

Environmental Audit Committee

Oral evidence: The role of natural capital in the green economy, HC 280

Wednesday 20 March 2024

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[Watch the meeting](#)

Members present: Philip Dunne (Chair); Barry Gardiner; Chris Grayling; Clive Lewis; Caroline Lucas; Jerome Mayhew; Dr Matthew Offord; Cat Smith; Claudia Webbe.

Questions 186-284

Witnesses

I: Paul Scaping, Public Policy Specialist, The Investment Association; Dr Scott Steedman CBE, Director-General, Standards, British Standards Institution; and Susannah Stock, Banking Director responsible for Natural Capital, UK Infrastructure Bank.

II: Peter Bachmann, Managing Director, Sustainable Infrastructure, Gresham House plc; Professor David Hill CBE, Chairman, Environment Bank; Dr Pernille Holtedahl, Research Fellow, Centre for Climate Finance and Investment, Imperial College Business School; and Professor Guy Standing, Professorial Research Associate, SOAS University of London.

Written evidence from witnesses:

[The Investment Association](#)

[British Standards Institution](#)

[UK Infrastructure Bank](#)

[Gresham House plc](#)

[Environment Bank](#)

[Dr Pernille Holtedahl \(Research Fellow at Centre for Climate Finance & Investment, Imperial College Business School\) et al.](#)

Examination of witnesses

Witnesses: Paul Scaping, Dr Scott Steedman CBE and Susannah Stock.

Q186 Chair: Good afternoon. Welcome to the Environmental Audit Committee. Today, we have a session with two panels on natural capital. I welcome our first panellists: Paul Scaping from the Investment Association; Susannah Stock from the UK Infrastructure Bank; and Scott Steedman from the British Standards Institution. Will you each briefly introduce what your role is at your organisation that makes natural capital of relevance to you?

Paul Scaping: I am Paul Scaping from the Investment Association. I am a public policy specialist. My focus is climate and nature policy. The Investment Association is the trade body for the UK-based investment management industry. Our members manage nearly £9 trillion on behalf of individual savers, UK pension funds and insurance companies. Our interest in nature is as an asset class and as a risk and opportunity factor for the investments that we make.

Susannah Stock: I am Susannah Stock, a banking director at the UK Infrastructure Bank, focusing on natural capital. I am delighted to be here today, and we hope that our insight on the UK nature market is helpful for the inquiry. The bank is wholly owned by Government, with HMT as our sole shareholder, also providing us with our £22 billion of capitalisation. Our core sectors are clean energy, transport, digital, water and waste. However, “nature-based solutions” is explicitly defined in our Act and, as such, we approach the market from the viewpoint of nature as an infrastructure asset class, drawing on learnings from other sectors. I am happy to provide you with more information on the bank should you wish.

Dr Steedman: I am Scott Steedman, director-general for standards at BSI. We are a royal charter organisation. We are appointed by Government as the national standards body, so I am responsible for all British standards used across the UK, and for our membership of the European system and the international system in ISA and IEC. I am responsible for about 1,200 committees on practically any subject you can imagine, and our core focus on behalf of the UK is to provide that platform for UK-based stakeholders to participate in standards development and activity, and to simplify the market structure. We have an international role with ISA and IEC and a large team of policy and standards development to support the country.

Q187 Chair: Thank you. This inquiry is really to try to raise awareness of natural capital as an asset class and opportunity, and to identify and help Government to ensure that both the mandatory elements that have come into being and the voluntary ones that are happening through the market have a degree of confidence. In order to provide confidence, we have to be able to measure and monitor what is happening. Scott, where has the BSI got to in establishing sets of metrics and monitoring? How well accepted are they in the marketplace?



Dr Steedman: We are very pleased to be progressing the nature investment standards programme with DEFRA, which we have been working towards for some time. Indeed, today—20 March—we are delighted to have published the very first of those new standards. It is called Flex 701, and it is the principles for nature markets. Our ambition is to build out that programme to create the overarching framework that will simplify the market in its operation and help to bring integrity and trust by setting out what best practices you need to employ and ultimately how those credits might be assured by the market structure. We are on track at the moment. It is a very exciting programme, and it is very well received. We engaged across the whole of the UK—500 stakeholders participated.

After this initial standard on the principles and the overarching structure, which we might talk about later, we have a second standard in the mix on biodiversity and a third one on carbon markets. Behind that, there will be other standards on water quality improvements, natural flood benefits, nutrient reduction in water systems and other areas including operating schemes, guidance and community benefits—that is a particularly interesting one that is coming down the track. We are in the middle of a very exciting programme, and we look forward to seeing that initial principles standard land in the market today.

Q188 Chair: How long will it take to move from principles to the other more specific and detailed standards that you have been talking about?

Dr Steedman: There is a parallel with work we did for the Integrity Council for Voluntary Carbon Markets. We tried to put in place governance to build the overarching market structure, without which you have confusion and a lack of trust. The first structure is to put in place those principles, and then the private schemes and codes that are out there, including Government schemes, can start to play into that, and we start to build a more substantive programme. It is a multi-year programme, Chair, and it will take a little more time to get all that in place. We will create the standards with the stakeholders as fast as they can agree them.

Q189 Chair: Colleagues will come on to a lot of the detail in their questions. Does this set of metrics cover the duration of a scheme? The establishment is one thing, but then there is monitoring of progress and of whether the objectives are being met for any individual scheme. That might allow for an enforcement mechanism in the event that they are not being met.

Dr Steedman: Yes, indeed. The key to this is that BSI and the standards process are not there to make a judgment about any one metric over any other metric. If one were really looking for a scientific measure, I would be ringing up our colleagues in the National Physical Laboratory and the National Metrology Institute, who carry out measurement standard development.

Our role is really to create standards that will set the characteristics, the essential properties and the indicators of what a good metric looks like.



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Setting those into a commonly agreed standard creates a structure for the market to play into and ensures the metrics that are being offered or have been constructed—for example, Natural England's biodiversity net gain metric or some of the private metrics such as Plan Vivo or CreditNature—play into that. That ensures their standards comply with those properties and characteristics. It is rather about setting the rules for the way metrics might be developed, which are agreed with all the stakeholders. That is all about building scale and integrity in the process.

Q190 Chair: This is a private market, so you will not be the exclusive setter of standards; there will presumably be other standards potentially available to be adopted. Where do you sit in the marketplace for standards and metrics? Are rating agencies producing their own different standards, or are they looking to you?

Dr Steedman: I sincerely hope that they will be looking to the national standards body. We have a national standards body. We are part of the national quality infrastructure. We are appointed by Government and are working with Government to create an overarching framework of neutral, technology-independent standards that are stakeholder-driven and based on consensus. The idea of national standards—British standards—is that they set a framework for the private market operators to operate within. They are not the law, but one would hope that Departments and regulators would encourage their use, and there are various ways to do that.

Nothing stops other parties developing standards or codes as they wish; it is a free market in that sense. However, our ambition on behalf of the UK is to play into the international space. The Flex 701 that has been published today is the first standard of its kind anywhere in the world. BSI is the UK member of ISO—the International Organisation for Standardisation—and I sit on the board of ISO. We can take what we do in the UK to the world and create the international standard, which is then adopted in other countries around the world as their national standard. As I said in my introduction, I am responsible for the national standards in the United Kingdom. That does not stop private operators developing something they want to describe as a standard and using it in the market, but it is a different animal.

Q191 Chair: That is very encouraging. Thank you. Paul, I will turn to you in relation to your members, who at the moment do not have an agreed set of standards—well, until today, they did not have the principles and now they will. How well advanced is this market within your membership in the absence of a set of standards to measure by?

Paul Scaping: I hope you will forgive me, Chair, but I saw the publication this morning at 10.30 am and have downloaded it.

Chair: I am not asking you to comment on the standard.

Paul Scaping: I have not yet managed to consult my membership on it. However, I think it is worth touching on the reason the standard is being produced and the reason it is the first, and that is that this is not an



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advanced or developed market at the moment. We have members who are investing in this sector and this asset class, but it is by no stretch of the imagination an established and large asset class. I mentioned in my written evidence that there are commercial transactions in forestry in the UK every year of about £200 million, or just under that. It is a lot of money to most of us, but it is not a substantial amount of money when it comes into the amount and the context of the funds that our members manage.

Q192 Chair: Do you have an estimate of how much is invested in natural capital by your members?

Paul Scaping: Not overall. There was a statement in my written evidence—an assessment by an independent body—that it was a small scale, but no, we do not have an overall number for natural capital investment. It is not something that is currently measured.

Q193 Chair: Do you have a view yet as to how large the market might grow once it matures?

Paul Scaping: I think it depends, frankly, on how you conceive it. If we start to talk about the concept of ecosystem as a source of economic benefits it could be enormous, but we are talking over the course of decades. If we start to conceive of how the economy operates in a different way, then certainly, I think we could move to a stage where it is seen to be a much more substantial economic asset for the UK.

Q194 Chair: Thank you. Susannah, does the Infrastructure Bank yet have any natural capital projects that either have concluded or you are working on at the moment? How do you see the standard-setting facilitating the development of your organisation's interests in this area?

Susannah Stock: We have invested in two transactions to date. First, there was Highlands Rewilding, with a bridging loan for an acquisition of some land at the estate. The second investment was signed on Monday and announced just this morning, and it is an investment in a fund that is looking to upscale technologies that address some of the data issues in the market, so really looking to prove some of the technologies that measure, monitor and verify some of the metrics and the services to the industry to help it grow.

Q195 Chair: Is that a fund that you are managing or is there an external partner?

Susannah Stock: No, it is managed by Greensphere Capital, but our commitment is £50 million to the fund. It will be match funded by private capital on a pound-for-pound basis.

Chair: Very good.

Q196 Chris Grayling: Of course, the metrics become superfluous if you do not have a proper baseline—the effective measurement of the starting point of any project. Paul, how do your members see the development of baselining? Where have we got to in thinking through how you do it?



Paul Scaping: I don't know if you are familiar with a programme called the biodiversity intactness index, which is being run by the Natural History Museum. I am sure that if the Natural History Museum were here, they would tell me that a whole bunch of other people are involved as well, but I have come to the programme through them. I know that a couple of our members use that index to measure projects that they are running in the UK.

The concept of the biodiversity intactness index is that it attributes a percentage score to a particular area on the basis of how intact the biodiversity is in that area against how you would expect it to be if there had been no human interaction at all. When we talk about climate change, we think about pre-industrial levels; here, we are talking about pre-human levels. The way that they managed to come up with that baseline was that they identified areas that have had no human interaction and inferred from that what the biodiversity intactness should be elsewhere. Just to give you an indication, I think the UK as a whole has a biodiversity intactness score of 52%.

Q197 **Chris Grayling:** How, though, are they measuring the current state?

Paul Scaping: Again, it might be worth getting the detail from the Natural History Museum, but they say that they have 5 million data points. It is an observed situation: they look at the current situation and what is there. But the Natural History Museum and their partners have a huge dataset in terms of every understanding of living—

Q198 **Chris Grayling:** Are they using DNA-based testing as part of that baselining?

Paul Scaping: That I am not aware of.

Q199 **Chris Grayling:** Dr Steedman, you are looking at the ongoing metrics, but are you looking at baselining as well? If so, where have you got to? Is there a case, in your view, for a registration system for baselining?

Dr Steedman: Well, yes. The standard launched just today—the overarching principles—includes very clear requirements about the importance of baselining and of doing it in a scientifically measurable way. The vital requirement is that improvements must not be a reversal of historical, damaging actions, so you cannot get rewarded for just damaging the environment and then putting it back.

The second and third pieces of work, on the biodiversity and carbon markets, will go further and set out best practice in how you develop a baseline. We have that in process, and those standards will be available for use by the entire market. I would hope that, in the example given by Paul, they would then say, "Are we following these principles? Can we demonstrate that we are using these principles in the baseline measurement that we are undertaking?"

Q200 **Chris Grayling:** Ms Stock, when you invested in the project that you referred to, what did you do to assess the baseline?



Susannah Stock: On Highlands Rewilding, there was no baseline at the point at which we invested. The reason for that was that the form of loan was different: it was a bridging loan, as opposed to a long-dated loan against natural capital revenue streams. However, we see the baseline as incredibly important. The reason for that is that investors need to make investment decisions relatively quickly, sometimes in a few months, so if you do not have a readily accessible baseline dataset, you cannot make those decisions quickly enough. If you are thinking about the way in which revenues are generated on a natural capital asset, they will be based on what you plan to do in terms of habitat creation.

Carbon is somewhat easier. However, biodiversity and water quality are impacted by seasonality, so you need to really check that your baseline data is accurate. Ideally, I would like to see a tool that we can use to estimate the baseline and then confirm it over the year post-investment. That is quite important. Because the baseline is so important—it is the measure of the metric against the baseline value that drives the returns—you need to ensure that it is done correctly; if it is not, the investor will lose confidence in the market. My final point is that the baseline allows you to refine further what you will put on that site once you have the detailed data, if you like.

Q201 Chris Grayling: How can the allocated value of a natural capital asset account for existing and potential future provision of services that could arise with further investment?

Dr Steedman: What is critical here is that you have transparency of what has gone before and that you avoid double counting, so you are very careful to retire credits that are going to be replaced by some new development. But again, it is all about setting out best practice. Transparency is incredibly important, so that everyone can see what is going on. I don't have a better answer.

Q202 Chris Grayling: The last question from me is for Paul Scaping. A lot of what we hear is focused on stuff within the United Kingdom, but this will be a global marketplace and the standards that we set for baselining could logically be used to build the reputation of the United Kingdom as a place to do business in natural capital. How do you see the potential, and what needs to happen to take us from a UK-focused approach to, frankly, strengthening London's position as a major centre in the global natural capital market?

Paul Scaping: I absolutely agree. I am glad you asked the question. It is a challenge at the moment, as much as I commend Scott and his team for their work. Half of what our members manage is for clients overseas and, comparably, they also invest overseas. I hope we will get on to questions around the Taskforce on Nature-related Financial Disclosures, which I think is relevant, but if you look at the state and nature of the UK stock market, we have tobacco companies, mining companies and banks that operate globally, but if you are looking to assess a forestry project in the UK, using UK standards and perhaps working with the UK Infrastructure Bank, at the moment all of these standards will really help the reputation



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of the UK and the credibility of the projects, but there will be a need, as Scott said, first off, for these things to be elevated in terms of the international standard-setting community, if I can call it that. It will be important for the international organisation to adopt these standards.

I also think that there is a role for the UK Government and other organisations—including, I am sure, the UK Infrastructure Bank with its peers—to promote these ideas. I mentioned the Taskforce on Nature-related Financial Disclosures. That is another example of a project that has been partly funded by the UK Government and supported by the UK Government. Now we are at a bit of a crossroads, where it is about encouraging people to adopt it. I think that the UK can work through bodies like the G20, among others, to make sure that major economies pick up these standards.

Dr Steedman: May I add to that a little? I think that this market is a couple of years behind the carbon market, and even that is struggling to take off, but there is an opportunity here to scale globally based on UK standards. The standards I have described are international standards—you can use them globally; there is nothing wrong with that—but what is key to scale is the assurance side. The standards need to be written in such a way that you can have independent assurance, third-party certification, using an existing accredited market for certification, which exists all over the world today. If you do not, you will never get scale; if you do, you can unlock that tool that is sitting in every country through its accreditation structures to audit, verify and validate individual projects. The key to international standards is creating standards that are not only recognised and used, but able to be unlocked by the assurance sector.

Q203 **Clive Lewis:** Paul, you mentioned a 52% figure for the UK. Do you have any comparative figures for other parts of the world? Because 52% sounds okay, I suppose—it is more than half—

Paul Scaping: It is not okay.

Clive Lewis: I didn't think it was, but people could be forgiven for thinking that. I just wondered what the situation was comparatively.

Paul Scaping: The scope is, I think, a frame between 30%, where you are on the precipice of collapse, and 90%, which is considered to be good. I think that a lot of other advanced economies are closer to 90%. By comparison, I understand that Singapore—if I am correct—is not far above 30%. As I understand it, the UK is in quite poor shape compared with other countries.

Q204 **Barry Gardiner:** Dr Steedman, you cannot imagine how excited I am by the work that you are doing. The progress on this that has been made in the past 20 years has been quite phenomenal. The way in which you are endeavouring to set out those standards is really important.

I want to try to tease out or outline the components within the institution's programme and how it has been developed. Before I do that, I want to pick up on the question that my colleague Chris Grayling asked you,



because I was not sure if you gave an answer to the question that I think he asked. How can the allocated value of a natural capital asset account for the hope value, in effect? You can say, "Reinstate this and it has this value," but once you have reinstated it the potential for reinstating other things on top of that is, in some cases, exponential. Are you accounting for any hope value, if I can express it in that rather residential housing term?

Dr Steedman: I am not sure that I have seen that in the work to date, but it is a very interesting thought, isn't it? The difficulty, perhaps, is that it may never happen. I suppose the argument is that you would create the standard, and the principles in the standard would include the concept of a hope value and the idea that that should be demonstrated in some measurable way that could then be valued. But I am not sure that at the moment the principles set out in the overarching umbrella standard cover that. They could be more relevant in specific areas, like natural flood or something like that, where you have a particular example. My background has a little bit to do with flooding. You can imagine a situation where you say, "Oh, I am in a flood plain. This is going to happen," and then I can see the hope opportunity. But setting it at a very high level might be quite vague, except as a general concept. Perhaps it is for the more specific areas when we get into biodiversity, carbon, natural flood and so on.

Q205 Barry Gardiner: Thanks for that. When you were talking with the Chair, I think a phrase that you used was, "We need to drive out the lack of trust". I think you, Ms Stock, said something similar. There are a lot of different, confusing codes, schemes and private initiatives out there. How much of this is about driving out greenwash, giving absolute clarity to how the markets ought to operate and therefore giving real security to investors?

Dr Steedman: From my perspective, it is absolutely the No. 1 parameter. It is critical. The difficulty is that in new and emerging markets there is a void—there is a vacuum. Passionate, skilful and knowledgeable people rush into the vacuum and create standards and codes. Suddenly there is a plethora of ideas, and everybody is saying, "This is better than that," but the fact is that they are not standards. They don't have governance, they don't have stakeholder engagement, and they don't have process.

BSI does not set standards: what we do is run a process for stakeholders to participate. We see fair play and ensure that everybody's voice is heard and consensus is reached. We then manage, maintain, update and revise those standards and make them international in a neutral and technology-agnostic way. This is very common, and it also happened in the carbon markets: lots of schemes develop suddenly, but they are schemes, not standards. They use the word because it is very common.

Q206 Barry Gardiner: Can you talk a bit more about the process that you are using to engage with those stakeholders? I suppose it is really rather like corralling sheep and getting them all moving in the same direction. How are you going about doing that? How wide is the ambit of the people who you engage with?

Dr Steedman: In any of these topics, we will engage as broadly as we can. If it is a Government initiative, we will use Government contacts. We



use our own contacts. We use industry contacts and ask them who should be involved. We will build a stakeholder base, have a town hall-type environment and try to ensure that that group is as diverse as possible. Speed matters. If we are trying to do something really fast and agile, which we have a process called Flex to deliver in a matter of weeks, you cannot engage with everybody in that timeframe, but you can engage with a sufficiently representative cohort.

As I said earlier, we engaged in this principles piece of work—the top-level piece of work—with 500 stakeholders across all the devolved nations representing all parts of the industry. Others are very welcome to join, and we will build on that group over time. If we mature that into a formal British standard, then we will have our own set processes, with three months of public consultation and formal representation and committee structures that will maintain it in perpetuity. It is very much a process-driven, stakeholder-led activity. Engaging with the widest possible community is what we are here to do. My team is there to run the process, and anybody is welcome to email me and say, “How do I get involved with this?”

Q207 Barry Gardiner: Great. There are interactions between ecosystems and their services, and overlapping boundaries. What approach are you taking so that the standards you develop will account for those overlaps?

Dr Steedman: The key here is to make sure we have the right stakeholders in the room: not just the landowners, farmers and regulators, but the people from adjacent walks of life. In the carbon area, we have engaged very heavily with DESNZ and the ICVCM on the voluntary carbon market to make sure that the standards they are using and their approaches are embedded and that people are using the same taxonomy, so the basic structures are all in place. It is all around streamlining and simplifying the market at an overarching structure: sitting in what we call the quality infrastructure, between the Department, regulators, legislation and the market practices, and creating a rules-based system, which is voluntary but hopefully creates clarity and transparency for everybody. The key to that is involving the stakeholders from adjacent areas in the work. We make a big effort to do that.

Q208 Barry Gardiner: Are you hopeful that, along with the development of a comprehensive set of standards, it may be possible to achieve an allocation of natural capital at Government level? In the same way the Chief Secretary currently allocates financial resource to Departments, somebody in Government could look at a Department’s programme and say, “You are proposing to do this, and we can see why the Treasury might allow it on the conventional terms, but in natural capital terms you are violating certain of these standards,” so that we have, in effect, a Chief Secretary for natural capital in the same way as we have for resource.

Dr Steedman: I would sincerely hope so. We have had challenges in other sectors over the last decades because we have not had this conversation. We have not realised the extraordinary tool we have or that



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we are world leaders in how to shape national and international standards that are stakeholder led and can work very closely with departmental priorities, the delivery of regulatory policy and ministerial priorities, simply by engaging.

There are various nuanced ways in which standards can be used with regulation to deliver effect. They do not have to be regulated. In fact, we would strongly advise against that. But there are ways you can encourage their use: you can co-regulate, you can use earned recognition—there are lots of tools by which a Department can engage with standards at any level. The key to this is the provenance of the standard—the fact that it has governance, stakeholder engagement and proper structures behind it. Then it has the reliability of being able to be used by Government in a formal way.

Q209 Barry Gardiner: Do you think this Committee should be highlighting to Government the potential use of the standards in decision making at the highest level?

Dr Steedman: Absolutely. That is quite common in other Departments. The Department for Business and Trade, for example, uses standards in exactly that way. I am delighted that we have been working with DEFRA for some years now to try to suggest that a lot of the structures within DEFRA could benefit from engaging with the national standards system and building that in as a layer of support for its ambitions.

Barry Gardiner: Thank you very much. It has taken me 16 years to get somebody to say that in front of a Committee, so I am delighted.

Q210 Caroline Lucas: I have to say that I perhaps have rather more reservations about this whole approach than my esteemed colleague on the opposite side of the table, but I certainly agree that if you are going to have a market-based approach, it needs to be strongly regulated, standards need to be transparent and we need the kind of monitoring, evaluation and so on that is being spoken of. How can additionality be verified and managed in relation to natural capital investments? How do we know that some kind of improvement would not have happened anyway, even if we had not had the investment that we are talking about?

Paul Scaping: As a first suggestion, I think something we are slightly lacking at the moment, if I may say so, is a sense of what is trying to be achieved.

Caroline Lucas: That sounds like quite a big omission.

Paul Scaping: Let me try to explain. If I may, I will just for a moment compare it with climate change and the whole infrastructure we have with the UNFCCC, the Climate Change Act—that whole system. If you were to ask someone what was trying to be achieved, people would generally understand that you are looking to reduce temperatures to a certain level and that, in order to do so, you are looking to reduce greenhouse gas emissions and you have this target—you are looking to be at net zero. In the global biodiversity framework, there are, I think, 23 sections; there

are various subsections of that. The UK Government has its own Environment Act targets, which are similar but not the same.

We talk often about additionality when it comes to removing carbon, and that is almost a straightforward thing to do; you can ask about that. What you need to understand, if you have a hectare of land and it is performing a particular ecosystem service, is what you are looking for it to achieve, and then you can start to assess whether a particular service would have been delivered anyway. I think, given the state of UK natural capital and the environment, you can probably safely assume that you are not going to have rainforests just blooming in the middle of Sussex without any encouragement, but in terms of the measurable impacts of particular, more gradual change, I think you first need to have a better structure for what you are trying to assess.

Q211 Caroline Lucas: How would that process happen? How would we get that better structure as a starting point?

Paul Scaping: I think, as a starting point, we need—maybe this goes to Mr Grayling’s question a little as well—some UK leadership in terms of actually encouraging support for and incorporation of the global biodiversity framework targets internationally and maybe creating a bit of a sense of transition around a few of those areas. Perhaps we want to have a transition for water security so that people can more clearly identify with that.

Q212 Caroline Lucas: Do you think there are risks about going ahead with this before we have established what we are trying to achieve?

Paul Scaping: In the grand scheme of things, there are, of course, always risks involved. I think it is better that people are making an effort to improve the natural environment regardless.

Q213 Caroline Lucas: That assumes that there would not be other ways of doing it, though. I suppose my question to you is: is this market-based, market-led approach to seeking to protect the natural environment the best way of doing it, before we have established something as basic as what we are actually trying to do here?

Paul Scaping: I don’t think it is necessarily the Investment Association’s position—this may surprise you—that there absolutely must be a market-led approach. Investors very much believe in the power of Government to deal with tricky situations, high-risk situations, and to help to lead on things. That helps to create an environment in which sometimes the market can follow as well.

Q214 Caroline Lucas: Would your organisation support, for example, publicly accessible registries of who is buying what and who owns what?

Paul Scaping: Yes, I think so. I think transparency is good for its own sake, quite often.

I know that at a previous session it was suggested that having a sense of whether credible organisations are investing in something can sometimes



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help to raise the reputation or standing of that particular investment. For organisations that invest in companies, sometimes it is quite useful to realise whether a company is using a significant amount in offsets. That might indicate, for example, that it is not dealing with underlying problems, so that is useful for investors.

I don't think policymakers should be afraid of asking for disclosure for their own policymaking. It is not always about thinking of a disclosure as something that has to go in financial reports and accounts and be a factor for investors to look at. If MPs are interested in understanding where investment is taking place, an approach to transparency that suits policymaking needs is also respectable. I have not studied a proposal for what a registry would look like, but I think in principle transparency is a good thing.

Q215 Caroline Lucas: If one wanted to have confidence, one could suggest that having such a registry in the public domain could be very helpful so that the public know.

Paul Scaping: Yes.

Q216 Caroline Lucas: I will move on, because I am aware that we only have 10 minutes each in the session.

Let me come to Susannah. If you want to reflect on anything about additionality, please do, but can I also ask you what provisions, if any, you think can be put in place to guarantee that the contracted environmental outcomes that we are talking about are essentially permanent ones? How do we know that when the investment comes to an end, the whole thing does not get chopped down, mowed up or destroyed?

Susannah Stock: In the carbon credit market, for example, there are codes; what they refer to is the fact that other ecosystem services are bundled into the price of that carbon credit. We know that DEFRA is looking into the stacking issue. That means that another ecosystem service payment might be stacked on top of that. If you think about how that could evolve with time—if you had, for example, a native woodland providing the carbon and, in the future, a biodiversity credit stacked on top—it may get to the point where an outsider cannot tell whether that woodland has come about by virtue of the carbon credit itself or the future cost of that biodiversity unit. It is very important that this is thought about in the context of stacking. We are interested to see what DEFRA says on the issue once its research comes out.

This comes on to the additionality point. I would add that—in fact, we said this in our written evidence—that transparency on who owns the assets is really important. We look at transparency around the buyers of the carbon units themselves. It is a key issue in our minds. The work of the VCMi is something we are aligned with, if there is protection and UK carbon credits can only be used to offset UK emissions, but we are keen to see that the buyers of the carbon credits are truly trying to decarbonise and only offsetting residual emissions.



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I think that having transparency on the buyers of carbon units and the price at which those carbon units are bought is really important. The UK carbon market right now is small, but it will grow. I think that enabling transparency helps the growth of the market.

Caroline Lucas: Could you come on to permanence? Sorry, I am just very mindful of time.

Susannah Stock: On permanence, it comes down to ensuring that there is sufficient protection on the land conservation covenants or agreements.

Q217 **Caroline Lucas:** How long would you have such a conservation covenant? If you are offsetting on the basis of planting trees that you promise will be there for x number of years, maybe you need them to be there a hell of a lot of years.

Susannah Stock: A long time: 100 years plus.

Q218 **Caroline Lucas:** Is 100 years plus being proposed on permanence in the current version?

Susannah Stock: I don't know—80? It is 30 for BNG.

Caroline Lucas: Shouldn't it be more than 30?

Barry Gardiner: But it is 30.

Caroline Lucas: Yes, but shouldn't it be more than 30? That is a blink of an evolutionary moment.

Susannah Stock: I would agree.

Q219 **Caroline Lucas:** It feels to me as if there are a lot of problems and issues that have been unresolved. Something like how long you need to ensure that the environmental benefit that you have paid for will actually be sustainable seems utterly basic.

In my last few moments, I will turn to Dr Steedman. We have the problem about additionality, and the problem about permanence. Do we also have a problem about double counting—in other words, where you have a landowner and an investor potentially seeking credit for improving the same ecosystem? How much of a risk is that?

Dr Steedman: Those are all key issues that are addressed in our Flex 701 published today. We should all go and read it; you should download a copy. Additionality, permanence, quantification, verification, validation, no double counting, governance, transparency, stacking and bundling—it is all in there.

Caroline Lucas: The Chair is going to stop me any second, so can you tell me what the report says?

Dr Steedman: I am not going to say what the report says!

Caroline Lucas: You can't tell me?



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Dr Steedman: Let's take it offline.

Q220 **Caroline Lucas:** I should like to know what your views are about permanence in particular. How would you propose that we ensure that the benefits that have been invested in stay there for the long term?

Dr Steedman: We need principles that are appropriate to the project being considered. Those levels of permanence are defined according to the nature of the solution, so they will be variable. It will depend.

Q221 **Caroline Lucas:** Do you think 30 years is enough for BNG?

Dr Steedman: I wouldn't comment on BNG.

Caroline Lucas: I rest my case. I think that there are a hell of a lot of questions here that need further answers before we go too far down this road.

Q222 **Chair:** On that specific point, does your set of principles not cover the duration of a scheme, for example?

Dr Steedman: They cover the principles by which permanence should be defined.

Caroline Lucas: That is not reassuring.

Chair: But that will be different for different types of project.

Dr Steedman: Very likely.

Q223 **Claudia Webbe:** Could you tell me again the name of the report that you published today?

Dr Steedman: The standard published today is called Flex 701. It is on the overarching nature market principles; it is a BSI document produced for DEFRA.

Q224 **Claudia Webbe:** Great. Should standards in regulations differ between compliance nature markets and voluntary nature markets?

Dr Steedman: No. Standards are relevant in voluntary markets and regulated markets. They are a means to support the delivery of regulation, so they should be common. The regulations should operate with the standards, not be different from the standards. The standards are a support for a structure of regulation or regulation policy; they are an adjunct.

Q225 **Claudia Webbe:** How do you enable that to happen? Compliance nature markets are in themselves compliant, so if a developer is required to make a biodiversity net gain—for example, a 10% uplift on the pre-development stages—there is compliance on that. How do you make that work in the voluntary nature market?

Dr Steedman: If there is a compliance element, there will need to be a system of conformity assessment or market inspection, trading or approvals by which that is approved. That structure needs to be built in. If



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there is a regulatory requirement, it can use the standards to deliver on a risk-based approach. It can deliver the outcome that you are looking for, but the same standards can be used voluntarily or to support the delivery of a regulated requirement. In fact, it should be the same standard, because why would you have a different standard?

Q226 Claudia Webbe: Could I ask you the same question, Susannah? What are your thoughts on whether the standards differ between compliance nature markets and voluntary nature markets?

Susannah Stock: I agree that the standards should absolutely be the same. That is not the same, though, as saying that the unit of payment should be the same. They don't need to be. They are just assessed differently. If you think about the way biodiversity net gain needs to be measured and reported against over time, the way the unit works is that it is an estimate of biodiversity, not an exact measure.

Q227 Claudia Webbe: What, for you, are some of the challenges of that voluntary nature market?

Susannah Stock: There is not a voluntary nature credit market yet—it doesn't really exist. The way biodiversity is bought into the carbon credit market is that buyers or investors in the carbon credits like to see that nature is not ignored when they invest in carbon credit projects. By that I mean that an investor might choose to invest in a carbon credit project—for example, fast-growing conifer species, which are non-native. The way we would like to see biodiversity reflected is by having native woodland creation and features that best mimic what might happen in the natural environment, so 10% areas that are clearings to allow for native or natural regeneration. That will best mimic a natural ecosystem.

Q228 Claudia Webbe: In my area in Leicester, my constituents will be shouting at me asking how we can be sure that any development from a major infrastructure project that will impact on communities can be invested in if it is left to the voluntary approach. With a compliance process, they will be asking whether or not that major infrastructure developer would find ways to manipulate or game the system. How do we get around those two processes?

Susannah Stock: Under the BNG mechanism, I believe that local authorities have the ability to enforce. If a seller of an off-site biodiversity unit has then sold that unit to a developer to offset the damage, the onus is on the local authority to ensure that the biodiversity that has been provided is well looked after and well managed. The gaming opportunities do not exist.

Q229 Claudia Webbe: In terms of the biodiversity net gain, is there scope to manipulate the system when it comes to nationally significant infrastructure projects?

Susannah Stock: For nationally significant infrastructure projects, I believe that that will come into force in 2025 through the NSIP reform process. I am not aware that it is any different from local level biodiversity net gain. I cannot comment on that.



Q230 Claudia Webbe: Can I ask the same question of Paul? Should the standards and regulations differ between compliance and voluntary nature markets?

Paul Scaping: I think I would take a slightly different tack, because perhaps what the other two witnesses are talking about is regulation around the underlying unit. They are absolutely right that the regulation around the underlying unit should be exactly the same. If you have a hectare of woodland, for example, you want to understand that it is being treated in the same way.

I would just observe that we are talking about different markets, with different market infrastructure in some cases. It is also appropriate that there would be different regulatory approaches. For example, I believe the auction of carbon credits is run by ICE, which you took evidence from in a previous session. It will have particular regulation that applies to it, which will not apply in voluntary carbon markets, so it is appropriate to recognise that there are different regulatory approaches around the market infrastructure that is being used.

Q231 Claudia Webbe: Dr Steedman, how does the BSI nature investments standards framework deal with both compliance and voluntary markets?

Dr Steedman: The standards framework sets a framework. Part of that framework will be around how enforcement, or let us call it compliance, can be demonstrated, and how that can then be used by a planning authority, a regulator, a contractual obligation or a regulatory requirement to demonstrate that that has been delivered.

It is all to do with the way in which standards are written. It is not that it is a standard that is a mandatory thing; it is a standard setting out what best practice looks like. The developer would follow that and demonstrate that it has been used. In that process, it is all about the certification of the outcome. Third-party certification may be required if it is going to be a compliance approach.

Claudia Webbe: I think I will leave it at that.

Q232 Chair: I think that concludes our first panel. I thank our panellists for keeping this Committee at the forefront of topicality. In particular, I thank Dr Scott Steedman for announcing at this Committee, in public, the first global standard set for this area—thank you very much for that—and Susannah Scott, for your investment, which you announced this week. Paul, you have kept us all waiting telling us what it is that the Investment Association has done this week in this area. Is there anything you would like to say to keep up to date with the others?

Paul Scaping: No, I was shamefaced when I saw two announcements this morning. I thought I wasn't supposed to do that, but there we are.

Chair: Before we conclude, I remember that Jerome Mayhew wanted to follow up quickly on one point.

Q233 Jerome Mayhew: I was interested by Caroline's line of questioning on

what permanent looks like. Is this not a classic example where theory would say that “permanent” means ad infinitum—we should have monitoring for 1,000 years or maybe longer—but practicality would say that we need to develop a market and engage with landowners in particular, who may feel a degree of nervousness about permanently losing control over land?

We need to research—I am slightly embarrassed that I do not know this off the top of my head—whether it is like carbon sequestration, a minimum of 30 years, or biodiversity net gain, which I believe is 80 years, for neutrality. The practicality is that if we have a monitoring system that takes us to that period, given the world in which we will be operating in by that stage, it will be 2055 at the earliest and more likely decades after that. Do you agree that having a decent period of monitoring allows the market to become established without a realistic risk of the kind of backsliding that Caroline was concerned about?

Paul Scaping: All I would add is that it is not just the assurance of the particular asset, or the particular unit, that provides people with confidence. Sometimes it is also the organisations that are assuring that asset. Perhaps there is an organisation around that has been doing things for 30 years—the British Standards Institution, for example. It has its own reputation and standing, which it has gained on other topics, and perhaps that is what we have to put our faith in.

Chair: Thank you very much indeed. We will now switch to the second panel.

Examination of witnesses

Witnesses: Dr Pernille Holtedahl, Professor David Hill CBE, Peter Bachmann and Professor Guy Standing.

Q234 **Chair:** I think you heard me say at the beginning—I think you were all here—that we would conclude this in an hour. I am conscious that some members of the Committee will have to leave during the course of the session. Please do not take that as any reflection on anything that you have said—it might be, but it is not intended to be. I start by inviting you all to explain your roles in the organisations that you represent—a brief introduction. We should perhaps start with Professor Guy Standing from SOAS.

Professor Standing: Thank you very much. I have an interest in the commons—the natural commons—and I have written a number of books relating to the natural commons and how it should be revived. I am a sceptic when it comes to measurement and the defining of natural capital, but we will come back to that.

In that spirit, I have a particular bee in my bonnet, having looked at the evidence so far from your preceding deliberations, which is that there is a huge neglect, relatively speaking, of the blue commons—the blue



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economy. Yet we know that the sea covers 71% of the planet and contains 80% of the world's biodiversity; it is suffering from global warming and acidification to a much greater extent than the land. The UK itself has a sea area that is 27 times the land area and it gets remarkably little attention in many deliberations. You will hear about my bee in the bonnet later.

Chair: Thank you. It is helpful to get that on the record. I am sure you will elaborate during our questioning.

Dr Holtedahl: I am Pernille Holtedahl from Imperial College. I work at the Centre for Climate Finance and Investment, which is part of the Business School. I lead what we call the nature workstream—the work we carry out on how to bring more capital into nature, both public and private.

Professor Hill: I am David Hill. For my sins, back in 2006, I founded the Environment Bank and designed the biodiversity net gain. I was chomping at the bit to answer the questions to the previous panel. I took that forwards and am grateful that, having talked to many MPs, we managed to get that into the Environment Act in 2021.

Peter Bachmann: My name is Peter Bachmann. I am the managing director of the sustainable infrastructure division at Gresham House. We are a sustainability-focused asset manager. Our interest in natural capital is that we believe we are one of the largest owners of forestry in Europe, and we have also seeded the investment into the business called the Environment Bank, which we think has effectively created a new infrastructure asset class around investing into nature.

Q235 **Chair:** Thank you. Can I start with you, Peter? Can you give us a sense of the scale of your investment in natural capital? Your colleagues gave evidence into our previous inquiry into timber, where we did not get on to the natural capital aspect. Where you have been investing in forests, have you also been investing in natural capital as a separate class or has that been coincidental?

Peter Bachmann: In addition to that. We have about £3.5 billion of forestry in assets under management, which is pretty significant. We have also committed £240 million to the Environment Bank to build up habitat banks. So collectively that is nearly £4 billion. That is a relatively large commitment.

Q236 **Chair:** Into David's Environment Bank? So you are the largest investor in that?

Peter Bachmann: Yes.

Q237 **Chair:** Thank you. Some of the questions will refer to the previous panel a bit. Could we get a sense of the scale of investment activity that you have undertaken, David, in recent years, since 2006? You were probably a fairly slow starter because you were ahead of the game. How many transactions have you undertaken in contemporary natural capital?



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Professor Hill: We are still very small. Back in 2006, it was really around lobbying to get the idea of biodiversity net gain embedded. I had spent 20 years designing mitigation schemes for developments that really delivered, frankly, the square root of nothing—they were very poor. I realised that we needed to disrupt the whole system of how we delivered biodiversity in relation to development.

We started with around 15 to 18 individual bespoke biodiversity offset sites. I said, back at the time, that we should see a situation where developers deliver gains for nature, not just an offset, and going through the mitigation hierarchy and all of that.

Since then, those bespoke sites have been sort of okay, but they are not desperately good because you cannot deliver at big scale. You really need large-scale investment to enable you to lock down land and deliver sites of over 40 or 50 hectares, or over 100 acres. We have 23 sites that have gone through legals, which is still a small number, and there are around 70 sites in legals. We intend to deliver around 2,000 hectares a year.

Q238 **Chair:** Two thousand hectares a year?

Professor Hill: Two thousand hectares a year, and that is still a relatively small amount.

Chair: And that is all in relation to biodiversity net gain?

Professor Hill: It is entirely in relation to biodiversity net gain.

Q239 **Chair:** Picking up Guy's point, that is all on land?

Professor Hill: It is all on land, although I take Guy's point that the marine environment is critically undervalued, because it is quite a difficult environment in which to work—let's face it. But it is being looked at, and I am particularly interested in marine renewables. Without getting into the details, there ought to be reasons why you could start to trade what you are doing in the marine environment to on-land, coastal fringe habitat creation, such as saline lagoons, which are a priority habitat. There is a lot of merit in that, and that is being looked into at the moment.

Q240 **Chair:** One of the issues that the Committee has not really got into yet is the extent to which there is conflict—we touched on it a little bit earlier—between carbon credits and natural capital credits, and you mentioned offshore renewables in particular. Is there conflict between renewable development onshore and natural capital opportunity? I heard from Cornwall Wildlife Trust that it has a 20-year site, which happens to be a solar farm, and that the biodiversity on the land without panels shading it, or even the land with them, is better than anything else it has come across in Cornwall, because it is undisturbed land that has been there for 20 years. Is that something that gets factored into solar panel applications yet?

Professor Hill: Indeed it does. I would have to say that a land parcel left, or managed with an intervention for biodiversity, for 20 years is going to take shape quite well. You only need to look at some of the rewilding



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projects in, for example, Knepp—after 15 years, they are generating a lot of value. However, I am not a great fan of industrialising the landscape and then saying, “We’ve got all this biodiversity value.” I would like to see things a bit more wild than that, if I am really honest. It is a bit of a travesty if we are just trying to fit our biodiversity near or adjacent to solar panels, and I think we can do things a lot better than that. It is good to do that, but we can do more than that, and we have to.

Q241 Chair: Pernille, could you give us a sense, from your academic perspective, of the scale of the opportunity here and what the main challenges are to making it a credible market for people to invest in?

Dr Holtedahl: Yes. I will take a global perspective, as that has been my research area. There is an identified nature-financing gap between £600 billion and £800 billion annually, globally. Several studies have come out showing that gap since 2020, and very much in the wake of those studies, the next statement has quite often been, “And therefore the private sector must get involved.” If we look at who has traditionally invested in nature, it has been Government—about 84% of nature investments globally have been covered by Government. We may say that it is because they did not have a better idea of how to do it, but it might also be that it is the natural remit of Governments. I am not saying that because I do not think there is a role for private capital in nature, but I think that it is a fairly minor one and it has to be tailored. We have done some research at my institute where, for instance, by just looking at investments today globally, we calculated that about £41 billion of private investments annually is going into nature investments. That is including green bonds, and you could argue how much of those is actually going towards additional green projects.

Compare that number with the global gap of £600 billion to £800 billion and think about the hurdles that are always pointed out in research. People often say, “We need to fix the liquidity problem, the scaling problem and the lack of standardisation problem, and once we fix those, everything else will be in place—in other words, private investment.” My question is: what if we can’t fix those problems?

Again, I don’t want to put a stop to this debate, because I want to see private markets succeed, but we have to be realistic about where and how they can succeed. There is definitely a strong role for Governments in creating markets—BNG is a wonderful example of that. Let us follow up, look at how BNG develops, monitor it and make sure it doesn’t have unintended consequences. There are many other opportunities and areas where the public sector will have to continue playing a massive role because so much of nature has public good features, so it will be difficult for a private investor to carve out a space there. There are definitely areas where there is room for private investment, and we see many good examples of that. I wanted to put that into perspective.

Q242 Chair: The Taskforce on Nature-related Financial Disclosures is imposing obligations on private companies to start to describe their impact on nature. Isn’t that going to start to lead to changes in behaviour? Will there



be a need to create offsets for companies to mitigate it?

Dr Holtedahl: It depends how much time you have. I don't think we have hundreds of years because we are in a biodiversity crisis and a climate crisis. It is naive to think that by asking for transparency we are going to bring in lots of money. It is a good, necessary step, and I very much encourage it, but let's be honest about what it can do. Even if it were to lead to greater investment over time, it would be in a timeframe that would not be relevant for me, my children or my grandchildren, so we need more than just transparency.

Q243 **Chair:** Do you think the introduction of mandatory schemes, such as biodiversity net gain, will have too slow an impact on nature?

Dr Holtedahl: No. If compliance measures are done well, I definitely have time and patience for them. In fact, we have to take time to make sure they are integrated and developed correctly.

I will quickly point to some of the international research on what has happened globally when we have had biodiversity offsets. I think it is interesting and I would like to bring it to the Committee's attention. There is one study looking at wetland mitigation schemes in the US, which have been around for 30 years—they are the most famous schemes. That meta study—a study of studies—showed that in only 30% of cases were the objectives achieved, and in some cases the projects weren't even initiated. That sounds like terrible monitoring to me, and it is incredible that it has happened, but I am putting it out there because it is relevant for you in terms of following up BNG. We sometimes get excited about creating markets—I do too—but the next step is to make sure the markets lead to outcomes.

Biodiversity is incredibly complex. In some of these cases, we might see someone set aside an area for nature, and you have some regrowth, which is definitely better than nothing, but to believe it will actually lead to full biodiversity is in many cases asking for too much.

Q244 **Chair:** That leads us neatly on to monitoring, the baseline and what we were talking about with the previous panel. I will let Professor Standing come in. He has already had quite a good go. I accept that there aren't any schemes at the moment in the marine environment, but there are projects to start growing kelp to sequester carbon in marine environments. Do you see that as having a demonstrable value that can be monetised and invested in?

Professor Standing: I am aware that in the background of this discussion, we are talking about natural capital, monitoring and measuring. We have been having this debate about natural capital ever since the Rio Earth Summit in 1992, and we are now 32 years later.

I heard the Chairman in the last session describe biodiversity net gain as "amorphous"—I liked and appreciated that word. We are in a situation where we can't measure many of the things, and we never will be able to measure them. We have to be honest. The question for monitoring



becomes whether an incomplete measure of ecosystem services, for example, is better than no measure. I am unconvinced that an incomplete, partial measure is appropriate.

The second point I want to make is that we have been mobilising private finance and private markets ever since Maurice Strong took over UNEP back at the beginning of the 90s. There is almost a hypothesis that the more finance that is mobilised, the greater the finance gap. Last session you referred to estimates of a finance gap. Well, that finance gap has been growing and growing. UNEP puts it at four times the level that you gave in the last session. I am not sure how we can get a monitoring system when you have an amorphous concept, incomplete data, and you need to get some sort of governance system going. Whether it is in marine areas, forestry or anything else, the weaker the database on outcomes—whatever they might be—the stronger the indicators we need of governance. In that regard, I think it is vital that we set up a governance structure that is going to respect the principles of preserving and enhancing the value of nature. We do not have that at the moment.

Chair: Thank you very much. Barry Gardiner has a very quick supplementary question.

Barry Gardiner: Professor Standing, I absolutely hear what you are saying and I agree with the need to create that framework. Would you agree that the traditional way of going about using natural capital has resulted, as we heard, in 52% intactness, and the 70% loss of nature diversity in this country? Should we now be trying to give it a chance? At least if we are measuring it—and I agree with all that you have said about the difficulties that that poses—

Chair: Barry, I'm sorry, but I am going to interrupt you because I know that Jerome has to leave very shortly. You are getting into a debate rather than a question. I am going to let Jerome ask his questions, and then we will come back to you.

Q245 **Jerome Mayhew:** Thank you, Chair. I am going to talk about monitoring, and who should be monitoring. But before I get on to that, Professor Hill, you said that you were champing at the bit to answer some of the questions from the earlier panel, so this is your opportunity. I believe you were referring to the biodiversity net gain, and whether it should be 30 years or 80 years.

Professor Hill: Actually, you have answered the question. Back in the day, we had the RSPB—who I used to work for years ago—want a thousand years. Eventually, we came down to a pragmatic view. The pragmatic view was simply what would the landowner/farmer accept as a contract. They were used to 10-year ESA agreements and 10-year countryside stewardship agreements. When we started talking about 20, 25 or 30 years, we were really pushing at the boundary. The whole process could have completely collapsed had we gone for 80 to 100 years. That is just pragmatics really. I am much happier that we have got 30 years than zero.



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Q246 Jerome Mayhew: I am glad to have given you the opportunity to come back on that. I will stick with you, but this is a question for everyone. Let's start with the basics. Who do you think should be responsible for monitoring? We have this market, and, imperfect as it may be, it is perhaps a step in the right direction. We know that monitoring is very important for the credibility of the market. Should it be the state? Should it be the contracting parties? Should it be AN Other? Who should monitor and evaluate? What is the best solution for this?

Professor Hill: I think the barrier is around the cost. As part of what we do, we deliver that monitoring and reporting, which is completely transparent. We use a whole range of methodologies, including LiDAR, spectral reflectors, habitat condition monitoring, and eDNA. All of those things are really important. We do that because the planning authorities, in relation to BNG, just do not have the resources, the capacity or the people to do it.

Jerome Mayhew: Or the long-term view.

Professor Hill: Definitely not the long-term view. If we are to make a profit out of raising BNG units and credits, we ought to be in a position to provide the independent data that can be reviewed by everyone. It would be a wrong and poorly governed system if we were just to collect the data and keep it to ourselves. That would be pointless, so we don't do that.

Q247 Jerome Mayhew: Do you anticipate an audit process? So you have annual reporting—in my previous career I was a businessman—where you provide reports and then you are audited.

Professor Hill: Indeed, and there is a second element to that, which is that the monitoring and enforcement responsibilities of the planning authority also need to be addressed, because we can see a barrier there in the planning authorities not actually delivering the duty properly. I have spoken to the Office for Environmental Protection to say that they could have a really good role, almost like Ofsted for the planning authorities, to assess what they are doing to deliver their section 106 agreements on planning on development sites.

Q248 Jerome Mayhew: On that, are you concerned that planning departments are not being sufficiently onerous in requiring—

Professor Hill: We always have been, and we haven't yet seen a material shift in that. One of the biggest problems with trying to design mitigation schemes back in the day, 20 years ago, was that the planning authorities would spend two and a half years on a public inquiry and getting all the level of detail down for planning applications. They give permission. The developer then goes back to say, "It's a bit difficult to make this viable," and the planning authorities say, "Oh, okay then," and where do we go with that? It doesn't deliver anything for biodiversity.

Q249 Jerome Mayhew: This is on the affordability argument, isn't it, where prices have changed?

Professor Hill: Indeed.



Q250 Jerome Mayhew: Before I move on, does anyone else want to come in?

Professor Standing: This gets to the heart of the monitoring, because who does the monitoring depends on defining the groups that matter. That is why a commons perspective had so much potential. If you go back to the Magna Carta and the Charter of the Forest, which are the two constitutional pillars of British society, the defining of a monitor was linked to the defining of stewards. The steward has responsibility for preserving the value of nature, and the sovereign accepted that and was geared to being the monitor of ensuring that the value is kept. But you also need gatekeepers to hold the stewards to account, which is enshrined in those documents.

The problem we have today is that all our Government agencies mix principles and agents. They are neither gatekeepers nor entirely geared to being growth agents. Take DEFRA, Natural England or the Forestry Commission. They are partly orientated to making profit and partly orientated to being gatekeepers, so they are not effective in either respect. There is ambivalence. If you want an effective system of preserving and enhancing nature, you have to have definitive, strong stewards, and the Crown Estate is not that either.

Q251 Jerome Mayhew: I'm going to cut you short just because we are so short of time. Very interesting argument. The Forestry Commission would counter that by saying that they have discrete parts of their organisation. They have forest enterprise, which is about commercial activities—

Professor Standing: Exactly, and they have sold off to private equity.

Jerome Mayhew: They haven't, but I know what you mean.

Professor Standing: They have, and I can give you the name of the private equity company that is making profit in the Forestry Commission.

Q252 Jerome Mayhew: We can have an interesting discussion after this about the Forestry Commission; I don't want to get sidetracked. They also have a separate part of their organisation that deals with commissions, which is unrelated to forest enterprise. That is what I suspect they would say.

Dr Holtedahl: This is not so much about who should do it, but I want to bring in a point. Again, international studies show that the cases that tended to show better effectiveness in the long run were the ones that built in buffers for when you monitor and the results come short, which they do quite often. In the voluntary carbon market, standards typically ask the project developers to set aside a buffer. You maybe do that in the BNG.

Q253 Jerome Mayhew: And that is a 20% buffer. Is that the sort of thing you are talking about?

Dr Holtedahl: That sounds reasonable to me, but I just put that in there as a good ingredient.



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Peter Bachmann: To answer your question, 52% puts us in the bottom 10% globally in biodiversity. It is worth recognising that. Nature is really powerful in the fight for net zero—you cannot do net zero without nature—so there is a really big driver to do this. I think if we ultimately want to create a standard that can generate lots of external capital to scale this properly, monitoring, evaluation, and ultimately the enforcement of it is really critical. The one good thing is that we have been able to raise a significant amount of capital around this asset class because there is the DEFRA metric. This is a relatively simple, objective tool that you can show up to an investor, can show to anyone, to objectively determine how much you have put in there, therefore how much biodiversity net gain you can create. I think that is a really key part. So there is a simple mechanism. But then ultimately I think what we need is a level playing field and we need that to be enforced. At the moment, the BNG regulations really only apply off-site. You should have an on-site mechanism as well, and then they should all be policed. You should have an equivalent to the Environment Agency, the way they enact permissions.

Q254 **Jerome Mayhew:** Can we have quickfire answers, please, because I have run out of time, I am afraid? Who should be monitoring? Should it be reported to a central organisation?

Professor Hill: I believe it should.

Peter Bachmann: You need a lot of transparency around that.

Jerome Mayhew: So a version of that.

Dr Holtedahl: And thought about it.

Professor Standing: Multi layers. It needs Government, it needs local common land groups and it needs different stakeholders—I do not like the term, but it needs different layers.

Q255 **Jerome Mayhew:** Okay. I understand that. And frequency of monitoring? Bearing in mind the juxtaposition between cost and completeness. Stab in the dark—annually?

Peter Bachmann: Annually is relatively suitable.

Professor Hill: Annually, but then it can actually be less frequent as time goes by, as you get the maturity.

Jerome Mayhew: So it should respond to the conditions?

Professor Hill: Exactly, yes.

Q256 **Jerome Mayhew:** Great. A final very quick question: should the monitoring programme extend beyond the end of an investment, to ensure that the environmental outcomes are permanent? We have 30 years of nutrient neutrality which is aligned. It is 80 years, currently. If you want to go beyond that, who pays and how do you organise it?

Professor Hill: I think it might happen. When you get to the 30 years—and there was a question about the persistence of the site—I would say



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yes, you need the persistence and you actually need to go beyond 30, because you can actually re-baseline. The next 30 years beyond is where you can sell the units for the management into the future and that is what I would like to see.

Q257 Jerome Mayhew: So there is a potential for a market beyond the 30 years?

Professor Hill: I believe there really is.

Professor Standing: We have been doing legacy surveys—so if recidivism takes place or if the benefits continue. I think they are really useful.

Jerome Mayhew: Thank you, and apologies that I am leaving straight away.

Chair: Thank you, Jerome. Clive Lewis.

Q258 Clive Lewis: Thank you, Chair. Because you are such an indulgent Chair and because I love our Clerk so much, I am going to ask the first question that I have been given but, with your indulgence, I am going to maybe slightly detour from that afterwards, if that is okay.

On to the technological component or the technology that we can use to monitor natural capital, we heard from the other panel, which some of you were present for, about the new Flex 701 report and things like additionality and permanence. There seem to be a lot of gaps in our capacity to measure and give the kind of basic infrastructure that we can measure to be able to then standardise these processes. I wonder what role technology could play in being able to find a way through it—for example, in the oceans and other areas that are proving difficult. Is this a way in which we can cut through and do that? Is that something that can be used?

Professor Hill: There is an explosion in technological advances. Looking at a company called NatureMetrics with environmental DNA, they are revolutionising the speed and the cost issues. Way back, I wrote a book on how to survey birds for EIAs. It is incredibly costly, but you can actually do things with sonograms now where you can actually collect information by standing sonogram data and apparatus. I think technology is moving into that space. Maybe I am old-fashioned, but I believe there still has to be a role for people in this because it is very difficult to get a really good understanding of an ecosystem's functionality just by trying to aggregate a series of technological pieces of kit. I have not seen it happen yet, but in 10 or 15 years' time it may well be different.

Q259 Clive Lewis: Do we have 10 or 15 years?

Professor Hill: We do not have even one year.

Q260 Clive Lewis: So the technology is not there yet, but it is something that can—



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Professor Hill: It is not there, but it is incredible the speed with which technology has advanced in the last five years.

Q261 **Clive Lewis:** Anyone else?

Professor Standing: I want to mention in passing in this respect the whole thing about deep-sea mining. The technology for deep-sea mining is explosively rapid now. Marine scientists almost unanimously say that it would be ecologically disastrous for it to take off, and yet the technologies for assessing the dangers are being sidelined, whereas the technologies for increasing growth—blue growth, as it is called—have been accepted. The technological issues have to be treated very seriously and integrated into the monitoring, the evaluation process and so on. But it is both technologies in the markets and technologies for assessing what is happening.

Q262 **Clive Lewis:** I want to read two statements out. When I think about natural capital, I do feel that we are trying, so often and especially after today's session, to fit a square peg in a round hole. There are two things I wanted to read out. On the whole issue of natural capital and the way that we approach it, what question is being asked? Is it how do you maintain profitability and consumption growth on a dying planet? Or, is it coming from how you replenish a dying planet in a way that ensures sustainable productive capacity? My overriding feeling is that it is the first statement, in that we are trying to continue to squeeze out profitability and growth and that is the primary. How do we keep on doing that and stop the planet dying?

It seems to me that we need to change the equation around to the second statement, which is: we have a dying planet so how do we stop that but also keep up some kind of sustainable productive capacity because we do not want to go back into caves? It does not feel to me that it is the second statement; it feels like it is the first. That is what this is about.

Professor Hill: Yes, but I would definitely back the second and not the first.

Q263 **Clive Lewis:** I would back the second, but given where we are at 50%, with Singapore on the edge of ecological collapse and some of these technologies 15 years away, it does not feel to me that that is the primary motivation of this.

Peter Bachmann: Can I say, though, that the UK should applaud itself for the Environment Act? That has actually put a price on nature and because of that we will see really rapid action on creating additional biodiversity that was not there before. There was a concept of polluter pays, generally, within what we should be trying to do. That is a good example of how the UK Government can take a leadership position in mandating the requirement to do biodiversity for someone—the developer—who has an objective to pay and has a profit. But how do you move that into other markets in such a way that you can generate change? The landfill tax is another one that has been incredible in this country in changing the amount of organic waste out of the waste system



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almost overnight. You need to find ways in which you capture the profit—let's call it that—in such a way that you can redirect it into something that has really meaningful good for the planet.

Q264 Clive Lewis: That is really interesting because I wanted to come to you on this. Dasgupta says we need a 1.6 planet. Current consumption is 1.6.

Peter Bachmann: The UK is about 2.6, actually.

Clive Lewis: So 2.6 for the UK. That is even worse; thank you. I am just looking at our net zero targets. We have based them on territorial emissions and not consumption emissions. That is how we will meet net zero. So it is not actually what we consume. We are outsourcing a lot of our productive capacity to poorer countries, developing countries or BRIC economies that are pumping out that pollution and paying people less, and we get to say that we hit net zero. Is it not the case that on this issue as well, with natural capital, we can envisage a future where this country is moving up to 70% or 80% green and verdant when what we have actually done is we have used those international markets to outsource pollution and ecological destruction in the poorest countries, which cannot say no and which do not have that capital to be able to afford this? Basically, we have a two-tier world where you have a world that is green and lush if you are wealthy, but you live in a hell zone if you're where all the productive capacity is. That's where I feel this could well be ending up. What's to stop that happening?

Professor Hill: I think that is exactly where it is going at the moment and we cannot countenance that at any cost.

It sort of answers a question that I think was posed earlier. I think that Pernille said \$600 to \$800 billion, if I am right, is the gap, and \$56 billion for the UK. Now, I am going to be a heretic and say that actually I would love it if that didn't have to come from the private sector. If it was just a Government factor that you spent that money—\$5.6 billion a year—it is not going to happen. That is the sad fact of it—it's not going to happen.

I would love it if that were the case. Yes, taxes would rise—sorry, but for me that would get to what I would like to see. But it isn't going to happen, so we have to rely on—and actually force, not just rely—the private sector to do this. We've got to force the consumption of all of us to actually do this and deliver it.

Am I optimistic? There are some days when I am really optimistic that we can embrace the markets, and there are other days when I just see consumption becoming ridiculously high. And we are 2.6 and going beyond. But to see a situation where we outsource our damage, just for us to live in a great place, is catastrophic.

Q265 Clive Lewis: But the history—our history—is one that would suggest that that is what is going to happen. We can see that, recently.

Professor Hill: Correct. And there is the big challenge—there is no doubt about it.



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Peter Bachmann: Capturing the externalities of our consumption is the really big elephant in the room. This is probably a bit beyond what we are able to talk about.

Dr Holtedahl: I think it is beyond this Committee. I mean, we are talking about restructuring global capitalism, which I wouldn't mind doing. I would very much like to do that, but I think probably we won't get there, at least not in this room. I won't be able to do it, for sure.

However, keeping that in mind, what is it that we can do? To pick up on your point on voluntary versus mandated actions, we did a study last year at Imperial looking at corporates and the extent to which they invest in biodiversity. What were the drivers? It was a case study. What we found was that none of the corporations we looked at undertook any sizeable biodiversity action, except in the cases when they were mandated to do so. You are probably not surprised, but this is what we are dealing with now.

While we are waiting for markets to develop, and we have already established that possibly—most probably—those markets won't be able to cover all the areas, we shouldn't be shy about telling companies what to do. If you are destroying something, don't destroy it; if you are going to destroy it, fix it.

You can do that through permits, or legislation about how you build wind farms and so on. The sector where we found the most biodiversity action, although it wasn't voluntary, was the renewable energy sector, where they were told that they had to preserve the biodiversity around where they were. So, they did it. It didn't cost very much either, in comparison with the capex, on their main project.

For me, those are the easy wins and then we need to bring in all the other sectors. And I think there is a case for extending that sort of thinking to other types of assets. For instance, with water utilities, you can build a purification plant or you can, in some cases, buy up a woodland adjacent to it and use the natural purification services of nature. In that case, in addition you get all the co-benefits, such as increased biodiversity, a lovely place to go for a walk, and hunting. There are examples of that in this country and definitely in the United States.

These are cases where I think of it as mainstreaming nature into the economy and into the way that other assets are built, in addition to creating separate markets, which might be necessary. However, we need to bring those layers in, because otherwise the private sector will find it difficult in the current incentive systems to do this, because they won't be making revenues, they won't be cutting costs and the risks are higher.

Professor Hill: Can I just add that I think we are also seeing investor pressure on corporates? So, they can't actually secure investment into their own business growth unless they do it. That is almost a semi-compliance or voluntary type of approach. It will escalate and indeed is already escalating quickly, and it will come more to the fore before there

is, for example, a compliance market through TNFD. That is where we have got to get to, in my view.

Peter Bachmann: And that is an opportunity for the UK to mandate something like the TNFD to at least be the halfway house to becoming a compliance market more generally.

Q266 **Clive Lewis:** Professor Standing, very briefly, is that possible? I have no more questions, but I just note that you didn't answer.

Professor Standing: Yes, the last point that I would like to make on this is that I think that, with all of these private investments—and public ones, for that matter—we need rigid control through environmental impact assessments before the investments go, and we don't have that. We may pretend that we do, but, for example, auctioning off the seabed to multinational companies did not have proper independent assessments done beforehand. If you don't have that, you don't have baseline monitoring capacity and you are pretending. I think that is a very important aspect of this.

Q267 **Chair:** Just to pick up on your comment about corporates getting involved in this, one of the issues for the UK as a location for investing in natural capital is that we do not have large expanses of nature-depleted area—David, you mentioned 2,000 to 3,000 hectares a year—but other places do. On the global scale, on which we are something like 1% to 2% of the land mass, if you are a major international conglomerate and you are looking to make an impact, you might wish to find a million hectares of outback in Australia or wherever. Is the UK engaged in that kind of trade at this point? I don't think that it is what the Environment Bank does. I don't know whether Peter is following this internationally.

Peter Bachmann: Internationally, I can't speak to that.

Chair: Pernille, do you follow what is happening?

Dr Holtedahl: In terms of compensating? Are you thinking in terms of offsets or—

Chair: Well, are corporates yet engaged in investing in improving nature in parts of the world in order to be able to meet the kind of financing demands you have mentioned?

Dr Holtedahl: Definitely in their own supply chains. International conglomerates, for instance—it could be a UK company that has supply chains in tropical countries—typically will be, and already are, looking after their own supply chains. That means investing in nature and in regenerative agriculture in Indonesia, let's say, for the products that they then use later. But that is more internally. At the Government level, you have bigger mechanisms for compensating and transferring to countries in the tropical south for these purposes, but not that I am aware of with corporates.



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Professor Hill: I do know that African Parks, for example, is transformational in its work in Africa. Since taking over in about 2010—I might get the figures wrong—it has restored 20 million hectares and has another 10 million to do by 2030. It is just in the process of looking at the biodiversity credits type of approach and market, and I think that would be a phenomenal one. I have talked to them recently about that.

If you look at the land cover in the UK, 72%, or whatever it is, is farmland. If you see a decline in meat in the diet, for example, you could suddenly release a very large area of arable farmland that is used to grow crops to feed to livestock—which is desperately inefficient, in one respect—and that could free up land that we could do this with and rebuild ecosystems.

Chair: Thank you. Guy, very briefly, if you would.

Professor Standing: Just a minor correction: in terms of our seabed, we have over 4 million square miles, and the Government made a contract with the subsidiaries of Lockheed Martin in 2011 for exploration for minerals over more than 1 million square miles. That is an incredible thing, and it was not transparent.

Q268 **Cat Smith:** Peter, is there any way of ensuring that people who are investing in natural capital are actually trying to reduce their own environmental impact, and not just using it as a way of offsetting?

Peter Bachmann: There have been some discussions around the transparency of the buyers, so there is certainly something in that. In respect of the biodiversity net gain mechanism, the developer has a specific obligation to improve the biodiversity of the site, and then they are buying the units and that is directly compensating for the lost biodiversity there. In that respect, the biodiversity net gain unit is quite complete, and it doesn't allow people to greenwash, which I think is your main point.

As we start to move into the voluntary market with the corporates, that is certainly an area we need to be really hot on. We need to see that people are doing everything they can in their supply chain, and in their business generally, to impact the planet properly, and we need to be really hot on that. That is really around the evaluation and policing of the things that they are investing in.

For us, that comes back to the need for a lot of financial certainty, as well as ecological certainty, in what we are doing. Part of what has gone wrong in the carbon market has been that a lot of these projects were probably never completed, and there were questionable scientific elements to them as well. You need both ecological integrity and certainty, and you need financial certainty as well. You need to be really cognisant of what they are ultimately investing in and the nature of the product that they are trying to talk about.

Q269 **Cat Smith:** I am trying to understand the mindset of investors here. How can investors influence company behaviour to be more nature-positive?

Peter Bachmann: I think David alluded to it—we talked about TNFD. As investors, we need to be pushing that obligation down. To the extent that you could make TNFD an obligation for all corporates to be reporting from, say, next year, that would be a really good start. Ultimately, you do not really start to change your activities unless you measure and monitor it. These are the sorts of things that we can do to drive change within corporates. It probably needs a little bit of your influence, but investors have a really big part to play in driving our investee companies to do things well.

Q270 **Cat Smith:** What are the pros and cons of mandating the recommendations by the Taskforce on Nature-related Financial Disclosures?

Peter Bachmann: TNFD is a good mechanism. It is certainly more complex in some respects than perhaps trying to take it really simply. My fear is that it allows greenwashing, and the things that you described as well, so we just need to be really careful in the way we allow people to do that. We need to be cognisant of what sort of products they are buying from, and therefore whether we have that ecological integrity at the core of what they are going to be investing in—or buying—as part of a TNFD programme. But TNFD generally is part of the tools that we need to be putting in place to ensure that we get the race to the top that we need in ecological integrity right now. We should be doing everything we can to push the requirements up, not down.

Q271 **Cat Smith:** Does any other member of the panel have anything to add to the questions that I have just asked Peter? I am conscious of time, and I know another colleague needs to get in.

Dr Haltedahl: On TNFD and mandating, investors and corporates want predictability more than anything. If they know TNFD is coming up and that they are going to be subject to it, I think that most have said they wouldn't mind that and would quite welcome it. It also means that there is a level playing field in terms of expectations across the board. Having said that, obviously it should not be an overly onerous experience, so we have to be mindful of making it something that is doable. But across the board, yes, I would support that becoming mandatory.

Professor Hill: It isn't about offsetting either. TNFD, as I understand it, is about changing behaviours throughout a supply chain to reduce impacts, and then compensating or going nature positive—with possibly a less quantitative methodology than we have with BNG, but going nature positive at whatever scale uplift that makes by buying into ecosystem-function restoration schemes of the likes that we and others are creating.

Q272 **Dr Offord:** Let's say that Hardin got it wrong and there really is a tragedy of the commons. I want to explore what would happen, particularly in an environment where investors had been involved and it simply didn't work for one reason or another. If we were monitoring a natural capital asset and the targets were not being met, what would happen?



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Professor Hill: Let's take a particular site, wherever it might be, as an example. If the monitoring showed that that was failing, and that it was going off-trajectory according to a habitat management agreement or plan, you would have to have a restorative fund in place that intervenes to rebalance and get the site back on track.

That can happen for a variety of reasons. In extremis, it can be because the landowner has been negligent and failed, and in our model we expect to hold the landowner/farmer to account on that. But in other situations it may be due to a serious series of droughts or heavy flooding—both of which we see—and that could lead to habitat degradation. As part of the agreement with the landowner/farmer, there needs to be a restorative fund that puts that back. If you haven't got that, have you got the legitimacy to be selling units from that site in the first place?

Peter Bachmann: And you need a mechanism, if that farmer isn't doing the right thing, for a funder to step in, effectively, to ensure you do get the environmental outcomes that you want. We need to make sure that we have the protections in place to ensure that you get the ecological outcomes that you are seeking from the start.

Professor Standing: I think Hardin's article is one of the worst on the subject of carbon. Basically, he was describing an unregulated market. He was not describing a commons, as a commons requires a governance with stewards and gatekeepers and respect for principles like the public trust doctrine, the intergenerational equity doctrine and the precautionary principle. Towards the end of his life, he confessed that he should have said the "unmanaged" commons, but that didn't rescue him from his bad article. That is all I have to say on that one.

Q273 **Dr Offord:** That doesn't come as a surprise, but it is interesting to hear you say.

Let's take it from the other perspective, that of the investor. What if they pull out for whatever reason?

Peter Bachmann: Can I give you a perspective? What we are trying to do is to provide absolute certainty on day one that that habitat will be funded for the whole 30 years, and that we can demonstrate through a letter of credit or similar mechanism that we have all the costs to maintain and operate that habitat bank for the full 30 years. It is really incumbent on us and the market as we are developing it up to demonstrate financial certainty as well as ecological certainty. That is a thing we need to be pushing into the market—demonstrating that you have absolute certainty around funding.

Q274 **Dr Offord:** I understand what you are saying, but scenarios do occur where it is unavoidable. We had the financial crash. We had covid. There are all these things that we never expected to happen. That is what I am trying to get to. In a scenario where an investor pulled out, the consequences for a project would be dire. Who would be expected to step in if that did happen? Would it be Natural England? Or the Government?



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Peter Bachmann: What we have done is put a letter of credit in place on habitat banks. Irrespective of the funder's solvency, there is certainty that the ecological outcomes will be delivered. That is a pretty high bar that we have set ourselves as to what is required. In that very obscure case, you would need to consider if that goes back to the landowner and the developer, which is not the right place for that obligation to land.

Q275 **Chair:** Does that operate a little bit like a bond?

Peter Bachmann: It does.

Q276 **Chair:** And the money is actually sitting there? Or has it been paid out and it is an insurance policy?

Peter Bachmann: It is a high street bank letter of credit in the case that we are trying to put in. Therefore, irrespective of us, it is an on-demand bond, effectively.

Q277 **Chair:** So in the case of a developer scheme, the developer is obliged to buy natural capital credits, pays up front, and pays for the management for the duration of the scheme up front. How do you ensure that that management activity takes place over 30 years, which may exceed the life of the people who did the deal? How does that happen?

Peter Bachmann: In our case, we have contractualised it. All of the obligations are contractualised and they are to be stepped in if one of those parties don't work. The letter of credit then provides a financial surety as well to ensure that everyone is there and able to deliver, beyond the lifetime of any of us, probably. That is really key.

That is why I also talk about the on-site market needing to be on the same level playing field. At the moment, the on-site market does not really have the same purview as the off-site market. I think you really want to ensure the ecological outcomes both on and off-site. We need to be trying to raise the bar—to provide certainty that the ecological outcomes will ultimately be delivered.

Q278 **Chair:** In the event that an off-site deal fails—one has planted a crop and the crop fails—does the maintenance value provide enough to be able to continue to replant or restock if you have to do that?

Professor Hill: Indeed. We have almost like an insurance fund that is a restorative fund for the collection of habitat banks, and that is used to draw down if and when it is needed, if there is a failure in the system.

Peter Bachmann: But specific insurance is put in place to cover normal peril, so you are really on a very nub issue around that.

Professor Hill: I think the bigger issue is actually that there will be providers that do not do that. At the moment, you have quite a range of delivery models from a farmer or landowner saying, "Buy my credits", but you do not have any infrastructural governance in place to deliver it. I think that is a real risk.



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As Peter said, the on-site point is extraordinary. We feel that there should be a level playing field: on-site should be under the same scrutiny. If you are giving a developer planning permission on the basis of them doing BNG, if 90% of it is on-site and it fails because they walk away—it will; that is why I set the Environment Bank up in the first place—you will lose all that biodiversity value, such that it is. It is much better to put the liability into a third party that knows how to do that and deliver it, because the developers won't and don't.

Q279 Chair: What the developer might do, if they are claiming that they can do it on-site, is try to get the purchasers—the ultimate householders, if it is a housing development, or the corporate, if it is a commercial scheme—to take on the management responsibility as part of their transaction.

Professor Hill: That is always the case.

Chair: And it would be very challenging to put that liability on to householders who may have no interest at all.

Professor Hill: Absolutely. Biodiversity, by its very nature, if it is at scale, is very untidy. If you tried to put that in a housing scheme, you can guarantee—we have lots of evidence of this—that within five years, once the developer has gone off and done the next scheme, it gets amenitised; it gets put into amenity grassland to walk the dogs and all that, so you lose the value.

Chair: We as MPs all have experience of schemes with unadopted roads that are put in by a developer and do not get completed. Who is then responsible for it? The answer is no one, after a certain period of time.

Barry Gardiner: The answer is the leaseholder.

Chair: Barry, I think that you were coming towards a question in your earlier intervention.

Q280 Barry Gardiner: Thank you, Chair. I am grateful, because I wanted to pursue that. Classical economics has regarded the sort of ecosystem services that Pernille talked about—the woodland providing the watershed and so on—as externalities. It might be the pollination services of the bees or whatever. Classical economics has not served us well, precisely because it has not put a value on those externalities. I want to get to the heart of why you feel—maybe you don't, but it came across in what you said—that this approach of putting a value on those externalities is fundamentally mistaken.

I agree with you about all the framework that needs to be around this and all that the Government need to do, but it seems to me that if we make a start on trying to say, "These things too have value more than the intrinsic or spiritual value that they certainly possess," perhaps we can reorient or refocus the way in which we debate things that, at the moment, are seen through that classical economic view.

Professor Standing: Externalities is obviously a big elephant in the room in this whole debate. I do not think that the natural capital approach is



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actually getting to the heart of dealing with externalities. Take the marine aspect of the economy as an example. We have vast amounts of subsidies; I did a book that calculated that we have 1,190 subsidies in this country. We have no evaluation of those subsidies—none. It is a disgrace, yet we spend billions on it.

The externalities are not taken into account in pricing. For example, we spend £120 million a year on fuel subsidies for industrial fisheries, as a result of which we have strong data, which I summarised in the book, that that has resulted in overfishing—much more than illegal fishing. It has resulted in highly regressive developments in the industry. It has resulted in more pollution. It is a conglomeration.

In response to that, we have a situation where ecological crime is treated as a civil offence, not a criminal one. The biggest industrial trawler is caught with 632,000 kg of illegally caught mackerel. We now have a mackerel shortage in this country. It was fined £96,000—the skipper and the owner—and allowed to take the revenue from selling the 632,000 kg, which came to over £400,000. That is idiotic. But this is basic. These externalities need to be taken into account, and at the moment I don't hear it. I listened to the evidence from one of the sessions, and you said, "The biggest worry is reputational damage from having a story in *The Guardian* that you haven't been doing this, that or the other." That isn't good enough. You really have to put a price on breaking the law.

Q281 Barry Gardiner: We have to stop subsidising in the way that we are.

Professor Standing: Exactly. You have to stop subsidising. Subsidising leads to overfishing, for example, or whatever else. But we don't have an evaluation process.

Barry Gardiner: We are subsidising the polluter and we are not penalising—

Professor Standing: Yes, and what I am hearing from the natural capital lobbying is not getting to that. It is not dealing with the externalities. It is not dealing with deadweight, for example. Deadweight effects are huge with subsidies, but we are not dealing with it.

Q282 Chair: Thank you. I am going to conclude the session by offering Pernille an opportunity to say something, because we haven't asked you enough questions. Is there anything you would like to add?

Dr Holtedahl: This is moving away a bit from this philosophical discussion, but I am thinking about what Governments can do to improve the opportunities for private capital. I guess I started touching on it earlier. I have three or four recommendations. One is to continue to develop BNG and other compliance-type systems because it is good to try them out. We need to monitor them, and they can have positive results, while being mindful of the mistakes that are being made internationally and learning from those. That is good. But I would also point out the opportunities that lie elsewhere, in terms of what I earlier called mainstreaming nature into legislation, with permitting, licensing and so



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on—making the private sector think about how they can integrate nature, if they are not doing it already. It is about not just transparency, but bringing it into their investment processes.

Q283 Chair: We heard from the first panel that the UK is producing the first set of principle standards. We have heard that the biodiversity net gain legislation is the first to have mandatory natural capital. When you look around the world, as you do perhaps more than others—I don't want to denigrate the other panellists, because I'm sure you all look internationally, but you do so particularly, Pernille—are there any things that other countries are doing that the UK is not doing, but should be, to facilitate this opportunity?

Dr Høltedahl: Unfortunately, I don't think any countries are doing very well in this respect these days. The US and Australia have traditionally experimented most with nature markets, and I think the UK is already looking at what they are doing and learning from them. I would say the whole world has to start spending more money, and from public office. The Government have money to spend on things that they want to spend it on, and maybe it is time to give nature a higher priority.

Q284 Chair: Thank you. We have a final comment from Peter Bachmann.

Peter Bachmann: I want to make a request for stability. We have a great platform in the Environment Act. Let's keep it going and give it the chance to flourish, and I think it will ultimately create some great impact for nature in this country.

Chair: Thank you. That concludes the panel. I thank Peter Bachmann, Professor David Hill, Dr Pernille Høltedahl and Professor Guy Standing for joining us today. It has been a very interesting discussion.