



House of Commons
Committee of Public Accounts

Hinkley Point C

Third Report of Session 2017–19

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

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The Committee of Public Accounts

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Publication

Committee reports are published on the [Committee’s website](#) and in print by Order of the House.

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

Committee staff

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Summary

Hinkley Point C is the first nuclear power station to be built in the UK since 1995. The Committee is concerned consumers are locked into an expensive deal lasting 35 years and that the Government did not revisit the terms between the original decision to go ahead and now, despite estimated costs to the consumer having risen five-fold during that time. Over the life of the contract, consumers are left footing the bill and the poorest consumers will be hit hardest. Yet in all the negotiations no part of Government was really championing the consumer interest.

As the financial case for Hinkley has weakened, the Government has talked up the boost to jobs and skills that Hinkley will generate. But the Government has no clear plan of how these so-called wider benefits will be achieved, or crucially how it will measure success.

We have seen other large infrastructure projects promise a lot of jobs and skills and not deliver. The Government must act now to firm up its vague promises of wider benefits so UK workers, supply chain businesses and apprentices can see tangible benefits.

With Brexit looming delivering a plan for the wider benefits has even more urgency as we cannot be sure that we will attract the necessary skills from overseas.

Introduction

The government sees Hinkley Point C and other planned nuclear projects as central to its strategic aim of managing the energy ‘trilemma’—ensuring a secure supply of energy that is affordable for consumers while helping the UK meet its statutory target to reduce carbon dioxide emissions by 80% in 2050 compared with 1990 levels. The Department for Business, Energy & Industrial Strategy (the Department) therefore agreed a deal to support construction of Hinkley Point C in September 2016. The deal is with NNB Generation Company (HPC) Limited (NNBG), which is owned 66.5% by Electricite de France (EDF) and 33.5% by China General Nuclear Power Group (CGN). The deal guarantees that NNBG will receive £92.50 (2012 prices), linked to inflation, for each megawatt hour (MWh) of Hinkley Point C’s electricity for 35 years, with electricity bill payers paying top-ups if the market price is lower. The Department expects that the power station will be the first in a series of deals for new nuclear power stations and will generate around 7% of the UK’s electricity from the mid-2020s. NNBG expects it will cost £19.6 billion to build Hinkley Point C; and the Department estimates that top-up payments will cost consumers around £30 billion over the 35-year contract. The Department estimates that between £10 and £15 of the average annual household electricity bill (in 2012 prices) will go towards supporting Hinkley Point C up to 2030.

Conclusions and recommendations

1. **The Department has no plan in place for securing the wider benefits of the project.** With the case for Hinkley Point C weakening since the agreement of the strike price of £92.50/MWh in 2013, the government has increasingly emphasised the wider benefits of the deal, in particular, jobs and skills creation, and opportunities for businesses in the UK. The creation of the Department for Business, Energy and Industrial Strategy (the Department) presents a clear opportunity to link the nuclear programme to the government's industrial strategy to drive economic opportunities and growth. However, the Department does not know to what extent UK workers and companies will benefit from Hinkley Point C and the wider follow-on new nuclear programme, and has no plan in place to show how it will maximise the wider benefits of the project.

Recommendation: *As part of its development of the industrial strategy, the Department needs to put a plan in place for realising the wider strategic and economic benefits of Hinkley Point C. The Department's plan should explain how it will prove those benefits have been achieved.*

2. **No one was protecting the interests of energy consumers in doing the deal.** The Department estimates that between £10 and £15 of the average annual household electricity bill (in 2012 prices) will go towards supporting Hinkley Point C up to 2030. Adding the costs of new energy infrastructure to bills could disproportionately impact on the poorest households who are less able to afford price increases. But the Department's assessment did not sufficiently consider the costs and risks of the deal for consumers. Its assessment only went out to 2030, despite the long-term nature of the contract; and it did not consider whether consumer top-up payments would be affordable in the context of its support for other low-carbon technologies. HM Treasury did review the deal at various points but its emphasis was on the risk of the deal ending up on the government's balance sheet and not on implications for consumers.

Recommendation: *By March 2018, the Department should tell us how it will ensure there is an independent and transparent assessment of the impacts on consumers, including the impacts on the poorest households, when agreeing future energy infrastructure deals that are paid for through consumers' bills.*

3. **The Department pressed on with locking consumers into an expensive deal, despite the case for Hinkley Point C and nuclear power weakening during its negotiations.** The economics of nuclear power in the UK have deteriorated since the government last formally considered its strategic case for nuclear in 2008. Estimated construction costs have increased while alternative low-carbon technologies have become cheaper. At the same time, fossil-fuel price projections have fallen. The value-for-money case for supporting Hinkley Point C therefore weakened after the government agreed provisional terms for the new power station in 2013. In particular, the Department forecasts that consumers will now pay £30 billion in top-up payments over the contract's 35 years, five-times more than the £6 billion it had expected in 2013. The Department did not attempt to renegotiate the deal in light of the weakening case because it assumed the project's investors would not have accepted a lower return on the project and that the deal would have collapsed

or been delayed. Given that both EDF and CGN are state-owned companies, that may well have accepted lower returns than the 9% built into the Hinkley Point C deal, the Department should have done more to explore whether this assumption was correct.

Recommendation: *The Department should re-evaluate and publish its strategic case for supporting nuclear power before agreeing any further deals for nuclear power stations.*

4. **The Department and HM Treasury did not sufficiently appraise alternative ways to finance the deal that might have offered better value for consumers.** The deal for Hinkley Point C is expensive because the government wanted NNBG to bear all the construction risks. Alternative financing models, involving sharing the early project risks between the government and NNBG, could have significantly reduced total project costs. The Department and HM Treasury were adhering to a clear policy position at the time—that the private sector should finance the deal, keeping the project off the government’s balance sheet, and that there should be no public subsidy for new nuclear. The Department and HM Treasury also wanted to protect taxpayers and bill payers from cost overruns. But neither the Department nor HM Treasury demonstrated to decision makers the benefits and costs of alternative ways of financing the deal that might have resulted in better value for money.

Recommendation: *The Department and HM Treasury should show decision makers the cost and risk implications of different possible financing structures when appraising large infrastructure projects, including its further nuclear deals, even if they are outside the prevailing policy.*

5. **There is uncertainty over whether the project will be completed on time.** If it is late, there would be a risk to energy security. The other projects using the same reactor technology as Hinkley Point C—in France, Finland and China—have seen significant cost and schedule overruns. Brexit could also have implications for the project due to withdrawal from Euratom, the pan-European atomic energy regulator, and the risk of people with nuclear engineering and science skills moving abroad. The terms of the Hinkley Point C deal mean that the developers will be liable for costs increasing and will not get paid until the project is complete. But there are examples of other big, complex UK infrastructure projects where the government has been required to take on more of the costs or risks when those projects ran into trouble. The government is less likely to have to pay more for Hinkley Point C if it maintains an alternative means of ensuring a sufficient supply of electricity. It is relying on its Capacity Market, a new mechanism designed to secure additional capacity to meet anticipated shortfalls in electricity supply, to mitigate known or likely slippages in delivering Hinkley Point C.

Recommendation: *The Department should ensure it publishes its ‘Plan B’ for achieving energy security, while at the same time delivering on its decarbonisation and affordability ambitions, before the end of this year and should review and revise it every year in light of the latest progress at Hinkley Point C.*

6. **We are concerned about the Department's ability to identify any possible delays as early as possible, given government's poor track record on effective contract management.** The government needs to know sufficiently in advance if the project is delayed so that it can commission alternative ways to match electricity demand and supply. For example, it expects it will need four-years' warning to build a new gas-fired power station through the Capacity Market. The Department has set up a company, the Low Carbon Contracts Company (LCCC), to monitor Hinkley Point C's progress and manage the contract. However, the Hinkley Point C contract is extremely complex, and LCCC will have to maintain capability many years into the future to monitor and manage it effectively. Government departments have a poor track record on contract management, as this Committee has reported previously, and we will be looking again at progress with Hinkley Point C and at how effectively the LCCC is performing its role.

Recommendation: The Department must ensure on an ongoing basis that the LCCC has the skills, capacity and access rights that enable it to monitor delivery on the Hinkley Point C project effectively.

1 The Government's decision to support Hinkley Point C

1. On the basis of a report by the Comptroller and Auditor General, we took evidence from the Department for Business, Energy & Industrial Strategy (the Department) and from HM Treasury on their roles in the government's deal to support Hinkley Point C nuclear power station.¹

2. The Department announced on 29 September 2016 that it had agreed a contract with NNB Generation Company (HPC) Limited (NNBG) to support the construction of Hinkley Point C. NNBG is owned 66.5% by Electricite de France (EDF) and 33.5% by China General Nuclear Power Group (CGN). It took nearly four years to negotiate and finalise the deal. The deal guarantees that NNBG will receive £92.50 (2012 prices), linked to inflation, for each megawatt hour (MWh) of Hinkley Point C's electricity for 35 years, with electricity bill-payers paying top-ups if the wholesale electricity price is lower.² The Department estimates that top-up payments will cost consumers around £30 billion over the 35-year contract.³

3. Hinkley Point C, which NNBG expects will cost £19.6 billion to build, will be the first new nuclear power station in the UK since 1995.⁴ The Department expects that the 3.2 gigawatt power station will generate around 7% of the UK's electricity from the mid-2020s. The Department hopes that Hinkley Point C will be the first in a series of government deals to support nuclear power stations. This is because it regards nuclear power as being central to its strategic aim of managing the energy 'trilemma': providing a supply of electricity that is secure, is affordable for consumers and contributes to the UK's statutory decarbonisation target to reduce carbon dioxide emissions by 80% in 2050 compared with 1990 levels.⁵ But nuclear power, like other low-carbon power technologies, is currently too expensive in the UK to be commercially viable for private developers without government intervention.⁶

The weakening case for nuclear power

4. The government last formally considered its strategic case for nuclear in 2008.⁷ The Department told us that nuclear power is important because it complements intermittent renewable technologies, such as wind and solar, by being able to provide a reliable source of low-carbon electricity.⁸ But the estimated costs of electricity from nuclear power stations have more than doubled since 2008—from around £48/MWh (in 2012 prices) to £92/MWh.⁹ At the same time, the costs of alternative low-carbon technologies—in particular, wind and solar—have fallen faster than expected. In September 2017, the government announced that it had agreed new contracts to support offshore wind in the

1 C&AG's Report, [Hinkley Point C](#), Session 2017–19, HC 40, 23 June 2017

2 Qq 1, 14; [C&AG's Report](#), paras 1–3

3 [C&AG's Report](#), Key facts and paras 14 and 2.22

4 Q 8; BBC News, [Hinkley Point: EDF adds £1.5bn to nuclear plant cost](#), 3 July 2017

5 Q 1; [C&AG's Report](#), paras 1 and 2.29

6 [C&AG's Report](#), paras 1, 3, 1.14

7 Department for Business, Enterprise & Regulatory Reform, Meeting the energy challenge: A White Paper on Nuclear Power, January 2008

8 Qq 16, 19, 45

9 [C&AG's Report](#), para 1.10 and Figure 3.

mid-2020s for £57.50/MWh, nearly half the cost of electricity generated by Hinkley Point C.¹⁰ Additionally, the Department’s estimate of the cost of consumer top-up payments over the 35 years of the Hinkley Point C contract increased to £30 billion in March 2016, compared to the £6 billion it estimated in October 2013, as a result of significant decreases in the projected price of wholesale electricity.¹¹

5. Despite these developments, the Department did not seek to renegotiate a new deal for Hinkley Point C after it agreed provisional terms in 2013. The Department told us that the idea that it could renegotiate the deal was “fanciful”.¹² At the time, EDF and CGN’s expected rate of return on the project had fallen from 9.9%, when provisional terms were agreed in 2013, to 9% at the time the deal was finalised. This is towards the bottom of the range of what the Department assessed to be a fair return, although still relatively high given EDF and CGN are state-owned companies.¹³ The Department therefore considered it extremely unlikely that EDF and CGN would accept a lower return, and felt that attempting to reopen negotiations could cause the deal to collapse or be significantly delayed.¹⁴ Furthermore, it was concerned that any attempt to renegotiate the deal would have had a negative impact on other investors’ confidence to develop their own nuclear projects.¹⁵

6. We pressed the Department on when it would next consider the strategic case for supporting nuclear power, particularly given the changes that have occurred in the energy sector since 2008. The future of nuclear power is also uncertain. For example, small modular reactors may serve as an alternative means of deploying the technology, while advances in storage could reduce the challenges of intermittency from wind and solar power. The Department told us it believes that the strategy for nuclear put in place in 2008 is still valid and that, at this point, it sees no need for a root-and-branch review of whether the government should support nuclear power.¹⁶

Impact on consumers

7. The deal guarantees that NNBG will receive £92.50 (2012 prices), linked to inflation, for each megawatt hour (MWh) of Hinkley Point C’s electricity for 35 years. If the wholesale price is lower than £92.50, NNBG will receive consumer funded top-up payments. By September 2016, falling wholesale prices had reduced expected energy bills overall, but meant that forecast top-up payments for Hinkley Point C had increased to around £30 billion over the 35-year contract. The Department estimates that between £10 and £15 of the average annual household electricity bill (in 2012 prices) will go towards supporting Hinkley Point C in the period 2026 to 2030.¹⁷ Understanding consumer impacts is important because the use of levies on energy bills has the potential to hit the poorest households harder than taxpayer-funded investment.¹⁸

10 Qq 14, 44; [C&AG’s Report](#), paras 7, and 1.9 to 1.12

11 Qq 1, 39; [C&AG’s Report](#), paras 14, and 2.22

12 Q 15

13 Qq 14, 26, 53–54; [C&AG’s Report](#) Key facts, and para 2.34

14 Q 15

15 Qq 14, 16, 54

16 Qq 115–118

17 Qq 1, 42; [C&AG’s Report](#), Key facts and paras 13, 14 and 2.22

18 Q 39

8. There were gaps in the Department’s assessment of the deal from the perspective of consumers. It only considered the deal’s impact on household bills up to 2030, not taking into account the fact that consumers are locked into a fixed price for electricity from Hinkley Point C until long after 2030 even if other technologies become better value.¹⁹ Furthermore, the Department did not consider whether the increase in the expected value of consumer top-up payments would be affordable for bill payers or within its mechanism—the levy control framework—for capping the cost of policies that impact on bills.²⁰

9. We asked the Department what would have caused it to conclude that the deal was too expensive for consumers. The Department said that it had not considered setting a ceiling on top-up payments above which the deal would no longer be deemed value for money.²¹ It told us that its modelling showed the impact on bills would have been even higher, between £21 and £24 more a year, if low-carbon alternatives such as wind and solar replaced Hinkley Point C, although this modelling does not incorporate the most recent falls in the cost of offshore wind.²² The Department added that the structure of the contract means that increases in top-up payments are offset by reductions in wholesale prices and protects consumers from price fluctuations.²³ It also said that more vulnerable consumers receive different kinds of relief through schemes designed to alleviate the effects of fuel poverty, such as the Warm Home Discount.²⁴

10. HM Treasury told us it was very focused on the cost to consumers of energy policies and that it had brought forward the levy control framework mechanism to constrain consumers’ costs.²⁵ It reviewed the deal at various points during negotiations, but its emphasis was on the risk of the deal ending up on the government’s balance sheet.²⁶ It was also concerned about the legal, reputational, investor and diplomatic ramifications of not proceeding.²⁷ HM Treasury told us that it considered the way the Department tested the value for money of the deal for consumers to be robust.²⁸

Risk allocation and financing

11. The deal to support Hinkley Point C is expensive partly because NNBG is bearing all the construction risks. NNBG is paying for the power station upfront and will not recoup its expenditure until it is generating electricity, meaning it is liable if construction costs overrun or the project is delayed. If the government supported Hinkley Point C differently it could have resulted in lower costs to consumers over the life of the project. For example, paying for some of the project upfront could have reduced financing costs because the government’s borrowing cost is lower than for private investors. Similarly, the investors’ required rate of return could have been lower if the government shared some of the construction risks.²⁹ For example, the National Audit Office estimated that, if the

19 Qq 42–43; [C&AG’s Report](#), paras 13, 2.16

20 Q 35; [C&AG’s Report](#), paras 2.18 to 2.20

21 Qq 40–42

22 Q 43

23 Q 39

24 Q 61

25 Q 35

26 Qq 11, 36, 111; [C&AG’s Report](#), paras 16, 26 and 2.24; Figure 11

27 [C&AG’s Report](#), paras 16, 26, and 2.31–2.33; and Figure 11

28 Q 18

29 [C&AG’s Report](#), paras 9, and 1.16 to 1.19

government had taken a 25% equity share in a public-private partnership type deal for Hinkley Point C, then the strike price for electricity from the power station would have been in the range £69.50–£76.00/MWh (2012 prices).³⁰

12. The Department and HM Treasury told us that policy constraints dictated the structure of the deal from the outset of negotiations. The then Coalition Government's policy was that the project should be privately financed, with no public subsidy, with taxpayers and consumers protected from the risk of cost increases during construction.³¹ Given this direction, the Department and HM Treasury did not assess alternative approaches to financing the deal or show ministers the cost implications of those alternatives.³²

13. The Department also told us there were significant benefits of its approach. Alternative approaches may have raised the possibility that Hinkley Point C would be brought onto the government's balance sheet, which could require trade-offs against other government spending priorities to stay within its fiscal constraints.³³ The Department told us the recent increase in the expected costs to build Hinkley Point C demonstrated the benefit of its chosen approach as taxpayers and consumers are protected from the increase.³⁴ However, the Department also confirmed that it was unlikely to use the same financing model to support nuclear power in the future. This is because of new information about the costs of low-carbon alternatives and the potential for greater competition between developers of nuclear projects in securing government support.³⁵

30 [C&AG's Report](#), Appendix Four, Figure 19

31 Qq 11, 12, 34

32 Q 34

33 Qq 11, 34, [C&AG's Report](#), paras 1.18 and 3.6

34 Q 38

35 Qq 66–67

2 Hinkley Point C's risks and opportunities

Risks to energy security

14. There is a risk that delays to the project could lead to the government incurring additional costs. The current terms of the deal mean that Hinkley Point C's developers are liable if costs overrun or the project is delayed.³⁶ But there are previous examples of other big, complex UK infrastructure projects where more costs or risks have been onto consumers and taxpayers when they ran into trouble.³⁷ This is more likely to happen on Hinkley Point C if the government is reliant on it to ensure there is a sufficient supply of electricity.³⁸ The Department for Business Energy and Industrial Strategy (the Department) said it was confident that it could take any necessary actions to ensure energy security if there were delays to Hinkley Point C, primarily through its capacity market auctions. It also told us the structure of the deal gives NNB Generation Company (HPC) Limited (NNBG) very strong incentives to make sure it completes the project and starts producing electricity on time.³⁹ HM Treasury said that it had not carried out contingency planning for any potential demands of the government for additional funds, adding that it was not committed to stepping in on this project.⁴⁰

15. Notwithstanding the contract structure, there is a risk that Hinkley Point C's completion could be subject to delays because of the unproven nature of its reactor technology. Hinkley Point C will comprise two 1.6 gigawatt (GW) European Pressurised Water Reactors (EPRs). Other projects using EPR technology in France, Finland and China have seen significant cost and schedule overruns.⁴¹ The Department said that the EPR technology has been assessed as completely safe and totally viable by the Office for Nuclear Regulation. It also told us that it is not fundamentally different to the 277 other pressurised water reactors in operation around the world.⁴² The Department added that EDF had put significant effort into learning the lessons from the Flamanville project in France and it is confident that this will ensure Hinkley Point C will be available when needed in the second part of the 2020s.⁴³

16. The UK's exit from the European Union could pose additional risks to the project's completion. As part of the UK's decision to leave the EU, the UK government announced in January 2017 its intention to withdraw from Euratom, a pan-European atomic energy regulator.⁴⁴ The Department told us it intends to make sure it maintains the nuclear safeguards regime currently operated by Euratom; and it has entered into talks with the International Atomic Energy Agency, in negotiation with Euratom themselves. The Department added that it does not anticipate the withdrawal from Euratom triggering a compensation clause in the Hinkley Point C contract, which could have left taxpayers

36 [C&AG's Report](#), paras 8, 25 and 1.15

37 Qq 7, 8–10, 22, 28; [C&AG's Report](#), paras 18, 20 and 3.3 to 3.6

38 Qq 24–25

39 Q 8

40 Qq 7–8, 25

41 Qq 7–8; [C&AG's Report](#), paras 18, 1.25, 3.3 and 3.4; Appendix Five

42 Qq 33 and 48

43 Qq 8, 33, 114

44 Q 1; [C&AG's Report](#), para 3.9

paying for a nuclear power station that was never built.⁴⁵ We also asked the Department whether it had assessed the number of people with nuclear engineering and science skills that are leaving the country as a result of the uncertainty caused by Brexit. The Department replied that it is not aware of any significant exodus.⁴⁶

Government's oversight

17. The government needs sufficient advanced warning that the project is delayed so that it can commission alternative ways of ensuring there is a sufficient supply of electricity. Some alternatives require advance notice to be put into operation—for instance it takes around four years to plan and build a gas-fired power station.⁴⁷ Capacity market auctions are held annually, to procure capacity both one year and four years ahead. The four-years ahead capacity market auction in 2021 will therefore be critical.⁴⁸ Even if the government knows sufficiently in advance of delays so that it can seek alternative sources of electricity, such short-term actions could prove to be costly in the long run if they result in unnecessary excess capacity once Hinkley Point C is built.⁴⁹

18. The Department will rely on the the Low Carbon Contracts Company (LCCC) to oversee the project and provide warning of any delays. LCCC is a government company responsible for overseeing and managing the government's contracts to support low-carbon projects.⁵⁰ The Department told us that LCCC will receive very detailed operational and financial information; and has rights to further information, such as Board papers, that it considers materially relevant to the completion of the project and its financeability. The Department, in turn, will receive quarterly reports from LCCC.⁵¹

19. LCCC requires sufficient skills and capacity to manage the large and complex contract effectively. The Department assured us that it had taken steps to ensure that LCCC has the appropriate commercial, legal and technical resources it needs to properly monitor the Hinkley Point C contract, now and in the future.⁵² The Department has also encouraged LCCC to notify it if there are gaps and the LCCC needs more resources as part of its responsibilities.⁵³ However, as this Committee has reported previously, government departments have often fallen down when it comes to effective contract management. For example, in its 2016 progress report on contract management across government, the Committee reported that departments' assurance arrangements over contract and contractor performance were still lacking.⁵⁴

45 Qq 5–6

46 Qq 106–107

47 [C&AG's Report](#), para 3.17

48 Qq 8–10;

49 Q 47; [C&AG's Report](#), para 3.17

50 [C&AG's Report](#), paras 22 and 3.11

51 Q 17

52 Q 17

53 Qq 8, 17, 96

54 Committee of Public Accounts, *Transforming contract management: progress review*, Session 2015–16, HC 711, March 2016

Hinkley Point C's wider benefits

20. The government has increasingly emphasised Hinkley Point C's wider benefits as the value-for-money case weakened. In particular, it expects the project to create jobs, build the skills of the UK's nuclear industry and provide opportunities for businesses in the UK. The government expects Hinkley Point C to create 25,000 jobs during construction and 900 permanent posts during operation.⁵⁵ The Department told us that ensuring the UK has sufficient low-carbon electricity for many decades ahead was the most important consideration for proceeding with Hinkley Point C. However, job creation and contracts being placed with UK suppliers are additional side benefits.⁵⁶

21. the Department does not currently have a plan for how to manage and track the realisation of the wider benefits of the project. It also does not know to what extent UK workers and companies will benefit from Hinkley Point C and the wider follow-on new nuclear programme.⁵⁷ The Department told us that it chairs the Hinkley Strategic Delivery Forum, which comprises representatives from local authorities, local education institutions, local businesses and unions. The Forum provides the Department with information so it can track some of the benefits the project is achieving. For example, EDF's estimate that around 64% of the project's contracts by value would go to UK firms.⁵⁸

22. The creation of the Department for Business, Energy & Industrial Strategy presents a clear opportunity to link the nuclear programme to the government's industrial strategy to drive economic opportunities and growth. The energy sector, including nuclear power, has the potential to help rebalance the economy. The Department is now well placed to oversee what is needed in terms of the workforces and the requirements for training and skills. The Department told us as part of the its industrial strategy it was developing a number of sector deals, one of which it expects to be with the nuclear sector. The Department could not provide any details about the deal as it had not been announced yet.⁵⁹

55 Q 68; [C&AG's Report](#), paras 17, and 2.29 to 2.30

56 Q 73

57 Qq 72–79

58 Qq 69–70; [C&AG's Report](#) para 2.29

59 Qq 79–83

Formal Minutes

Monday 13 November 2017

Members present:

Meg Hillier, in the Chair

Geoffrey Clifton-Brown	Shabana Mahmood
Chris Evans	Nigel Mills
Gillian Keegan	Gareth Snell

Draft Report (*Hinkley Point C*), proposed by the Chair, brought up and read.

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

Paragraphs 1 to 22 read and agreed to.

Introduction agreed to.

Conclusions and recommendations agreed to.

Summary agreed to.

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

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

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

[Adjourned till Wednesday 15 November 2017 at 2.00pm]

Witnesses

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

Monday 9 October 2017

Question number

Alex Chisholm, Permanent Secretary, Department for Business, Energy and Industrial Strategy, **Charles Roxburgh**, Second Permanent Secretary to the Treasury, **Stephen Lovegrove**, former Permanent Secretary, Department for Energy and Climate Change, **Hugo Robson**, Chief Commercial Negotiator, Department for Business, Energy and Industrial Strategy, and **John Kingman**, former Second Permanent Secretary to the Treasury (now Chair of UK Research and Innovation)

[Q1-123](#)

Published written evidence

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

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

- 1 Department for Business, Energy and Industrial Strategy ([HPC0006](#))
- 2 EDF Energy ([HPC0003](#))
- 3 GMB ([HPC0002](#))
- 4 New Nuclear Watch Europe (NNWE) ([HPC0001](#))
- 5 University of Sussex ([HPC0005](#))

List of Reports from the Committee during the current session

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

Session 2017–19

First Report	Tackling online VAT fraud and error	HC 312
Second Report	Brexit and the future of Customs	HC 401
First Special Report	Chair of the Public Accounts Committee's Second Annual Report	HC 347

Public Accounts Committee

Oral evidence: Hinkley Point C, HC 393

Monday 9 October 2017

Ordered by the House of Commons to be published on 9 October 2017.

Watch the meeting <http://parliamentlive.tv/Event/Index/27d3d881-bcaa-4fe6-aafd-cb91c1ccad74>

Members present: Meg Hillier (Chair); Heidi Allen; Geoffrey Clifton-Brown; Martyn Day; Chris Evans; Caroline Flint; Luke Graham; Gillian Keegan; Shabana Mahmood; Layla Moran.

Sir Amyas Morse, Comptroller and Auditor General, Adrian Jenner, Director of Parliamentary Relations, National Audit Office, Michael Kell, Director, NAO, and Richard Brown, Treasury Officer of Accounts, were in attendance.

Questions 1-123

Witnesses

I: Alex Chisholm, Permanent Secretary, Department for Business, Energy and Industrial Strategy, Charles Roxburgh, Second Permanent Secretary to the Treasury, Stephen Lovegrove, former Permanent Secretary, Department for Energy and Climate Change, Hugo Robson, Chief Commercial Negotiator, BEIS, and John Kingman, former Second Permanent Secretary to the Treasury (now Chair of UK Research and Innovation).

Written evidence from witnesses:

- [Add names of witnesses and hyperlink to submissions]

Report by the Comptroller and Auditor General

Hinkley Point C (HC 40)



Examination of witnesses

Witnesses: Alex Chisholm, Charles Roxburgh, Stephen Lovegrove, Hugo Robson and John Kingman.

Q1 Chair: Welcome. Today we are considering the National Audit Office's Report on Hinkley Point C, which has been long in the waiting because it has taken a while for the project to reach the point at which contracts were signed.

The construction cost is nearly £20 billion. It is the first new nuclear power station in the UK in over 20 years. Once complete, it has the potential to provide a substantial proportion of the country's electricity from the mid-2020s, when it is expected to be complete, but it is electricity consumers who will have to pick up the cost of the project, and current estimates are that they will be required to pay top-up payments of around £30 billion over the 35 years of the whole Government contract, which is the equivalent of about £10 to £15 on every annual electricity bill.

We will be looking at what the NAO Report highlights. We will be asking questions particularly about the costs and the risks of the deal for consumers, what the remaining risks on the project are, and what lessons have been learned, given that we have some way to go to secure our energy future. I will introduce our witnesses, then I will kick off with one quick question before passing the questioning to Mr Clifton-Brown.

The witnesses are: Charles Roxburgh, who, for the benefit of new members of the Committee, is the Second Permanent Secretary to the Treasury—welcome back, Mr Roxburgh. Then we have Hugo Robson, the Chief Commercial Negotiator at the Department for Business, Energy and Industrial Strategy—you are still there, Mr Robson, so you are one of the current people as well as in the past. We also have Alex Chisholm, the Permanent Secretary at the Department for Business, Energy and Industrial Strategy. Next to him is Stephen Lovegrove, who is currently Permanent Secretary at the Ministry of Defence but was Permanent Secretary at the then Department of Energy and Climate Change for a large part of this project—thank you for coming back, Mr Lovegrove, because it is very helpful to have your perspective. Similarly, John Kingman is a former Second Permanent Secretary to the Treasury. I know you have a non-executive role in government but are now working elsewhere, and we appreciate you coming back. We consider you to be a key witness, because you also were there for a large portion of the time.

My quick opener is, what risks are there now to this project in the light of Brexit? I know that this came up from witnesses at the House of Lords EU Energy and Environment Sub-Committee. Mr Chisholm, are you happy that this is going to stay on track with Brexit, or will you be honest to us and highlight the risks that are now arising as a result of that?

Alex Chisholm: Thanks very much indeed, Chair, for both the chance to talk about this important project overall and for your initial question.



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In relation to Euratom, you will have seen the statements earlier in the year from the Government that it considers that it needs to leave Euratom as part of the overall EU exit process, as well as the statements that the Government has made in Parliament to the effect that we are going to make sure we maintain the nuclear safeguards regime currently operated by Euratom. To do so, we will enter into a process with the International Atomic Energy Agency, in negotiation with Euratom themselves. We have begun those talks and they are proceeding well. My Department will also introduce legislation before the House to ensure that the nuclear safeguards regime is maintained, and the House will obviously have every opportunity to see that and satisfy itself of that.

Q2 **Chair:** What is the expected timetable for that legislation?

Alex Chisholm: We expect to introduce that very shortly into the House.

Q3 **Chair:** Does “very shortly” mean before Christmas or after Christmas, in civil service terms?

Alex Chisholm: I do not have a specific date, but shortly. Furthermore, we do not anticipate any particular difficulties arising from that transition at this point in time. Obviously it is worth bearing in mind that the companies concerned—both EDF and CGN—have gone into this “eyes open”. Their final investment decision came after the outcome of the EU referendum process, and we are obviously fully committed as a Government to making sure that those vital safeguards are maintained and kept in place.

Q4 **Chair:** Did you have to give them assurance on Euratom before they signed the contract?

Alex Chisholm: No, there have been no private separate assurances. Everything that relates to this is published and out there in the public domain.

Q5 **Layla Moran:** Further to that, if withdrawing from Euratom triggers the HPC compensation clause, will taxpayers potentially end up paying for a nuclear power station that is never built? Is that a risk?

Alex Chisholm: In what is called the Secretary of State investor agreement—again, that is published, although I have to admit it is a substantial and long document to read—because the nature of this contract is one whereby it is financed as well as built by private sector developers, in the event that a future Government were to decide, after it had been built and all that expense had been run up, that they did not actually want the output of that nuclear power plant, that agreement certainly provides for them to be compensated. Obviously, that is absolutely not the intention of the Government. Indeed, as we will perhaps have the chance to argue shortly, we think nuclear power has an important part to play in the overall energy mix.

Chair: I will now hand over to Geoffrey Clifton-Brown, who will kick off for us on the Report. There are a lot of witnesses and interested Committee members. We are going to try to keep our questions short, so if you could



keep your answers as short as is reasonable, that would be very helpful. I will hurry you along in order to maintain time. You could be here all evening if you like, but if we do it this way, you get to go home to tea.

- Q6 **Geoffrey Clifton-Brown:** Just to knock that final point on the head, given that this is a legislative change, the Secretary of State investor agreement provides for the risk to be passed back to the taxpayer in that event. Do you foresee leaving Euratom leaving the taxpayer with any additional costs?

Alex Chisholm: We do not have any such estimate at this time, and there is no particular reason why it should, because the Government is absolutely committed to making sure that the nuclear safeguards regime that we have in place is maintained to the same level and standard going forward. That, I am sure, is what we will find. We have had very good talks with the members of the International Atomic Energy Agency so far and with Euratom, and I see no reason why those talks should lead to any interruption in the current protections provided.

- Q7 **Geoffrey Clifton-Brown:** My first question is to Mr Lovegrove and Mr Robson. You will have seen the report in the *Financial Times* today saying that the Flamanville project in France is running at least six years late and three times over its original budget. The project in Finland started in 2005. The Hong Kong stock exchange reported that the Chinese project was being delayed by two years, to 2018. Why did you give a contract on a technology that was unproven and risky and had not been developed anywhere in the world?

Stephen Lovegrove: In the first place, that kind of consideration—the propensity of nuclear power station projects to run over, particularly after a nuclear accident, which of course we had with Fukushima—is very well known. That is really why the structure that was adopted in this instance was adopted. The real risk here—the biggest risk, or the most unquantifiable risk—is the taxpayer or the bill payer being exposed to cost overrun, which 90% of the time arises from schedule overrun. That is why we constructed the deal in this way.

Hugo Robson: I would add that a significant amount of effort was put in to understanding the reasons behind the delays at Flamanville. We were obviously aware of those at the time, and therefore, as the NAO Report actually recognises, a significant amount of effort was put in to learning the lessons of Flamanville. We are confident that, in terms of the project, those lessons have been learned.

- Q8 **Geoffrey Clifton-Brown:** That is the historical perspective, but how confident are you, Mr Chisholm, that Hinkley Point C will actually be able to provide 7% of this country's electricity by the mid-2025s? If it does not, we will be in some difficulty, won't we? Given the previous answers, how confident are you that this thing will actually be built on time?

Alex Chisholm: We are confident that it will be available when we need it, in the second part of the 2020s. The structure of the contract is such that they do not receive any money at all until we start to generate



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electricity. Since they are running up direct costs on construction of more than £18 billion—I think the latest estimate is nearer £20 billion—they have a very strong incentive to make sure that they complete the project and start producing electricity. Because of the very strong monitoring that we have in place through a company called the Low Carbon Contracts Company, which is a Government agency, we are kept very closely informed about the progress of that project on the ground, and we will have ample opportunity to make sure that it continues to run on time.

You may have seen that a couple of months ago, EDF themselves completed an internal audit report. They asked their most senior auditor to conduct a root-and-branch review of the whole project, at the end of which they said that there was a risk of a delay of up to about 10 months. They also pointed out that there are a number of mitigations that they can put in place to come back within the original timeframe, and they put a cost associated with that. That has just been redone by someone who is totally unconnected with the project, which adds to our confidence.

As you mentioned, there have been delays in other EPR projects, but all of those that you mentioned are due to be operational by the end of 2019. To some extent, we are probably benefiting from coming in later than those other projects. We can learn from those and, as I said, EDF have a very strong incentive to come in on time.

In the event that there was a delay, we would be confident that we could take any necessary actions using what we call a capacity market auction, which enables us to buy electricity to ensure that we have the electricity we need both one year ahead and four years ahead. If we had any reason to think that the project was running, say, one year late, we would be able to use that mechanism to make sure that additional capacity was made available, the lives of other plants were extended, steps were taken to reduce demand if necessary, and all the other mechanisms available through that were used.

Q9 Chair: We know that the capacity market auction will be in 2021, but will there be one in 2024, too—one year ahead?

Alex Chisholm: Yes—correct.

Q10 Geoffrey Clifton-Brown: So 2021 is going to be fairly critical, because if it does not look as though the thing is going to be built by 2025, you are not going to get a lot of time to promote alternative supply. What is the Government's view on that?

Alex Chisholm: As I said, four years ahead is a long time to predict. We will have a lot more information between now and then to decide what to do. I am simply making the point that in the event there were any delays, there are a number of options available to make sure that we have sufficient electricity.

Q11 Geoffrey Clifton-Brown: I'd like to move on, Mr Chisholm and Mr Lovegrove, to the actual mechanism of the deal that you struck. It seems to me that you were absolutely determined that this whole project was to



be kept off the Government's balance sheet at all costs, irrespective of the cost to the consumer. Could you comment on why you structured the deal in the way that you did, leaving all the risk to consumers?

Stephen Lovegrove: The structure of the deal was dictated and limited by three very clear policy positions that were held by the Government of the day. One was that the private sector was to finance the deal. It was to be kept off the Government's balance sheet for reasons to do with fiscal consolidation, which was the overwhelming economic policy at the time. It would be fair also to say that the Liberal Democrats in the coalition were not at all comfortable with the idea of being part of a Government that had a nuclear power station on the balance sheet—owning a part of a nuclear power station.

Secondly, the coalition agreement was very clear and published saying that there would be no public subsidy for new nuclear. Indeed, Mr Huhne said in the House on 18 October: "New nuclear power will, for example, benefit from any general measures that are in place or may be introduced as part of wider reform of the electricity market to encourage investment in low-carbon generation." That was effectively the CfD mechanism.

The last point was the one that I made earlier: it was an overwhelming desire on the part of the Government to protect the taxpayer and the bill payer from nuclear project cost and schedule overrun, and that they should pay only for the electricity. There is a statement in the NAO Report that says, "The Department interpreted... 'no subsidy'... to mean negotiating a deal" for Hinkley Point that offered similar support for the low-carbon generators. I would respectfully disagree with that formulation, as it implies we had some discretion about the shape of the deal. We did not. It was very clear Government policy, coming from a number of different ways, to structure the deal as we did.

Q12 **Geoffrey Clifton-Brown:** So Mr Kingman, it was the Treasury that determined the structure of this deal.

John Kingman: It was the policy of the Government at the time. I completely agree with Stephen's account of events. The only point I would add is that there was, as you would expect with a project of this scale, some internal work done on various alternative ways that one could imagine doing it. If we had felt in the Treasury that there was an overwhelming case for doing it in some other way, we would have aired that with Ministers. We did not, and not just for fiscal reasons. The fiscal reasons were significant, as Stephen has said, but also because, I believe rightly, the officials looking at this were extremely sceptical that a world in which the Government had sought to commission and manage a project on this scale on our balance sheet would have exposed the taxpayer to enormous risks that we lacked competence to manage.

Q13 **Geoffrey Clifton-Brown:** But the alternative view is that if it had been structured differently and the Government had taken more of the risk, the overall cost of the project would have been less.



John Kingman: Clearly, we will never know, but I think it is an illusion to believe there is any structure in which the risks go away. The risks are there. They have to be paid for and they have to be managed by someone. I believe the structure of the deal that has been constructed is one where EDF have all the right incentives, and neither consumers nor taxpayers are exposed to construction costs under the structure of the deal that has been put in place.

Q14 **Geoffrey Clifton-Brown:** We know that the costs of offshore wind are coming down. That was known between 2013 and 2016. You came up with a strike price of £92, whereas the latest auction cost for difference is £57. That is a considerable difference. Those differences, although sharpened by the auction last month, were beginning to be known between 2013 and 2016. Why did the Government not renegotiate the deal between those two dates before they gave the final go ahead?

Alex Chisholm: Let me start. First, it is true to say that, when we did the value-for-money tests—that was obviously finally done in 2016—we saw that it had become more marginal over the 2013 to 2016 period. In particular, when you compared the cost of nuclear against alternative low carbon, that the relative benefits were less strong than they had been at the beginning of that period. That is true. It is also the case that the wholesale energy forecasts had gone down over that period, which would mean that the cost of the top-ups had gone up. Those two things had moved over that period; nevertheless, we felt overall that the tests were satisfied that it was a positive return, and that, in particular, having some nuclear in the mix was going to lower the overall costs of the energy system going up to 2050 and beyond.

When you want to try to reopen any negotiation, you have to look at the impact on the other party. There, the interesting thing is that, over that period, although the case from the Government's side was becoming more marginal, it was not getting any stronger from the other side either. Costs were going up for them and their expected returns over the course of that period were going down. Indeed, in that audit that I mentioned, they have gone down further again; they now think that there will be a return of 8.2% to 8.5%, which is right at the bottom of our estimates of what would be a fair return, and also at the bottom of the European Commission's state aid estimates.

If you look at renegotiation, even aside from the impact on investor confidence and the overall cycle—remember it had taken us four years to get to that point, and a period of nine years since the original policy was announced—there should be no easy conclusion that the deal was too favourable to EDF. You may remember, and it has been well reported in the papers, that EDF had a great debate within their own company and within France as a whole as to whether or not they should proceed with the contract. I think that is a strong indication that it is a balanced contract between the two parties.

Q15 **Chair:** Mr Lovegrove, you were in the Department at the time. Do you want to pick up on that?

Stephen Lovegrove: Yes. I very much agree with what Mr Chisolm has said there. Candidly—having spent much of the previous three and a half years trying to do this deal—the idea that the deal would not have collapsed if we had sought to renegotiate it is fanciful, actually. You have to remember that, at that point, there had been innumerable warnings of credit downgrades and two actual credit downgrades—one from Standard & Poor and one from Moody's. The company was being sued by its major union, because it felt that the deal was unfair to workers—I think it was mainly workers, but probably shareholders as well. The finance director had resigned in protest against the deal, as had another independent board member. It was a matter of genuinely intense debate in France, and if we had tried to squeeze the terms more, I genuinely think the chances of the deal surviving would have been negligible.

Even if that had not been the case and we had been able to renegotiate the deal and drive the cost of capital calculation even further down, it would have put a huge amount of delay into the process, which was already being delayed for a long time. I think it would have put at risk the decarbonisation objectives enshrined in the 2008 Act, because we would have found ourselves with the old nuclear going off in 2025-ish and new nuclear just not coming on in time. Obviously, you are always trying to see whether there is something you can do better on behalf of the taxpayer and the Government, but in that situation I think it was implausible.

- Q16 **Geoffrey Clifton-Brown:** Then the really important question is, if you concluded that the deal could not be improved, what serious consideration was given to cancelling the whole thing altogether because it was providing such a bad deal for the consumer?

Stephen Lovegrove: I need to hand over to Mr Chisholm, because he was around when that process was happening. I don't believe it does provide a bad deal for the consumer. We have decarbonisation objectives, and these were the best, the cheapest and the most reasonable ways of getting towards them with the kinds of energy we need—in other words, not intermittent energy. With that, I will hand over to Mr Chisholm, who was there at the final period. I had left for Defence by that point.

Alex Chisholm: In July 2016, I started as the Permanent Secretary at DECC, as it then was—shortly afterward, it became BEIS. A new Government had just been formed, as you will remember, and it did not simply say, "Right, pass me a pen and let me sign this agreement right away." It had a very robust analysis of all aspects of the deal—one of the most intense pieces of work I have ever been involved in, generating hundreds of hours of work over a six-week period. It was looked at financially, legally, strategically, diplomatically and technically, and it was only after that very exhaustive consideration that the Government confirmed that it was prepared to go ahead on those terms. There were one or two points on which, as part of that process, the Government sought some assurances from EDF, which have been published. They were made at the time.



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Q17 **Geoffrey Clifton-Brown:** I know my colleague wants to come in, but given the reducing price of offshore wind, if the project were delayed beyond 2025 and if the top-up payments became even greater, the deal would begin to look quite difficult, wouldn't it?

Alex Chisholm: The top-up payments—

Geoffrey Clifton-Brown: If the deal is delayed, the inflation-linked price will go up, whereas the wholesale price of offshore wind production is coming down, so the deal will begin to look pretty sick. What serious consideration is the Department giving to making sure the deal proceeds on time? What capacity is in LCCC to monitor the progress of construction? That seems to me to be absolutely critical.

Alex Chisholm: First, if there is a substantial delay beyond 2029, then for every year of the delay, one year is taken off the duration of the contract. That is obviously a penalty.

Geoffrey Clifton-Brown: That is a long way at the other end.

Alex Chisholm: But it is worth a lot of money to the company, so that is a strong incentive for them to make sure they complete within what is called the commissioning window. As I said before, they will not receive anything until they actually start transmitting electricity, so again there is a strong incentive to complete.

As you mentioned, we have an information-monitoring process in place. From a contractual point of view, that is primarily done for us by the Low Carbon Contracts Company, which receive very detailed operational and financial information. They have rights to that information, including, for example, all board papers and minutes and anything they think is materially relevant to the completion of the project and its financability. They are getting that information. We, in turn, receive quarterly reports from them. We make sure they have all the technical resources they need to properly monitor the performance of that contract. That is the main aspect of it, from a project completion point of view.

There are other things that our governance framework provides for. Obviously, from a safety perspective, there is the Office for Nuclear Regulation. From the point of view of making sure we get the maximum economic benefits, we ensure the contracts that are placed with UK companies and the workers who are employed are subject to a separate reporting process.

Q18 **Luke Graham:** Mr Chisholm and Mr Roxburgh, given the importance of future investment decisions, how can we improve the way we look at the costs and benefits of nuclear power compared with different generating technologies? Secondly, once Hinkley Point is operational, what capacity do we have to apply new technologies—presumably new technologies will evolve over this time period—to improve performance and reduce some of the cost impacts that my colleagues have mentioned?

Chair: Two questions in one. We will give you a break, Mr Chisolm, by going to Mr Roxburgh first.



Charles Roxburgh: I will take the question about looking forward and then pass over to Mr Chisholm for the technology question. Looking forward, I think we would use a similar process, but the outcome would depend on the facts and the policy constraints at the time. We would have to operate within the policy considerations of the Government at the time concerning energy policy, fiscal policy and the appetite to pass risks on to consumers and taxpayers. That would be a set of policy considerations.

I think the four value-for-money tests that we used here are a good discipline. Is there a fair return for the developer? Is it cost-competitive versus other forms of energy? What is the overall cost-benefit analysis of the project? Is it affordable for consumers? Those are good tests.

Q19 **Chair:** They are good tests, but at the moment nobody is winning on them. Everyone is losing.

Charles Roxburgh: But what would be different is, when you put in assumptions about what the future energy costs are, you have to work out within those constraints what the right decision was at the time. You cannot speculate about the right financing structure or the right decision about going ahead on a project until you see the details, so I think the process would be similar. We would have to think very hard about the future projection of different forms of energy and put that in the context of the overall energy mix that the Government feel has the right balance and the right level of diversification.

Alex Chisholm: On the technology question, first of all, there was a comparison—and this comparison will always be made in future—between the option of pursuing a nuclear plant, in this case, and the alternatives. The cost-competitiveness aspect, the second test, is very much built into the whole value-for-money assessment. To help make those comparisons there is the concept of levelised cost. A straightforward comparison is not really possible because wind and solar are intermittent, so you have to look at the cost of trying to make up for that intermittency. They both have different impacts on the overall structure of the grid. There is clearly much more of a need for storage to get the optimum benefits from wind and solar, and so on. Those comparisons are possible and are made.

Furthermore, we have built what we think is a sophisticated model for trying to project not only the future requirements of electricity, but how best to meet that future demand. It has been assessed by the NAO. They say it is a reasonable model—I think I use their word correctly—and they are happy with the assumptions that go into it, as far as they go. The use of that model showed that, compared with delaying the introduction of nuclear for three, five or 10 years, against various alternative scenarios—solar PV, onshore wind, offshore wind, gas and carbon capture and storage—with the exception of the three-year delay in gas, the overall costs of proceeding are much lower. That is the type of comparison that we would expect to make in future.

If I try to interpret the spirit of your question, you are saying that there is always new technology, there are exciting, new things coming along and,



on the whole, those things are bringing costs down, so there is a positive option value in waiting. I think that is absolutely understood and appreciated as a general point, but against that we need to understand that our model may show that you need some nuclear in the mix. Currently, nuclear makes up about 20% of our overall electricity generation and, as Stephen Lovegrove mentioned a few moments ago, by 2030 potentially only one plant would still be operating if we had not gone ahead with this, providing perhaps 2% or 3% of our electricity needs. That will leave a big gap and a huge dependence on other technologies, which have not yet been able to prove themselves—in particular, carbon capture and storage, on which I gave evidence to the Committee last year.

By making a decision to go ahead with nuclear, which has taken a 10-year cycle to get to the point of decision and a further eight or nine years for it to be built, we are trying to ensure that we have that assured source of reliable low-carbon electricity. Around that, other things will continue to be put in place so that we have the optimum energy mix. You can optimise the energy mix somewhat over time, but you cannot start over every year, because you have to give some long-term commitment to investors.

Chair: That is what we are talking about: there is a long-term commitment.

Q20 **Luke Graham:** I understand making sure that we have the optimum energy mix; I appreciate that. My question is: is there a mechanism to incorporate further nuclear technological advances into Hinkley Point C as we move forward that can help with the evolution of the technology—as we know, the technology that is going in is new anyway—that will help to maintain prices or keep them low, to make sure that the top-up payment gap does not go from £6 billion to £30 billion to £40 billion and onwards? You will not have the full answer, because the technology is not here, but is there a mechanism for it, and will that be used proactively?

Alex Chisholm: I can give you a partial answer.

Q21 **Chair:** It might be helpful to simplify it to yes or no. Is what Mr Graham has just said at all possible?

Alex Chisholm: It is possible. The experience of operating the nuclear fleet to date has shown that you can optimise it, improve its yields, reduce service time and extend lives. All those things are very relevant to the overall long-term costs and therefore to prices paid by consumers. I am sure that those operational improvements will continue. Having said that, the extent to which you can simply have a technology change within an existing nuclear reactor is pretty limited.

Q22 **Layla Moran:** Briefly, Mr Chisholm, if the project is delayed—you have spoken about the sharp decline in nuclear—what energy would have to fill the gap, and when would it have to be secured by? If it looks like the project is slipping, at what point do you have mechanisms that kick in to start securing—

Chair: We have covered the 2021 and 2024 capacity auction.



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Layla Moran: Yes. After that.

Chair: I think Ms Moran is asking what happens if you miss those points.

Layla Moran: Yes, if you miss them.

Alex Chisholm: I think the answer is that it depends which technology. When we are holding these capacity market auctions, they include some short-term auctions, just for the next year, and there you can optimise the mix in the short term, typically by extending the lives of existing plant that would otherwise cease to produce, by otherwise increasing their outputs, or by switching demand from times of day or seasons, which is sometimes possible for some industrial users. Those are very short-term changes. There is also a new technology of gas turbines, which again can fire up very quickly, and that too is relevant to short-term demand. For things like wind, the offshore wind auctions that were mentioned earlier are for capacity coming on stream in 2021-22 and 2022-23. That gives you an idea of how far ahead you need to do things for wind. Of course, for nuclear, as you see, a decision in 2016 is effectively for delivery on nuclear from 2025 onward. They are much longer cycles.

Q23 **Gillian Keegan:** Going back to who is bearing the risk, one of the positives—it is hard to see them—of this commercial structure is who bears the risk of the project and the fact that it is all borne by the provider. You did not seek to renegotiate when it was clear that the terms did not look quite so good, because of the risk of time delay and because the provider was already looking a little as though if you pushed them too far they might fall over. Bearing all that in mind, if we get to the point where there is some catastrophic technical failure or some real risk to this project, who is really going to bear the risk—given that we need the facility?

Alex Chisholm: It is a bit hard to forecast all the different possible scenarios. You mentioned a catastrophic failure: if it is a question of the plant not being able to operate, or not being able to operate safely, because of a defect in its design then that risk sits squarely with the developer and not with the Government. If, as was mentioned at the outset, some future Government decided that they no longer wanted electricity produced by the nuclear plant, that would undoubtedly transfer some of that risk to the taxpayer.

Q24 **Gillian Keegan:** That is a different commercial decision. This is a risk of delay, if the delay is starting to have an impact on our ability to have energy security, and if they tried to negotiate back with us based on the fact that there is a massive need, which they might possibly identify; it would not be the first project where the risk has been renegotiated back to the Government.

Alex Chisholm: The contract does not allow for that, and we do not foresee or expect that. Indeed, as was mentioned earlier, the delays that occurred in other projects, and the lessons that have been learned from them, give us a lot of confidence that this project will be delivered on time, as does our assurance regime. We have absolutely no reason to fear



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these delays that you are talking about. When I spoke about the options we would have around holding capacity market auctions, those were what we would have to use if we needed to; but we do not expect to have to use them, because we are confident that we will get the nuclear energy we need from this.

- Q25 **Chair:** Can I follow up on that with Mr Roxburgh? The Treasury is presumably happier to let consumers take the hit than the general taxpayer—that would be less of a hit on the Exchequer directly—but, as Ms Keegan has said, if there is a risk that it gets part-built and then the company fails or something happens, there could be a big ask of Government and the Exchequer to bail it out because of the risk to energy supply. Notwithstanding what Mr Chisholm said about what we see about the contract in the Report—it is tied in—is it a risk that the Treasury has considered?

Charles Roxburgh: We are not committed to step in, and we will consider it at the time versus the alternative options open to us at the time. The whole point is that the risks here are borne by the developer—that is the specific agreement—and we will consider the options at the time.

- Q26 **Chair:** Okay. That sounds like quite an open opportunity for the developers to come back.

Stephen Lovegrove: I think some of the other examples which were adduced in the NAO Report, about risk coming back to the bill payer and away from the developer, are slightly different as well. We have to recognise that EDF and CGN are state-owned companies: wholly so in the case of CGN and 83% in the case of EDF.

- Q27 **Chair:** So we are potentially bailing out the French and Chinese Governments.

Stephen Lovegrove: No, quite the opposite. The idea that CGN or EDF are likely to go bust without their states stepping in is, I think, probably unlikely—never say never, but unlikely.

Chair: It could be one unholy diplomatic row that would make Brexit pale into insignificance.

- Q28 **Geoffrey Clifton-Brown:** It does seem that there are two risks. One is a financial shortfall from one of the two partner companies, but the other is technical. If we find, Mr Roxburgh and Mr Chisholm, that Flamanville and all the others are delayed further because of the technical problems not being solved and the companies come back to the Government and say, “We can’t build the thing for the price we negotiated with you. We want more money,” what would be the Government’s reaction?

Alex Chisholm: I would expect the Government to say, “This is your problem and you have to solve it.” EDF had a massive refinancing last year. I think they had to dispose of about £10 billion in asset sales, raise £4 billion in debt, raise additional equity and take a dividend holiday from the French Government as well. All of that was because of the cost



overruns that they had had with other projects. That is the type of action which they have experienced in the past in response to cost overruns, and we would expect them to take those types of measures in the future. Again, we do not expect there to be cost overruns, but I think that in the structure of this contract—partly because we knew that large nuclear projects are quite risky and we have not done one in this country for a long time—we made sure that those risks should sit with the developers.

Q29 Geoffrey Clifton-Brown: Hang on a minute. You say you don't expect it, but the technical problems have not been resolved anywhere else in the world. So you don't know, do you?

Alex Chisholm: Most of the technical problems have been resolved, but it is true that they are not yet fully operational. We expect them to be in 2019—several years ahead of the time at which generators will be brought on stream in the UK

Q30 Geoffrey Clifton-Brown: Mr Kingman, what contingency planning has the Treasury done for any demands on the British Government for additional funds?

John Kingman: I think that is probably a question about current policy, isn't it?

Charles Roxburgh: I am happy to take that. Because the risks sit with the developer, and because we are not committed, we have not considered those contingency plans. We would consider it were this to be developing as a risk. We would work with our colleagues in BEIS to look at the full range of alternatives, including, as Mr Chisholm said, the capacity market. We would look at the full range of alternatives to deliver the supply that we need at the best value to the taxpayer and the consumer. We would consider that at the time. We are not committed to step in on this project.

Q31 Chair: Mr Kingman, we know you are not currently in the Treasury, but you were there for a significant period of this time. To pick up on Mr Clifton-Brown's really pertinent point, what discussions were there about that contingency? There must have been some discussion somewhere about the risk of failure—not just technological failure—and how that would be dealt with.

John Kingman: Yes. Indeed it was, for example, a theme of the review by the Major Projects Review Group of the project that I chaired towards the end of my time in the Treasury. Alex has described the most realistic plan B, which would be some form of capacity auction. One could imagine circumstances in which a plan B is necessary, not least to ensure that if the kind of scenario that you describe crystallises and there is an ask to the British Government to step in somehow in some way, we have an alternative available to us, but I think Alex has described what that would be.

Q32 Caroline Flint: Good afternoon. I don't feel that we have had an answer yet to why the EDF technology was chosen. Would it be a consideration



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that Government was already locked in to providing this opportunity for EDF because the sites had been sold off and EDF had bought them?

Stephen Lovegrove: I confess, I wasn't in the Department at the moment at which the technology was chosen.

Q33 **Chair:** Can we just be clear for the record when that was? You joined in February 2013. I think that the technology was chosen in the previous Government. Was it? I should remember from the Report.

Stephen Lovegrove: Mr Robson might be better—

Hugo Robson: It was in 2008-09 that two technologies were chosen in relation to going through the GDA process: the AP1000 and the EPR. I believe that was around 2009.

Chair: Sorry, I could look through the Report, but I just thought from memory.

Stephen Lovegrove: By the time I appeared in the Department, the position that I inherited was that there was effectively only one technology of large-scale new nuclear that had received generic design approval, and that was the EPR technology. The AP1000 had not completed; it had paused. This goes to the issue of whether you can create a sense of competitiveness in these very large projects with very different types of technology. There was, in fact, only one nationally approved technology available at the time, and if we were to get new nuclear moving in the timescale that we needed to in order to fill the type of gap that was going to be created by old nuclear coming off, we needed to go forward with the EPR technology.

Now, the EPR technology was clearly assessed by the Office for Nuclear Regulation as being completely safe and a totally viable technology. As Mr Robson has said, a whole bunch of technical lessons had been learnt from Olkiluoto and Flamanville, and it is a perfectly sensible technology to proceed with—indeed, at the time, the only one that was approved for build.

Q34 **Caroline Flint:** I think that they are all valid considerations, but once British Energy was sold off and the sites were sold off to be available, it is interesting that how closely the awarding of contracts to the people who bought the sites followed that. So, we'll see.

I'd like to come back to an answer to an earlier question from Mr Lovegrove and Mr Kingman. Mr Lovegrove, when my colleague raised questions about an alternative financing model and whether something would obviously be put on the Government's balance sheet if they decided to underwrite some of the risk around the construction costs, you said that the Liberal Democrats—Ministers, I presume—had indicated that they were unhappy with that, because even though they accepted nuclear power, they were against any subsidy. You said that, Mr Lovegrove, but Mr Kingman indicated that this had been considered but not put to Ministers. Could you clarify to what extent, in your mind, Ministers had any alternatives put in front of them, and whether they indicated what



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they felt about that?

John Kingman: I can only speak from what work was done and discussions with Ministers in the Treasury at the time. First of all, Stephen describes the policy environment and the constraints completely correctly. That said, as I said earlier, work was done inside the Treasury looking at other ways of financing, as you would expect; we just asked ourselves the question: are we sure this is the right structure? My recollection is that Ministers were aware of that, but there was never a situation where officials came forward and said, "Look, we think we've got a better idea," because the work did not show that it was a better idea, for the reasons that we have given.

One has to bear in mind that as well as the political position of the Government, this was a Government that was very focused on getting public debt down, and in that environment, had we attempted to do Hinkley on the Government's balance sheet, not only would that have raised questions about our competence to do so, but the Government would have had to cut some other large project or projects out of its plans.

Q35 **Caroline Flint:** I am just trying to think about who is looking out for the consumers in all this. Whether it is taxpayers or consumers, it is fair to have a more transparent, open discussion around that. Who is responsible for looking out for the consumers? Is it the Treasury?

John Kingman: Yes, I think it is the Treasury and the Business Department as well. The Chair remarked earlier that the Treasury only cares about taxpayers. I wouldn't accept that. Actually, the Treasury's energy team, throughout the time that I was responsible for it, was very focused on the cost to consumers of energy policy. The Treasury brought forward the levy control framework, which is precisely a device to constrain cost to consumers and cost to the economy, and the Treasury believes it is an economics Ministry as well as a finance Ministry.

Q36 **Caroline Flint:** But at the time, it sounds like the consideration was not to put it on to the balance sheet, rather than thinking about consumers down the road.

John Kingman: As I say, I think the reasons why this was not done on the Government's balance sheet had nothing to do with whether the cost would be funnelled through taxes or through bills, because in the end consumers and taxpayers are essentially the same people. I think it was much more to do with the Government's fiscal policy, the Government's overall stance on nuclear and, third of all, a real question in our minds about the competence of the Government to get into the game of commissioning a new nuclear power station. This is not an area in which the Government have deep competence.

Q37 **Caroline Flint:** I am trying to think back. I am not necessarily saying that the decision was the wrong one; I am just interested in where the consumer and consideration of the consumers come into that. Did DECC have a view on that, Mr Lovegrove?



Stephen Lovegrove: Certainly we had a view on that. As Mr Kingman says, effectively bill payers and taxpayers are largely the same. The question for us was: where will the balance of advantage lie of the financial exposure that they will bear? Given the increasing costs of Hinkley, we took the view that we don't want to expose bill payers qua taxpayers to cost overruns and schedule overruns, because if we were to do that, that would have been effectively unquantifiable—where would it stop? It is much better to have a degree of certainty about what was going to be paid through the bill. To go back to your earlier question on whether other structures were considered, of course they were considered. We were all relatively financially sophisticated officials and we had plenty of advice, and indeed the vast majority of nuclear programmes around the world have been done, one way or another, off a state balance sheet. In some ways, this particular structure was new and original, and specifically designed to be able to respond—

Q38 **Caroline Flint:** Would you do it again?

Stephen Lovegrove: That is not a question for me.

Caroline Flint: I think it was a very good question for you. Defence contracts might be interesting in relation to this as well.

Stephen Lovegrove: This deal is a very good one within the policy constraints at the time, and it has already protected taxpayers against what have been very considerable cost overruns at Hinkley Point. Now, if £1.5 billion had gone on to the cost estimate of the project, I am fairly certain that if we had had a more conventional type of approach, EDF and CGN would be coming back to the Government and saying, "How much of this are you going to pick up?". They have not done that, and therefore the taxpayer is protected against it.

Q39 **Caroline Flint:** Not everyone is a taxpayer, but everyone is a consumer, regardless. That includes even the poorest able to pay their bills. Picking up again on the top-up payments, paragraph 2.22 of the NAO Report says, "The expected value of top-up payments through the HPC CfD, due to differences between wholesale electricity prices and the strike price, has increased since the Department began negotiating the deal. In July 2016 we reported that the forecast top-up payments had increased from £6 billion in October 2013 to £30 billion in March 2016." Mr. Chisholm, what would have caused you to conclude that the deal was too expensive for consumers?

Alex Chisholm: First, those findings in the Report are correct; the estimated wholesale top-up costs did go up over that time. They did not go up in a year-by-year, linear progression; they actually went down one year, as well as up—a reminder that the wholesale energy costs, the fossil fuel costs, particularly for gas, go up and down. One of the benefits that we get from this structure of a contract for difference is that it provides a kind of natural hedge for the consumer. If the wholesale energy cost goes down or is lower than we expected, the top-up payments go up, but in terms of the total bill paid by consumers, they mostly benefit from that, of



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course, because the overall costs they are paying for energy will be lower. Equally, if it turns out that the wholesale energy costs are a bit higher than expected, obviously that has a negative impact on consumers, but it reduces the amount of the top-up payment, so from that point of view, the construct is helpful in protecting consumers from those spikes.

Q40 **Caroline Flint:** Did the Government ever think about setting a ceiling on the top-up payment beyond which the project would no longer be deemed to be value for money?

Alex Chisholm: Well, the top-up payments go up as the wholesale price goes down.

Q41 **Caroline Flint:** But what would be acceptable? On the current forecast of £30 billion, it is £857 million a year. What would be too much to accept—£1 billion a year, £1.5 billion a year?

Alex Chisholm: I don't think that a particular level was ever thought about there, that I am aware of.

Chair: Mr Roxburgh? Or Mr—

Q42 **Caroline Flint:** No? Nobody is answering? Okay, there is no figure, so whatever happens, there is no ceiling for the consumer.

Alex Chisholm: On our estimates—we have done some forecasts—we think that it will cost between £10 and £15 in additional cost to household bills in the period 2026 to 2030.

Q43 **Chair:** Is that pegged at 2012 prices?

Alex Chisholm: 2012 prices, yes. It is about 1% of the annual dual fuel bill, just to put it in perspective. Furthermore, as I did mention, in our longer-term modelling, we did try to see whether consumers would be quids in or quids out if you were to use an alternative low-carbon fuel, and we found that the alternative low-carbon fuels—offshore wind, onshore wind, solar and so on—would have added to those costs, to the tune of about £22 or £24 per bill. Those are some of the ways in which we have looked to try to protect consumers from the cost.

Sir Amyas Morse: That was presumably done before the results of the latest offshore wind auction—was it?

Alex Chisholm: This whole Report is an assessment of the decision made in September 2016. We did not at that stage forecast precisely what the outcome of the auction would be.

Q44 **Chair:** Just to be clear, in terms of prices for wind to be delivered in 2021-22, the strike price is £57.50, which we have seen recent publicity on, compared with—

Alex Chisholm: It's 2022-23, sorry.

Q45 **Chair:** Forgive me; I'm misquoting. And for nuclear plant to be delivered in 2025, it's £90 to £100—the estimate—but in 2012 prices for 2017.



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With the benefit of hindsight, Mr Chisholm, would you have done something different?

Alex Chisholm: Hindsight is always a fine thing, but as to the comparisons between offshore wind and nuclear, you are not really comparing apples and apples.

Chair: No, because of the storage issue.

Alex Chisholm: It is vital for us to have a reliable source of base-load energy that does not come from wind. It is possible that at some future point in time, you will have so much storage capacity, at such a low cost and so reliably, that wind will be able to provide that in effect, but we certainly cannot forecast that now; we can't rely on that now. That is one of the reasons why we have had to enter into this commitment for nuclear; and for the reasons that we have discussed quite a bit, we think that this is the best structure for securing this future nuclear electricity.

Chair: Okay. I will bring in Heidi Allen and then come back to Caroline Flint.

Heidi Allen: This question is for Stephen. I think you said a few moments ago—

Chair: Mr Lovegrove—just so people know who we are talking to.

Q46 **Heidi Allen:** Sorry; I'm just a first-name kind of girl. A lot of the drive behind this was to keep risks away from the taxpayer.

Stephen Lovegrove: That's right.

Q47 **Heidi Allen:** But it seems to me, given that this remains unknown technology—it is still a build that has not yet successfully delivered anywhere else in the world—that although we may have taken away the risks in the short term, if, for whatever reason, this doesn't work and we end up having to substitute with other energy sources, that could well be a long-term risk to the consumer/taxpayer; we protect them in the short term. In addition, this low-carbon contracts company that is going to be stewarding and keeping a really close eye on this, going forward: is that normal, to have such a close eye on a contract like this? It seems to me that having to have that is putting more cost on to the taxpayer, because that is another administrative function that we need to make sure that this is delivering.

Stephen Lovegrove: I think that the answer to your first point is a fair one: you need to decide what types of taxpayer protections you are going to be putting into place, so, in the unlikely event that the nuclear power does not come on stream in the way that you want, you are not exposing taxpayers or bill payers to other types of risk which are intolerable. The energy system that we are running in the UK at the moment by and large does do that. There are many caps to make sure that consumers do not pay too much. When I was in the Department, the principal one was—Mr Kingman has already mentioned it—the levy control framework; but I



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believe that thinking about that has moved on, and there will be other types of protections, which will, in general, be looking after the consumer.

The second point—sorry; it has escaped me.

Heidi Allen: The LCCC. It seems to me an extra cost that is still having to be found.

Stephen Lovegrove: The reality of nuclear power is that although we successfully removed the state and the taxpayer and the state's balance sheet as far as possible from this particular project, these projects are so big that there has to be some form of governmental oversight of the projects. Some of the risks associated with a nuclear accident are simply too big for any form of private market to bear, for instance. So we are always going to have to have, in government, some form of professional oversight body to look at whatever arrangements happen to be in place. Now, the arrangements here are through a particular very long, very complicated type of contract; and the monitoring of that contract I think is rightly being overseen by the LCCC, but Mr Chisholm may have—

Q48 **Heidi Allen:** Has it been factored in as part of what this is going to cost the consumer or the taxpayer?

Stephen Lovegrove: The costs of the LCCC? Yes, in my time the costs of the LCCC were certainly in the levy control framework. I am not sure what the situation is now.

Alex Chisholm: It is a low number of millions. Compared to the overall cost of this project, it is quite small, but, yes, it certainly would be factored in. I thought I might just add a couple of words: we talk about the technology of the EPR, and it is right to say that it is not operational now, and we do not expect it to be until 2019, in those countries—China, France and Finland. Nevertheless, it is not a completely new type of technology. It is the new generation for the pressurised water reactor. It is bigger, more sophisticated and more controllable, but it is not fundamentally different. It is the same technology as the 277 other pressurised water reactors that have been tried and tested and are operating around the world today, so I do not want to over-emphasise the extent to which this is a big leap forward.

Q49 **Chair:** Mr Kingman, Ms Allen raises an important point about the cost of the LCCC; was it a very big part of your calculations in the Treasury that you wanted to have that level of Government oversight, or was it very much a DECC decision?

John Kingman: I would agree with what Stephen says, for the reasons he has given. I would also add that if you found yourself in the kind of situation which the various members of the Committee have suggested could arise, where the project is in deep trouble and there is pressure from the project promoters on the British Government to step in in some way, I think Parliament—this Committee, for example—would absolutely expect the Government to have its own eyes and ears on what has really been going on in the intervening years. If we were to find ourselves in a



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situation where we were short of information at that time, it would be unacceptable.

Q50 **Chair:** Did you look closely at the cost as this was established?

John Kingman: The cost of the LCCC? I am absolutely sure the Treasury team will have been on it, yes.

Alex Chisholm: It is also worth mentioning that they do not only look after this particular contract for difference; there are about 40 different contracts they are doing, so there are obviously some economies of scale and some scope from their point of view.

Q51 **Chair:** Mr Chisholm, you mentioned that this technology is being started in other countries. Have you looked at the models that they use for oversight and for financing?

Alex Chisholm: Yes. One of the reasons why we have designed the governance framework that we have in place, and why we have been so keen to insulate the taxpayers' costs from a construction risk, is from observation of what has happened in those other projects. So yes, we've certainly learned those lessons.

Q52 **Chair:** Do you have any oversight of the profit margins for the companies involved in those projects?

Alex Chisholm: We don't. The financial information we get on EDF, other than what is publicly available, relates to the projects they are doing for us, not the projects they are doing for the Chinese Government.

Q53 **Chair:** It is just that EDF is a state-controlled company. You were talking about getting to the lowest possible rate of return, of just over 8%. I think you said 8.25%, was it?

Alex Chisholm: Yes.

Q54 **Chair:** But the cost of borrowing to Government is a lot lower than that; it is in the 2% to 4% range, depending. So why is it that you are assuming that it is squeezed till the pips squeak to get to an 8.25% return? Mr Roxburgh?

Charles Roxburgh: As you know, the way that we evaluate projects in Government is to assume that the amount of money available for projects is fixed; that is set by the Government. Within that, we have to prioritise projects using what we call the Green Book methodology, which sets the discount rate. That is at 3.5%. When you produce the cash flows for those, you have to have built risk into those cash flows, and you have to do those in constant prices and then discount those back. We think that is the right way to evaluate these sorts of projects. Using gilts is not the right way to evaluate these investment projects that are paid for out of overall Government funds, most of which is taxpayers' money.

Q55 **Chair:** So the price is the price of risk to EDF, then? Yes?



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Charles Roxburgh: When we evaluate the project, on the Government side we really have to build the risk into the projections, which often involves using something called an optimism bias, where you would typically build a margin of error into the cost projections—

Q56 **Chair:** Effectively, you've answered my question; it's optimism bias, but just through different routes, really. Isn't that it? There's additional money in there for the risk, whichever way you cut it.

Charles Roxburgh: Yes. Well, it's for EDF to evaluate the processes how they want to; we are evaluating processes on the Government balance sheet, using our methodology, which builds in risk by using an optimism bias.

Q57 **Chair:** Do you think it would be higher or lower in cost if we'd had a purely private company involved? Was there any benefit—admittedly, there wasn't much choice—in going with state-owned companies? Mr Robson, are you ready to answer that?

Hugo Robson: We did a very thorough exercise looking at similar projects, in terms of the sort of rate of return that would be required. I think that, as Mr Chisholm said earlier, 8.5% to 13.8% was that range. There are a large number of different sorts of projects, but that was the range that was considered appropriate, in terms of an effectively private sector company investing in this area.

Chair: Okay. We'll leave that there for now.

Q58 **Caroline Flint:** I do not think I got an answer to my question about why you didn't consider a ceiling or cap on the amount that was going to be paid through the top-up payments. Mr Chisholm?

Alex Chisholm: I am not aware that we did.

Q59 **Caroline Flint:** Mr Lovegrove?

Stephen Lovegrove: I cannot remember one being considered, and if that is the case, I think the reason for that would be that every time that there is a pound coming off the wholesale price, it's obviously a pound more in terms of the subsidy that goes into Hinkley Point C; that is understood. Equally, however, it's a pound coming off the wholesale price. So, *reductio ad absurdum*, if the wholesale price was zero and you were paying £92.50 for HPC, the consumer at the end of the day would have more pounds in their pockets than they would do otherwise, because a much bigger swing factor in their personal wealth is the dropping of the wholesale price.

It seems counter-intuitive to say this, but it's net-net for the consumer, the way that this deal is structured, because of the characteristics of the hedge that Mr Chisholm was talking about. The bigger the top-up for Hinkley Point, the better overall for the consumer, because the wholesale price has come down and the wholesale price is the thing that—

Caroline Flint: Ooh, I think you're on interesting ground here. We're going to have a draft Bill on an energy price cap, aren't we? Okay.



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Q60 **Chair:** Did you want to say something about an energy price cap, Mr Chisholm?

Caroline Flint: How will that be factored in?

Alex Chisholm: I think we are going to be discussing that with the BEIS Select Committee in the weeks ahead.

Chair: We are working closely with them. We know they are very interested in this subject.

Stephen Lovegrove: But the point remains that the most important thing for household wealth is wholesale prices coming down.

Caroline Flint: Okay, but that is only dependent on those wholesale price falls being passed on to the consumer, isn't it?

Chair: Ms Flint did shadow this post for four years.

Q61 **Caroline Flint:** Let me be clear, because I think there is an important issue here around taxpayers and consumers, and who should foot the bill for big energy projects and other big infrastructure projects. Would you agree, Mr Chisholm, that in looking forward to alternative finance models for other nuclear developments down the road—because I presume this will not be the first or the last—it is rather disingenuous to say that bill payers are the same as taxpayers? High-income earners pay a lot more tax, and income tax is therefore progressive, but with consumers—particularly when it comes to energy—it is often the poorest households who end up paying more, partly because they are not living in homes as energy-efficient as those of the better off. It is not fair to say that they are the same. Where is the due regard for consumers when it comes to funding these energy projects?

Alex Chisholm: Obviously we want to try to make sure that we fund the energy projects at the lowest possible cost for users. Government policy, long established, has been that the users of energy should pay for that energy. As you rightly say, some categories of user are particularly vulnerable, and they receive different kinds of relief, some of which relate to things like the warm home discount and other schemes against fuel poverty.

Q62 **Caroline Flint:** But that is all down the road, isn't it? You are basically defining a policy for building power stations, but when this was being discussed, there were a whole load of measures to support consumers, like caps on prepayment meter customers, that were not even under consideration. What I am interested in is how much is thought about when you look at these projects initially.

Let me take you on to another issue with this project, Mr Lovegrove and Mr Kingman. Do you disagree with paragraph 9 of the NAO Report? It states: "The Department did not assess the potential value-for-money implications for bill-payers of using alternative financing models", despite what you were saying earlier, Mr Kingman. It's okay to say "We are adhering to policy", as I think everyone has said, but why were the cost implications of taking that approach not shown to decision makers,



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factoring in the impact on consumers—as opposed to something coming on to the balance sheet, and taxpayers therefore being more involved in the underwriting of these costs? Why was that not even done?

Stephen Lovegrove: For the Department, given the policy constraints that the officials were asked to work to—

- Q63 **Caroline Flint:** Could you be a bit more explicit about that, please? You talk about policy constraints. I know that you mentioned the situation with the deficit and the financial crisis, but I am interested in whether there was explicit direction from other civil servants—in the Treasury or what have you—that in no way should that be considered as an option.

Stephen Lovegrove: There was an explicit direction from Ministers at the time that this was the structure that we would adopt. Of course, there were discussions about whether or not other structures should be considered or might be better, but against the policy priorities of the time, there was an explicit instruction that this was the structure that we should adopt. As a result—

- Q64 **Caroline Flint:** Was that on the basis that Ministers had actually seen an alternative financing model?

Stephen Lovegrove: Certainly there had been discussions of alternative financing models, yes. It is not that difficult to have a conversation with a Minister which goes, “We have an opportunity to potentially reduce the strike price here, if the Government is prepared to take more risk against construction.” Ministers would then say, “That is not something that we want to do; we want you to proceed on the basis of the structures that were outlined in Chris Huhne’s written ministerial statement of October 2015.”

Chair: I think in 2015, Chris Huhne was—

Stephen Lovegrove: Sorry, 2010. At that point, doing very detailed value-for-money consideration analyses on structures which had been discounted by Ministers would not have been a fruitful use of time.

- Q65 **Geoffrey Clifton-Brown:** Mr Lovegrove, may I follow up on your interesting argument that this, in effect, could be considered a financial derivative because if the wholesale price of electricity comes down, the consumer will benefit overall? When you were doing this deal, to what extent did you think that you would gain some intellectual property, and that by learning how this technology could work effectively, you would drive down the future costs of nuclear power stations?

Stephen Lovegrove: We certainly expected the cost of future power stations to be driven down. There was much discussion about it being the “first of a kind”, “next of a kind”, and so on, which is reflected in the £89.50 price for the second EPR plant should it ever be built—obviously, we hope that it will be.

Hugo Robson: For clarification, Mr Lovegrove: the price of Hinkley goes down to £89.50. If the second EPR is built, it is the price of Hinkley that



goes down from £92.50 to £89.50. The price of a future EPR at Sizewell, which obviously is being contemplated by EDF, we would need to have a discussion and negotiation over, but we would certainly expect it to be below £89.50.

Stephen Lovegrove: My apologies; that is an important clarification. In terms of nuclear intellectual property, I do not remember having long conversations about that myself. I think Mr Robson is more likely to be able to answer fully.

Hugo Robson: There was a discussion at the time of the sale of Westinghouse in terms of whether there should be any retention of the IP in relation to the AP1000. But in terms of retention of any IP, there was not any discussion at the time.

Q66 **Geoffrey Clifton-Brown:** Mr Chisholm, why was one of your Ministers, Richard Harrington, reported as saying at the Conservative party conference that it is “unlikely” that this model will be used again? What has the British Government learned for him to say that?

Alex Chisholm: First, the circumstances in which we were looking for this contract said it was going to be the first of a kind. Clearly, if we build another nuclear plant in the next few years, it will not be the first of a kind. That is an important change. Also, as Members have been quick to point out, we continue to update our information about the rest of the market and about what is available out there—not just in nuclear but in other technologies such as offshore wind, battery storage, and so on. Also, the developer side of the market is changing quite a lot as well. We currently have four alternative projects being looked at. One of them has been mentioned: EDF’s Sizewell C project. CGN have also proposed a different technology for a different site, which is currently going through the generic design assessment. There are two other developer projects, one at Wylfa and the other at Moorside. All those would make considerable differences. Clearly, when you put all that in the balance and say, “Would you come out with something identical?” it seems extremely unlikely that we would.

Q67 **Geoffrey Clifton-Brown:** I am probing your current thinking, really. Is this future model likely to involve the consumer taking all the risk, or is it more likely that the Government will take the risk, particularly if you are dealing with slightly different technologies? The CGN project that you mention still carries a considerable amount of risk. Who is likely to bear the risk in future?

Alex Chisholm: One of the good features about this project—I think there is consensus on this—is that it provides a high level of protection for consumers and taxpayers. I would expect any future contract to continue to try to offer appropriate levels of protection.

Q68 **Caroline Flint:** I would like to move on to the wider benefits of the project, in particular jobs and the opportunities for businesses in the UK to get contracts. It is expected to create 25,000 jobs during construction and 900 during operation. I understand there are already 2,000 workers



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on site. Do you have any breakdown of the details about who those workers are and where they have come from?

Alex Chisholm: I do not have that before me and I have not heard that information.

Caroline Flint: It comes from the GMB trade union.

Alex Chisholm: I have heard the overall numbers but I have not heard the breakdown.

Q69 **Caroline Flint:** Okay. There will be 1,000 apprenticeships and placements created. I absolutely welcome that, but how will the Department keep on track to make sure that these wider benefits are realised? I understand from the Report that you do not have a plan in place for realising them. Turning to paragraph 2.30: "The Department currently does not have a plan for how to manage and track the realisation of wider benefits, but it is developing one". How is that going?

Alex Chisholm: There is something called the Hinkley Strategic Delivery Forum, which was established a number of years ago and it involves the local authorities, LEPs, local education institutions, local businesses and unions. That continues to meet quarterly under the chairmanship of—

Q70 **Caroline Flint:** Do you have someone from your Department on that forum?

Alex Chisholm: Yes, it is chaired by the director for nuclear development in my Department. So we have good information about that and we try to encourage that process. Clearly, these are commercial contracts so we are not trying to determine which direction they go, and obviously since we are not paying for the cost it is clearly up to the company to do that. Their estimate was that about 64% of the contracts by value would go to UK firms, and they are absolutely on course for that, having already signed 80% of those. I think at this stage we have a very high level of confidence that they will hit those targets. Obviously, we get lots of positive feedback from a number of the UK firms benefitting from that.

Q71 **Caroline Flint:** I appreciate that there are aspects outside your Department's control; I think EU procurement rules have a role to play about determining where contracts can go—perhaps that will change when we leave the European Union. Rather than just the forum, which you have somebody chairing, how important is it that the Department keeps track of exactly what is happening? In the case of giving jobs to local people, in the experience of the Olympics, people only had to provide a postcode, which did not tell us whether local people really benefited from the jobs that that construction provided. So how important is it for the Department that you keep track of who is working there and where they come from? Is there any leverage that you can provide from Government to make sure that there is a pipeline of young people coming through, who are qualified to take on this job and future nuclear jobs?



Alex Chisholm: I respond well to the question of the Member for Don Valley. I agree that it is something for which we want maximum benefits for the UK. We try to work closely with the education institutions affected; there is a National College for Nuclear, which we have established and which has two hubs—one in Cumbria and one in the south-west. That is already training students for nuclear careers. There is also a new Bridgwater college for construction. There has been a lot of effort made by EDF to engage. I know they have engaged all the schools locally and also the five principal nuclear engineering establishments, including Bath University, which obviously is local, but up and down the country as well.

When I went down and visited the site and went through all this with them, they were at pains to emphasise to me that the benefits are not just being felt through Somerset, but the whole way through the south-west. A lot of steel is used in the construction of the site and much of that comes from Wales. Actually, the contracts are being placed right through the whole of the UK, so the supply chain and job benefits will be experienced throughout the entire UK. But the general sentiment of your question—that we should try to make sure that we get the maximum advantages not only from this project but from follow-on projects, and make sure that skills developed in this can be redeployed in other major complex infrastructure projects—we totally agree with that.

- Q72 **Shabana Mahmood:** I want to push you a bit on that point. According to the NAO Report, you do not have a plan for managing and tracking the realisation of wider benefits, but you are developing one. You just indicated in your answers that there are bits and bobs of infrastructure in that part of the country, but it does not sound like you have a plan at the moment. Will you confirm that you do not currently have a written-down plan of how you will manage and track the expected wider benefits for economic growth, skills, and the job market?

Alex Chisholm: It is fair to say that we do not have a plan, but we saw that recommendation from the NAO in its Report and obviously we will wait with great interest to see what the recommendations of this Committee are, which we will respond to in due course.

- Q73 **Shabana Mahmood:** By last year, according to your four value-for-money tests, the case for going ahead with this deal was becoming more marginal—a less charitable version would be “plummeting”—so these wider benefits in terms of economic growth, jobs and so on were playing a more central role in your justification for going ahead with the deal. Do you not think that, by the time you made this decision last year, you should have had that plan in place?

Alex Chisholm: I think the central reason for going ahead with the project was to make sure that we had sufficient low-carbon electricity for many decades ahead. That is much the most important consideration. On the value-for-money assessment, there were a number of tests within it that were passed. None of those included any economic assessment of side benefits. The fact that we get these jobs, the economic growth and the contracts placed with UK suppliers is a useful additional benefit, but it



is not the reason for going ahead, and it was not a condition that had to be satisfied.

- Q74 **Shabana Mahmood:** It is becoming more important, in terms of the reasons for going ahead. Do you not accept that in the year between the decision to go ahead and now, you ought to have got your act together and got a plan in place, because people are waiting? You don't get skills ready or jobs created overnight; these things take planning. You are talking about a project that is many years in the planning already, yet we do not have anything in place to help us be confident about the wider economic benefits. You may consider them merely "useful", but for the people living there, they are a bit more than useful; they are core business.

Alex Chisholm: A huge amount of work has been mobilised to make sure that they have the necessary workers on site with the right skills. The Nuclear Skills Strategy Group, which was set up immediately after the signing of the contract, published its strategic plan on 1 December 2016, so there is a plan for developing the skills of the people there. I do not want you to come away with an impression that the opportunities to work on this massive great national project are not being realised by the many individuals. The unions and the educational establishments are also very much focused on this, and EDF itself, with its suppliers, is doing everything possible.

It is not that no action is happening about this; a lot is happening about it. You ask me whether there is a single plan that I could hand over to you and say, "This is the departmental plan." At this point in time, no. We are tracking the benefits and we are doing a lot of co-ordinating work to try to make sure that we get the maximum benefits, but there isn't a single plan. If you think that is important, it is obviously something we will consider.

- Q75 **Shabana Mahmood:** When do you think a plan might be ready? We believe you are developing one; when do you think you might have something to publish?

Alex Chisholm: Well, it is a recommendation in the NAO Report. Typically, we wait and see what the PAC does before we respond. I will certainly consider that.

- Q76 **Geoffrey Clifton-Brown:** I think this is a really important point. Crossrail was really successful at producing a new corridor of apprenticeships and skilled engineers. Clearly, key public procurement projects like this have the ability to do that. I think your Department really needs to monitor this very carefully.

Chair: Nods are not recoded by our excellent colleagues at *Hansard*. Is that a yes?

Alex Chisholm: Yes.

- Q77 **Geoffrey Clifton-Brown:** The other thing is, if you look at the employment and growth figures comparing the south-east with the



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south-west, this could be a considerable driver in helping the Government's industrial strategy in equalising regions. Again, I think your Department needs to monitor that very carefully, too.

Alex Chisholm: Thank you.

Q78 **Caroline Flint:** I have to say that I am very disappointed, Mr Chisholm, because I would have thought that, with the merging of DECC into the Business Department, industrial strategy would have encompassed already what was needed in terms of the workforce and the requirements for training and skills. I have visited Hinkley myself and I have been with EDF and seen the good work it is doing at the local college. I have no dispute with that or the quality of that whatsoever, but it seems that the role of Government is also to look more strategically at where they can add value to what the private sector is doing. To suggest that this is a private concern denies the responsibility of your Department in establishing an industrial strategy. As my colleague said, energy is one of those areas that clearly helps to rebalance the economy—more than, say, finance. Do you accept that?

Alex Chisholm: Yes. Our approach to it is not one of saying that it is purely up to the private sector. It is one of partnership, which is why I mentioned that we work with the local authorities, the LEPs, the education establishments, the unions and others involved in developing the skills there and in tracking the benefits that we are getting.

Q79 **Caroline Flint:** I suppose "tracking" sounds a bit limp to me, to be honest. Tracking sounds like "We'll wait until the problem is done, and then we'll try and catch up later on." [*Interruption.*] Yes, as my colleague Ms Keegan says, it is a rather passive approach. Would you accept that?

Alex Chisholm: If it was only tracking, then it might be passive.

Q80 **Caroline Flint:** Well, tell us more.

Chair: Yes, go on. We are eager to hear, Mr Chisholm.

Alex Chisholm: In addition, as part of the industrial strategy overall, we are developing a number of sector deals. One of those sector deals we expect to be in the nuclear area. Lord Hutton is leading that effort.

Q81 **Caroline Flint:** You expect to be. You don't know?

Alex Chisholm: I am sure there will be a—

Q82 **Caroline Flint:** There will be a sector deal in the nuclear area.

Alex Chisholm: We haven't announced it yet, so I am—

Q83 **Chair:** Ministers haven't announced it. I am sure we can put pressure on Ministers just to—

Alex Chisholm: I am confident there will be a nuclear sector deal.

Caroline Flint: It is obviously a massive confidential agreement.



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Q84 **Chair:** Actually, while we are on the subject. I wanted to chip in here on nuclear submarines. Mr Lovegrove, there has been an argument put forward by Sussex University that Hinkley is a great opportunity to maintain our nuclear skills base. With your hat on at the Ministry of Defence, are you having discussions with the business Department about this?

Stephen Lovegrove: We are, yes. In my last year at DECC, I was in regular discussion with Jon Thompson, former Permanent Secretary at the MOD, to say that as a nation we are going into a fairly intense period of nuclear activity. There is an enormous amount of decommissioning yet to do, as you know. We are building the new SSBNs and completing the Astutes—

Q85 **Chair:** For people who might not know, what are SSBNs?

Stephen Lovegrove: The nuclear-armed nuclear submarines. We are completing the build of the nuclear submarines which carry conventional weaponry. We have at some point to renew the warheads, so there is very definitely an opportunity here for the nation to grasp in terms of building up its nuclear skills. I do not think that that is going to happen by accident; it is going to require concerted Government action to make it happen. We are speaking to colleagues at BEIS fairly repeatedly about it, and have a number of forums in which we are doing that.

Q86 **Geoffrey Clifton-Brown:** Mr Chisholm, I have to say I tend to agree with my colleague, and your answers to me tended to confirm this: your Department's oversight of these skills does sound a little limp. A specific question: the contract provides for 60% of the UK content to be purchased in the UK. What actions is your Department taking to absolutely maximise skills levels retention in the UK?

Alex Chisholm: I think the actual estimates are a little higher now; it is about 64% of the contracts by value expected to be supplied by UK suppliers. I mentioned that the Department has been involved in setting up the nuclear skills strategy and working with the other providers of skilled construction workers, nuclear engineers and other people needed for this project.

Q87 **Caroline Flint:** Sorry to interject, but 64% of the contract finance being spent within the UK does not mean that the employees associated with those contracts will be from the UK. Correct?

Alex Chisholm: That is true.

Chair: Or even in the UK.

Caroline Flint: Or even in the UK.

Alex Chisholm: Yes, that is true. We are still within the European Union, and free movement still applies.

Q88 **Caroline Flint:** Okay, but one of the ways to offset that to a certain extent is if we have a good supply of skilled workers here who can



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compete on skills with anybody coming from anywhere else. Do you accept that Government have a responsibility to help to manage or encourage that process through our approach to further and higher education, training and apprenticeships?

Alex Chisholm: Yes, and I am sure if my colleague from the Department for Education were here, he would say the same.

Chair: He is here on Thursday. He is a regular visitor.

Q89 **Caroline Flint:** You will appreciate that if there is a shortage of labour—something like 30% of construction workers and 24% of electricity workers are aged 50 or over, so we are facing problems in this regard—the shortage of supply can push up the labour costs and the costs of the overall project as well, and future projects.

Alex Chisholm: Yes. I think that is why one of the particular good features of this is the opportunity for apprenticeships. An estimate has been floated already of 1,000 new apprenticeships; maybe that figure will go up. The Government have certainly been very active in trying to encourage the provision of apprenticeships for young people coming out of schools.

Q90 **Caroline Flint:** So given that you are anticipating our report from this session as a green light to looking further into this area, that is very welcome. Let us just say that we may—it is not a state secret—put in our Report that we think this is an important part of what the project should deliver. How quickly could you put together a plan that can be put in the public domain for us to have better understanding of how your Department, and others across Government, will help to realise these wider benefits?

Alex Chisholm: As I mentioned, there is a strategic plan, which was published in December 2016, but I certainly appreciate the forewarning of the direction of the Committee's thinking. We will give additional thought to that.

Chair: If you read the transcripts you can work it out.

Q91 **Caroline Flint:** My colleague Karin Smyth, who is the MP for Bristol South, is very interested—I understand that there is a construction training centre in Hengrove, which is looking to provide people with skills to take jobs on the site—and she asked, as central Government has set targets for procurement through small businesses, directly or through the wider supply chain, will similar targets for local SMEs or other local businesses be applied to the Hinkley C project?

Alex Chisholm: I think that we keep track of the opportunities for SMEs. One of the innovative things—I don't know if you were able to see this when you were down at Hinkley—is that as a very large company they faced the question of wanting not only to give contracts to very large tier 1 contractors but, I understand, to give opportunities to local firms, some of which would be very small, even down to B&Bs, caterers and things like that. They came up with quite an innovative approach, which I went



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through with them, about trying to procure from those people by having a kind of lead in each area who would operate a hub for each one of these contracts such as hospitality or accommodation and other services that can be provided. That, from the information I saw then, has been very successful in enabling the very high level of SME participation. As part of this realisation of benefits, we will certainly look at the extent to which smaller firms as well as larger ones are benefiting thanks to—

Q92 **Caroline Flint:** Will you monitor that as well?

Alex Chisholm: Yes.

Q93 **Chair:** May I ask Mr Kingman about the same point? Earlier you talked about the Treasury focusing on the strength of the economy. One would think that high-skilled jobs that pay well in parts of the country that are not performing as well as other parts might be a really big win for the economy. What input did the Treasury have into the wider benefits issue of developing Hinkley?

John Kingman: I don't think I can help you on that. There would certainly have been discussion between the Treasury team and the—

Q94 **Chair:** You say you can't help, so—I don't mean to be rude—is it that you don't remember or that you yourself were not involved in those discussions? Or is Mr Roxburgh the most up to date?

Charles Roxburgh: I am happy to answer that, because I was involved in the 2016 decision as part of the collective process of government to say yes or no to the deal. As you would have read in the Report, we said that the VFM, although it was still positive, was increasingly marginal, but we pointed to a set of other important benefits, which were around investor confidence and the fact that the Government needed to be a reliable partner for its contractors. We also took note of the major inward investment—it was very important to maintain the high level of inward investment, which is a real strength of this country—which generates construction jobs and local jobs. We were reassured by the high level of local content that was being talked about with this deal. These were additional factors that provided context for the overall decision.

Q95 **Chair:** It is great, as you say, to look at those figures in theory, but—I lived through the Olympics as a local Member of Parliament—we know that too often scams were pulled by some of the big projects, big developers and big companies, where they got round the rules. There was no post hoc audit done of whether those jobs were really local and whether the money was really going into the local economy. I suppose that this is in your court, Mr Chisholm, because it is about both these jobs in nuclear and your Department's strategy. Picking up on what my colleagues said, how are you going to make sure that you audit this? If you were to develop a plan, how would you make sure that you actually checked to see that these promises are being delivered on?

Alex Chisholm: We already have information about the 80% of signed contracts, and I am sure that we will shortly have information about the remaining ones to be signed. I think that earlier you were encouraging me



to take an active interest in the distribution of those jobs—which parts of the country people are coming from and what type of skills—so we will clearly get more closely involved in that.

- Q96 **Caroline Flint:** Going back to your earlier answers about the Low Carbon Contracts Company, Mr Chisholm, are you satisfied that that organisation has the skills to keep on top of this? It is not just dealing with Hinkley; it is dealing with a whole number of other projects.

Mr Roxburgh, how will the Treasury ensure that both the Department and the LCCC sustain the required capability? We are talking about managing this for decades ahead, when some of us perhaps will not be around. How will you make sure that that is sustained for the long term and that the skills are there to do what needs to be done? Are you satisfied that the LCCC has the skills at the moment to deal with this very complicated project?

Alex Chisholm: Yes. One of the benefits that comes from having an organisation devoted to this is that it can specialise in this area. It has appropriate commercial, legal and technical skills available to it among its members of staff, including its senior management, but it is also able to—and does—procure expert advice from other people. We have actively encouraged it and said, “If you feel that you have gaps and that you need more resources as part of this new responsibility”—it was previously dealing with other contracts, but not this particular one, which is obviously very large—“then don’t be shy in coming to us.” We will continue to give it that message. It is very important that it is properly resourced to do this extremely significant piece of work.

To add to that, the Low Carbon Contracts Company provides a durable, transparent and easier way of measuring exactly the resources and the processes that are followed to make sure that the contract is fully performed. That is part of the attraction of having it at arm’s length from the central Government Department.

- Q97 **Caroline Flint:** Who does it report to?

Alex Chisholm: It is an arm’s length body of our Department and reports to us quarterly on this particular contract.

- Q98 **Caroline Flint:** Does it actually report to you, or does it report to a Minister?

Alex Chisholm: Probably technically to the Minister, but we are a substantial Department—

Chair: There is seamlessness between you and the Minister.

Alex Chisholm: Exactly, yes—and I meet with it regularly as well.

Charles Roxburgh: Within the Treasury, one of our teams is focused on energy, so it works very closely with Mr Chisholm and colleagues at BEIS on—

- Q99 **Caroline Flint:** Sorry, how many did you say are in your team?



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Charles Roxburgh: One of our teams—

Caroline Flint: One of your team?

Charles Roxburgh: No, one of our teams—plural. It is not one in the team; it is a full team.

Q100 **Caroline Flint:** Okay. I just wanted to check that for the record. How many teams are there that deal with energy?

Charles Roxburgh: We have one team that deals with energy, and that team has a dual role. It provides spending control to make sure that the Department lives within the agreed budgets, but it also has a very important role, with our economics ministry hat on, to make sure that that spending is done in a way that promotes the long-term growth and sustainability of the economy. It works closely with Alex and his colleagues on not just the level of spending but on whether money is being spent in the right ways and whether they have the money to get the skills that they need. Those are exactly the sorts of debates and challenges that we have between our team at the Treasury and Mr Chisholm's teams.

Q101 **Caroline Flint:** So you feel from that monitoring and that work with BEIS and the Low Carbon Contracts Company that the skills are there to take on these big organisations whose bread and butter is doing nuclear—to challenge and question them based on the information that they provide to show what they are doing. You are confident about that.

Charles Roxburgh: Alex is the lead on that, but yes, we are confident that, if Alex needed more resources or more skills, we would have a discussion about that. But Alex would be the one to lead on the discussion with the LCCC.

Q102 **Caroline Flint:** Okay. Can you give me an example of where you have questioned whether the LCCC needs more information, for example—from EDF or from anyone else—to make judgments on this project?

Alex Chisholm: Yes. The information that they have to provide is set out in the memorandum of agreement, and they have been providing that information. There is probably scope for argument about how much detail on the progress of the project has to be provided to the LCCC. The LCCC is taking a pretty robust line on its information requirements. It understands very clearly the role that it has to perform, and we are absolutely backing it to make sure that it has all the information that it needs.

Q103 **Caroline Flint:** Just one more question from me, about waste and decommissioning. Clearly, there is a move, with the new generation coming through, towards the onus being on companies to handle waste and decommissioning.

Alex Chisholm: Yes.

Q104 **Caroline Flint:** How can you be sure that taxpayers will not be exposed to future waste and decommissioning liabilities when the actual costs are so uncertain? Secondary to that, when do you think you will have



identified a suitable site for the geological disposal facility?

Alex Chisholm: First of all, you are absolutely right that this is an unusual contract, in that it does actually provide for the full cost of dealing with the nuclear fuel and the decommissioning in the fullness of time. In preparing the estimates about what those costs would be, we gave them a very rigorous testing, and we also took a very conservative view about what those costs would be. According to my colleague who is actively engaged in the process, Mr Robson, it is a less than 1% chance of those costs going over the cap. That was a very conservative assumption, which we think is probably a model for how this should be done, although it has not been done in other types of nuclear projects around the world. It is another example of how we have learned some lessons.

The second part of your question was in relation to the geological disposal facility. We expect to be launching a consultation on the future site of that. Having had regard to those other countries that have gone down the route of a so-called GDF—notably Finland—we assume it is going to take a number of years to bring to a successful conclusion, but we do think it is a viable and responsible way of trying to provide a long-term, permanent, secure home for nuclear waste.

Q105 **Chris Evans:** It is fair to say that EDF are dumping on Wales with this project—and when I say dumping, I mean they have been granted a licence to move 300,000 tonnes of mud from Hinkley Point to a position just outside Cardiff. That has caused a major problem for the Welsh Government. I understand that Natural Resources Wales comes under the auspices of the Welsh Government, but could you explain to the Committee what the Department is doing, knowing that there are serious concerns from residents? I understand that there is a 4,600-signature petition to the Welsh Assembly. There is also an independent consultant, Mr Deere-Jones, who says that the test on radioactive mud was not extensive enough. There are serious concerns that radioactive particles could come ashore. What is the Department doing alongside the Welsh Government to address those very real concerns of residents in Cardiff?

Alex Chisholm: Thank you very much for the question. Certainly there has been a full environmental assessment, but if I may, I would like to consider your question and write back to you. I do not have the information right in front of me now, but I want to give you a full and accurate answer. Is that okay?

Chris Evans: Yes.

Chair: Thank you very much. We would like a report of that letter.

Q106 **Layla Moran:** Going back to the skills shortage, in my constituency of Oxford West and Abingdon there is the Culham fusion research centre and JET. They are telling me that nuclear scientists and physicists especially who have EU national backgrounds are now leaving across the country. What assessment have you made of the number of scientists who are leaving as a result of the uncertainty caused by Brexit, and how confident are you that we are going to be able to attract them back as



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chief engineers—which is the level we are going to need a lot of them at—when the time comes?

Alex Chisholm: You mentioned Culham, who are doing ground-breaking, exciting research into nuclear fusion, which we hope will be an important technology in 20 years' time or so, in terms of its economic viability. The Government has been very active in providing all possible reassurances to the scientists working at Culham that we will continue to fund their work and, in particular, that they are still able to access opportunities to work on the so-called ITER project in France once we have left the EU. The Government has said that it will continue to fund them for the next several years, to provide as much reassurance as possible.

We understand that, in common with other EU nationals working in the UK, there are questions of uncertainty, which the Government have been very clear more generally that they want to try to resolve. You saw the statements made by the UK Government over the course of the summer—again, reiterated most recently by the Prime Minister in the Florence speech—and we are doing everything possible as a Government to try to provide that early reassurance to EU nationals, so that the concerns that might be experienced by scientists and others working there can be addressed as soon as possible.

Q107 **Layla Moran:** Are you keeping track of how many have already left? How confident are you that you are going to be able to attract them back? From what we are hearing, from the NIA and other bodies, this is not just one area; it is across the board and at university level that they are leaving. Are you keeping track, and are you aware of how big the risk is?

Alex Chisholm: I was down at Culham just a few weeks ago, and they have not experienced a significant exodus at all at this point in time. But there are concerns, clearly, for people working there, and that is why we are trying to address those concerns as early as possible.

Q108 **Chair:** I am sure that our sister Committee, which is looking at this general area, will no doubt pick this up as well. Just a few quick questions from me, first to Mr Roxburgh and Mr Chisholm: in future, will the Department consider all finance models for projects like this? You said—I think in response to Mr Clifton-Brown and the comment by Richard Harrington, the Minister—that nothing will be quite like this again. That is an interesting answer, which we will look at closely. Will you consider all finance models in future?

Charles Roxburgh: We will consider a wide range of models, but within the context set by the policy of the time. So, yes, we will consider all the models that would fit within the policy constraints that have been set for us.

Q109 **Chair:** Okay. I think you said that before. Mr Chisholm?

Alex Chisholm: I absolutely agree with that answer. I also think that, as we look back at this experience, it is important to remember that the excellent protections provided for consumers and taxpayers, and indeed, upfront, for dealing with waste and decommissioning, are good features of



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contracts. Many times, I am sure, before the NAO and the PAC, there have been projects that have not provided those types of protection. I would hope that we would continue to provide appropriate protections.

Q110 Chair: These are fine answers, but some of us around the table have been Ministers, and often it is not a question of coming in with a set policy on something this complex. Often, Ministers are looking for good advice—weighing up, in this case, security of supply, the hit to the Exchequer and the cost to the consumer. Those are just three of the prongs you would be looking at. Would you make the case forcefully, or would you take the more passive view of, “Well, the Government come in with a policy”? All Governments write manifestos, as in the last election, at pace; they are not all as well worked up as you seem to give them faith. As a politician, I should not say that, but let us be realistic about it.

Alex Chisholm: We absolutely look at the policy framework at the time, but we are also updating it constantly, as I tried to indicate earlier, for market developments and, particularly for nuclear, there is also a negotiation. There is a relatively small number of companies and Governments out there who are interested in providing new nuclear plants, so clearly they will have their requirements as well and we need to factor that in.

Chair: If we tackle all the points that Ms Moran and Ms Mahmood have raised maybe we will have a skilled workforce delivering this in future.

Q111 Caroline Flint: I just refer the witnesses to figure 12 of the NAO Report, which gives just four examples—and there are many more—of Government projects where the Government had to take on more risk than first planned, and at considerable cost to the taxpayer.

Chair: That is on page 47 in part three.

Caroline Flint: Mr Roxburgh, are you basically saying, “If the policy is not to add anything to the balance sheet we are not looking at it”?

Charles Roxburgh: Sorry?

Caroline Flint: If you are saying it is a policy consideration, are you really saying—is that code for—“if anything adds to the Government balance sheet we are not looking at it”?

Charles Roxburgh: No, because the Government have made some very significant investments in infrastructure and have set out in the fiscal remit for the National Infrastructure Commission guidance on their planning assumption, which is that the Government will spend 1% to 1.2% of GDP on economic infrastructure within the NIC’s remit, which includes energy. They have qualified that by saying that to the extent that NIC recommendations put costs on consumers, they will require the NIC to make that transparent, because we recognise that we need to look at both those factors. So the Government have invested heavily in infrastructure. They have decided historically that where energy infrastructure can be provided by the private sector, that allows more public money to be



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invested in other areas that cannot be privately financed, such as large-scale transport and road projects.

Q112 **Caroline Flint:** May I ask, Mr Roxburgh, and maybe Mr Kingman, was the former Chancellor, George Osborne, consulted about an alternative financing model?

John Kingman: He was certainly very aware that there were a range of ways you could do this project. I think it's fair to say that he was very solidly behind the model that was assumed. But, as I said earlier, if Treasury officials had felt that there was a model that was superior, we would not have hesitated to put it to him.

Q113 **Caroline Flint:** Even though what we know now, that the overall cost on the consumer is substantially higher. I am hearing—Mr Chisholm, you may want to confirm this or not—that other projects are also concerned about all of the risk being put on to the private sector, which bumps up the cost of the project. Is that something you are hearing from other potential investors into this area?

Alex Chisholm: I think one should not extrapolate too widely from nuclear. There was a particular desire in this case, because it was the first of a kind—effectively, the first for a generation—and because of the enormously well-known and well-examined complexity of nuclear projects, to make sure consumers and taxpayers had no exposure during the construction period. That would not necessarily be the case for all other energy, or indeed infrastructure, projects.

Q114 **Chair:** On a scale of one to 10—to put you on the spot, Mr Chisholm—how confident are you that Hinkley C will be able to provide 7% of UK energy?

Alex Chisholm: Very confident. Which way does the scale work?

Chair: Sorry. One is the lowest and 10 is the highest.

Shabana Mahmood: On time.

Chair: Absolutely—and on time.

Alex Chisholm: Up there towards the top—nine or 10.

Q115 **Chair:** Nine or 10—that is fantastic. We will be calling you back, as Mr Kingman can testify, in 2035. I am not sure whether any of us will be here then. When will you next consider the strategic case for supporting nuclear power? When is the next scheduled date? Have you got a scheduled date for that?

Alex Chisholm: I don't think we have a scheduled date. The way in which that is likely to come to a point of decision is that if any of the four other projects that are being looked at reaches a point of sufficient maturity, if the developers feel ready to go ahead and if the Government is a willing buyer, that is the point at which a deal will be made.

Q116 **Chair:** But a deal being made is a bit different from a strategic plan for nuclear. Surely the strategic plan should come before the decision to go



ahead with a project.

Alex Chisholm: The strategy for nuclear was put in place in 2008, and we believe it is still valid. As an implementation of that strategy—

Q117 **Caroline Flint:** I don't quite get that. We have covered quite substantially today how much things have changed. There are other players in the field now, there are small modular reactors, and you mentioned advances in storage and other matters, which may mean that some of the problems with the intermittency of renewables are not as bad as they were 10 years ago. Why can't we say, without fear of favour, that we now need to take stock of where we are and look at what is going to be provided under Hinkley and at what a new generation of technology, whether it is in nuclear or in other areas, can afford us? Why can't we have another discussion about that?

Alex Chisholm: We do that, but on an iterative basis. At this point, we do not see a need to have a complete root-and-branch review of whether we want to have nuclear, because we clearly think nuclear is an important part of our energy mix future. Those are the strategic questions, from that point of view. There are some interesting questions about how much nuclear and what we pay for it.

Q118 **Caroline Flint:** How much nuclear, what technology will provide it, where it will happen, what will be the finance deal, and what we have learned from this.

Chair: I think Ms Flint is writing you the bones of a strategic review, Mr Chisholm.

Alex Chisholm: Those seem to me to be questions of how we implement this wider strategy, which is established, of having nuclear as part of our energy mix in the UK.

Q119 **Chair:** Okay. Can I just ask a quick question to each of you in turn? What one or two—or maybe three if you feel particularly eloquent—lessons have you learned from this particular programme, which has gone on for a long time and has not yet delivered proper bricks on the ground for Hinkley C? I will start with Mr Kingman, as you have time to reflect since you left the Treasury. What would you do differently and what do you think worked particularly well on this project?

John Kingman: I don't have any wisdom to offer you about future projects. Given that what the then Government wished to achieve, I think this was a good structure, which was executed very well indeed. We will have to see how it delivers.

Q120 **Chair:** It took a long time.

John Kingman: That will always be true of a nuclear power station.

Q121 **Chair:** Mr Lovegrove, with the benefit of hindsight.

Stephen Lovegrove: I would echo Mr Kingman's views. I am proud of the deal and of the way the team conducted it. If I had my time again—it did



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go on for a very long time, it was very complicated, and it made clear to me the premium that you should put on making the rules of engagement absolutely clear at the beginning of the process, such that you can expedite what is always going to be complicated. In this situation, of course, there was a lot of French politics at play as well, which obviously made things more difficult, but any degree of clarity that can be injected into projects of this size at the beginning is really very welcome.

Alex Chisholm: A couple of things. I was not involved in the early stage of the project. I came in at the point of decision. One thing that was striking to me was that it was a 2008 strategy, and it had taken nearly four years to negotiate. What had driven that long period of time? It shows it is very difficult for the Government to commit to very large, expensive projects. It is also difficult for the commercial counterparties. That, plus the fact that every time you look at it, the market has moved a little bit and the technology has continued to move on, tends to get one into a “kick the can down the road”-type model. Within that, you need to recognise that there are costs for delay. I return to what the PAC said in 2014, when it expressed concern about delays and about whether the Department was being sufficiently urgent in pursuing energy infrastructure investment. It said, “If you keep delaying, you will add to the costs of consumers.”

Chair: A common mantra from this Committee.

Alex Chisholm: I am actually pleased and quite proud that the Government managed to reach a decision on this. We will have that future electricity as a consequence.

Q122 **Chair:** Even if it took a long time, a decision was reached eventually. Mr Robson.

Hugo Robson: I will mention two lessons: one is to ensure that you start the negotiation on the project once there is a credible project in front of you. In the earlier days, we were working together with EDF to develop a project, as opposed to looking at a project whose cost base was understood at the time. So make sure negotiations start at the right point in time. The second is that it is possible, and it has been possible, to transfer significant risk on to a developer, and to structure a contract that I think is in the interests of consumers. The issue around it is how you can get a developer other than strategic investors into the project. We have a project with two strategic investors. We do not have any other investors, in terms of institutional investors. On the construct that we have got, in terms of the CfD and the SoSIA, it is quite difficult to get external investors into this construct.

Q123 **Chair:** We could almost start another session on the basis of that answer, Mr Robson, but we will leave it to our sister Committee to pick up on it. Mr Roxburgh.

Charles Roxburgh: The lesson I take away is the importance of communications. These are extraordinarily difficult decisions, with a very long time horizon. They involve very difficult trade-offs between the

various elements of the energy trilemma: cost certainty, security of supply, decarbonisation. You have to trade off a degree of certainty now versus the value of optionality, and trade off the public finances versus other alternative financing structures. Those are very difficult trade-offs. The lesson from this is that you need to communicate them very clearly and consistently, so that people understand the challenges that policy makers face. How you navigate a path through those trade-offs is very difficult. In this case, we did the best we possibly could under the circumstances. On future ones, we will need to communicate it very clearly.

Chair: Thank you very much for coming, particularly Mr Kingman and Mr Lovegrove, who are no longer in their positions and had to read into the subject. To give a flavour of how long it has taken, there have been five permanent secretaries at the Department responsible, whatever its name was, over the period. It underlines why we like to bring people back, because it is important that you remember that you are as accountable for the decisions you made five years ago as you are today, which I am sure you are aware of. I throw that down as a marker for the new Parliament.

Stephen Lovegrove: I will be back on Wednesday. Perhaps Jon Thompson will be sitting next to me.

Chair: We will see you a fair bit. You are another frequent flyer of ours, Mr Lovegrove. You are always very welcome. The uncorrected transcript will be on the website in the next couple of days. If you have minor factual corrections, get in quick. Our Report will be out in due course, maybe at the end of this month or in early November. We will of course send you a copy. Thank you very much indeed.