on this, because 50% of your costs are plugging and abandoning the wells and a lot of it is taking topsides off” and this work would still need to be done even if the physical rig was being left in place.¹³² Comparing the situation in the UK to that in the Gulf of Mexico, which is an oft-cited example of a successful “rigs to reef” project, Ms Kennedy said:

We have visited and in the Gulf of Mexico if you want to leave something in place you do not leave it where it is. You have to clean it all up, take away the topsides, cut it, move it to the reefing site that is close to shore, because then it is useful for fishing and things, and then you have to pay money to the local state to maintain that fishing site. In the UK, by the time you have plugged and abandoned the wells, taken off the topside, cut it and started moving it to shore, frankly you are just as well carrying on and decommissioning and having it cleaned up onshore.¹³³

She also noted that:

In the Gulf of Mexico, they are hoping to leave about 10% in these reefing sites. We reckon we will be derogating 20% of the UK’s assets to be left in place.¹³⁴

72. The Scottish Wildlife Trust submitted further written evidence on this issue to respond to OPRED’s evidence. This said that the Trust recognised that many of the small steel structures were built with removal in mind, but that:

these structures will have been in place for many years by the time their operational life comes to an end and there will be a considerable amount of marine life growing on the structure – despite their relatively short lifespan, they are still acting as artificial reefs. Therefore, we consider that the size and age of an installation should not be determining factors when considering candidates for derogation, and that the environmental impact of removal should be the key consideration.¹³⁵

They also raised concerns about the current environmental impact assessments that are currently conducted, arguing that:

- They did not consider the loss of marine life growing on the structure;
- The fact that rigs that meet the derogation criteria can be left in situ means that the process is inherently limited and that not all options are considered.¹³⁶

131 [Q296](#)

132 [Q296](#)

133 [Q296](#)

134 [Q296](#)

135 Scottish Wildlife Trust ([OGI0032](#))

136 Scottish Wildlife Trust ([OGI0032](#))

73. During this inquiry we heard mixed evidence about the “rigs to reefs” approach to decommissioning. While all parties want the same outcome, to decommission in a way that minimises the harm to the environment, there is clearly genuine disagreement about what policy on the removal of disused rigs will best deliver this. *We recommend that OPRED lead discussions with industry, environmental groups, academics and other stakeholders to establish a common evidence base to allow an agreed solution to be found. OPRED should also work with the sector to better explain what is already possible under the current system.*

5 Preparing for transition

74. We heard from Claire Perry, Minister of State at BEIS, that the North Sea has the potential to produce oil and gas for another 30 – 40 years,¹³⁷ and will continue to make an important contribution to the economy during this time. However, Sir Ian Wood, Chair, Opportunity North East, emphasised the importance of using this time to support diversification in preparation for the cessation of production. He believed that the North East of Scotland has “20 to 30 years” to make this transition and that “if we don’t, we are going to have a very, very sad north-east of Scotland in 30 or 40 years’ time.”¹³⁸ This transition may have to happen sooner to meet that UK’s climate change ambitions.

75. During this inquiry we heard there are two main, and often overlapping, ways the sector is looking to prepare for this transition; by supporting companies to continue working in the oil and gas sector by expanding in new markets and exporting expertise into other basins, and by supporting companies and individuals to transfer their skills and technologies into other sectors.

Improving export performance

76. As was discussed in previous chapters, the sector believes that there is significant potential for firms in the oil and gas supply chain to export their expertise in decommissioning, and technology developed to exploit smaller and more difficult to access reserves, to other basins. In both these cases it is argued that the industry in Scotland had a competitive advantage from the fact it is the first large basin to reach this stage of maturity and will have experience in maximising late-life production and decommissioning in hostile environments that will be valuable to other basins when they reach a similar stage of maturity.

77. Another area related to the oil and gas sector where it has been argued that the UK has an opportunity to use its expertise to increase its exports is the subsea sector. The oil and gas sector deal proposes the establishment of a Centre of Excellence in underwater innovation which would seek to support the UK underwater sector in securing a 5% share of a global industry, which is worth £44bn. Trevor Garlick, Opportunity North East, told us that:

This idea of us having a world-leading position in the subsea and underwater industry is one that we all know about in the north-east. Not everybody knows that in the country and sees us as a world leader, but we are a world leader and we want to sustain our position as a world leader and use that to get into more international growth.¹³⁹

78. Neil Gordon, Chief Executive Officer, Subsea UK, highlighted the range of activities covered by the underwater sector, saying that it covered offshore wind, wave, tidal, deep sea mining, aquaculture, marine science and defence.¹⁴⁰ He said that the centre of excellence would bring a more “cohesive” approach to supporting the sector, particularly the supply chain, with its role including:

137 [Q391](#)

138 [Q64](#)

139 [Q127](#)

140 [Q123](#)

approaching markets in a cohesive way, helping to get the right training and the right skills, helping to get training that can cross sectors, helping to drive the right innovations and maybe apply for the right sort of research and bring the right kind of partnerships together.¹⁴¹

Mr Garlick also stressed that if the UK didn't capitalise on this opportunity other countries would, saying that he had been "shocked" by how far ahead Norway was on its own subsea proposals.¹⁴²

79. We welcome the sector deal's proposal for a centre of excellence in underwater innovation and its focus on expanding the sector's export performance. This is one of many areas in which the offshore oil and gas sector has the potential to improve its export performance, with decommissioning and late-life extraction being other areas of expertise. We ask that the Government outline how it will integrate these different areas of focus to provide a cohesive and unified strategy to promote the sectors' export. The Government must move quickly in these areas to ensure that the UK does not fall behind other countries efforts.

Transferring skills and technology

80. Professor Jim Watson, Director, UK Energy Research Centre told the Committee that "there is a lot of scope for skills transfer, particularly with the growth of offshore renewables" Sir Ian Wood spoke to the us about the work that Opportunity North East was doing with Scottish Enterprise on diversification, which involves working with companies with transferable skills to encourage them to consider other opportunities in related industries, including renewables.¹⁴³ Friends of the Earth Scotland argued that central to any transition should be the "protection of the people who work for the sector by using their skills in the process of de-carbonisation, with the sector seeking to redeploy and if necessary to re-train and upskill its workforce." It gives examples of opportunities in de-carbonisation of transport, energy efficiency in buildings and the modernization of production industries.¹⁴⁴

81. Willie Reid, Director, Strathclyde Oil and Gas Institute emphasised the importance of technological transfer—saying there were potential applications in "asset integrity, aerospace, power generation, electricity generation, grid systems offshore [...] data analytics, life extension, marine and offshore engineering, [...] digital manufacturing, engineering and design, applied physics, satellite technology, [and] offshore wind".¹⁴⁵ Colette Cohen, CEO, Oil and Gas Technology centre argued that sharing technology supports the transfer of knowledge and expertise between different industries.¹⁴⁶

82. There was some discussion about the value of skill and technology was onshore oil and gas extraction (fracking). Professor de Leeuw said that while a decision on whether or not to allow fracking in Scotland was a political decision the skills needed to do this

141 [Q129](#)

142 [Q142](#)

143 [Q82](#)

144 Friends of the earth Scotland ([OGI0026](#))

145 [Q108](#)

146 [Q112](#)

work “were out there”¹⁴⁷ and would be a “powerful addition to the portfolio.”¹⁴⁸ Colette Cohen, CEO, Oil and Gas Technology Centre, said that fracking would provide “increased opportunities for the workforce [and] for the technologies and skills we already have.”¹⁴⁹ However, Paul Wheelhouse, Minister for Energy, Connectivity and the Islands said that the position of Scottish Government on fracking was “to have a preferred policy that would prevent fracking happening in Scotland.” He said that this was based on evidence the Scottish Government has commissioned from KPMG which said there would be “minimal employment impact in Scotland” that would “not offset the loss of jobs that will come in the offshore oil and gas industry” and that he did not believe it would justify the “very substantial” additional climate change emissions.¹⁵⁰

Skills transfer

83. Skills transfer is an area in which both the UK and Scottish Government are already active. The Scottish Government submission argues that Scotland’s “well-established oil and gas sector and a proud engineering heritage which will help our transition to a low carbon, sustainable economy.” In 2015 the Scottish Government established its Energy Jobs Task Force (EJTF), with the aim of “retaining and growing talent and skills in the industry, identifying and implementing support to people who were facing, and continue to face, redundancy and enhance partnership and collaboration.”¹⁵¹ As part of this work it launched a £12 million Transition Training Fund (TTF) in 2016 to support individuals and help the sector retain talent. The fund initially aimed to support 3,000 participants over three years.¹⁵² The latest figures show that 3,735 funding applications have been approved.¹⁵³

84. As of November 2018, 48% of people who had been supported by the scheme had transitioned into new sectors, with main sectors being “skilled trades”, “transportation” and “renewables and other engineering”.¹⁵⁴ More recently, the Scottish Government launched its Just Transition Commission, one of the aims of which is to advise on how to “plan, invest and implement a transition to environmentally and socially sustainable jobs, sectors and economies, building on Scotland’s economic and workforce strengths and potential.”¹⁵⁵

85. Whilst welcoming the TTF the RMT Unions said in their evidence that it would “not be sufficient” to address the cost and complexity of facilitating a smooth skills transfer between the oil and gas and renewable sectors, and that a more coordinated approach from both Governments was required.¹⁵⁶ Professor Watson, Director, UK Energy Research Centre, argued that TTF’s success in helping workers transfer to the renewable sectors had been limited and that there was insufficient demand and opportunities in the renewables sector:

147 [Q104](#)

148 [Q105](#)

149 [Q106](#)

150 [Q331](#)

151 Scottish Government ([OGI0027](#))

152 Scottish Government ([OGI0027](#))

153 <https://transitiontrainingfund.co.uk/> [accessed 10 January 2018]

154 Skills Development Scotland, [Transition Training Fund: Customer Survey](#), 21 November 2018

155 Scottish Government, [Just Transition Commission](#), [accessed 10 January 2018]

156 National Union of Rail, Maritime & Transport Workers (RMT) ([OGI0012](#))

I think the numbers in Scotland are around 58,000 [workers] in the low-carbon and renewable industries directly and in their supply chains, and 115,000 for the oil and gas industry plus supply chains and so on. There is a two to one difference. That illustrates the fact that you need to do the supply push on skills and help people with transfer and retraining, but you also need to do something about the demand in terms of growing the market for the renewables industries as well.¹⁵⁷

86. Claire Perry, Minister of State at BEIS emphasised the importance of skills transfer, saying that Government was working with the Oil and Gas Technology Centre which has energy integration and transition as a theme of its work and was trying to “signpost” and “challenge” the industry to look at overlaps with decommissions, subsea technology and offshore wind.¹⁵⁸ Emily Bourne, Director for Energy Development and Resilience, BEIS, said the Government was working with OPITO, the industry sector skills body, to look at the transferability of qualifications between different areas of the energy sector to address a situation where “someone who is qualified to work in oil and gas would have to undertake some new qualification to move into renewables.”¹⁵⁹

87. “People and skills” is one of the supporting objectives of the oil and gas sector deal. The sector deal proposal says that this area of work will focus on “developing the next generation of workers, retaining and re-skilling existing workers and exporting the industry’s skills”. The deal proposal says that it recognises that industry’s activity in this area “could be even more effective with better collaboration between this sector and those from related sectors such as nuclear, renewables and other heavy industries” and calls on BEIS and other public bodies to: engage with OPITO’s (sector skills body) workforce review; review funding mechanism and outreach work; develop the energy skills passport; support the sector in tackling barriers to cross sector collaboration; and enhance provision of skill development. It also commits the industry to working collaboratively to standardise role types and to “continue to develop the most compelling materials to inspire and engage young people” who are considering careers in STEM subjects.¹⁶⁰

88. We welcome the efforts that both Governments have made to support skills transfer from the oil and gas sector to other industries. It is essential that the skills of people who have made Scotland’s oil and gas industry so powerful are not lost as the industry prepares for the future. We recommend that in agreeing the sector deal proposal the Government ensure that it contains specific and measurable outcomes on increasing skills transfer to new sectors, with clear commitments for action from both industry and Government.

157 [Q187](#)

158 [Q367](#)

159 [Q367](#)

160 Sector Deal team ([OGI0030](#))

6 Climate change challenge

89. As we have outlined in previous chapters, the adaptation to a low carbon economy is one of the main challenges facing the oil and gas sector, as the sector, and its products, are a significant cause of greenhouse gases. According to Oil and Gas UK's Environmental Report the upstream production of oil and gas produced 15.7 million tonnes of CO₂ equivalents (MtCO₂e) in 2017 which accounted for 3% of the UK's total emissions.¹⁶¹ This figure does not include emissions from the use of oil and gas when they are burned for energy, only emissions from the extraction process. The Government's figures for CO₂ emissions by fuel type show total emissions from oil and gas in 2017 were 333.9 MtCO₂e, accounting for more than 91% of the UK's total emissions of 366.9 MtCO₂e.¹⁶²

90. Both the UK and Scottish Governments are committed to reducing greenhouse gas emissions. The UK's Climate Change Act 2008 established a legal framework which set a target to reduce emissions by at least 80% of 1990 levels by 2050 and introduced five-yearly 'carbon budgets' which place limits on emissions over a set time periods which act as stepping stones towards the 2050 targets. The Scottish Government has introduced a Climate Change Bill in the Scottish Parliament which would set an emission reduction target of 90% by 2050, which would mean net-zero emissions of carbon dioxide.¹⁶³

91. The UK is currently in its third carbon budget period (2018 to 2022), which limits emissions to 2,544 MtCO₂e.¹⁶⁴ The UK is currently on track to outperform this target, but it is not currently on track to meet the fourth carbon budget target (2023–2027). To help deliver its ambitions the Government launched its Clean Growth Strategy in 2017, which outlined their commitment to cutting carbon emissions to combat climate change whilst driving economic growth. In the Industrial Strategy 2017, the UK Government stated their commitment to “moving towards clean growth” in energy, while also acknowledging that “oil and gas remains one of the most productive sectors of the UK economy”.

Emissions from oil and gas production

92. Oil and gas production on the UKSC increased by almost 13% between 2014 - 17 with CO₂ emissions rising by 12.5%, from 13.1 million tonnes to 14.2 tonnes, in the same period. The figure below shows the trend in emissions related to upstream production.¹⁶⁵

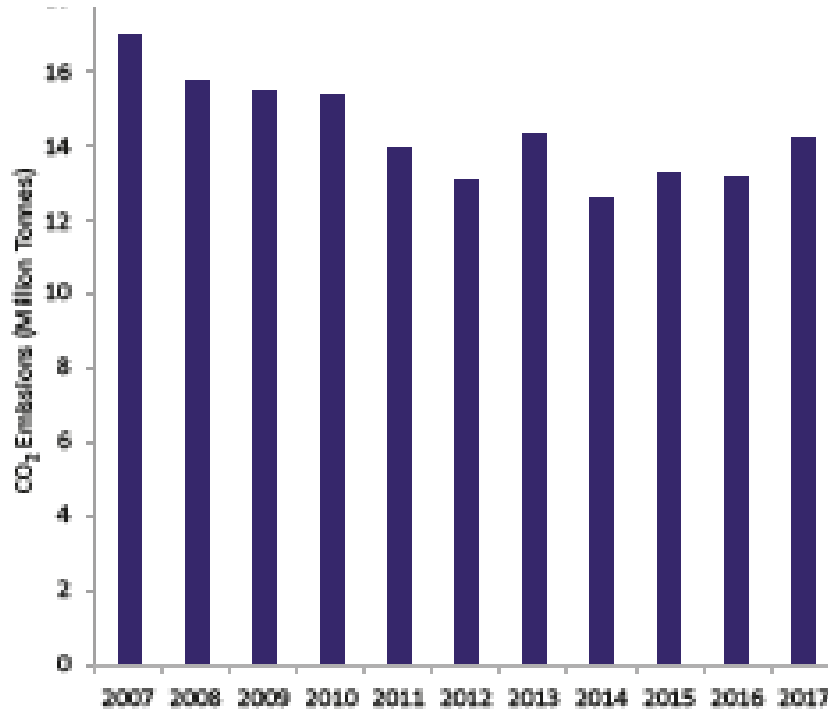
161 Oil and Gas UK, [Environment Report 2018](#)

162 BEIS, [2017 UK Greenhouse gas emissions, provisional figures](#). This includes all oil and gas use to provide energy in the UK, not just that produced domestically.

163 Scottish Government, [Climate Change Bill](#), accessed 15 Jan 2019

164 Committee on Climate Change, [Carbon Budgets: how we measure emission targets](#), accessed 15 January 2019

165 Oil and Gas UK, [Environment Report 2018](#)



The Oil and Gas Authority have argued that the MER strategy has led to the industry reducing the carbon footprint of oil and gas extraction by driving efficiency improvements.¹⁶⁶

93. As offshore rigs are not connected to the national grid they have to produce their own power to run power compression equipment to transport oil and gas to shore and to provide electricity for those working on the rig. Of these sources, the compressors consume most energy, and are responsible for 72% of emissions from rigs. Colette Cohen, CEO, Oil and Gas Technology Centre told us that the industry has started trials for using tidal energy to provide some of this power as part of its efforts to reduce its carbon footprint.¹⁶⁷

94. The sector deal is seeking to help the industry reduce its own carbon footprint through the centre of excellence on transformational technologies, one of the outcomes is to “deliver lower carbon operations”.¹⁶⁸ In their evidence, the sector deal team said that the £50 million share investment from industry and Government would be “an additional part” of the OGTC and would seek to meet industry demand for low carbon technologies. They argued that the industries demand for low carbon technologies was “beyond the current remit of the OGTC” and additional investment is required to respond to this need.¹⁶⁹ In her evidence Emily Bourne, Director for Energy Development and Resilience, BEIS said that the sector’s role in energy transition might be a part of the sector deal where there were “iterations to be discussed” suggesting that this might be an area where the Government would be seeking additional commitment from industry.¹⁷⁰

95. Adaption to a low carbon economy is one of the main challenges facing the oil and gas sector. We welcome the efforts that the sector is making to reduce the carbon footprint of the extraction process and the intention of the centre on transformational technology to develop this area. We recommend that before the Government finalises

166 OGA, [Environment Report 2017](#)

167 [Q112](#)

168 Sector Deal team ([OGI0030](#))

169 Sector Deal team ([OGI0030](#))

170 [Q364](#)

the sector deal it should ensure that the sector brings forward a more detailed proposal on how this will be achieved and how the success of the centre on transformational technology in developing low carbon technologies will be measured.

Carbon Capture, Usage and Storage

96. Carbon capture, usage and storage technology (CCUS) can capture up to 90% of CO₂ emissions produced from the use of fossil fuels in electricity generation and industrial processes, thereby preventing the carbon dioxide from entering the atmosphere.¹⁷¹ The Government's Clean Growth Strategy says that there is a "broad international consensus"¹⁷² that CCUS has a vital role to play in reducing emissions by decarbonising industrial processes and energy sources. This was also reflected in evidence we heard in our inquiry, with Professor Corienne Le Quere, Member of the Committee on Climate Change, telling us that for "the cost-effective path" to meet emission targets "we need the technology of carbon capture and storage":

This is the cost-effective path, and without the development of CCS, the pathway for oil and gas would need to decarbonise much faster and the cost would be a lot higher.¹⁷³

This technology could be particularly useful to the oil and gas sector. In her forward to the Government's CCUS action plan, the Minister said that:

We know that flexible gas generation still has a role to play in generation. As we transition to the inexpensive but intermittent world of renewables; CCUS technologies can help to take the carbon out of this valuable service.¹⁷⁴

The UK Government is investing £45 million in CCUS innovation programmes between 2017 and 2021, with other funding from the Industrial Strategy also being potentially available to CCUS. In its supplementary evidence the Government said it was also at the "forefront of international collaboration on CCUS" citing its co-leadership of the "Mission Innovation Carbon Capture Challenge" to reduce the cost of innovative new carbon capture technologies."¹⁷⁵

97. CCUS is one of the five supporting focus areas of the sector deal. The deal proposal says that it aims to "provide input into the Government's CCUS programme" and will provide "project management secondees to work with the Government and partners from other sectors to take forward the CCUS strategy."¹⁷⁶ Some experts in CCUS who gave evidence to this inquiry felt that the sector deal's proposal in this area did not go far enough. Professor Haszeldine, Director of Scottish Carbon Capture and Storage and Professor of Carbon Capture and Storage at University of Edinburgh, described the

171 Carbon Capture and Storage Association, [What is CCS?](#), accessed 11 December 2019

172 Some witnesses/organisations used the acronym CCS instead,

173 [Q163](#)

174 UK Government, [Clean Growth, The UK Carbon Capture Usage and Storage development pathway: An Action Plan](#)

175 Department for Business, Energy and Industrial Strategy ([OGI0033](#))

176 Sector Deal team ([OGI0030](#))

proposals as “remarkably naive and unambitious”,¹⁷⁷ and added that they amounted to “basically three lines of associating the oil industry with other developers that are going to take that [work] forward.”¹⁷⁸

98. Carbon Capture Usage and Storage (CCUS) technology has an essential role to play in enabling continued use of gas as a power source in a way that is consistent with the UK’s climate change goals. We believe that the sector deal could be more ambitious in this area and *recommend that before the sector deal is finalised the sector should bring forward a more detailed proposal on how the three centres of excellence could support the development of CCUS technology and how their success will be measured.*

99. We were told by witnesses that the main barrier to the deployment of CCUS was commercial viability of developments, rather than challenges with the viability of the technology itself. Jenny Stanning, External Affairs Manager, Oil and Gas UK, told us:

We know that carbon capture, use and storage is technically viable. There are small-scale examples of that at the Acorn facility in the north-east of Scotland and around the UK. The challenge now is to make it commercially viable.¹⁷⁹

100. Concerns about the cost effectiveness of investment in CCUS were cited as one reason why previous efforts by the Government to invest in the technology failed. In 2012, the Coalition Government launched a CCUS programme, supported by £1 billion of capital funding, with the aim of enabling developers to invest in CCUS in the early 2020s. However, in the 2015 Spending Review the Government announced that capital funding was no longer available, leading the main bidders to cancel their projects. The Government spent £100m on the cancelled competition.¹⁸⁰ According to an NAO review the Treasury withdrew the funding because it considered that:

- the costs to consumers through contracts for difference (the consumer-funded mechanism for supporting projects once up-and-running) would be high and regressive;
- the competition was aiming to deliver CCS before it was cost-efficient to do so;
- the competition would not guarantee the further investment required to expand CCS; and
- there were better uses for the £1 billion.

More recently the issue of commercial viability was also raised in the Government’s Clean Growth Strategy, which “re-affirm[ed] [the Government’s] commitment to deploying CCUS in the UK *subject to cost reduction.*”¹⁸¹

101. To address this problem the Government established the CCUS Cost Challenge Taskforce in January 2018 to propose a strategic plan to Government for supporting the development of CCUS in the UK, to meet the Government’s stated ambition of “having

177 [Q178](#)

178 [Q200](#)

179 [Q84](#)

180 NAO, [Carbon Capture and Storage: the second competition for government support](#), January 2017

181 UK Government, [Clean Growth Strategy: Leading the way to a low carbon future](#), October 2017. Added emphasis

the option to deploy CCUS at scale during the 2030s, subject to costs coming down sufficiently.” The Taskforce reported in July 2018 and recommended the following steps to deliver cost effective CCUS:

- **Unlock early investment:** Industry and Government working together to create a stable, long term, supportive policy environment to unlock development of at least two CCUS clusters to be operational from the mid-2020s, anchored by “catalyst” projects to enable learning by doing, to pull through innovation and reduce the cost of capital, meaning future projects cost less.
- **Develop a new business model for CO₂ transport and storage infrastructure:** Separating the business model for CO₂ transport and storage (“T&S”) infrastructure from the business models for CO₂ capture projects can reduce overall commercial risks and costs, by reaching cost-effective public-private risk sharing arrangements. Developing viable business models, as well as sharing of T&S infrastructure, and the strategic re-use of existing oil and gas assets are considered important steps that can enable potential cost reduction in CCUS.
- **Create CCUS clusters:** The development of clusters (i.e. regional groupings where several CCUS facilities share infrastructure and knowledge) and associated Clean Growth Regeneration (“CGR”) Zones can help drive lower cost CCUS, unlock value for local economies, and foster continuous technical innovation. It also recommends that development funding is made available to support these clusters, with two being operational by the mid-2020s.

102. The UK Government has set out its ambition to have a CCUS pilot facilities running by mid-2020s followed by full scale operations by the 2030s. The Government’s CCUS action plan stressed the importance of its current review of CCUS Delivery and Investment Frameworks in delivering this, which will seek to identify investable commercial models and establish market-based frameworks for bringing forward CCUS. The Government has also mentioned the potential for CCUS to receive support from the £315m Industrial Energy Transformation Fund and the £170m Industrial Strategy Challenge Fund for the Industrial Clusters mission.¹⁸² The Government has also committed £45 million into CCUS innovation programmes between 2017 and 2025, including:

- £20 million Carbon Capture and Use (CCU) Demonstration Programme to fund design and construction of CCU demonstration plants in the UK;
- £15 million CCUS Call for innovation to fund innovative projects that lead to cost reduction or accelerated deployment; and
- £6.5 million of UK funding to the second international call of the ACT research programme.

103. In November 2018 the Government also announced an immediate investment of £175,000 in the Acorn Carbon Capture project at the St. Fergus gas terminal, to support feasibility work of its CCUS project. The plant also received funding from the

Scottish Government and European Commission.¹⁸³ This funding will support “detailed engineering feasibility, looking specifically at how to transport CO₂ from where it is captured to where it will need to be used or stored.”¹⁸⁴

104. The St Fergus and Grangemouth sites form one of the potential clusters of CCUS identified by the CCUS Cost Challenge Taskforce. The Report argues that as Grangemouth was natural candidate for carbon capture as it is the centre of the chemicals manufacturing and refinery industry and has the largest concentration of CO₂ emissions in Scotland. It continued that St Fergus is a natural hub for CO₂ transport to offshore storage, as there is potential to re-use existing offshore pipelines and suitable CO₂ storage sites in the Central North Sea. St Fergus is the landing point for around 35% of all the natural gas used in the UK, making it a potential location for future hydrogen production with CCUS. St Fergus also provides the potential for ship import or export of CO₂ from the UK or Europe, via Peterhead Port, and the re-use of the natural gas pipelines to bring CO₂ up from Central Scotland.

105. We welcome the Government’s ambition to support the development of CCUS clusters, which should drive up value for local economies and encourage ongoing technological innovation. We ask the Government to set out in response to this Report; what support from the announced Industrial Strategy funds will be made available for the development of CCUS cluster, how the bid for this funding will be evaluated and how it has incorporated lessons from previous failed CCUS competitions into this process.

106. One of the main challenges to the commercial viability of carbon capture is its cost compared to both other forms of energy generation and the cost of emitting carbon, which is determined by the UK’s carbon floor price.¹⁸⁵ According to the Carbon Capture and Storage Association, “recent studies conclude that the first CCS projects in the power sector are likely to cost between €60 – 90 per tonne of carbon dioxide abated although these costs are expected to decline significantly reaching €35 – 50 in the early 2020s primarily as a result of cost reductions for carbon dioxide capture.”¹⁸⁶ One way to help reduce the cost associated with CCUS is by selling the carbon for re-use in other industrial processes.

107. One potential use of captured CO₂ within the sector itself is in Enhanced Oil Recovery (EOR), where CO₂, or another substance, is pumped into an oil reservoir to displace oil and increase the amount that can be extracted.¹⁸⁷ The Carbon Capture Association argued that using captured CO₂ for EOR could potentially boost the economic return for Scotland’s oil and gas reserves, but note that at present this form of offshore EOR is not seen as economically viable for the UK. The Scottish Carbon Capture and Storage (SCCS) argued that investment in EOR would both help to achieve the maximise economic recovery strategy and “kick-start the development of CO₂ storage in the North Sea basin”. However, SCCS said that they were concerned that the OGA may be moving away from supporting EOR, saying that “email correspondence between SCCS staff and the OGA suggests that the OGA takes the opposite view, and may not now produce a CO₂ EOR strategy at all.”¹⁸⁸

183 The Guardian, [Carbon Capture and storage gets £20m ‘sensible reboot’](#), 28 November 2018

184 Department for Business, Energy and Industrial Strategy ([OGI0033](#))

185 The minimum amount a UK company must pay for a licence to emit CO₂ under the EU Emission Trading Scheme.

186 <http://www.ccsassociation.org/why-ccs/affordability/>

187 <http://www.ccsassociation.org/what-is-ccs/storage/enhanced-hydrocarbon-recovery/>

188 Scottish Carbon Capture and Storage ([OGI0024](#))

108. Hedvig Ljungerud, Director of Policy, OGA said that they saw EOR “as potentially playing quite a big role” and that the OGA had an informal target of using the method to sanction the production of 250 million barrel of oil equivalent,¹⁸⁹ but that the OGA would not favour any particular methods of EOR noting that “if anything, polymer might be a front runner in a lot of projects rather than CO₂” and that the drive had to come from investors.¹⁹⁰ There is also debate about the environmental benefits of EOR, with some groups arguing that because the combustion of the additional oil extracted would itself release CO₂, this limits its effectiveness as a way of removing carbon from the atmosphere.¹⁹¹

109. There are other uses for captured carbon other than oil extraction. A study commissioned by BEIS identified the most promising UK applications as being: synthetic production of methanol and methane; production of polymers, such as polyurethane; production and curing of concrete; carbonation technologies, and in horticulture. However, this study estimated that by 2030 demand from these selected CCU (carbon capture and usage) technologies would be less than 1% of the UK’s carbon emissions. The Government noted that both this Report, and one by the Royal Society, highlight that it is hard to quantify the potential for CCU as most CCU technologies are at an early stage of R&D. However, the Government said that there were already some UK companies innovating in these areas, including one in Aberdeen and that its £20 million CCU Demonstration programme would supporting the construction of CCU technologies at industrial sites across the UK.¹⁹²

110. Creating a market for using stored CO₂ can make a contribution to the commercial deployment of CCUS by creating an income stream from some of the captured gas and we welcome the support that the Government has announced for businesses innovating in this area. As there is likely to be limited demand to use captured CO₂ the Government must ensure that the lessons learned from projects supported by the CCU Demonstration Fund are shared with facilities focused on the long-term storage of captured CO₂.

Infrastructure re-use

111. One argument for the deployment of CCUS technology in Scotland is the potential to re-use oil and gas infrastructure for CCUS. This is particularly useful for geological storage where captured CO₂ is pumped back into empty oil and gas wells. SCCS argue that the UK’s depleted oil and gas fields provide an ideal environment to store CO₂. According to the UK CCS Storage Appraisal the UK has offshore geological storage potential for over 78 gigatonnes of CO₂¹⁹³ Professor Haszeldine, emphasised the potential cost saving from re-using oil and gas infrastructure for this purpose compared to building facilities:

As an example [...] the Acorn project in north-east Scotland calculates that, by reusing the pipeline, we could develop transport offshore for about £30 million or £40 million, whereas if they have to build a new pipeline from scratch, it might cost £200 million.¹⁹⁴

189 [Q315](#)

190 [Q315](#)

191 [Q198](#)

192 Department for Business, Energy and Industrial Strategy ([OGI0033](#))

193 Institution of Chemical Engineers (ICChemE) ([OGI0023](#))

194 [Q187](#)

SCCS argue that oil and gas pipelines are strategic national assets; they should be retained and preserved as a low-cost route to storage. They argue that CO₂ storage in the Central North Sea is the best understood in Europe following decades of oil and gas activity as well as specific assessments of CO₂ storage requirements, and that existing pipelines can access these storage sites from the mainland.¹⁹⁵

112. This potential has been acknowledged in the Maximising Economic Recovery Strategy, which states that:

before commencing the planning of decommissioning of any infrastructure in relevant UK waters, owners of such infrastructure must ensure that all viable options for their continued use have been suitably explored, including those which are not directly relevant to the recovery of petroleum such as the transport and storage of carbon dioxide.¹⁹⁶

113. However, SCCS have raised concerns that this requirement is being interpreted in a way which allows the decommissioning of pipelines that have been identified as being suitable for CO₂ transport—by projects such as ACT Acorn and the Caledonia Clean Energy Project—but which do not have a firm project plan attached to them:

It is clear from informal discussions with OGA and BEIS that neither party feels they have responsibility for this aspect of decommissioning planning, so the UK Government needs to take urgent action to close this gap to ensure that infrastructure is retained and maintained, and CCS projects are not lost due to poor regulation.¹⁹⁷

114. The UK Government has said that it is working with stakeholders to explore the potential for redundant oil and gas infrastructure to be re-used for Carbon Capture, Usage and Storage, where this was appropriate to reduce CCUS costs. The Minister said that they “are very aware now of this need to not decommission something that could potentially be useful.”¹⁹⁸ One challenge that will have to be addressed is the liability of an asset that was not decommissioned to allow for the possibility of re-use. At the moment the operator has liability in perpetuity for its assets,¹⁹⁹ which include a monitoring liability and liability for remedial action needed.²⁰⁰ The Government said that it was one of the questions it needed to look at.²⁰¹

115. Oil and gas infrastructure has the potential to be re-used for CCUS and it would be regrettable if this potential was lost due to a relatively short gap between infrastructure being decommissioned and CCUS becoming commercially viable. We welcome the Minister’s openness to finding solutions to this problem and invite the Government to set out what options are being considered in its response to this report.

116. *One solution that we recommend the Government considers is that it underwrites the liability for this infrastructure for a fixed time while options for re-use are explored. This would ensure that the original owners are not at risk from additional liability for*

195 Scottish Carbon Capture and Storage ([OGI0024](#))

196 OGA, [The Maximising Economic Recovery Strategy for the UK](#)

197 Scottish Carbon Capture and Storage ([OGI0024](#))

198 [Q405](#)

199 [Q405](#)

200 [Q261](#)

201 [Q405](#)

keeping this infrastructure in place for an extended length of time. Ownership and liability could then be transferred to the new CCUS operator if re-use went ahead, or back to the original owner for decommissioning if the option of re-use does not materialise.

117. SCCS also raised concerns that “the OGA is not taking a proactive role in enabling the development of CCUS” arguing that “the division of responsibilities in relation to CCS between BEIS and the OGA is not clear, and that this is putting CCS cost reductions at risk by allowing premature decommissioning of pipelines that could be re-used.”²⁰² When we raised this point with the OGA we were told that:

If we think there might be a potential [for infrastructure to be re-used for CCUS], we will ask the operator but we will not promote and push in the sense that, given the economics, there has to be some impetus from industry [...] We do not see ourselves as having a massive promoting role, as we do in some where we are out there actively pushing it.

Hedvig Ljungerud, Director of the Strategy at the OGA, said that “When the Government’s report comes out on that, on which we will be very happy to work with them, but they very much own it, I think we will all have a much clearer sense of what the overall policy will be.”

118. We recommend that the Oil and Gas Authority take a more proactive approach to encouraging the industry to consider opportunities for infrastructure re-use and that it brings forward a strategy for how it will promote re-use of oil and gas infrastructure within the sector as soon as possible. We believe this would be a natural extension of its role to ensure the economic return from the UKCS is maximised.

Conclusions and recommendations

Securing the future: sector deal proposal

1. We support the proposals for an oil and gas sector deal which we believe is an ambitious and timely plan of action to strengthen an industry which is so vital to Scotland and the UK's economy and energy supply. A sector deal would support Scotland's oil and gas industry through a time of change; cementing its place as a global leader while it responds to new challenges. (Paragraph 20)
2. When we took evidence from the sector deal team it was clear that there was more work to be done in developing the detail of the proposal and we welcome that the Government is seeking clear commitments on what would be delivered in return for this additional investment. *We recommend that the UK and Scottish Governments work with the sector to convert the ambition and vision of the sector deal into a plan that will deliver the significant benefits it envisions and prepares the sector for future challenges.* (Paragraph 21)

Maximising economic recovery

3. We believe that maximising economic recovery is the right approach for the sector and welcome the steps the OGA has taken to improve collaboration. Whilst we acknowledge environmental concerns about the MER strategy, oil and gas looks likely to form a substantial part of the UK's energy mix for at least the next 15 years. As such, we believe it makes sense to meet as much of this need as possible from domestic sources. (Paragraph 31)
4. We welcome the work that the Oil and Gas Authority is doing to stimulate exploration in the sector and its innovative approach to data use. These developments have the potential to deliver much needed improvements in the rate of exploration. We ask that the Oil and Gas Authority update us on its progress establishing the National Data Repository in its response to this Report. (Paragraph 40)
5. Continued investment in technology will be crucial to the future of the oil and gas industry. We welcome that investment that industry and both Governments have already made in technology that will make it easier and more efficient to access smaller pockets of oil and gas, which will contribute to maximising economy recovery from the UK basin. If sector deal funding for the underwater innovation centre is to be used to support further work in this area, the Government must ensure that it will deliver additional benefits beyond what has already been funded through the Oil and Gas Technology Centre. (Paragraph 44)
6. We welcome the introduction of Transferable Tax History which should help deliver the MER strategy by enabling assets to be transferred to companies who can make the best use of them. We invite the Government to set out in response to this Report how it will monitor the impact of this policy to ensure that it is delivering these benefits. (Paragraph 48)

Decommissioning

7. We welcome the current focus on reducing the cost of decommissioning and the ambition of the cost reduction target. *We recommend that the Oil and Gas Authority work with industry and academia to set out a roadmap for meeting this target.* (Paragraph 56)
8. Decommissioning represents a significant export opportunity for Scottish businesses. Scotland has the opportunity to become a global base for the decommissioning industry. *We therefore endorse the call in the sector deal for the Government to work with the sector to develop a decommissioning export strategy.* (Paragraph 61)
9. There is a clear difference in perspective between industry and the regulator on what re-use of information about previous decommissioning projects is possible under the current rules. *We recommend that OPRED review how it communicates its requirement to businesses and consider how it can promote the re-use and sharing of information between companies, without compromising the need for the decommissioning company to be accountable for the evidence their plans are based on. The Government must support the industry in sharing best practice and learning important lessons from previous exercises and should consider supporting the creation of an industry standards.* (Paragraph 64)
10. During this inquiry we heard mixed evidence about the “rigs to reefs” approach to decommissioning. While all parties want the same outcome, to decommission in a way that minimises the harm to the environment, there is clearly genuine disagreement about what policy on the removal of disused rigs will best deliver this. *We recommend that OPRED lead discussions with industry, environmental groups, academics and other stakeholders to establish a common evidence base to allow an agreed solution to be found. OPRED should also work with the sector to better explain what is already possible under the current system.* (Paragraph 73)

Preparing for transition

11. We welcome the sector deal’s proposal for a centre of excellence in underwater innovation and its focus on expanding the sector’s export performance. This is one of many areas in which the offshore oil and gas sector has the potential to improve its export performance, with decommissioning and late-life extraction being other areas of expertise. *We ask that the Government outline how it will integrate these different areas of focus to provide a cohesive and unified strategy to promote the sectors’ export. The Government must move quickly in these areas to ensure that the UK does not fall behind other countries efforts.* (Paragraph 79)
12. We welcome the efforts that both Governments have made to support skills transfer from the oil and gas sector to other industries. It is essential that the skills of people who have made Scotland’s oil and gas industry so powerful are not lost as the industry prepares for the future. *We recommend that in agreeing the sector deal proposal the Government ensure that it contains specific and measurable outcomes on increasing skills transfer to new sectors, with clear commitments for action from both industry and Government.* (Paragraph 88)

Climate change challenge

13. Adaption to a low carbon economy is one of the main challenges facing the oil and gas sector. We welcome the efforts that the sector is making to reduce the carbon footprint of the extraction process and the intention of the centre on transformational technology to develop this area. *We recommend that before the Government finalises the sector deal it should ensure that the sector brings forward a more detailed proposal on how this will be achieved and how the success of the centre on transformational technology in developing low carbon technologies will be measured.* (Paragraph 95)
14. Carbon Capture Usage and Storage (CCUS) technology has an essential role to play in enabling continued use of gas as a power source in a way that is consistent with the UK's climate change goals. We believe that the sector deal could be more ambitious in this area and *recommend that before the sector deal is finalised the sector should bring forward a more detailed proposal on how the three centres of excellence could support the development of CCUS technology and how their success will be measured.* (Paragraph 98)
15. We welcome the Government's ambition to support the development of CCUS clusters, which should drive up value for local economies and encourage ongoing technological innovation. *We ask the Government to set out in response to this Report; what support from the announced Industrial Strategy funds will be made available for the development of CCUS cluster, how the bid for this funding will be evaluated and how it has incorporated lessons from previous failed CCUS competitions into this process.* (Paragraph 105)
16. Creating a market for using stored CO₂ can make a contribution to the commercial deployment of CCUS by creating an income stream from some of the captured gas and we welcome the support that the Government has announced for businesses innovating in this area. As there is likely to be limited demand to use captured CO₂ the Government must ensure that the lessons learned from projects supported by the CCU Demonstration Fund are shared with facilities focused on the long-term storage of captured CO₂. (Paragraph 110)
17. Oil and gas infrastructure has the potential to be re-used for CCUS and it would be regrettable if this potential was lost due to a relatively short gap between infrastructure being decommissioned and CCUS becoming commercially viable. We welcome the Minister's openness to finding solutions to this problem and invite the Government to set out what options are being considered in its response to this report. (Paragraph 115)
18. *One solution that we recommend the Government considers is that it underwrites the liability for this infrastructure for a fixed time while options for re-use are explored. This would ensure that the original owners are not at risk from additional liability for keeping this infrastructure in place for an extended length of time. Ownership and liability could then be transferred to the new CCUS operator if re-use went ahead, or back to the original owner for decommissioning if the option of re-use does not materialise.* (Paragraph 116)
19. *We recommend that the Oil and Gas Authority take a more proactive approach to encouraging the industry to consider opportunities for infrastructure re-use and that*

it brings forward a strategy for how it will promote re-use of oil and gas infrastructure within the sector as soon as possible. We believe this would be a natural extension of its role to ensure the economic return from the UKCS is maximised. (Paragraph 118)

Formal minutes

Tuesday 29 January 2019

Members present:

Pete Wishart, in the Chair

Deidre Brock	Ged Killen
David Duguid	John Lamont
Hugh Gaffney	Tommy Shepphard
Christine Jardine	Ross Thomson

Draft Report (*Future of Scotland's oil and gas industry*), proposed by the Chair, brought up and read.

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

Paragraphs 1 to 118 read and agreed to.

Resolved, That the Report be the Sixth 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 5 February at 10.00 a.m.]

Witnesses

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

Tuesday 12 June 2018

Deirdre Michie, CEO, Oil & Gas UK, **Dr Alix Thom**, Workforce Engagement & Skills Manager, Oil & Gas UK, **Jenny Stanning**, External Affairs Manager, Oil & Gas UK

[Q1–53](#)

Sir Ian Wood GBE, Chairman, Opportunity North East, **Tommy Campbell**, Chair, Offshore Co-Ordinating Group

[Q54–85](#)

Monday 25 June 2018

Colette Cohen, CEO, Oil & Gas Technology Centre, **Prof. Paul de Leeuw**, Director of the Oil and Gas Institute at Robert Gordon University, **Prof. Alex Kemp**, Professor of Petroleum Economics at University of Aberdeen and Director of Aberdeen Centre for Research in Energy Economics and Finance, **Willie Reid**, Director, Strathclyde Oil and Gas Institute

[Q86–116](#)

Wednesday 5 September 2018

Trevor Garlick OBE, Director, Opportunity North East, and Co-Vice-Chairman, Oil and Gas Technology Centre, **Neil Gordon**, CEO, Subsea UK, **Stuart Payne**, Director of HR and Supply Chain, Oil and Gas Authority

[Q117–161](#)

Wednesday 10 October 2018

Prof. Jim Watson, Director, UK Energy Research Centre, **Prof. Corinne Le Quééré**, Director, Tyndall Centre for Climate Change Research, University of East Anglia, Member, Committee on Climate Change, **Dr Richard Dixon**, Director, Friends of the Earth Scotland, **Prof. Stuart Haszeldine**, Scottish Carbon Capture Association

[Q162–203](#)

Tuesday 13 November 2018

Graeme Fergusson, Managing Director, Decom Energy, **Richard Neilson**, School of Engineering, Aberdeen University, **Jonathan Hughes**, CEO, Scottish Wildlife Trust

[Q204–268](#)

Hedvig Ljungerud, Director of Strategy, Oil and Gas Authority, **Tom Wheeler**, Director of Regulation, Oil and Gas Authority, **Wendy Kennedy**, Chief Executive, OPRED, **Pauline Innes**, Director of Decommissioning for Offshore Oil and Gas, OPRED

[Q269–322](#)

Tuesday 18 December 2018

Paul Wheelhouse MSP, Minister for Energy, Connectivity and the Islands,
Kersti Berge, Director of Energy and Climate Change

[Q323–357](#)

Claire Perry MP, Minister of State, Department for Business, Energy and
Industrial Strategy, **Emily Bourne**, Director for Energy Development and
Resilience at BEIS

[Q358–408](#)

Published written evidence

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

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

- 1 Amplus Energy Services Ltd ([OGI0005](#))
- 2 Baxter, Senior Lecturer, Chemical Engineering, University of Aberdeen, Tom ([OGI0001](#))
- 3 The Carbon Capture and Storage Association ([OGI0025](#))
- 4 Decom Energy Limited ([OGI0022](#))
- 5 Department for Business, Energy & Industrial Strategy ([OGI0028](#))
- 6 Department for Business, Energy and Industrial Strategy ([OGI0033](#))
- 7 DNV.GL ([OGI0029](#))
- 8 Friends of the earth Scotland ([OGI0026](#))
- 9 Grantham Research Institute on Climate Change and the Environment ([OGI0017](#))
- 10 Greenpeace ([OGI0031](#))
- 11 HeliOffshore Ltd ([OGI0021](#))
- 12 Imes Group Holdings Ltd ([OGI0003](#))
- 13 Institution of Chemical Engineers (IChemE) ([OGI0023](#))
- 14 Kemp, Professor Alex ([OGI0019](#))
- 15 Law Society of Scotland ([OGI0015](#))
- 16 Mackay, Professor Tony ([OGI0013](#))
- 17 National Union of Rail, Maritime & Transport Workers (RMT) ([OGI0012](#))
- 18 Oil & Gas UK ([OGI0010](#))
- 19 The Oil and Gas Authority ([OGI0009](#))
- 20 Professor Karen Turner, Director, Centre for Energy Policy, University of Strathclyde ([OGI0002](#))
- 21 Scottish Carbon Capture and Storage ([OGI0024](#))
- 22 Scottish Government ([OGI0027](#))
- 23 Scottish Labour Party ([OGI0007](#))
- 24 Scottish Trades Union Congress (STUC) ([OGI0014](#))
- 25 Scottish Wildlife Trust ([OGI0008](#))
- 26 Scottish Wildlife Trust ([OGI0032](#))
- 27 Sector Deal team ([OGI0030](#))
- 28 Shetland Islands Council ([OGI0020](#))
- 29 Thompson, School of Geo Sciences, University of Edinburgh, Professor Roy ([OGI0006](#))
- 30 Unite the Union. Scotland ([OGI0011](#))

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

Session 2017–19

First Report	European Union (Withdrawal) Bill: Implications for devolution	HC 375
Second Report	The future of working practices in Scotland	HC 449 (HC 1067)
Third Report	Royal Bank of Scotland branch closures	HC 682
Fourth Report	Immigration and Scotland	HC 488
Fifth Report	Digital Connectivity in Scotland	HC 654
First Special Report	Jobcentre Plus closures in Scotland: Government Response to the Committee's Third Report of Session 2016–17	HC 432
Second Special Report	The future of working practices in Scotland: Government Response to the Committee's Second Report	HC 1067
Third Special Report	Royal Bank of Scotland branch closures: Government Response to the Committee's Third Report	HC 1529
Fourth Special Report	Digital Connectivity in Scotland: Government Response to the Committee's Fifth Report	HC 1612