



Select Committee on Science and Technology

Corrected oral evidence: Science and Technology in the Industrial Strategy

Tuesday 4 April 2017

10.40 am

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Members present: Earl of Selborne (Chairman); Lord Borwick; Lord Fox; Lord Hennessy of Nympsfield; Lord Hunt of Chesterton; Lord Mair; Baroness Morgan of Huyton; Lord Oxburgh; Lord Vallance of Tummel; Baroness Young of Old Scone.

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Questions 34 - 41

Witnesses

Nick Hurd MP, Minister of State for Climate Change and Industry, Department for Business, Energy and Industrial Strategy (BEIS); Jenny Dibden, Director of Science and Research, BEIS.

USE OF THE TRANSCRIPT

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Examination of witnesses

Nick Hurd MP and Jenny Dibden.

Q34 **The Chairman:** Welcome, Minister. It is very good to have you back again. Thank you for coming at relatively short notice. This is the last session of a short inquiry that we are doing, which we hope will be a contribution to the consultation on the industrial strategy Green Paper. Alas, when we write a letter bringing together some of the threads from our evidence, your consultation period will have elapsed by a week or so. I hope nevertheless that the letter will somehow be found to be of use in the next 10 years, which I am sure is the span of the industrial strategy.

We are being broadcast, so perhaps for the record, Minister, you will introduce yourself, followed by Jenny Dibden.

Nick Hurd MP: Thank you Chairman. I am Nick Hurd and I am Minister of State at the Department for Business, Energy and Industrial Strategy.

Jenny Dibden: I am Jenny Dibden, director of science and research at BEIS.

Nick Hurd MP: I apologise that you have a Minister of State before you and not a Secretary of State, and I am sorry that you do not have the Minister of State for Science before you. He is in Oxford today. Between us we will do our best to answer your questions.

The Chairman: That is quite understood. With the current travelling, Ministers seem to be far flung at the moment.

I mentioned just now that industrial strategies, one hopes, last for 10 years or more, but of course in the past that has not always been the case. How would you judge the success of the strategy that will emerge from this Green Paper? Will it be judged by the length of time that it is in place, by the jobs that it has created? Will it be judged in qualitative terms or quantitative terms?

Nick Hurd MP: There is a lot of experience in this room of strategies good, bad and indifferent. I believe strongly that any strategy needs to be very clear about the challenge that it is trying to address, and it needs to be backed up by a system of measurement of success that everyone understands. I hope your Lordships will agree—you might disagree—that the Green Paper that we published was pretty clear about the challenges that we are prioritising, in particular the productivity challenge that has been a stubborn feature of our economic debate for many years—the productivity gap not just between us and other countries but between regions of the country and within sectors of the economy. It is quite striking. That is a clear priority challenge, which the Green Paper is explicit in wanting us to address. Alongside that is an obvious need to identify and build on existing strengths, such as research, science and innovation, and to challenge structural weaknesses, such as the relative lack of technical skills.

I hope the Green Paper was reasonably clear about the challenges that we want to prioritise. We set out the 10 pillars, and we are now engaging with the market to be challenged on whether those are the right priorities, the right pillars. From that will flow a clearer narrative about what success looks like and the kind of metrics that understandably people will want in order to track success on a journey which, to your earlier point, we have explicitly said has to be long-term, by which I mean at least until 2030. Of course, with our political cycles, that presents significant challenges, which is why we are working so hard to try to build common ground on identifying the priorities, such as filling a technical skills gap, which obviously will not be solved in one Parliament. That requires long-term work, so there needs to be as much cross-party, cross-sector buy-in to that agenda as possible. We have deliberately set it up as something that has to be long-term, because there is no such thing as a short-term strategy.

Lord Hunt of Chesterton: I have to declare my interests. I am an emeritus and a visiting professor in London, Cambridge and Toulouse, which is significant.

My question relates to how small industries in the UK are taken up by large international countries, or how even quite large British companies are absorbed by international companies. Airbus, for example, has taken over Surrey Satellite Technology Ltd. One of the problems that we talk about is that the short-term funding in the UK is not enabling big scale-ups.

Another feature that is not on your list of dots is that the Government could do more to involve British high-tech companies in collaborative networks. I helped to set one up in Europe for aerospace and aviation. We always get marvellous participation from all the European—now EU—companies and so on, but in Britain that is very difficult. Even quite large British companies are curiously reluctant to participate, and more strength on the part of BEIS could be very helpful.

Nick Hurd MP: I hope you will feed that into the consultation; you know more about this than I do. On your first point, I hope you will see in the document that significant weight is attached not just to investment in innovation but to pushing our system harder to commercialise that and to make better connections between research, science, entrepreneurs and—to your point—the kind of patient capital that is required to drag innovation through. I know from the area that I specialise in, energy innovation, that we are quite far from having the sort of ecosystem that we need that allows entrepreneurs to access that kind of patient capital. That is just one of the challenges that we have to address through this process.

Baroness Young of Old Scone: I did a word search of the Green Paper for “environment”, and I was terribly thrilled because it brought up lots of examples of the word being used. Alas, only one of them was about protecting the environment; most of them were about the business environment and climate. How will you judge the success of the industrial strategy in its contribution to, and indeed performance on, environmental

improvement over the longer term?

Nick Hurd MP: Thank you for raising that. Irrespective of the word search, you will have seen that one of the core pillars of the strategy as set out in the Green Paper is what we call clean growth and affordable energy. Clean growth might not be a term that is used very widely out there, but for us it is the challenge of how we continue to build a successful modern economy that creates good jobs while at the same time we do more to protect our natural assets and the stable climate on which we and future generations depend. It is there explicitly as one of the pillars of the strategy.

The next piece of work in that space is the publication of our so-called clean growth plan, which is in part an account of how we expect to keep this country on track to meet our legally-binding carbon commitments, but it is also about how we hope and expect to seize and maximise the social and economic benefits from the transition to a low-carbon economy. It is there as an explicit pillar of the strategy and it sits alongside the work that our colleagues in Defra and other departments are doing on air quality, for example, and their 25-year plan. This work has to be increasingly interconnected as pieces work across government, but it is there as an explicit pillar of the strategy.

Lord Fox: As a quick reaction and perhaps a follow-up question to that, and before a second question on something different, you seem to view the green economy somehow as a potential anchor to the environmental strategy, but there is no mention of how the green industries could themselves be an important strand of economic regeneration. You might recognise that point.

The second question, which has nothing to do with that, is that you talked about the technical route to education and the need for building common ground. I am absolutely pleased to hear you say that, but I just wonder what progress there is on getting that common ground. The T-level announcement was a Budget rabbit, so there did not seem to be much consultation prior to that announcement. What is happening now to build a consensus to fill in the detail behind the headline?

Nick Hurd MP: On your first point, Lord Fox, as I said to Baroness Young, clean growth is a pillar of the industrial strategy. The more explicit account of how we want to shape the green economy will come in the green growth plan, which is imminent, but the hard facts from the ONS at the moment are that something like 233,000 people in this country depend for their livelihoods on jobs in the low-carbon economy, which is worth something like £46 billion. This is comparable to the aerospace industry

Lord Fox: It is indeed. It is very significant.

Nick Hurd MP: We are very alive to that, and of course part of the question we are asking ourselves in the industrial strategy is where the good jobs are going to come from. I am very clear in my mind that the transition to a low-carbon economy, which is inevitable and now moving at pace, has the capacity to be the source of very good jobs. Greg and I

went to open the new Siemens factory, which is building the latest generation of offshore wind turbines in Hull, where there are 1,000 new jobs—27,000 people applied for those jobs. They are well-paid jobs. This is significant, and because it is significant it is a core pillar of the industrial strategy and will be followed by a substantive piece of work on clean growth.

On your point about technical skills, yes, I and other Ministers spend a lot of time now, post-publication of the Green Paper, going out and about across the country talking to business. It does not take a round table, but it takes no time at all for the subject to be dominated by skills.

It is quite right that we move fast. I am not sure what a Budget rabbit is, but we have moved fast—ahead, frankly, of the consultation—to take decisive action on that. It is the start of a broader conversation with industry about how we address the skills gap in its various dimensions and complexities. It is going to be a critical part of the consultation process.

Lord Fox: Will we see detail in the White Paper?

Nick Hurd MP: Yes.

Lord Hennessy of Nympsfield: Can we return briefly to the measurement theme? When you were working on this industrial strategy, did you have a sense that, since the great wave of globalisation that we are living through that began roughly speaking in 1990, it has become ever harder to strategise in one country, let alone to measure the range of economic factors that do or do not produce growth? I notice too that the pace of industrial strategies has quickened since the 1990s—we have them in quite regular succession now—but it seems to me to be harder each time to do it. This is a question for both of you. The metric that this normally boils down to is growth rates, which again have multiplicities of factors in them. Winnowing out the beauty and the wisdom in these 132 pages is going to be quite stretching, is it not?

Nick Hurd MP: Yes, which is why we did not go into this process being too prescriptive. Anyone who works with Greg Clark knows that this is a genuinely consultative process. Frankly, sitting in BEIS, we really do not know best.

To your first point, which is critically important, the context in which this sits is different in the sense not just that we are having to think, work and negotiate our way through Brexit but that the business and industrial context is enormously challenging and volatile. Barely a sector of the economy—certainly not the ones I am responsible for—is not facing really substantive, sometimes existential, disruption in relation to what technology is doing. We have had previous conversations about the car industry—a really important employer in this country—having to think through some very substantive questions about what we drive, how we drive, whether we drive. That industry is going through profound change, and we have to be on top of that. We have to be on top of digital industrial manufacturing, because it is coming, and the implications and consequences could be profound. It is right to take stock and right to

elaborate a strategy, but we have to be realistic that flexibility is enormously important.

That is why the emphasis that we have placed on science, research and innovation is very important to keeping this country at the cutting edge of thinking. Things are moving very fast indeed. That is why we have not been too prescriptive. It is flexible, but it is the right time to take stock of where our strengths and weaknesses are, which is fundamentally what the strategy is trying to explore at this stage.

Lord Oxburgh: Following on the same line, how would you take to the idea of an annual report to Parliament on what has been achieved over the previous year, bearing in mind the points that you have just made? New technologies come along, some of the implementation initiatives that were started may not turn out to be quite right, and external circumstances may change. An annual report would be an opportunity both to review progress and if necessary to tweak things a little or veer a little on the overall programme, bringing everyone with you.

Nick Hurd MP: That is an interesting idea. There is always a balance to be struck between people's desire to say, "Give us as much certainty and long-term visibility as you can. Give us a strategic framework to operate in", which is the very consistent message coming out of business. The point that we have elaborated here is that things are moving so fast that you need a flexible process and need to take stock, perhaps on a more regular basis than in the past. I do not think we have a definite view quite yet. We are very keen to hear from the market and from this Committee. If the Committee felt that was a sensible idea, it must put it forward.

Lord Hunt of Chesterton: Did Lord Sainsbury not have an annual report?

Nick Hurd MP: He may have done; I am not particularly sighted on that.

Lord Hunt of Chesterton: It was quite helpful.

Nick Hurd MP: I think we all know, particularly if you are thinking long term, that you also have to break down the short term, not least to keep people on the journey with you. So we are open to ideas.

Q35 Lord Vallance of Tummel: The strategy obviously spans the interests of several departments, which will be a challenge in itself. How is that going to be tackled? Will a single Minister be responsible across the board? Will there be a Cabinet committee? Will there be some forum for Ministers to come together to guide it?

Nick Hurd MP: There is the Economy and Industrial Strategy Cabinet Committee, which is chaired by the Prime Minister. That matters. The department leading on the industrial strategy is the Department for Business, Energy and Industrial Strategy, so the Secretary of State is accountable for that. That is the system that we have at the moment. As you have identified, Lord Vallance—perhaps this is a point of difference from industrial strategies of the past—this is a genuine attempt to bring government together to work in a collective and joined-up way to address

the challenges set by the strategy. My sense is that is working pretty well, but there is a lot of experience in this room about how difficult that is to do in practice. The structure is this Cabinet committee, chaired by the Prime Minister, and that matters.

Lord Vallance of Tummel: So ultimately, if one was to hold somebody to account for this, it would be the Prime Minister?

Nick Hurd MP: And the Secretary of State for Business, Energy and Industrial Strategy, who leads on it.

Lord Vallance of Tummel: Just to come back to annual reports for a moment, if this was a commercial environment, as you will know there would not just be an annual report; there would be an annual review. One would take a look at this every year, because things do change, and sometimes they are not minor changes but major ones. You would look not just at what you had done in the year but how the environment had changed thereafter. You would probably look at key performance indicators at the same time, which might be quantitative or qualitative. Is there going to be an annual review through which you will keep looking at it and changing it over time? Is that part of the process?

Nick Hurd MP: I would say two or three things on that. I would say that, yes, because of everything that we have identified before and because of the extraordinarily dynamic context in which we are having to think through where our competitive edge is going to lie in future, this is not a process whereby we publish a Green Paper, then a White Paper, and then we are done. It cannot be like that. Greg is very clear that this has to be an iterative, living process. On the question of whether that formalises itself in the form of reviews and reports, we are open to suggestions from the market, but certainly the internal work will continue to keep challenging ourselves as to whether we are thinking about and focusing on the right things.

Of course, the great strength of our diplomatic process is that there will be no shortage of reviews and reports on our work from this Committee and others, and rightly so.

Lord Vallance of Tummel: Will the review embrace the main stakeholders? Obviously the Green Paper does, because you go out to the market and see what is happening. Is that the idea: that you will continue to have an interconnection between government and the marketplace?

Nick Hurd MP: Yes, that is essential. In fact, we take a certain amount of pride in our proactivity. We have tried to get out there. Ministers are allocated to regions of the country and to devolved Administrations, and part of our responsibility is to go out there and talk to as many people as possible. A critical subset of that is that government cannot just be in the business of talking to the powerful vested interests that have the ability to reach government. Given everything that we have talked about and what is going on inside the dynamic economy out there, part of our challenge is to reach out into the bits of the economy that are not used to talking to government. This cannot be a strategy for incumbents.

Baroness Morgan of Huyton: It is great that people have been going out and talking around the country, but are they Ministers in your department or Ministers across the Cabinet—across the range of the departments in the Cabinet Committee? Going back to the skills issue, one thing that really concerns me—and it will be interesting to see the details that are brought forward in the White Paper—is the disconnect between the schools system and the skills that are being talked about all the time by industry, which in a sense is the disconnect between the curriculum and the work plan in the DfE that is related to the current Green Paper.

Nick Hurd MP: This is a hugely important issue, which has been around for quite a long time.

Baroness Morgan of Huyton: Yes, it has.

Nick Hurd MP: It always comes up in the round table. In response, we are thinking about the right basis for co-operation between the Department for Business and the Department for Education, exploring how we can be smarter about connecting the business world to the education world, with the right environment of challenge between the two going forward. There is clearly an appetite out there, and as a department we are just thinking through our role in that, given the priority that it clearly has for the business community with which we engage every week. But we would like to be challenged on that again in response to the consultation.

Lord Vallance of Tummel: Just to round off my point, if I may, developing the strategy is the easy part; it is fairly simple. The real issue is going to be how you refresh it over time and how you implement it. If one was giving any advice, from my point of view I would really concentrate on that. Governments and Civil Services are quite good at the easy bit. The difficult bits follow in the years to come.

Nick Hurd MP: There would be hollow laughter in 1 Victoria Street at the idea that the Green Paper was easy, but I take your point. Given everything that we have talked about in the context in which we are operating, the challenge for the system is to keep challenging ourselves and to make sure that we have superb networks of communication and engagement so that we understand what is going on, and that we have a regular process of review. I defer to your experience in strategies, and again the department is very open to the suggestions from the markets and those with experience about the dos and don'ts in this context. We are very alive to the fact that the ground is moving very fast, particularly in Jenny's area. It is a challenge for government to stay on top of that.

Jenny Dibden: If I may, I will just flag up the additional money available for science and research: the £4.7 billion announced in the Autumn Statement, which speaks to the challenge aspect, because it is about the business-led challenge, as well as the flexibility. You will be aware that in the Budget we identified the first three challenges for the industrial strategy challenge fund, but the £4.7 billion runs over the remaining spending review period, so we will be able to iterate on an ongoing basis

with business and the research community what the next sets of challenges should be.

Q36 Lord Hennessy of Nympsfield: By my calculation, Minister, this is the ninth industrial strategy since the war. On an individual basis, rather than a collective government one, what do you detect as the magic ingredients in this one—the divine sparks that eluded the previous eight?

Nick Hurd MP: I am not an expert on the previous eight, but if the question is about what is different about this, I think the context is different. Brexit is a seismic event, which in itself justifies an exercise in asking ourselves what our source of competitiveness and the challenges will be in the future. Brexit alone would justify this, but the context, as we have discussed, is also that of extraordinarily fast technological development, throwing up significant risks and opportunities for us. Difficult as it is, because of the dynamism of this, that reinforces the need to take a strategic view of where we are, how strong our economy is and what we need to do to strengthen it. Let us not lose sight of the political reality that we need to make it work for more people, too.

The context is different, as is what has been set up. We talked before about how this has been led from the top. There is a department with this on its tin. It is clearly central to the political mission of this Government, and I have not seen that for some time. It is inextricably linked to a successful Brexit. It has more political weight behind it than previous strategies have had. It is clearly not the work of one department, as I think the strategies before have been, and the process is one of trying to avoid picking sectors and a greater emphasis on place. As Jenny has pointed out, already quite substantial financial resource in very tight fiscal circumstances has been allocated to build on strengths, such as science, research and innovation, and to tackle structural challenges such as the technical skills base. To me, the context is different, the political salience is different, and the process is different, not least in our desire, which some may call naive, but it is essential, to try to establish enough common ground to create the building blocks for a long-term future, rather than one that is subject to the push me, pull me that we have seen with the political cycle, which has undermined so many efforts in the past. That, to me, is how it feels different. I understand cynicism, but it feels like a different situation, not least because of the context.

Lord Hennessy of Nympsfield: I am not being cynical—I want it to work as much as you do—but I did ask about ingredients. What will you pull out of here for my research students to look at in 10 years' time as a special ingredient that we had not had before?

Nick Hurd MP: My honest presentation to this Committee is that the Green Paper sets out a stall of core pillars, none of them in themselves perhaps startling or surprising. The conversation about the productivity challenge and the drivers of productivity has been well rehearsed. There are some new things in there, but it is in some ways a predictable list. Some of the approaches are different. On sector deals, for example, we are deliberately trying not to be prescriptive and say that this is what a sector deal looks like and these are the sectors that we want to work

with. We need to hear from the markets and not just from the established industries and incumbents. We need to hear from the whole economy.

A large part of our work is trying to use this process and engagement to tease out of the real business world some of the sparkle that you are talking about. If anyone thinks that the sparkle and the magic dust are going to be constructed in 1 Victoria Street, they are mistaken. What we can do is set out a framework of the things that we think are important and to tell you something about the approach that we are thinking of taking, but tell us whether these are the right priorities and how the process can be improved and come to us with your ideas. You know how dynamic our economy is. There are nooks and crannies that we do not have a good enough understanding of, which is why the consultation process is so important.

The Chairman: Can we move on to the role of devolved Governments? Lord Hunt.

Q37 Lord Hunt of Chesterton: How would you compare the effectiveness so far, or the ideas about the role of regional government in the UK, as compared with what one sees in Spain, Germany or France, which I have visited and where one sees a real power in some sense. There is Barcelona, although it is not a capital, or Toulouse, where 10,000 engineers are employed. Secondly, of course, they pay engineers very well. One of the problems in Britain when it comes to skills is that so many very able people go into the City. The salary of an engineer at Siemens UK is considerably less than Siemens in Germany, which is one of the major factors of the so-called skills shortage at a higher level. I would be interested to know how you feel the regional approach to industrial development compares in the UK with the other major European countries.

Nick Hurd MP: Again, I would say that one of the distinctive features of the process that we are trying to run here in building this industrial strategy—coming back to the differences with the past—is that there is a very strong sense, as you will see in the Green Paper, that place matters and that any strategy needs to have a good understanding and response to the differences in opportunity and need across the country. Obviously the needs of Cornwall are very different from those of London, to use an obvious example. We are very conscious of that, and obviously the Secretary of State, coming from the Communities and Local Government Department, and with his history of enabling devolution and city deals, is evangelical about this.

Also, in this context, we are on a path of devolution over the long term, which will continue. What is striking and important is what that has enabled at a local level: local strategies for growth; partnership forming at the local level; and people thinking very hard about industrial strategies for Wales, for Leeds, for the Midlands, for the northern powerhouse. This is clearly something that we want to encourage. We were in Leeds last week listening to the chairman of the LEP there talking about the success of that city over the last 10 years, which is deeply

impressive. You have a very strong sense from these conversations that these people, institutions and partnerships need to be given more gas to do what they see as necessary to unlock the potential in their areas. The strategy has to bend to that and recognise that places and sectors interconnect in a very important way. I mentioned Hull before. You go to Hull now and there is a tremendous sense of rejuvenation and optimism there, driven in large part by the success of the offshore wind industry and the new energy industries forming in that area.

Lord Hunt of Chesterton: But if one area gets more powerful, that means that the centre has to become less powerful.

Nick Hurd MP: As I said, we are going through a process of active devolution, and once that genie is out of the bottle you carry on down that path. We have mayoral elections imminently, and there will be more in this process. You can be sure that areas will come to us and say, "Look, we understand what you are trying to do. We see potential in this area. This is what we need". This will certainly be a feature of the strategy in the years ahead: engagement from the centre with the local to get a really good understanding of the potential and what is needed to unlock it. That is an essential part of this process.

Jenny Dibden: Can I just say a few things about this from the science perspective? First, you will be aware of the ongoing science innovation audits. We are on wave 3 at the moment. Also, in the Green Paper, we have suggested that there may be some new competitive funding streams for business to come together and work with universities, but also for universities to collaborate. That builds on the collaboration fund that we announced in the Autumn Statement. Skills have been mentioned a few times. We have a substantial STEM programme, which reaches out to schools and uses volunteers from employers to go into schools and educate. We have also announced 1,000 additional PhDs, many of which will have industrial partners as part of them.

Lord Vallance of Tummel: Can I pick up again on implementation and look at Scotland in particular for a moment? First, was Scotland involved in the Green Paper, and did it sign off on it? Secondly, when it comes to implementing a UK strategy in this area, how are you going to handle Scotland? A very big chunk of R&D and science is up there now. Who is going to be responsible for what is there?

Nick Hurd MP: This is all to be worked through. The short answer is that we will show Scotland and all the devolved Administrations the respect that they deserve. The boundaries will be respected. We are keen to find as much common ground as possible. We are committed in this process to setting up ministerial fora so that Ministers can sit down and work this through. We did that recently in Wales, and I think the Scottish meeting is set up for the second week of April. So we have explicitly set up a process of engagement to work these things through.

At the same time, coming back to Lord Hunt's earlier point about devolution, the city deals continue, and many of those are in Scotland and Wales. The most recent one was in Swansea. As I think Jenny has pointed out, we are obviously seeking opportunities to do things that

benefit the whole of the UK. The industrial strategy challenge fund and the work of UK Research and Innovation, for example, are both UK-wide.

Through a combination of these processes and opportunities, we will try to find as much common ground as possible. We will respect what is devolved and try to find as many opportunities to work together as possible.

Lord Vallance of Tummel: Scotland is the big one. If you do not get that one sorted, you will not get the rest sorted. Is this process that you are talking about an ongoing process for good? Is it in place? Is the mechanism actually there for it to feed into the Green Paper? Was it involved to begin with?

Nick Hurd MP: There is, as you would expect, a process of consultation across government and Governments. The explicit commitment was to set up ministerial fora so that Ministers can sit down and talk through the issues: both the opportunities and some of the inevitable challenges, risks and points of friction that might emerge. That meeting has taken place in Wales, and the Scotland meeting is imminent.

Lord Vallance of Tummel: You said in answer to an earlier question that the Prime Minister was in charge of the committee that would ultimately be responsible. What is the Scottish representation on that committee?

Nick Hurd MP: The Secretary of State for Scotland will be involved in that process.

Q38 **Lord Mair:** Minister, you said reassuringly that the Green Paper is building on our science and innovation strengths. The first of the 10 pillars is about science, research and innovation, but after that most of the other pillars do not refer much to science and innovation. Would you like to comment on that? We found it odd that it is just in the first pillar and is not much referred to later. Surely science and innovation has a major influence on all the pillars.

Nick Hurd MP: I am genuinely sorry if the Green Paper gave that impression, because I think we were at pains to point out that even though there are many uncertainties about the future, we can be as certain as anything that a large part of our future and our ability to make our way and remain competitive depends on our ability as a country to remain superb at innovation. That is why we did not have to wait for a consultation to be very clear that we needed to increase our investment in science, research and innovation substantially. I believe it is the biggest increase in funding since 1979. That is a very powerful statement of intent, as is the intent to make sure that we are smarter about commercialising our success in science and research.

On the point raised by Lord Mair, if we can make it more explicit—perhaps we should have done—it runs as a thread through all the pillars of the industrial strategy. The pillar that I have spent most of my time on is the one for growth and energy. Front and central to that is the importance of energy innovation at this time, and we are spending

significant sums of money on that. It is absolutely critical to unlocking the future that we want, such as access to cheaper and cleaner energy and everything else to which we aspire. As I look across the pillars, the innovation thread runs through it. If we should make it more explicit, this Committee should encourage us to do so. It is certainly there in our thinking.

Jenny Dibden: Certainly one of the first three challenges that we announced in the industrial strategy challenge fund relates to batteries, including the clean energy aspect. If you look through the whole industrial strategy, science and innovation appears in the skills sector as well as energy, place and institutions. There are a number of measures, and it is discussed quite a few times.

Nick Hurd MP: I would be astonished if, for example, some of the sector deals that materialised did not have a heavy emphasis on research and innovation, and I would be astonished if some of the place-based initiatives that emerged were not rooted in a desire to strengthen institutional structures around research and innovation. If it was not explicit enough, that is a drafting issue rather than the way we think.

Lord Mair: I think it is partly about the 10 pillars. You have the first pillar of science and innovation and then the other pillars, which do not mention science and innovation a great deal. But you have answered that question.

Lord Fox: To come back to the language, I understand the challenge that you had in trying to explain the different aspects of the strategy, but on the question of putting things into pillars, if you substitute the word silos it has often been the case that things have been put into silos. You have these 10 areas that you have identified as being highly important. How do you join them up? What will the administrative process be of joining them up? I give you the example of procurement, which since time immemorial has been used as a way of trying to drive public policy but largely has not done so because it is interdepartmental and goes right across government; my department will not go along with your department, so to speak. How are you going to join those pillars up?

Nick Hurd MP: It is a perennial challenge for government, but it is the right one. We have made substantial progress on procurement. I recognise some of your premises, but when I listen to the steel industry and others I think that we have made considerable progress in forging a smarter UK procurement strategy. This whole process has highlighted a big challenge for government in how we think and how we interact, not least because the silos are breaking down out there when it comes to how sectors interact with each other.

Just to pick one example, we talked about the automotive industry, which, it is very clear, is at the beginning of a big technology shift towards ultra-low emission and electrification, which could have profound implications for our energy system. Therefore the way we think and the way the industry is thinking is breaking down and moving very fast. That is part of the underlying challenge, but it is important to take stock and ask ourselves how good we really are in our processes and how

government can work and engage with industry to stay on top, as best we can, of this very fast-moving environment.

Lord Fox: So how are you going to incentivise the departments to work together?

Nick Hurd MP: We talked about the architecture of government around this, and I am labouring the point that this is different from past strategies. It is a genuine attempt to join up government. However, the fact that it is so clearly a political imperative for this Government, central to the political mission and inextricably linked to a successful Brexit, with the Prime Minister chairing the committee, is different from the past. That matters—and anyone with experience of government knows that it matters—when it comes to pushing people together.

Lord Hennessy of Nympsfield: Of the 10 pillars, which do you think is the most stretching? In my judgment, it is to drive growth across the whole country. Over the years, we have had regional policies and Distribution of Industry Acts. Everybody has tried—there has been a consensus throughout the post-war years that we had to do this—but it is an extremely different thing to do in an economy. Also, as a slightly malicious footnote, I do not think it was very shrewd to stand down Lord Heseltine, who brings an extraordinary amount of electricity to all this and has spent his entire life devoted to it. That is not a question to you—and perhaps it is a bit unfair—but I wanted to put it on the record.

Nick Hurd MP: I am glad that you added those riders. I am certainly not going to be drawn on Lord Heseltine, who has made a huge contribution to public life and who I am sure will continue to do so in one form or another, as he is irrepressible.

All the pillars are, frankly, very challenging, and we need clear signals from committees and the market about what the priorities are, because it is difficult to do everything in a meaningful way. You have highlighted a very big challenge, which is politically very important and one of the drivers of the need for an industrial strategy. The Prime Minister uses the strapline, “An economy that works for all”. Members of this Committee will, I am sure, fully understand some of the undertow of the Brexit debate and its outcome: that there are too many communities in this country that feel disconnected from success and opportunity, and we have to change that. It is extremely hard and it is long-term work, but it can be done. I am sorry to pick on Hull, as I do not know Hull very well. Others will know Hull very well, and everyone I speak to who has followed Hull closely senses that things are different there. There is a different sense of opportunity there, which in large part is being driven by a new energy industry locating its offering and jobs there. So it is challenging, but I do not think it is impossible.

I come back to the starting point and the guiding star, which is the need to narrow the productivity gaps, because that is the route to increased living standards and the opportunity to encourage growth and employment in areas of the country that have struggled so far. Politically, it is really important, for reasons that you understand.

Lord Hunt of Chesterton: Perhaps Miss Dibden can comment on this point, which is item six of the pillars: encouraging trade and inward investment. It seems that, as you know, the UK may be 8% of the world's science, so there is 92% outside the UK. I have asked this question before, but it seems that there is no systematic procedure in our BEIS system of surveying international science and technology and bringing it into the UK. There is a very strong programme, for example, in the American Department of Commerce. I know this, because with two of my scientific papers they immediately put out an RFP in America for someone to develop my research. That kind of surveying is not really happening here, partly because there is a tremendous emphasis from universities that we should say, "Please help me on my project at my university". That is very important, but we should look objectively at science and technology worldwide to see what should come into the UK, and I really do not see that being a strong feature of your programme.

Jenny Dibden: I have a couple of comments here. First, I am sure you are aware of the BEIS international networks to support research and innovation. There is the Science and Innovation Network, through which we have 90 officers in over 30 countries, working closely with the Foreign Office and the Department of Trade and Industry in developing country action plans, understanding the strengths there that could be of benefit to our own science research and innovation and pursuing thematic programmes. We also have the Newton fund, and again we have 30 officers in 16 countries.

Lord Hunt of Chesterton: I know about these things. There is always an emphasis by the Foreign Office, if I may say so, on telling people what we are doing in the UK, which is 8% of the total. What about the 92%? I really do not think you have a very strong programme of looking at this other percentage. All the emphasis is on saying what clever things we are doing. Well, we are doing clever things, but we are only a small part of the total.

Jenny Dibden: We do it for two reasons. The first is that we aim to drive collaboration. As you will know, the performance of our science and research is very much based on international collaboration, so the work that we do in those countries helps to secure the collaborative partnerships that enable us to have those sorts of ratings. It also allows us to attract global talent to this country. Again, delivering high-quality science and research is dependent on people.

The last point I want to make is about UKRI. I know that you saw Mark Walport recently. One very important aspect of what UKRI will do is to continue the work internationally and build on all the work done by Research Councils, Innovate UK and HEFCE, as well as the department, to establish a firm international strategy for science and research. I think that will be helpful.

Nick Hurd MP: Your macro point is a fundamental one, Lord Hunt. In very serious times, this is a very serious attempt to take stock of our strengths and weaknesses. In that process, although we have talked about addressing the challenges and dragging up areas and sectors, we

cannot lose sight of the absolute and fundamental need to continue to build on success and continue to stretch ourselves. You know about this area more than others, but we cannot rest on our laurels with our work on science and research. Every time I hear the words, "We are world class", I get a sniff of complacency, which offends me. We have to push ourselves on.

On your fundamental point about learning from others, in a fast-moving world in which other countries are doing extraordinary things as part of this stock-taking process, we need to be challenged about whether our system is porous enough and interested enough to absorb lessons from other parts of the world.

Baroness Morgan of Huyton: I wanted to make one short comment on something that Miss Dibden said, going back to the pillars and skills. If we end up talking about volunteers going in from business it will be completely counter to any notion of place. I looked at this when I looked at digital skills, and there are plenty of volunteers in Hoxton but no volunteers going in from Blackpool. So we really have to have a serious look at this. Having some nice collaboration with local business will be very patchy.

Lord Mair: Do you believe that, with the new structure of UKRI, the international engagement that you described in reply to Lord Hunt will be more effective?

Jenny Dibden: I think it will. If you look at what the research councils have been doing over recent years, you can see that they have moved from a position of having separate international strategies to a position of having a single joined-up one. The creation of UKRI will enable that to go further, because you will have a fully joined-up one with Innovate UK and Research England. They have been on a journey, and this will be the next step on it.

Q39 **Baroness Morgan of Huyton:** In a sense, we have touched on the question of priorities already, but we are interested in how you are going to try to set them. On the one hand, we are talking about supporting key sectors. On the other hand, we are talking about driving growth across the country, which at the very least has implicit tensions or conflicting demands. For example, will funding go only or specifically to some regions, or will funding continue to be on merit? How do you envisage taking that forward? Can you at this stage throw some light on how you are going to deal with the conflicts that appear to be there—for obvious reasons—in your list of priorities, or in how you describe your priorities?

Nick Hurd MP: In any strategy you have to make choices. We have a sort of running joke in the department—there is a summary of consultation responses, but you have too many priorities, but you have missed out X, Y and Z. This is not going to be straightforward. It is about being very clear about what you want to change and what the most important thing is. Your priorities flow from that, which is a slight cop-out, but it genuinely reflects how we are thinking at the moment. As Lord Vallance says, we have done the easy bit—we have put out a Green

Paper. We recognise the limitations of government in thinking all this through, not least because the economy that we are thinking about is so dynamic and fast changing. We really need to hear from people about what the right priorities are. So we have put out the 10 pillars and we are going to listen to the market and take a view in the White Paper and beyond as to what we prioritise. The guiding stars remain the productivity gap and the need to create a broader sense of opportunity across the country.

Baroness Morgan of Huyton: Obviously, the real priority is to move beyond motherhood and apple pie and saying yes to too many people.

Nick Hurd MP: Yes, and the test of this will come through the sector deal approach. There are five front runners, and we are happy to talk about them, but the philosophy is to get out of the state picking winners or identifying sectors that we think are going to be winners. Let us be in the business of trying to identify as clearly as we can what we are interested in changing and trying to improve. Let us also have an open-door challenge for sectors to say that they understand what we are trying to achieve with our strategy and this is how they think they can help—this is the potential that they can see, what they are prepared to do and what they need government to do. We have rolled out some front runners, because we think that they are important, but this is a different approach from the past. Through that process, some of the priorities and choices will emerge, because we will not be able to do all the sectors.

Lord Vallance of Tummel: One of the past weaknesses of the UK economy has been inability to move from very clever high-tech ideas and start-up to getting to scale. We are not good at that. There is a mention in the Green Paper of patient capital, which means addressing the capital markets. How high up in your priority list would that be?

Nick Hurd MP: It is high; it is there for a reason. If you believe that a fundamental pillar of your competitive strength is your powers of innovation as a country and an economy, you must attach a very high priority to making sure that that innovation comes to market. Part of the process of it coming to market is entrepreneurs being able to access finance that works for them. Again, bringing it back to the specific—and I am using this example only because it is my day-to-day work—as we got into the weeds of energy innovation, which is really important, it was clear that we had a system of collaborating and thinking strategically about how several billion pounds-worth of taxpayers' money was being spent on innovation that was not working particularly well. We are fixing that with the Energy Innovation Board, with Sir Mark Walport as chair.

Now, the tough questions are about how good we are about helping this stuff get to market and at connecting entrepreneurs to the kind of capital that they need. The round table that we had suggested we are not good enough. To my mind, if you are serious about being an innovation economy, you have to make sure not just that you are funding the front end properly—the science and research end—but that you have very good systems for pulling innovation through to the market, so that it can have an impact on our lives.

Q40 Lord Borwick: This question is about tax and regulation and its importance to the commercialisation of science and business competitiveness after we leave the EU. Is there a reason why tax and regulations were not one of the key pillars of the Green Party? I mean the Green Paper—I am sorry.

Nick Hurd MP: I am sure that tax and regulations is enormously important to the Green Party. They think of nothing else.

Again, without being facetious, tax and regulation matter enormously and are two of the most powerful levers that the Government has, but they are tools, while the pillars are more about aims and aspirations. Tax and regulation are critical tools that need to be deployed in an intelligent way, and we need to hear from the market about how they can be used more sensibly in pursuit of our goals. I am under no illusions about how important this is, not least in the areas of science and research and not least with the tax issues.

Jenny Dibden: I think you will be aware of the importance of the R&D tax credits. They are the single biggest piece of government support for business investment in R&D. I can give you the facts and figures, but I am sure you know them. Obviously the Treasury has undertaken and concluded a review and has said in the Budget that although they were an effective and internationally competitive aspect of the government support for innovation, it will make some administrative changes and publicise the scheme more widely.

Nick Hurd MP: The broader point, coming back to the politics of this, is that anyone who has listened to the Chancellor's speeches knows that he attaches a very high priority to the productivity agenda, which is core to the industrial strategy process. He of course is master of tax and to some degree of regulation tools at the moment. I would expect him to be a substantive part of this process. They are tools in the box.

The Chairman: We have one last question, which Baroness Young and Lord Oxburgh would like to contribute to.

Q41 Baroness Young of Old Scone: This question returns to the sector issue. Some of the more well-established, well-led and cohesive sectors could come forward with a sector strategy of the sort that you described: "This is what we could offer, but these are the things that government must deliver". However, that might not address absolutely some of these key things that you have already identified that need to change, particularly in sectors that are emergent or that could not organise their way out of a paper bag. What is the government role going to be there?

Nick Hurd MP: This is a very important point. I am sure the Committee will understand that this cannot be a strategy to protect incumbency. That is not how modern economies work. As you say, there is a risk that well-organised sectors that know how to deal with government will troop through the door and say, "Do we have a sector deal for you". We are live to that risk, and, again, Greg Clark is very explicit about the need to avoid this being a strategy for incumbency. That is a challenge for us, because we have to get parts of the economy that are not used to dealing

with government thinking, "We can go and talk to them". We have to go out and reach them, using all channels to encourage them to understand what we are trying to do and come in. We can also set some stalls out.

Of the five sector conversations that we have started, at least a couple of them are not what I would call traditional sector deals. We have asked Juergen Maier, chief executive of Siemens UK, to lead a piece of work looking at digital manufacturing. That is clearly going to be a hugely important factor in the years and decades to come, which may have profound implications for the economy. That is, in its essence, a hugely disruptive ecosystem of organisation: people from digital companies and people from outside coming together around an issue that matters to the future of our economy.

That is just one example of a system that we have set up to look at disruption and encouraging non-traditional people to come in and tell us what is happening. It is what the Government need to be thinking about, and they need to think about what they can do to manage both the opportunity and the risk attached to that. That is the sort of start that we have made, but part of the test for us will be our success in getting through the door people who are not the usual suspects in order to have these kind of conversations. That is a challenge that we are happy to take on as a department. It is fundamental to success.

The Chairman: Finally, Lord Oxburgh. No? We have overrun by a few minutes but not by many. I am most grateful to you for having joined us on our last session. As I said earlier, we will not be able to meet your deadline of 17 April, because that is Easter Monday and we are having a break over Easter. But we will return to this and agree a letter at our next meeting on 25 April, which we will send in as a contribution to the consultation. We are most grateful to you, Minister, and to you, Jenny Dibden, for helping us on this, our last session. Thank you very much indeed.