HOUSE OF COMMONS

Environmental Audit Committee

Oral evidence: The Work of the Natural Capital Committee, HC 1022

Tuesday 28 February 2017

Ordered by the House of Commons to be published on 28 February 2017.

Watch the meeting

Members present: Mary Creagh (Chair); Peter Aldous; Caroline Ansell; Caroline Lucas; Kerry McCarthy; Joan Ryan; and Mr Gavin Shuker.

Questions 1-45

Witness

Professor Dieter Helm CBE, Chair of the Natural Capital Committee.

Examination of Witness

Witness: Professor Dieter Helm.

Q1 **Chair:** We are delighted to have Dieter Helm with us today to talk about the work of the Natural Capital Committee. Thank you very much indeed for coming. We have looked at your report. We are very excited to see that some of your findings match very closely with the ideas and work of this Committee.

Your committee has been up and running for several years now. Could I begin the session by asking you: what is the current state of natural capital in the world today? The previous ONS assessment of natural capital said that it had fallen from 660 billion in 2007 to 497 billion in 2014. Could you say what baseline we are looking at at the moment?

Professor Helm: First of all, thank you very much for inviting me along and showing an interest in the work of our committee, which is much appreciated.

On your precise question, I am pretty sceptical about numbers like 600 billion or 472 billion or whatever; it seems to me that displays a degree of precision and valuation that probably isn't possible. Our remit is England and what we can say about England is that, on the partial evidence we have, things are going backwards. We were very keen in the first period of the Natural Capital Committee to fully engage with the Office of National Statistics, so that there are national statistics on natural capital and the stock of natural capital. Of course, they are partial and we work extensively with them to help them achieve their objective of having full accounts by 2020, but they do show a decline.

As I say in the introductory letter to the report, the objective is to move forward. It is a bold objective. Almost all Governments, and probably all Governments since the Second World War, have left the environment in a worse state than they found it. Nothing is different at the moment yet on that trajectory and we report that very clearly in our annual report.

Q2 **Chair:** What is your assessment of the actions taken by Government? It is a clear manifesto promise, is it not, to leave the environment in a better state than they found it? What is your analysis of the actions that have been taken in that area?

Professor Helm: It is over half a decade since the White Paper in 2011 set the ambition. It was encapsulated in the idea of a 25-year plan, which the Natural Capital Committee put forward. It was not just in the manifesto of the Conservative Party but all the major parties at the next election had a commitment to that. Since then the job has been to get on with it.

With the best will in the world, the Brexit referendum throws up a huge number of issues, which your Committee has rightly highlighted very clearly, and many of those bear upon the 25-year plan. With the best will in the world, there was bound to be some delay in getting things done. What has positively been done? We also proposed that there should be case studies or templates for river catchments, cities, landscapes and the marine area, and these have been announced in a letter to me at the committee last summer and some progress has started to be made on that front, but we have not yet had a Green Paper on the 25-year plan. The White Paper is promised by the end of this year and there is an awful lot to do to put that together.

Of course, it is not just about White Papers, documents and plans. The real question is: is anything changing on the ground? Is our natural environment actually getting better? What steps are being made to do that? The answer to that question is that some things are going on all the time. There is a huge amount going on in our natural environment but we are eager that they get on with the kinds of improvements that we have identified that are in the economic interest of the country, not just the narrow environmental sense of that. That prize is out there and every day the benefits for air quality, water quality, the state of our catchments, the flooding and so on are out there to grasp. I think it is fair to say that our committee and many others are chomping at the bit to see it happen.

The Treasury has to have support and be behind the 25-year plan but, if you look at what is currently spent in the environmental area, it is quite hard to do it worse than we currently do it. Mobilising the resources we already have, within a White Paper and a 25-year plan, is a perfectly good platform to get a lot done and quite quickly.

Q3 **Chair:** We are very interested in and have looked at the work that Treasury does in this area on sustainability and promoting sustainability. The Committee has been quite critical of that Department and of Transport in the past year. Are there any particular saints or any particular sinners of the Government Departments or have all of them fallen short?

Professor Helm: We report to the Economics Committee of the Cabinet. That is our line of reporting, so we have a natural tangency with the Treasury and we have a regular engagement with the Treasury. The Treasury is the owner of the Green Book, which is one of the key ways in which environmental considerations are taken into account, and we have been actively involved in helping to develop that.

The Natural Capital Committee has never advocated or proposed new public expenditure, and I think there are a lot of people in this territory who think that the answer to the question is just, "Spend some more and it will be fine". That is not a view we have taken and there is no obvious comment to make about what is public expenditure in these areas. The national parks have had some protection, some of the more focused dimensions, but it is kind of "steady as you go".

Q4 **Chair:** Don't you think there is a problem, though, with the Treasury that they will always put short-term revenue considerations above the valuation of natural capital? Certainly, that was the conclusion that this Committee drew in our inquiry into the Treasury. We took the example of the 2015 autumn statement and looked at three different areas where long-term not potentially pure natural capital but environmental projects were essentially spiked—carbon capture and storage, green homes, which are in the news again today—just wiped out at the stroke of a Minister's pen. That is not necessarily pure natural capital but it is contributing to reducing the carbon emissions and to the green economy, which is what we want to see, which will help foster the natural capital agenda, won't it? Do you look across at each Treasury event and measure it for how it has promoted or failed to promote natural capital?

Professor Helm: Let's try to unpack that. The Treasury has a job of balancing expenditure and income. It has always had that job for centuries and that is a job that has to be done. There is a deficit in Government accounts—still one of the largest in Europe—and it would be bizarre to suggest that that is not a concern for the Treasury. Within the revenue that Treasury has, clearly it has a resource allocation issue that Government have: do you spend it on this? Do you spend it on that? Do you spend it on something else?

The really important issue here is to work out what are the criteria being used to assess. You mentioned carbon capture and storage. I could mention flood defences and we can think of national park spending and so on. What are the criteria for doing this? I think one of the things that are clearly missing across the full range of public expenditure is a treatment of assets and liabilities in a balance sheet. It is not something that the Natural Capital Committee has particularly pursued, except with regard to natural capital, but I have written separately on this. That, in the absence of a balance sheet, you are essentially treating investment and consumption as just revenue consuming. The good news is that we are making some progress towards the balance sheet. Government have been thinking about whole of Government accounts. There is a lot of work taking place on that front. The bad news is it is a long way off being drawn together.

In our territory that is why what the ONS is doing. That is why developing natural capital as an asset in a balance sheet and why focusing on the Green Book is incredibly important. It is not for us to tell the Government what they should invest in but we provide advice about how to think about and set up the framework. To my knowledge, we have not found any obstacle from the Treasury in taking this forward. Indeed, we have had very active engagement on the Green Book, but in the end the decisions about public expenditure, rightly, have to be decisions by Government and ultimately have a political content. It is not for us to comment on whether they spent enough or not or they should have spent it on this and should not have spent it on that.

Q5 **Chair:** You mentioned the vote to leave the European Union, and you will have seen our Committee's work on that and the various risks and anxieties that we have about it. Alongside that, we have had the delay to the 25-year plan for the environment. What risks to natural capital do you think are posed by Brexit and when do you think we are going to see this 25-year plan for the environment? It was July, then it was September, then it was Christmas. It is becoming the never-never plan, isn't it? As you say, Green Paper, White Paper, legislation; pretty soon it will be 2020 and we will be back on an election footing.

Professor Helm: It is the Government that should be asked as to where the Green Paper is—and remember it is a Green Paper. The crucial thing, the plan, is the White Paper. As I understand it, that is promised by the end of the year. The Green Paper is designed to get people's involvement in the drawing up of the plan and the later the Green Paper is the less engagement there is for the White Paper. I think it would be a serious problem if the White Paper did not appear this year.

As we say very clearly in the recommendations in our report, we expect to see progress by 2020 and taking the natural environment in that positive direction, because we will be down one-fifth of the total period to do this job. If nothing has happened by 2020 or, worse, if the current trend of decline of natural capital continues to 2020, you have a wall to climb to meet your objective and it is a much steeper wall than it otherwise would have been. I think that on that front it is for the Government to answer but the time and the clock is ticking, as we say in our recommendations.

There is obviously a huge environmental impact of Brexit. It is hard to think of any Department, beyond Defra, that is so affected by European regulation, directives and administration of environmental policy. You cannot possibly think of a 25-year plan without thinking what is happening to all this European stuff. You can think about this in two ways. You can identify the risks to key bits of it, like the Birds and Habitat Directive and so on, which your report sets out in greater detail than I think anyone else has done. It is very clear that there are risks but there are also opportunities.

As a committee, what we try to do is to say, "Look, if you want to think about Brexit as an opportunity to deliver the 25-year environment plan, first of all—and we are very clear in our recommendations—it should be the overarching framework within which all the rest is set". My understanding at the moment is that the 25-year food and farming plan, for example, is seen as parallel to. I can't quite see how that works, and we are very clear about that.

Secondly, we think within the environmental context the CAP is extremely important. After all, it covers an enormous amount of our land area and that is our natural capital, and farming is as concerned with natural capital as anyone. The soils and the water systems utterly rely on natural capital providing the basis for agriculture going forward. I don't think anybody thinks that the current system of CAP subsidies is a good way of running agriculture and certainly not the environment. That is not a controversial statement. The scope for improvement is potentially large. We would like, as a committee—and we say so in the recommendations—to see that, particularly the agricultural bit, incorporated. I forget which recommendation it is that we make on the number on that but we are very clear on it. We have not been asked.

You will notice that in our terms of reference it is very clear—and for good reason—that we do not comment on particular areas of policy unless asked to do so by the Secretary of State or I think it is the Defra Select Committee via the Secretary of State; there is a twist on that. There is good reason for that, because otherwise the band of seven of us would find ourselves commenting on everything from HS2 to every environmental project, every piece of development. We clearly have no resource to do that and, indeed, it might undermine the general thing we are trying to do.

The Brexit issue and the CAP issue is so big that it really is very hard to think about Britain's natural capital, and the 25-year plan, without thinking through the sheer scale of the opportunities—and I stress the opportunities—to do this a great deal better than we are currently doing it. That is what I mean when I say we have not advocated spending more money. If you look at what is currently spent in any catchment, taking into account the agricultural subsidies, what the water systems cost, the flood defence and so on, and stand back and ask yourself, "Could you spend it worse if this is your environmental objective?" I struggle with it. This is a big opportunity and we should take it, but your Committee has highlighted the risk too.

Chair: We are going to delve deep into the EU.

Q6 **Kerry McCarthy:** In terms of enforcement and governance arrangements post Brexit, do you think that the 25-year plan would be sufficient to ensure that the environmental protections that we currently have by the EU are still protected?

Professor Helm: There are two or three dimensions to that. We clearly stay within our remit, and it is very easy to expand out without having regard to the terms of reference. Our terms of reference are very clear. We stick to the remit of the 25-year plan and we are very clear that it needs to be put on a statutory basis. That is our recommendation 2 and we expand in the text on the reasons why. It is very hard to see how it gets traction without being legislated for.

There is a related question about legislation in respect of environmental protection and so on, and your Committee came up with a clear recommendation that this should be done before Brexit is completed. I think that is not in conflict with what we propose but you go wider than we do. The 25-year plan can't incorporate everything and clearly you are interested in environmental protection measures, regulation, everything from fly-tipping through to pesticides, air pollution and so on. In a personal capacity—not as the committee because the committee has not opined upon that—I have a lot of sympathy for the idea that there will need to be institutional frameworks put in place and the ability to prosecute, regulate and monitor that go well beyond what we currently have within the Environment Agency. I have written about that separately, but the NCC, the committee, has not opined on that bit.

We have simply restricted ourselves to the legal requirements we think need to be put in place in respect of the 25-year plan, which we think should be overarching. We will be going on through the course of this year, and hopefully for next year's annual report, fleshing out what we think some of those institutional issues are. You will see in our report that we think that these institutional issues are not just illustrated by the general plan but they have already come up in the Pioneers. Who is in charge? Who is driving these things? Who has responsibility? Who is answerable for the delivery of those outcomes? Those are inevitable questions that naturally come up when you try it out because you find out what is missing.

Q7 **Kerry McCarthy:** You said that the Environment Agency has such a big task on its hands with flooding and water that that is their overarching concern and they are not really carrying out the rest of their role. You suggested that an environmental protection agency ought to be established. Is that instead of, so the Environment Agency would carry on doing its flooding and water function? Could you clarify a bit more about what the EPA would do if we had one?

Professor Helm: The NCC has no view on this at all. We will be thinking through the institutions. The views about restructuring and the Environment Agency referred to are mine personally. I am perfectly happy to elaborate on those.

For a long time, I have believed that we need to split off flooding, and some of the operational activities of the Environment Agency, and replace part of it with an environmental protection agency. This goes back to the origins of the Environment Agency, which was the messy merger of the National Rivers Authority—which at the time had about 6,000 employees and took over functions of the water companies, after the Ridley Plan had been ditched, for privatising all of those functions inside the water companies—with HMIP, Her Majesty's Inspectorate of Pollution. That was a very small, incredibly professional and, I think people would say, very, very good, narrowly defined agency to look at industrial pollution, air pollution and so on. Once the two were merged, 6,000 versus a few hundred, the answer on the battlefield was pretty obvious who won.

Unsurprisingly, the Environment Agency has always been dominated by the water and floods issues. That leaves out the issues of enforcement and protection. I think it is wrong to have done this in the past, but Brexit makes it essential that you work out who is going to be enforcing what is now British-based regulation, or going to be British-based regulation, and British-based law. That is why I personally think that is the case, but the NCC has come to no position on that.

Q8 **Kerry McCarthy:** You talk about enforcing British law but, in terms of putting the 25-year plan on a statutory footing, you made it quite clear that you think that that needs to be done. If it was not done, what impact would that have?

Professor Helm: There has always been a risk with the 25-year plan that it is a nice objective for 25 years' time and it is always possible to do these plans by lists—as I like to refer—and it is always possible the 25-year plan becomes a list of all the things the Government are doing. I have argued the infrastructure plans became like that. You started off with a general idea of what you were going to do and you ended up with a list of projects, which is what happened at the end of the coalition Government.

I think that one way of making sure that this is embedded—and it is part of the rationale behind the NCC's recommendation—is that, by having a statutory footing, you have created formal legal responsibility for delivering the outcomes. I think that puts in place all the apparatus of: answerable to Parliament and to Select Committees. All that scrutiny and Ministers' regard to the law having to ensure that the law is actually pursued, is altogether a more serious plan and could be properly governed.

Without all of that, can it be done? Yes, probably. Will it be done? It is clear from our recommendation that we think it is less likely to be successful without the statutory footing, otherwise we would not have put it in there and we did not put it in lightly. We gave a lot of consideration as to whether this needed a legal frame and that is clearly number two of our recommendations.

Q9 **Kerry McCarthy:** The final question is about the capacity of Defra or the role of Defra. We know that Defra was incredibly stretched before Brexit and it now has even more pressures on it. You have already said that it is affected more than any other Government Department. Going forward, what role should Defra have in terms of the 25-year plan and does it have the capacity to carry out that work?

Professor Helm: There are several dimensions to that. First of all, from the NCC's point of view, we have a very limited amount of resource. I am pleased we do, because that way we can focus on the questions we have been asked and concentrate on them and not go off and do lots and lots of other things. As a committee, we are not short of resource to do the remit that we have. We have an excellent secretariat. We had a great secretariat for the first period of office and we have a really good secretariat to follow up now; first class civil servants giving us brilliant support.

On the 25-year plan itself, the resource requirement for the 25-year plan depends on what you think is going in it. This question is very interesting, because at one level it is: we have to produce an enormous amount of data, accounts, measure everything and come up with some optimal list of projects, as if we had done a full Comprehensive Spending Review and so on. At best, I think that is very premature. What we need to do is to identify what the prize could look like in 25 years' time. That is what we are really working on now as a committee to help inform the White Paper: what could England look like in 25 years' time when the next generation inherits?

If you look at it, there are an enormous number of really good ideas. Some people have large landscape-wide projects. We recommend they are taken seriously, in one of our recommendations. Lots of people have very local things: to make their village pond or their village streets better, to improve the streets of urban areas by planting trees. There are a huge number of projects.

The idea that any set of civil servants could sit down and say, "This one in Birmingham on that street is the right answer but we don't want to do The Mall in London in this way. We do want to do this village pond but we don't want to do this park somewhere else". That is just impossible. That drives you towards, first of all, being really clear what the high-level priorities are, being very clear what success means, and then setting in place the apparatus that over 25 years and beyond continues to support this.

That is where this institutional question becomes very serious. I personally don't think that it is Defra's job to do that. As a committee, we have not formed a view but we will be working very hard on these—what I call—institutional questions. I don't have any sense that what are missing are lots and lots of people working on this. It is a separate question about whether there are enough people working on the Brexit bits of this. That is outside my remit and that is for others to look at and, as a Committee, you have looked at that in some considerable detail.

Chair: We certainly have and are continuing to.

Q10 **Joan Ryan:** Talking about what does success look like leads us quite nicely on to how we might measure it. It could be a little bit of cart before the horse here. I am conscious that you have talked about really what sounds like measuring failure: that it would be hard to do worse than we are already doing, that if we don't get started on this path a little bit quicker with the Green Paper we have no White Paper and, if we wait until 2020, it is a very steep wall to climb. I note that in your fourth report you recommend ambitious and long-term outcomes that are quantifiable and measurable. What kind of outcomes do you expect the 25-year plan to identify as its aims and how would you measure success? Rather than, as you say, just a list of projects, how would we measure success?

Professor Helm: First of all, Britain, England, since the 19th century, has the best documented and researched decline of natural capital anywhere in the world. You can find a book on any species that has been declining; you can find books on the loss of woodland, the destruction of the hedgerows, the agricultural developments in the 1960s and the intensification under British agricultural policy in the 1970s. If there is any species in Britain that does not have a book about it I would be very surprised. As I say, what British naturalists have done over a century is minutely plot what we have lost. We can go on doing that or we can say, "Okay, the coalition Government formed this view that they seriously wanted this objective to stop the rot and turn it round". I wouldn't chair this committee unless I thought this was worth doing and it was achievable.

What we did in the first committee was to sort out a practical methodology for addressing your questions. Natural capital is an asset-based approach not a services-based approach—just like company accounts are about assets and liabilities—and we identified the two different sorts of natural capital, renewable and non-renewable. Non-renewable is the stuff you only use once. If someone uses it you have to put something aside for future generations so they can share it. If you deplete North Sea oil then what is in it for the next generation. That is a non-renewable natural resource, but the things that we are really concerned about are renewables. Those are the things that nature gives you for free forever provided you don't drive them below thresholds. Quite a lot of it is fine and you don't have to worry about it because nature just keeps doing it.

What you need to concentrate on is those renewable natural capital assets that are at risk. We are very clear that, first of all, you need a risk register. You need to identify what is at stake and there is a lot of information out there to do that. Then you need to think about immediately holding the line: what are you going to do to make sure that you don't lose those assets? It might be about fisheries policy and maintaining fish stocks, about a particular species, habitats and ancient woodlands and so on. Again, it is not hard to work that out. Then we want to go forward and that is where the benefit assessment comes in: what are the sorts of natural capital, which are not in danger of falling below the threshold, that we could add even more of and we would be much better off if we did? That is where you look at the benefits and use valuation.

I will give you a few examples. We know a lot about the value, let's say, of recreation. We know a great deal about the health benefits that come from exposure to nature. We know an enormous amount about the damage done every time you walk outside this building and inhale the air quality. We also know quite a lot about how to fix them. If you take air quality in London, we don't start with a blank piece of paper. We have very natural capital types of approaches. Planting trees is a rather good idea. I am not recommending it but it turns out to be rather cheap to plant trees down most streets in most cities. Green spaces can be used much more effectively, but we also know that diesel vehicles are pernicious compared with other vehicles for the emissions they make. We can identify these.

I don’t think you need to work out some grand valuation and plan for everything. You need to cut in. That is also why we have done the Pioneers and why we recommended the Pioneers. Do a catchment, see what happens, work it out, let the evidence come from it, and then apply it to all the other catchments. Do a city such as Manchester, see what the scope for improvements is, do the measurement there, and then see whether you can do it in London, Bristol, Sheffield or Newcastle or wherever else. I think it is doable. The techniques are marching on. We have the national ecosystem assessment. There is a huge amount of data being collected out there. We do recommend that that is provided in an open, transparent way so people can see what is going on.

If you are looking for a perfect measurement, we can sit here until Christmas in 25 years’ time and we will still be discussing it. But I would rather be roughly right than precisely wrong, which is where we are at the moment.

Q11 **Joan Ryan:** To take that a little bit further, your report called for careful analysis and consultation to determine the outcomes of the 25-year environment plan, and it is clear your committee is focused on that. Do you know if that consultation is taking place and if there is progress being made in Departments, in Government? What is happening here?

Professor Helm: There is a lot of activity taking place with Defra, civil servants and others talking to lots of different people on these subjects, but the real answer to your question is: that is what the Green Paper is for and that is why it is so frustrating that it is not out there. The idea was to get it out last summer.

The reason you want these things out in the open is that you want to draw in all these ideas that people have. It is not just the big set piece projects that people have in mind. There are great projects out there that people are pushing forward. The Woodland Trust has the northern forest. Lots of people have different big-picture pieces, but it is regional and then it is very local. You can contribute to natural capital in your back garden or in your village and make a great deal of difference. You can make a great deal of difference if you are having houses added to your village in how it is configured.

These ideas need to be brought out at these layers and without a Green Paper it is quite hard for the Government to engage in consultation. We are working away at what we think the prize is and we will bring that forward over the summer to try to inform the White Paper.

Q12 **Joan Ryan:** How serious do you think the risk to natural capital is, if this analysis and this consultation is not carried out and developed in ambitious but realistic outcomes?

Professor Helm: It is for the Government to decide whether they want to pursue the objective, fulfil the manifesto commitments they have made and bring forward papers in what is—and I am very clear about this—a much more difficult environment to get anything done, because Brexit is such a huge demand on all civil servants and all parts of Government.

In the end, we will report—the formal term is "advising Government on progress against the plan". Well, you need a plan to report against. We are looking forward to that. We are helping to construct that, but then we will report against it. We say in our summary that if progress has not been made by 2020 we will say so, but it is not for us to make the progress. It is for us to comment on it, advise and assist, and I think that is the limit of our committee.

Q13 **Caroline Lucas:** Your committee recommended an oversight body be established that would have responsibility for measuring natural capital. Can you clarify what this body should be, who it should be? Is it the same as the body that you reference earlier in the report? Whose role is it to be doing that?

Professor Helm: The honest answer to your question is that we have not sorted it out yet. What we have said in this annual report is that there needs to be a statutory basis, and we have talked about the components that need to be put in place. I anticipate that what we will be doing this year is trying to fill in that architecture. You might think I am evading your question but it is the fact that we haven't come to an answer about it yet.

Q14 **Caroline Lucas:** Are there options that are being discussed?

Professor Helm: We have not had a formal discussion of the options, but everybody knows there is quite a lot options out there and what those options are is quite wide. We already have an institutional architecture in place. We have an Environment Agency, Natural England, Defra itself, and then we have water regulators and so on around the pitch. We have the Brexit stuff that puts the Europeans as clearly in the role of having many of these functions, too and the directives behind them.

When you ask, "What is your architecture?" the first thing to ask is: do you accept our recommendation that the 25-year environment plan ought to be the overarching framework? If you accept that, do you accept our recommendation it ought to be put on a statutory footing? If you take those two things, and you do those two things, it follows that all of this other stuff is under the umbrella of the statutory basis within which the 25-year plan is fixed. That is not the Government's current position as I understand it. The Government's current position is that there are two 25-year plans: one for food and agriculture and one for the environment. But they are separate and there has been no discussion in the public domain that I am aware of—but someone may tell me differently—of what institutional framework we put in place, so I think they are up for grabs.

You gave an answer. In your frame of an environmental protection agency, my question would be: do you envisage the 25-year plan being driven by this environmental protection agency or something else? In my personal world—not the NCC's world yet, or whether they agree or not we will see as we go on—in my view, the environmental protection agency is a very narrow enforcement agency role. It is very sharp, legally defined; it is not a policy body. I suspect that my view about the 25-year plan and overarching statutory framework would not be entirely carried out by an environmental protection agency of the form that you advocate, but I think this is all up for grabs. I stress that the NCC has not formed any opinion on this but hopefully we will and in short order.

Q15 **Caroline Lucas:** That being the case, can you be tempted to take off your hat of the NCC and say anything more about, given what you have just said about how you would envisage the architecture, where you would see the actual enforcement happening?

Professor Helm: In the NCC we all take off our hats from time to time. It is part of the rules of the game. We talk about the NCC and we present the NCC view, but if you look at our members, who are all extremely impressive people, they all have their own views about these subjects, so we are not averse to taking our hats off. You may think I am ducking your question but I am not, because I think your question is absolutely central. Lots of this architecture has to be sorted out before you can give a definitive answer to the question you have.

In my book I set out the notion that, in order to ensure that the next generation gets the benefit from the depletion of the non-renewables, there should be a nature fund. It is assets, liabilities and a fund between the generations. That requires a governance structure like sovereign wealth funds have in Norway and elsewhere. If you bought that idea then that tells you something about where the institutional relationships lie, because where the money goes the power usually flows too. If you are going to leave the Environment Agency in its current structure and its current rationale, then that tells you something quite interesting about how you are going to have to cope with the catchment dimensions, system catchment operators and so on, the 25-year plan and the other remits of the Environment Agency, and the fact that the Environment Agency is funded from Government within the Comprehensive Spending Review.

I apologise for not giving you a definitive answer. I don't have one. What I think one could do is describe the sets of architecture that are already in place, the sets of issues and law that have to be developed. Within that framework, as the NCC, we have gone as far as to say, "We need a statutory framework" but we have not said what is in it. I apologise for ducking your question but I really don't have an answer yet.

Q16 **Caroline Lucas:** Thank you. I will try you with another one. If the 25-year environment plan does not follow your committee's recommendations, what would the impact be of limited natural capital measurement and weak decision support tools? The reason I am asking is that our Committee has previously raised some concerns about the risks of measuring and, therefore, monetising natural capital. Is there a bigger risk that doing it badly is worse than not doing it at all?

Professor Helm: There are several points. The top-level point is: if this isn't done then a huge economic opportunity has been missed. Sustainable economic growth will be lower. If the health benefits, the benefits of the inputs into industry and firms, water, air, all the things that the economy relies upon, are not addressed in the way that the objective is set to do then we will all be poorer. That is an absolutely clear starting point.

We can't make anyone do anything but we have been very clear there is a huge economic prize here. One of the great things about the White Paper was that it made it utterly clear that the environment should be seen as part of the economy. I would put it the other way round: the economy is part of the environment too. There is a lot of economic loss here if this is not done properly, and that is exactly why the committee should report to the Economic Subcommittee of the Cabinet and why the Treasury should be involved in this.

Now the question is: what happens if you still have the objective but you don't do the measurement right? Sometimes it does not matter whether there is quite a lot of error in the measurement and sometimes it does. Some projects are just such a good idea that you really don't need to spend a great deal of time working out whether you should get on with them. We have a lot of evidence about what air quality is doing in London. How much analysis do you want to realise that, with the benefits of sorting this out, there are quite a lot of things you can do that cost a lot less than the damage that is being inflicted. You get on with that.

Some things are more finely tuned and some things are in areas where it is going to take you a long time to understand. That is things like ecosystems. You need to think about whole river catchment. You can have a crude model of the different component parts but it is a quite complex and complicated system. Since we are trying to make sure the assets improve through time, my approach would be to say: be risk averse. Be very careful. If you are going to muck around with the system, if you are going to take a chunk off an ancient woodland, if you are going to do certain things to river systems, or you are going to allow certain sorts of agricultural practice in river catchments, be very careful about the system damage. I am interested in information about where the risks are as much as I am about the precise bit.

As to monetary valuation, there is a huge amount of stuff that cannot be put in monetary terms. What cannot be avoided is that spending is in monetary terms. When you are talking about what resources to devote to do things, there are numbers attached to that. What you have to be sure is that the things that you are spending this money on have a value that is at least in excess of what you are spending. Often it will be just way above, but sometimes it is quite tight. I am very keen that we focus on the bits that matter, the assets at risk, and that we identify where those risks lie in ecosystems as well as just individual assets and focus the attention on that.

It is trite, almost a cliché, that the perfect is the enemy of the good but it really is here. You are never going to have complete knowledge. We need to get on with this stuff. There are things that need to be done now that are well worth doing, and we shouldn't hang about to get precise measurement. We should focus on trying to improve the measurement and we recommend that among our list.

Q17 **Caroline Lucas:** Just finally, can I push you a little bit more, because you have begun to acknowledge that some things cannot be accurately valued and that some comparisons are not commensurable? But it did strike me, it was quite interesting, that your first response to, "What is the risk of doing this badly?" was that you expressed that risk very clearly in economic terms; that there would be a huge economic loss rather than necessarily expressing it in environmental terms. Although you turned it around, it was interesting, again, that you are on record as saying that the environment is part of the economy rather than seeing the ecosystem of which the economy is one part.

I guess what I am asking you is that, when we sat on this Committee in the last Parliament, we heard quite a lot of criticism that essentially this whole approach to nature is one that devalues it, which risks not recognising the intrinsic value of nature in its own terms and, once you start putting a price on something, you can then start making those trade-offs. So the question is about how you respond to those critics.

Professor Helm: I have no particular view about intrinsic value of nature.

Q18 **Caroline Lucas:** In the sense you don't believe it has one or you don't think it matters whether it has one?

Professor Helm: I think there is quite a deep philosophical question as to what "intrinsic value" means. The practical issue is the following: economics is about allocating resources—scarce resources—and policy is about priorities, identifying what it is you want to protect, what it is you want to spend on, what it is you want to avoid doing and so on. You don't have to come up with the valuation of something in some detail to start sorting that question out.

In my book—so it is not a Natural Capital Committee issue—I give an example. If you take Twyford Down, if you drive down the M3 to Southampton, you go through this scar in the landscape. When that scar in the landscape was done, there was no detailed cost benefit analysis done of the environmental value of the Down that was at the top of it.

You might say, "How the hell would you work out precisely what the value of Twyford Down was?" The answer is: you don't need to. All you need to know is: is it worth more than what at the time would have cost—I think £90 million—to put a tunnel through it? You could have not done it also. The practical question is: is it worth spending £90 million to keep that Down in place? That is not to say the question is: what is the Down worth?

A similar question is supposing the Common Agricultural Policy rolls forward and you had £3 billion to spend. You do have to decide where to spend that. It seems to me that it is pretty sensible to try to work out where the benefits look like being biggest and where they are smallest.

Q19 **Caroline Lucas:** Would you even acknowledge that there is a risk—to take your Twyford Down example—that once you have put a monetary value on that, then you could have some policymaker deciding that, "We will go and plant some trees somewhere else and we will nurture another piece of land", and somehow we will make that equation look as if you can compensate for the loss of one by the creation of the other? I know you would criticise that, rightly, because the two are not commensurate, but do you not at least acknowledge that, once you start putting those financial values on nature, that that trade-off becomes more likely by policymakers who perhaps do not have the in depth knowledge that you do?

Professor Helm: My response is to turn your question around entirely the other way.

Caroline Lucas: Not when it is not answered.

Professor Helm: No, I am going to answer your question too, but the big risk is that we don't do this, that we carry on as we have. The history of the British environment, without this kind of proper analysis of the value of the environment, has not been a good one. There were no cost benefit analyses done of the destruction of the hedgerows, or the destruction of the ancient woodlands that happened in the 1960s and 1970s under agricultural policy, none whatsoever. There were no cost benefit analyses of the Forest Commission's forestation—

Q20 **Caroline Lucas:** But you are the one who has been saying that the environment has been getting worse and worse under successive Governments.

Professor Helm: Now I am saying: how do you bring that to a stop, essentially? How do you say: how do we do this job better? I am entirely with you if you do it badly, so in the debate there was in the last Parliament about—

Q21 **Caroline Lucas:** So the risks of doing it badly are more than just economic? Can I press you on that because—

Professor Helm: No, let me just finish the point. It may not satisfy you but I think it goes some way. In the last Parliament, we had a long debate about offsetting and there is a sense—you might see it in the Housing White Paper—that people might think, "We chop down some trees here. We put some trees up there. Offsetting has been done, it is fine". That is just really, really bad, both ecology and economics, because you cannot replace ancient woodland with planting some trees elsewhere. These are extraordinarily valuable assets that are irreplaceable, in the sense you just can't have any more ancient woodland.

Is it the case that therefore you should have a law that says, "Under no circumstances in any world whatsoever, you should never damage ancient woodland"? Clearly, that is not going to happen. Now a really practical question comes up, for example, in the case of HS2, where there is a debate about compensation. If HS2 goes ahead—and I think the Bill has gone through now—we know that there is going to be some significant damage. Now, first, we can do what we have done repeatedly in the past, which says, "Well, tough. Damage, but the benefit is greater than the damage. Just do it", or you can say—and the Housing White Paper has some of this in it too—"No. Given you are going to do this damage, you are going to have to do something to make up some of that damage elsewhere".

It is a really interesting question as to what you would do if you took all of the developments that are taking place and said, "You have to set aside X for investment in our environment". The problem about X is you have to decide what X is. Answering that question by saying, "There is no X because it is intrinsic" gets you nowhere because, ultimately, you might end up with nothing happening.

Q22 **Caroline Lucas:** Equally, you could say that, although you have acknowledged that some of that ancient nature you are not going to be able to replace, the very fact that you are looking to see how you are going to be able to do it, would you not acknowledge that there is a risk, at least, that that makes it more likely that the opposition to HS2 is dissipated? Because we can all use these lovely arguments about saying, "Over here, we are going to compensate for it in this way and that way" and, therefore, the resistance to doing it in the first place is reduced? I am just asking if you would accept that that is a risk with this approach.

Chair: If I can just intervene as the Chair, I saw no dissipation of opposition to HS2, either in my own party or across any party. There has been massive opposition to it, and I don't think that the proposal around the green corridor or anything else has dissipated that opposition. That is my view politically, but if you can answer quickly.

Professor Helm: I will answer very quickly. I would put it the other way around. If developers had to pay a value for the damage they are doing to the environment in certain circumstances, a lot of developments would not happen. If you are doing something as serious as removing an ancient woodland—and by the way, they have been doing tons of that for

30, 40, 50 years; it has been a really sad story—then, if you have to face up to the consequence of doing that, that changes the nature of development decisions. Is it going to be done perfectly? Absolutely not. Is it done well at the moment? No, is my personal view. Could it be done better? Enormously. What happens if we don't try? The damage will just go on. That is what we have suffered.

Chair: We are going to explore that a little bit more now with Caroline Ansell's question.

Q23 **Caroline Ansell:** Around public awareness of value and the benefit of natural capital, you recommended in your report that the Government revise the Green Book. They have agreed. They have stated that they will do that to take account of natural capital. What would a meaningful revision look like, in your estimation?

Professor Helm: These things are incremental, so the Green Book, which is a technical tome, has components that have considerable room for different approaches and debates about. There are certain very fundamental things, like the discount rate, which has turned out to be absolutely crucial. There is the valuation that is done. First of all, that is what is incorporated within the valuation of projects. It used to be that you just add a list of some environmental things, so you would have a checklist along the side. Now it is a full engagement with a proper valuation of those things.

Then the question comes—and this is a question going forward—which is: what is going to be the relationship between that balance sheet and the 25-year plan objective? Is this just a bottom-up cost benefit analysis tool, on a project by project basis, or is this a tool that is going to bring into account the overarching objectives? The crucial issue here, and it goes a little bit to Caroline's question, too, is that what the Treasury does in the Green Book, and what economists have traditionally done, is they look at each project for appraisal and they work out whether it is a good project: should we build this school? Should we build this hospital? Should we do this flood defence?

The environment does not come like that. It comes in systems. If you think, "If we just do this little bit to this little bit of the green belt. We will just look at the economics of doing that", you miss the totality of the system. What cost benefit analysis is very poor at, and what the Green Book will always struggle with, is systems. You mentioned HS2. Is the Green Book-type approach to HS2 to look at the bit between London and Birmingham or is it to say, "Is it a good idea to have a high-speed rail system?" Those are different questions.

I think that requires an enormous amount of focus. That is where the science of ecology, habitats and ecosystems comes against a marginal cost benefit economic tradition. It is the stuff of revising the Green Book to try to get these things taken into account and it is very incremental.

Q24 **Caroline Ansell:** That does not sound like a revision. That sounds like wholesale culture change if we are looking at systems-led decision-making. Is that possible? Can we aspire to that?

Professor Helm: I think it is coming up across the entirety of the infrastructures and the National Infrastructure Commission has precisely that issue in front of it. It is being asked: what national infrastructure systems do we want going forward over 10, 20, 30 years? We have terms of reference to advise them on the environmental bit of that, but they should be thinking about natural infrastructure in that frame. That is a big challenge for Treasury thinking generally. It is not that Treasury is not really good at this stuff. It is just that it is intellectually very hard and there are no obvious tools available yet to do that.

Q25 **Caroline Ansell:** Is there obvious precedent elsewhere in the world?

Professor Helm: No, not that I know of. There is a lot of environmental economics going on elsewhere, but we are still the first Natural Capital Committee in the world. In that respect, we are still in the front of this and trying hard to push this thinking forward.

Q26 **Caroline Ansell:** Through the work of the committee, you have identified particular organisations or companies who you feel are leading in this area, in terms of valuing natural capital in their decision-making. Is there a way to promote their work and how does Government incentivise that sort of good practice?

Professor Helm: In the first Natural Capital Committee, Professor Colin Mayer helped us develop a corporate natural capital accounting template, which is out there and published and it will be further taken forward in our "How to do it" manual we are going to produce. We want that taken forward, and I have to say we have discussed this. There is a serious issue here, which is that natural capital has gone from being a kind of, "What's that?" to becoming the go-to concept. Anybody who wants to do anything says, "Oh, it is natural capital". The real worry on the corporate side is that natural capital, which is a hard concept with proper measurement, proper ways of doing things, goes the way that some of the sustainability stuff has gone, which means it becomes whatever anyone wants it to mean and we end with lots of companies claiming to be natural capital enhancing that are not really.

That is why we are keen that there is a proper standard for doing this, and we are very keen that what we have developed is the right way of doing that and should be taken forward on that basis. We would like the accounting bodies to engage. In our first Natural Capital Committee, I think we recommended the accounting bodies take this stuff forward.

Q27 **Caroline Ansell:** How is that incentivised? What part could Government play in that?

Professor Helm: You can think of voluntarily incentivising people to do things, encourage them to report this stuff and so on but, at the end of the day, companies have to report their pension liabilities, companies have to report a series of things, so they don't have any choice about the matter. If people have natural assets, first of all, we want to work out how to do it. We want to work out how work goes forward. But accounting standards are accounting standards, and I struggle to think why pension liabilities should be a matter of standards but natural assets shouldn't.

Q28 **Caroline Ansell:** In terms of the risk register you mentioned earlier, in terms of local authorities' positions and their assets, thinking of the Downland farms—being very parochial for a moment—how do you reconcile those two aspects: natural capital that is irreplaceable and the risk register and value? How do those things interplay?

Professor Helm: We say, particularly, national parks in our recommendations but local authorities and so on should seriously construct risk registers. Recalling what I said earlier this morning, this is focused on renewable natural capital and renewable natural capital that is at risk, in the sense of going below the threshold where it is no longer renewable and you have lost it forever. We think that that is something that people should do in the same way as they should have a risk register as to whether—I don't know—they have asbestos in their buildings or whatever. These are assets within the control of the organisation and no board, trust or public or private body that has natural assets within their control should not be aware if those assets are at risk. That seems to me to be as much a part of corporate life of a parish council as it is of a major global multinational.

Q29 **Caroline Ansell:** The tools for measuring that risk you think are robust, are developed?

Professor Helm: This is a pragmatic issue. First of all, you might ask the question: does any of your company building have asbestos in it? You know immediately to put it on your risk register. You might not know how risky it is. That is another question. When you focus and really drill down and think, "Well, how serious is this?" that comes from having first scoped where you are coming from, so: what is your baseline? What does it look like now? Which things jump up at you, and then you devote some resources to thinking about those things.

What you don't try to do is produce the brilliant set of numbers that perfectly represent absolutely every risk and every characteristic before you do stuff. There is stuff that has to be done know. There is stuff that is obvious to do and there is stuff that you should be keeping a watching eye on. Normal businesses do this with regard to their other forms of capital and, if they don't, they tend to fail. There is nothing new in this, other than you have a set of assets that you have not taken into account in the past. You may have missed lots of opportunities with these assets, more things you could have done with them, more benefits you could have, but you also may have downside risks. They may be your liabilities, and your shareholders or your electing public should be aware of what liabilities there are as well at what assets there are.

Chair: We are going to move on to devolution now with Peter.

Q30 **Peter Aldous:** Thank you, Madam Chairman. Your committee's remit only extends to England. To what extent do you find that a disadvantage, a frustration, and how much integration do you think there should be between the devolved institutions?

Professor Helm: The first thing to say is that we also have an international bit too, which has been added on to our activities. In practice, the answer is: it has not been a problem to us yet but it could be. If you think about the reform of the Common Agricultural Policy, if you think about the whole way in which these directives and environmental regulations from Europe will be recast, it is quite hard to recast them on an England-only basis, and back to the discussion about the institutional structure and so on, yes, it could become a problem.

The other thing I would say is that we have an enormous amount of engagement, particularly, with Scotland where there is an enormous, very exciting and very interesting groundswell of movement, of trying to do natural capital engagement with the Scottish Government and so on on those fronts. Most of the bodies we deal with overlap. We haven't gone into the guts of the 25-year plan itself yet but, clearly, migrating birds do not stay in one country, river catchments overlap. There are going to be lots of issues. Maybe I am wildly optimistic, but I think pragmatism will probably handle these things. There is no correct boundary. Maybe naively, I am a little relaxed about that.

Q31 **Peter Aldous:** In Scotland, they have the Natural Capital Asset Index that came out in 2011. Do you think that is a blueprint perhaps for extending over other countries in the UK?

Professor Helm: We are at that stage of trying to do this in lots of dimensions. Scotland has been thinking about it as Scotland, but the Pioneers are thinking about it as a river catchment; urban areas like Manchester are thinking about it as a city; the North Devon example is a landscape issue, and we are thinking about it on a marine basis. I think we are at the stage where we want to try quite a lot of these and then very quickly draw out what best practice is, and then we will hone the thing down quite quickly.

The risk is on the accounting side—that was my answer to an earlier question—that we get different accounting bases and then you are not comparing properly against countries or across regions. I would say, let's see where this takes us a bit further. We are still early days on that front. The Pioneers are all very, very important in their own right but the point of these things is to provide the templates to use elsewhere. The river catchment is really interesting. We have lots of different kinds of spending: we have agricultural subsidy spending. We have flood defence spending. We have water company spending. We have a huge amount of recreation, other uses. We have woodland issues, so we want to try to catch that first.

Q32 **Kerry McCarthy:** Are you frustrated with the progress of the Pioneer projects? Do you feel that we should be further down the path now?

Professor Helm: We say very clearly in our recommendations that these things need proper governance and so on. You can look at this in various ways. They only really got going last autumn, so we are only a few months in. You can approach them by saying, "Let's decide exactly how they are going to go before we start them and then they will follow that plan" or you can say, "These are generally templates. Let's get them going and see what happens". I would say we have gone down the latter route—not we, it is the Government's Pioneers; it is not the committee's Pioneers—and what you have discovered is lots of issues that have come up. That is precisely why we recommend proper governance of these things.

There are lots of different institutions, organisations and players that have something in the game, but what is not clear is who is in charge, where is the catchment plan now for the Pioneer? I think this is just part of a continuing process, exactly what you would expect to happen. There is now lots of stuff on the table and, as a committee, over this summer we intend to try to inject some general lessons from this framework, so we are having a meeting of all the Pioneers brought together to try to think about how these inform the 25-year plan.

Q33 **Kerry McCarthy:** Do you think they will have made enough progress, enough headway by the summer to be able to inform that process?

Professor Helm: Who knows? By nature I am impatient, and I think these benefits from doing the environment in a proper way in this plan are enormous. Every day that they are not happening we are losing something, whether it is air quality in London or whatever. We can do much better and quicker, so of course I am frustrated. But is it reasonable to think, six or eight months down the road, "You can learn some really good lessons from these"? Yes, and I suspect we are going to.

Q34 **Kerry McCarthy:** When you say you are getting them in is it the Natural Capital Committee, or is that as a member of the national Pioneer board?

Professor Helm: I am not a member of any Pioneer board and we are not a member of any Pioneer board.

Kerry McCarthy: My notes say that you have been referenced as a member of a national Pioneer board.

Professor Helm: No. The committee is just a committee. To the best of my knowledge, we are not on the boards of any of these and they have different shapes and structures anyway, but that is beginning to expand our remit. As I said at the outset, we have very narrow and tight terms of reference, which I am very pleased about. We intend to keep exactly within that framework and not migrate ourselves out into lots of other areas, including running Pioneers and so on. We are seven of us in total and two days a month. With the best will in the world, if we start doing lots of these other things we will lose the plot on the main central terms of reference we have, which is my duty as chair to see we deliver.

Q35 **Chair:** Our notes say that Natural England has talked about the national Pioneer board, so perhaps that is happening at civil servant level rather than at your level but we will dig into that and get some answers.

Professor Helm: I am very happy to take that away and get the secretary to write to you and explain what the position is, if that would be helpful.

Q36 **Chair:** Thank you. The marine Pioneer is not yet active, the urban Pioneer was supposed to be live in December 2016 and yet it has been indefinitely postponed. Can you give us any update on the Manchester situation? What has gone wrong or not happening there?

Professor Helm: I can't give you detailed information on any of them, because I am not running them

Q37 **Chair:** So we need to go to Natural England for that?

Professor Helm: You need to go to Natural England. I don't think it is correct to suggest that is nothing is happening on the urban Pioneer in Manchester. A great deal is happening and we have been involved—through Diane Coyle, who is one of our members based in Manchester—in helping to take that forward inside Manchester and a lot has been going on in Cumbria. On the North Devon project, Ian Bateman, another one of our members, has been deeply involved. We have allocated a member to each of these cases to help take them forward and we are going to use some of the early results from these in our "How to do it" manual, which we are planning on bringing out. Our aim is to get it out by the end of March, but we will try.

Q38 **Chair:** Thanks for clarifying that. Can we just go back on infrastructure? We have touched on it and we have talked about the risks of not including natural capital. How do you think the Government should work with local authorities and infrastructure providers to incorporate natural capital in their decision-making, and do you think there should be an enforcement mechanism? You talked about pension liabilities are on; why aren't natural capital liabilities on? Is anything happening at local authority level on this, because this is essentially where the decision-making happens, is it not?

Professor Helm: That has lots of dimensions. Should local authorities be actively engaged in having natural capital registers and so on? We wrote recommendations about that: obviously yes. That is one part of the story. The question about whether they should be legally required to do so bears upon what the institutional structure is.

As a Committee, you come forward with a clear recommendation in respect of a legal entity and, presumably, that legal entity would have some duties in respect of local authorities and other public bodies and there will be some construction around that. The natural capital plan put on a statutory basis: that statutory basis—and I stress we haven't discussed this yet—might require local authorities and others to have regard to natural capital or it might require something more than that. It might also have requirements in respect of accounting bodies, corporate accounting and all those kinds of things.

In one sense, those are details but they are absolutely crucial to how this gets taken forward. That is why I said I could not give you straightforward answers about what that legislation might entail, because that is a task we are going to be thinking about over the next year and we haven't bottomed that out. I did stress the rest of the architecture, as that becomes clearer around Brexit and your proposals, that influences where our recommendation fits into the frame.

Q39 **Chair:** Your point about International Accounting Standards—IAS—that would mean that your committee would have an international global reach if you got International Accounting Standards changed to recognise natural capital.

Professor Helm: We have engaged with the World Bank and others on international accounting conventions and particularly Colin Mayer has been doing that. But I think that if we wait around for the world to change its accounting rules, given that quite a lot of the world does not even impose them properly yet, the existing ones, even the satellite ones. That is worth pursuing. But here there are things that people have to compulsorily do that are their main accounts, but there are things that people can do as well.

It is like the issue of the balance sheet for the country as a whole, so we don't have a balance sheet for UK and it is not required in the normal ways in which budgets are done and so on. But we do now have whole of Government Accounts and people have started to work on what the pension liabilities are. On accounting, I may be naive on this, but I really believe that shining torches on what people are doing is quite a good idea and it does change behaviour quite substantially.

Q40 **Chair:** You have engaged with the National Infrastructure Commission. Have you engaged with the Department for Transport, which is also funding an awful lot of these projects?

Professor Helm: I don't think we have. I will check that. Presumably we should.

Chair: Can we encourage you to?

Professor Helm: Yes. Again, just to remind you, we don't comment on particular projects. That is outside our remit.

Q41 **Chair:** No, I am talking at an institutional level.

Professor Helm: But institutional, that is a very important point and I will take that away with me.

Chair: We have some big schemes coming up.

Professor Helm: Yes, we will take that forward.

Chair: As a Committee, I think we, would be reassured. A final question, Peter.

Q42 **Peter Aldous:** Thank you, Madam Chairman. The final question always comes down to money and how you pay for it. In your report, you recommend a programme of investment by both the public and the private sector to deliver on the ambitions of the 25-year environment plan. I would welcome your perspective as to the current state of natural capital investment in England, what you think we might see in the Government's 25-year plan and what you would hope to see in the Government's 25-year plan.

Professor Helm: There are an enormous number of investments that could be made in natural capital, which are net present value positive and would enhance economic growth. That is what we established in the third report under the last committee. We gave out a list of various things just by way of examples. There is huge investment opportunity here, and these investments should be thought along the same way as people think about investments in railway lines or houses or whatever. These are just obvious investments out there and they should be pursued.

Where does the money come from? We spend a lot of money on the environment very badly, so within the environmental domain, we have £3 billion on the Common Agricultural Policy, we have an enormous amount spent on flood defence, where there are other alternatives in some cases that could be used, natural flood defence at very different cost, and so on and so forth. The first question is: if those are the priorities where the biggest benefits are to the economy generally, by investing in these projects with natural capital, why don't we divert the funds to do that? From a balance sheet point of view—and that is why a balance sheet is very important—if you are creating assets, you have liabilities, which is whatever is funded against the assets. You can think about green bonds and all sorts of stuff that you could do in that frame, but you need a proper accounting frame in place.

In terms of what the 25-year plan should contain, obviously those investments with really big returns. Those should figure highly. The slightly technical but difficult dimension of that, which comes back to a question I was asked earlier, is: should you be focused on the ecosystems that we want, the big habitats or should we be focused on the small things in the village pond, cleaning up streets and so on? The answer is: most of that stuff.

How do we sort that out? If we get this consultation paper out, this Green Paper, there are a huge number of people engaged at a very local level, regional level and nationally, with lots of big projects and very small projects to bring forward. We want to get the ideas on the table and then we can start sorting out what the priorities are, because resources will be scarce.

Even though the current amount of money spent is spent badly, it is limited and, with the best will in the world, we cannot have everything in this frame. We are not going to get everything in this frame, so my answer would be: let's spend the bucks where the benefits are going to be biggest. Let's be ambitious and let's think about landscape-wide projects, which is one of our recommendations in the report.

Q43 **Peter Aldous:** The private sector own a significant proportion of our natural capital and there are good examples of them stepping up to the mark, but there might also be concerns that perhaps there is a risk that they have failed to value natural capital properly and just green-wash their proposals. What would be your perspective on that?

Professor Helm: Most of the land is privately owned by farmers. The incentives that they are confronted with in the ways in which the common agricultural monies are spent are not going to produce the best benefits for society. You are not going to get the best public goods for the public money we are spending.

In terms of companies and so on, there is always a set of influences here. Some of it is legal: you can't fly-tip, you can't do certain things with waste and we talked about environmental protection. Some of it is incentives, which is thinking about both taxing pollution and subsidising public benefits. Let's be honest, most polluters don't pay for the pollution they cause in this country. That's not just Britain, England, it is widespread. It is economically inefficient not to charge polluters. You can get an economically inefficient outcome for not having appropriate prices for the pollution.

Then there is reputation. Some companies find that by investing in their brand and proclaiming they are sustainable or whatever, it resonates better with their consumers. Some people green-wash that and some people don't, and that comes down to having proper standards. That is the corporate accounting but it is also the environment protection and the other components. All of that architecture is needed for this, as it is needed now even if you don't want to leave the environment in a better place than it currently is in.

Q44 **Peter Aldous:** Are you aware of the taskforce on climate-related financial disclosures, which I think is backed by Mark Carney and Michael Bloomberg, and what their proposals are? Do you see there is a role for what their recommendations and initiatives are?

Professor Helm: In the climate area, I don't want to show any disrespect but climate change is a lot easier than biodiversity and the natural environmental more generally. We are talking about particular gases, and it does not matter where they are in locations. We have an overall target of 2° and there are people who think that any oil and gas assets and coal assets, the burning of which would take you beyond the 2°, are stranded assets. I have written about this and I think that is not the way to think about stranded assets at all.

Be that as it may, this is different territory. Trying to work out what the equivalent questions are for an ancient woodland or a river catchment is altogether more difficult. One of the dimensions to that is that location matters. In the climate change issue location, broadly, does not matter. We are very interested in what they are doing but it is not something we have discussed in the Natural Capital Committee.

Q45 **Peter Aldous:** Finally, I think it was George Monbiot who shrugged his shoulders and said the power of the economy will always be greater than the power of nature, and I think he cites the EU carbon trading scheme as an illustration. Would you share his view or are you more optimistic?

Professor Helm: At a fundamental level I have real serious differences, so I do not see a debate between the environment and the economy. The economy is just how humans organise their activities and the economy depends upon natural capital and lots of other things: ideas, technologies and so on. These two things being seen as apart—and it feeds through into some of the re-welding stuff—seem to be exactly the wrong way to think about the problem. That is why I referred back to the 2011 White Paper, which says for the first time the environment is part of the economy. As I said, the economy is part of the environment. These two things are brought together, so I think that is the case.

If you ask a separate question, which is: will certain interests trample over nature in pursuit of their own ends, power and so on? That has been the history of economic development for a couple of thousand years. How do you stop that? First of all, shine the torch. Let's see what is going on. Let's have it properly accounted for. Secondly, let us identify what the natural capital is. Let's value it where it is appropriate. Let's look at the risks and then let's look at the economic benefits to society—and therefore the economy and therefore to all of us individually, privately or publicly—of investing in these projects that will make our economy better, our lives better and produce sustainable economic growth.

The last bit, the economic growth bit, there will be technical progress. Technical progress is what drives growth, so this isn't a zero growth society. This is a growing economy, which properly incorporates the opportunities and the risks associated with the environment in its activities. That is why natural capital should be central to the Treasury and part of any finance ministry, and part of the process of what we are trying to do in natural capital is to make this absolutely mainstream. We are a long way off, but the 25-year plan will hopefully be a first start on that path.

Chair: Thank you very much, Professor Helm. It has been a fascinating session and we wish you all the very best with your work of the committee. Thank you.