



Environmental Audit Committee

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

Wednesday 24 January 2024

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[Watch the meeting](#)

Members present: Philip Dunne (Chair); Barry Gardiner; Chris Grayling; Clive Lewis; Caroline Lucas; Cherilyn Mackrory; Jerome Mayhew; and Dr Matthew Offord.

Questions 1 to 96

Witnesses

I: Teresa Dent CBE, CEO, Game, and Wildlife Conservation Trust; Minette Batters, President, National Farmers Union (NFU); and Judicaelle Hammond, Director of Policy and Advice, Country Land, and Business Association.

II: Alan Carter, CEO, Land Trust; Karen Ellis, Chief Economist, WWF-UK; and Dr Tony Juniper CBE, Chair, Natural England.

Written evidence from witnesses:

[Teresa Dent CBE](#)

[Game & Wildlife Conservation Trust](#)

[The CLA](#)

[The Land Trust](#)

[World Wide Fund for Nature \(WWF\)](#)

[Natural England](#)



Examination of witnesses

Witnesses: Teresa Dent, Minette Batters and Judicaelle Hammond.

Q1 Chair: Good afternoon and welcome to the Environmental Audit Committee for our first oral evidence session on our current and latest inquiry into natural capital. I am pleased that we have two panels of witnesses today, all of whom have submitted evidence to us in writing. I start by welcoming our first group of panellists, Teresa Dent from Game and Wildlife Conservation Trust, Minette Batters from the NFU and Judicaelle Hammond from the CLA.

You are here to tell us mostly about land use and current farming practice and how that can contribute to natural capital. I should start by declaring that I am a member of both the CLA and the National Trust. I have, although I am not currently, been a member of the GWCT. I am also a farmer. I do not at the moment have any natural capital scheme but I expect that I might do in the future. I do participate in some countryside stewardship schemes on my ground. If anybody else wants to declare an interest, this would be a good moment to do it.

Jerome Mayhew: Yes, I refer to my register of interests. I am a director of a farming company that has the general interests that you would expect of a large agricultural farming business.

Chair: Thank you. It would be helpful to set a bit of context here. Teresa, you have been at the forefront of developing your organisation, developing clusters of farming businesses around river catchments to seek to develop natural capital opportunities. Could you give us a sense of the scale and the level of interest of farmers and land managers in this as a new opportunity to improve nature?

Teresa Dent: Thank you, Chair. We started setting up what we call environmental farmer groups in 2021. The first was in the Avon catchment in Hampshire. That was going to suffer a loss of basic payment scheme of £37 million per annum after 2027. A lot of the farmers were in existing farmer clusters, which were voluntary groups—pretty altruistic—to improve wildlife. There were six or seven in the catchment so we were quite concerned that when BPS went, their ability to invest in the environment and conservation would diminish. We had a slightly bad early experience of a natural capital market.

We brought the farmers together into an environmental co-operative, which is farmer-owned and farmer-led, so that they had the advantages of scale in delivering their environmental outcomes—working towards whole catchment scale—but also had the advantage of scale in being able to negotiate future environmental trades. The Avon was launched in May 2022, just over 18 months ago. We now have four set up, the Avon and three other catchments. Five are currently being convened and we have quite a few other areas expressing interest. I do have a map I could show you, if you show me slide 3.



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Q2 **Chair:** That is helpful, thank you. Could you explain what it means?

Teresa Dent: The colours on there—the blue shows the amount of farmland where the farmers have signed up or expressed interest in joining an environmental farmers group. The green areas are the catchments that are already set up and operating and trading in the south, two in the south and two in the north, not trading yet in the north. The orange are areas where we are convening, where farmers are actively coming together, and the red areas are where farmers are expressing an interest but nothing has yet been set up. Overall, we have over 500 farmers either who joined or who expressed interest in joining, and 220,000 hectares.

The interesting thing is the area within the big boundaries on the map because overall that is 17% of England. If we could let the farmers meet their ambitions, we could have 17% of England being managed for the three environmental objectives that they will sign up to. That is a reversal of biodiversity loss, cleaner water and net carbon zero farming, with the equal objective of meeting and beating Government targets in the environmental improvement plan.

Q3 **Chair:** Thank you. Are these cluster groups exclusive to you? Can you join one of your clusters and continue to operate separately? Presumably these are large areas of land and you will not have every landowner within that area.

Teresa Dent: No, even in the ones that we have set up for a while we do not have every landowner, of course. However, these are farmer-owned and farmer-led groups, so it is entirely up to the farmers whether they wish to join. GWCT acts as a facilitator. We give environmental advice. Through our subsidiary, Natural Capital Advisory, we help find trades.

Q4 **Chair:** What sort of volume of transactions? You said some are trading and some are not yet trading.

Teresa Dent: Trades are quite slow, not necessarily to appear but to complete because these trading activities are new. So far we have completed one and we have a pipeline of prospective trades at various stages. The total pipeline is about £26 million but not all of those will materialise.

Q5 **Chair:** Only one actual transaction is completed?

Teresa Dent: Yes. Some are quite close now, but these are new markets and it is taking longer.

Q6 **Chair:** Is there any transparency to the marketplace if we are trying to get a sense of how big this market is currently and how big it could be? Is there anywhere where such trades are recorded?

Teresa Dent: That would be difficult to find. Some local authorities such as the Test and Itchen local authority are doing quite a lot of work identifying the demand and also identifying possible supply. They could provide input on that. I would not have that exact expertise.



Q7 **Chair:** Thank you. Could I turn to you, Minette? Could you characterise what the NFU is doing in this area and the scale of activity that your members are currently involved in or considering?

Minette Batters: It is fair to say that I live and farm, as a tenant farmer, in the Avon catchment. I applaud the leadership of Teresa and the GWCT because I believe that this is transformational. However, we have to accept that we need a completely new economic model. There is a reason why things have not been done and these markets are emerging markets and have yet to be defined. I would say that the only continent in the world that is doing anything to genuinely define them is the US.

The US is pumping a lot of money into defining what these markets should look like at scale. What I have seen with my own eyes is a real excitement at a farmer level to build a new economic model that is farmer-led and that is backed by this technical expertise. I do not see how we are going to change anything at all unless we develop a model like this to take forward, that is built on a farm landscape so that we do not have an either/or.

There is a real danger at the moment that not only here but globally we are, as developed nations, becoming more and more excited about the environmental targets, without combining food production with it. We have to do both. We have to start with the soil and we have to build up. The more you separate them, the less you will achieve. Therefore, I applaud what your Committee has said about embedding food security into the environmental land management scheme.

In our belief, we have to establish a sustainable food-production platform that is measuring the baseline of where we start this journey. We have to be very much helping the measures within ELMS to be drawn down onto that platform and incentivising and empowering these private markets to work on top of that.

However, little is known as to what the Government want to see with stacking. We all know that unless we can drive a new economic model, we will not drive that investment back into the ground. It will be lost in the ether. We have developed—and you have seen; I will not go through them all because it is lengthy—environmental market principles, but I think that this could all be resolved.

I would like to see environmental farmer groups that are farmer-led and farmer-owned right across the country. Nothing would be better. We are then measuring exactly what is going on and we know what is happening. We know that we need trades on water quality, we know that we need trades on biodiversity and net gain and we know eventually there will be potentially an exciting carbon market. However, if we do not start by measuring at the very beginning, as a sector that is a source of emissions but also the one sector that is a sink and can do something about it, we could lose this amazing opportunity that we have in front of us.

Q8 **Chair:** What you say makes a lot of sense, but is there evidence of your



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members actively engaging in this and doing deals in the same way that Teresa said not much has happened yet within her clusters?

Minette Batters: From what I have witnessed from the very start of the Environmental Farmers Group, on the Avon catchment is a real excitement and interest—not just from landowners, but from tenants as well. That is a very important journey to be on. At the moment there is a danger that we have some landowners bringing land back in hand and tenants being the poor relation of that. We must have an approach, which I think this is, that is fair to everybody so that everybody can take part if they want to, that is voluntary, and everybody benefits from it.

However, I cannot speak strongly enough about the need to pump-prime from public money and the need to define. If we do not define, I do not believe that we will deliver. What I see is a huge amount of farmer interest, whether it is in the uplands or the lowlands, a real thirst from farmers and a real excitement. The cluster movement, which do not forget has been transformative, this takes it to the next level. At farmer level there is a huge amount of interest, excitement and a real will to crack on.

Q9 **Chris Grayling:** What are the Americans doing that we are not?

Minette Batters: I met with Tom Vilsack when he was over here for the COP in Glasgow. They are investing a huge sum of money in defining what these markets look like. They are very much working with the US equivalent of GWCT or us to gather the data of what is going on and what the ability is. I did ask Vilsack where the money goes and if it is truly farmer-led and farmer-owned or whether effectively it is the state that is driving this. He smiled and he said that it has to be about partnerships. That is absolutely right—it does have to be about partnership—but they are defining them and they are investing in them and they are working with the farmers to do that.

Q10 **Chair:** Thank you. Judicaelle, could you give us a CLA perspective? I have only heard of one deal being done so far. Minette has not given us evidence that this has yet happened, but has the CLA seen it happening?

Judicaelle Hammond: I have hot-off-the-press information for the Committee. This morning we finished one of a series of natural capital roadshows around the country with our members. We reached about 800 members. From observations and conversations, about 5% of those people who were there were in agreements. Typically these would have been a range of agreements between them and a particular company or more lease arrangements with companies such as Palladium or Environment Bank. There is a range but, as Teresa and Minette were saying, it is still very early on in that market. About 10% were there just to gather information and the rest, about 85%, were interested but not ready to commit to anything.

The markets absolutely need to be de-risked. The Government are working on that. They have some important and quite ambitious targets in terms of getting funding from the private natural capital markets, £1



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billion by 2030. For that to happen, DEFRA is funding work that the British Standards Institute is doing on standards, which is absolutely essential. Otherwise, the market is going to be a free-for-all and it will never get off the ground because people will be too wary of the risk as a farmer or a landowner.

Natural capital markets are a useful source of additional income but for our members, it is fair to say that the bulk of them will be relying on Government schemes because they are less risky for a while. Therefore it is important that the Government schemes continue to have good funding.

Q11 Chair: The Government schemes that we have had evidence about are the Woodland carbon credit scheme, the Peatland scheme and the new biodiversity net gain scheme, all of which are quite specific and do not apply to the generality of land use.

You talked about pump-priming, Minette. Do any of you have an ask for what Government can do? I heard what you said about the British standards, Judicaelle, and that creating a metric that people have confidence in is important. There is arguably a role for Government in producing that. Are there any other things that the Government should be doing to get this market doing?

Judicaelle Hammond: I will run through a very quick list and if Committee members are interested I can go into more detail. Baselineing natural capital is important. DEFRA has just announced that it is going to make funding available for that, for the generality of farmers who are interested, from this year, probably later this year.

Q12 Chair: What do you mean by baselineing?

Judicaelle Hammond: Finding a way of having—sometimes it will be crude rather than particularly sophisticated—a measure of what you have on your land at the moment or the types of habitat that you might be able to enhance. At the moment we have a lot of members saying, “Where do I start with this?” Having a way of doing this that is common and gets people thinking would be great.

The natural environmental investment readiness fund is important. We are hearing some good feedback from members who have been through it and it needs to continue. There is a need for advice and legal templates, and information about the rules on stacking, which Minette mentioned already, which do need to be clarified. There is also potential in finding more efficient ways of verifying and monitoring in the market. There are quite a lot of asks and the Government can help with each and every one of them in various ways.

Chair: I am going to move on to Cherilyn Mackrory. Before I do, can I thank you for what you said about the Committee work on our food security inquiry? It is much appreciated.

Q13 Cherilyn Mackrory: Minette, we have started to go through the different



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types of Government funding. Could you expand on how you think members understand the different schemes? When I speak to farmers in my constituency they are all very keen to do the right thing but they are often swamped by what is most appropriate for what. Can you expand on how well the different schemes are being understood at the moment and whether farmers know which one they should be applying to for certain things?

Minette Batters: I do not think that they do understand at the moment. I have sympathy with the Department, because we have had so many policy developments that it is very hard to understand. Even the unbundling of the options was only in June of last year and we have seen further policy development since then and further announcement of the Oxford farming conference that will not be available until this June. There is a lot of nervousness about what the plan looks like and what that will mean for their business.

In some cases, some of the options are incredibly well rewarded. We are seeing payments for wild bird pollinator strips for £600 up to £1,200 per hectare, well-incentivised payments. That is resulting in business changes, particularly on the eastern side with arable production.

We have seen a bit of a tragedy, if I am honest, in grassland payments, with grass being looked at but grass very much being treated as a poor relation to arable. However, the vast amount of the country is grassland and the Committee visited the Wakehurst project, which has shown what I believe will be world-defining in the value of mycorrhizal fungi in a grazed landscape. That is being peer reviewed at the moment and there is a lot of hope there. However, the focus, as the Chairman said, on woodland and peatland restoration, as important as they are, is only on focusing on a small amount rather than the opportunities as a whole.

There is a lot of confusion out there, with people feeling the lack of certainty and lack of plan and business changes that if they go into them—and most of our members are seeking advice and advice has cost. If they are getting consultancy in or land agents in, that is a very costly procedure and it is complex. I spoke to a consultant friend of mine who has been helping me out and he says that this is only getting more complicated not less.

Q14 **Cherilyn Mackrory:** How can we streamline it? Is that something the Government could do? Could we streamline these different schemes into an easier pot for people to delve into?

Minette Batters: Definitely. We, as are many, making the case for a bigger budget. Whether that is feasible or not is debatable but we believe that, at the very least, the remaining 50% of BPS should be for sustainable food production that delivers across all land tenures and for the environmental improvement plan, the legislated targets. However, it is about both, not one or the other. If you were measuring that baseline and you had the majority of farmers—70% was the suggested figure—compliant with the EIP, then you could draw down the various options,



and build on the private markets on top of that. You would then have something that would deliver on those legislated targets and maintain our food security. It is perfectly possible but it does need streamlining.

- Q15 **Cherilyn Mackrory:** Can I ask you about what success looks like? We talked a bit about the baseline. Coming from Cornwall, there is a lot of Cornwall that might not look particularly fertile to the rest of the country but it is, so the standards are slightly different with windswept very small trees and not much growing there but it is fertile land. How are we going to uniform the baseline in land that is so different around the country?

Judicaelle Hammond: Baselining is about what a particular landscape can deliver and does best to deliver. It would be very adaptable to what you are talking about. One thing I would add to what Minette has said is that the diversity of options is an issue. We have not had them for a very long time but there needs to be a lot of unpacking, a lot of advice and a lot of peer learning, which is where farm clusters can play a role. The benefit of having so many different options is that there is a lot of choice and it is adaptable to where you are, with the proviso that for grass we do need some more options.

In a way, when the decision was taken to get out of the EU there was a real enthusiasm, including among many of our members, to have a broader way of doing things and a broader range of things that could work with their farm and could work with their land. We have more of that; the problem is that we are now dealing with the consequences. Certainly, we do need a period of stability now and we do need a great deal more communication and engagement with farmers.

- Q16 **Cherilyn Mackrory:** I go back to the question of what success looks like. How do we measure in five, 10 or 20 years that something has worked?

Teresa Dent: That is one of the real challenges. We do not have the monitoring capacity to do that. We have national monitoring, things like the British Trust for Ornithology, and we have very local-scale monitoring, maybe individual surveyors doing a certain amount of monitoring on individual farms or nature reserves.

GWCT would like to invent a methodology that makes use of modern technology such as acoustic monitors to design a catchment-scale, on-farm, nature monitoring programme that could give a big group of farmers working at catchment scale a baseline for their nature, a target and they can track in in between. That is the sort of development that we need.

In terms of access to funding, farmers have good access to ELMS SFI landscape recovery, although some is easier than others. If they really want to step up their conservation work and species recovery, it is then very difficult for them to get funding. Farmers look after 72% of England. If we are going to meet the environmental improvement targets, we have to get a lot of conservation effort on to start 72% because that is what is going to deliver. It is mathematically impossible for the 8% managed for nature to deliver what we need so we have to get the 72% working.



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Therefore, we have to get these farmers access to species recovery grants and things like that.

That is very difficult because grants take an enormous amount of application power. The application forms will be 20 or 30 pages. I applied for two on behalf of two environmental farmer groups last year at the species recovery fund and got neither. It is difficult for farmers to access these. They are very competitive. Farmers would find it easier if they were more qualifying than competitive so that if they meet certain standards they could get the grant. There are things that can be done.

Q17 Cherilyn Mackrory: Minette, one of my farmers was very enthusiastic about the different grants but he had to employ somebody three days a week and pay them £8,000 a year just to do the application. That was taking away any potential profit that would have happened. Is it streamlining or how do we incentivise farmers to get stuck into this and know that it is the best for their business? Otherwise they are just going to carry on with food production because it is not beneficial to them.

Minette Batters: We would want them to carry on with food production. This is the last evidence that I will give as president of the NFU to a Select Committee. The fact that I have worked with six Secretaries of State in six years probably is the answer to that question. We are desperately short of plan, what the plan is and how we will do it. We have legislated targets.

On net zero, we said that we would beat the Government target by 10 years with the right incentives and the right policies. I absolutely believe that that can happen but at the moment we have nothing. We are not even measuring the baseline of where we start this journey from, on soil health or sequestered carbon. Even if we did that on the baseline and started to build from there, that would be a start, but at the moment that is not happening.

Q18 Cherilyn Mackrory: How significant do you think the Government-run regulated schemes are likely to be to your members compared to private schemes that have less regulation?

Minette Batters: I would say less regulation in the private schemes is a worry. They must be defined and they must be regulated, otherwise they will lack credibility and integrity and they will never work. You want good regulation that delivers and the private markets do not have definition, let alone regulation. They will need it if they are going to work and if they are going to drive the money back into the ground where it needs to go to create change.

Q19 Clive Lewis: Two things that Cherilyn said there, complexity and what success looks like. I want to think ahead about unintended consequences of this programme. On complexity, you have probably heard of collateralised debt obligations. They were the things that created the subprime mortgages. We know that this is something that international natural capital markets are looking at. Could you envisage a time and situation where farmers in this country had their natural capital assets



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mixed up in something very complicated that was very divorced from what they were trying to do, which was then sold on a highly complex international commodities market, as is potential? That is an unintended consequence.

The other bit is about what success looks like. What does success look like here? You said that we need to get into place the metrics to assess and analyse but it is entirely possible that companies could buy natural capital here—we have fantastically green and lush and ecologically diverse countryside here—and use that to strip-mine a forest in Gambia because they have the credits to. Have you thought through the potential unintended consequences of where this might go?

Minette Batters: It is happening in real time?

Clive Lewis: I know that, but this would commodify it and structure it into the economic system.

Minette Batters: Very much so. We have large swathes of the country that are being bought up for sustainability requirements for businesses that are not even based here, for people who are looking for celebrity status or whatever you want to call it. It is lacking definition and we are seeing land that is being taken for different things on a market that does not really exist, and being in many cases locked in for a very, very long time.

The particular tragedy, I think, is grassland, which is not being seen for its true value of what it is sequestering. That is where the large majority of our carbon is sequestered. Without it being defined, we will be sold out. Private equity owns a huge amount of the food businesses, all our care sector and it is liable to own all our biodiversity benefits as well and it will not be based here. That is very dangerous.

Chair: I am going to bring us back to this inquiry rather than others.

Q20 **Jerome Mayhew:** Judicaelle, you said that you have just had a conference where, from the numbers that you mentioned earlier on, it did not seem that the sector of farming is ready to go on this yet. It is interested but not there yet. Could you set the scene a little bit more on that?

Judicaelle Hammond: We regularly have meetings with members, we bring issues to them and we get their feedback. That was part of it. They are all looking at it as an opportunity but they are all worried about the risks.

Q21 **Jerome Mayhew:** Can you go through the risks?

Judicaelle Hammond: The transaction costs are quite high. You need to have, for example, ecological surveys.

Jerome Mayhew: Baselineing. I will come back to that.



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Judicaelle Hammond: Baselining, but going further down than you would at first pass. You need to have proper baselining. You do need to have proper legal advice and proper tax advice, as you would for anything that could take your land for 30 years. That is the other thing that they are very worried about.

Jerome Mayhew: High HG vulnerability.

Judicaelle Hammond: Yes, at the moment at any rate. We are waiting for the Government to give us hopefully the right answer on that. You cannot go into a deal that could last 30 more years without doing proper due diligence.

Jerome Mayhew: Set-up costs.

Judicaelle Hammond: As a result, you have upfront costs. That will be a barrier for many, many members. Then you have the cost of verification later on, which is not insignificant either. Frankly, it needs to make sense. For a lot of people not only do they have those upfront costs, but they also have potentially a series of changes in how they use the land. That does not mean that they stop farming, but they might have to do farming differently, they might have to plant trees on some of their land and so on. This is not something to consider quickly.

Q22 **Jerome Mayhew:** Is there a concern, particularly in relation to forestry or planting woodlands, that as a landowner once you have planted a tree you can never cut it down? That is that land set aside in perpetuity not just for 30 years. Is that a consideration as well?

Judicaelle Hammond: It certainly is, yes, absolutely.

Q23 **Jerome Mayhew:** What would be a potential solution? Minette, I know that you are nodding as well.

Judicaelle Hammond: It has to be a good finance offer. In terms of permanency, there needs to be more flexibility than there is at the moment about what happens when that tree dies, for example. Do you have to restock? Is the climate going to be changing around you?

Minette Batters: You have to accept, too, that at the moment, particularly on water quality, it has been predicated on the reverse-auction principle. Imagine if we ran our energy sector like that. If you put up a solar farm you are index linked for 25 years. We are paying farmers to grow maize for AD. Because these markets are not defined, it is very hard to make that business decision. If you were going to put up a solar farm you would know exactly what you were getting and it would be index linked over a long period of time. You are making these choices without having any idea what the market is worth and that is a big business risk. That is the only decision where I think that it is being held back, but that could be changed.

Teresa Dent: Being part of an environmental farmers group allows farmers to spread the risk. They are not having to bet the farm on a



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trade, they can share it among the members. They are learning from each other. If something goes wrong there is probably the possibility of switching an area with somebody else in the group to continue to provide whatever the environmental gain was. They have that joint experience in learning from each other and working together.

The other thing that I like about the Environmental Farmers Group working at that scale is that they will have a conservation plan that is designed to try to deliver the Government's environmental improvement plan for quite a big area, a catchment. That means that the trades become co-ordinated into that plan and they form part of it. You are not just sprinkling trades over a landscape in little dots; they are forming part of a cohesive and connected plan that hopefully can deliver better outcomes. There is a win-win associated with it, in my view.

Q24 **Jerome Mayhew:** Minette, I took notes where you were speaking earlier on and I had three points. You said define, pump-prime and sharing not sparing. Does that encapsulate the position of the NFU on this, that those are the three most important issues to get right?

Minette Batters: Yes, and the challenges of cross-Government working on this have been enormous for us. This cannot just be the preserve of DEFRA; this has to be a Government ambition. I look at green finance and many other things and it has not been joined up. When we talk about sharing, sharing responsibility and ambition across Government is key.

Q25 **Jerome Mayhew:** You are right, but when I said sharing I meant in-field biodiversity rather than having land for agriculture and land spared for biodiversity.

Minette Batters: Absolutely. There are conversations internally. I would say that we want biodiversity to be travelling everywhere and sometimes people will say not totally in the field. However, we could be incentivising protein cropping, and companion cropping. We must join up the corridors, which is what the clusters do so well. It is not about keeping everything in the nature reserve, it is about opening the doors on the nature reserve and joining all of those corridors up so that it can get everywhere.

Q26 **Jerome Mayhew:** Is there a risk that the rewilding debate has got in the way of in-farm biodiversity net gain within the farming structure?

Minette Batters: It has created another either/or.

Teresa Dent: To be honest, not many of the 500 farmers who have expressed interest in joining environmental farmer groups want to rewild. A couple told me that they are interested in creating new national nature reserves, which is one of the Government's targets. However, remember that agricultural land itself is an important habitat for biodiversity when it is managed well.

On GWCT's research and demonstration farm in the mid-1990s, we restored farmland bird numbers to what they had been 30 years previously in the 1960s, by managing it for food, managing 15% for



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game and wildlife. In those days the 15% had to be there because of set-aside, but we managed the set-aside. The point is the management. We also did a European study where we found that the amount of uncropped land was a very good indicator of biodiversity levels on farms. Anything above 3% up to about 17% elevated biodiversity levels.

Q27 Jerome Mayhew: There are a couple more points I want to get in, but I am running out of time. Does this exacerbate the tensions between tenant and landowner? Where you have nature recovery land or some of the grants that are available, are you experiencing people taking land back in hand and this making the landowner/state owner/tenant relationship more fraught?

Minette Batters: As a tenant, I think that the EFG is helping not hindering that relationship. However, there are others—and I do not think that the Government are defining enough. We have the ROC review that ultimately needs to be implemented and has not been, so there are other things that can be done that need to be done to make sure that landowners and tenants are working together. We have great examples. I am sure that you have members and we have members where it is working well. I can also think of examples where it is not. We have a new purchaser of land, to the point that was made over here. There is a new purchaser of land out there, which is why the tenant relationship—we have so many tenants—needs to be looked at on its own.

Q28 Jerome Mayhew: We have had reference to the Environment Agency's natural environmental investment readiness fund. Is it working?

Judicaelle Hammond: As far as I can hear, yes, it mostly is. The issue is the same that Teresa mentioned earlier, which is that the application is quite lengthy and you need a level of expertise.

Jerome Mayhew: It is a good programme but it needs tweaking.

Judicaelle Hammond: Yes.

Q29 Jerome Mayhew: I am interested in one of your earlier answers where you said DEFRA had announced just now that it will fund baselining. Can you expand on that a little bit?

Judicaelle Hammond: We have very little detail about that. That was part of the announcement that the Secretary of State made at the Oxford farming conference earlier this month and we are waiting to see what this is going to look like. As usual, we have plenty of ideas that we are talking to DEFRA about.

Jerome Mayhew: I am very glad to hear that there has been that announcement.

Chair: Chris Grayling, welcome to the Committee.

Q30 Chris Grayling: Thank you. Quickly on the last point before I move on, you are saying that we fundamentally need two things to make this work. We need a standard, accepted methodology for establishing what you



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have right now. We need proper agreed metrics to track progress against objectives, probably set together with you. Is that fair? Yes, okay.

Teresa, going back to the cluster issue, how much does the scale of a particular farmer or estate within that cluster impact their ability to engage with their agenda? Is it that the big estates do well and the small estates struggle?

Teresa Dent: In the Environmental Farmers Group there is an equalisation formula, as there is in many co-operatives, so the trades are shared to a certain extent. The majority of the value of the trade stay with the farmer who has produced the land. A proportion gets shared among all the members and a smaller proportion goes back to fund the running of the co-operative.

We do not find necessarily that the ability to trade or the opportunity to trade is linked to size, although there is obviously an element to that. It is more at the moment linked to specific locations for nutrient neutrality trades, if you have certain soil types, drainage-impaired soils or proximity to sewage treatment works. Is more those factors at the moment.

Q31 **Chris Grayling:** Democratic decision-making or otherwise within the clusters?

Teresa Dent: We must distinguish between farmer cluster, which are smaller, voluntary groups with no legal entity or governance, and the Environmental Farmers Group, which is a legal entity, company limited guarantee, run as a co-operative. Sorry, just tell me again what the question was.

Chris Grayling: In terms of the decision-making, you have a variety of different people. How do they decide?

Teresa Dent: It is a board and there are members' agreements. There is a classic co-operative style of decision-making.

Q32 **Chris Grayling:** There must be tensions within all that, aren't there?

Teresa Dent: I am sure that when we are in the happy position of being deluged with trades and we have farmers competing to deliver the best possible conservation outcomes, some decisions like that might become more difficult. However, at the moment we are not in that happy position.

Q33 **Dr Matthew Offord:** I have a very simple question about communications between professionals within the industry, such as not only farmers but also land managers, and how they communicate the best practice that they achieve. Are there any professional ways of them achieving that rather than over the farm gate or perhaps at a cattle market?

Minette Batters: I sound like the spokesperson for Teresa, but I think that the co-operative way of working, whether that is Arla or whether that is the EFG, is the ability to be able to work as a big group and share knowledge. I can think of other examples across the country where they



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are focused on the optimisation of agriculture, sharing what they are doing, working as farmer-owned and farmer-led but backed by technical expertise, whatever that field might be in, is incredibly powerful. There is a real thirst for it out there.

We cannot always be reliant on the state. I am sure that Natural England and Tony will have more to say for advice on the ground, but the more you can bring people together to buy together and to sell together, whether that is within the world of the environment or whether that is in the commercial world of food production, bringing people together has to be the best way forward.

Do not be put off by one trade. What we are trying to do is to bring this together at scale. At the moment we have individual trades going on, which is not going to deal with the problem at all. It is so much better to bring a whole catchment together to be able to measure on a whole catchment basis water quality, for example. If we cannot measure it, we cannot define where the problem is. If you can imagine that you could roll out that principle at scale, you have something that is very, very exciting. That knowledge exchange is happening because everybody is in it together.

Judicaelle Hammond: If I may add to that, we take it as part of our activities to run events for members so that they can share knowledge. However, in terms of external knowledge opportunities, there is a community of practice for the NEIRF scheme, which I have been hearing good feedback about. There is an ecosystems knowledge network as well and there is a green finance initiative pool of resource that you can access through the website, called NEIRF, which has a lot of information and resources on it. There are ways. Whether or not they are properly communicated yet is up for debate.

Teresa Dent: There are some nice opportunities to tell stories about what farmers are achieving, through the Environmental Farmers Group. One of the groups of farmers in the lower Avon catchment has doubled its number of lapwing in six years and improved the breeding success, mainly through predation management but also increased habitat, so that the population is now stable. On one of the tributaries to the Avon, we have 30 farmers coming together to do weekly water quality testing at 17 points along the river so that they know the quality of the water coming on to their farms and coming off. That is extending to four other tributaries, and other rivers are interested. Those are good stories of how farmers are developing new ways to improve the environment. You have to give them a chance to get confident about what they are doing, and then they are very happy to talk about it. More stories will be merging.

Q34 **Dr Matthew Offord:** From what the three of you have said, it seems to be through a member organisation that people could be updated. You also said on a localised basis. However, on a nationalised basis I presume the three of you are based in England?

Judicaelle Hammond: England and Wales.



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Minette Batters: We are England and Wales as well.

Dr Matthew Offord: Not Scotland.

Minette Batters: No, but you have NFU Scotland and the Ulster Farmers' Union as well and they would all be acting on the same basis.

Judicaelle Hammond: The same for Scottish Land & Estates.

Q35 **Dr Matthew Offord:** You have raised some examples. Is there any tangible data that you have that we can witness about the projects that have been going on and the ability for them to extend into further reaches of the farming community and the land-based community?

Teresa Dent: In terms of private markets? There is a bit of information now about the projects that have gone through the Government schemes, including landscape recovery. We certainly do not have a full view of what is happening in private markets because deals tend to be commercially confidential quite bespoke and very one-to-one.

Q36 **Caroline Lucas:** To pick up there, do you think that there should be greater transparency to understand what some of the environmental impacts might be of some of the trading that is going on that is not currently in the public domain?

Teresa Dent: Yes, in terms of the outcomes. If this is a way of delivering the Government's targets, it needs to be measured and needs to be monitored.

Q37 **Caroline Lucas:** What would the recommendation look like that would make that transparency on outcomes—

Teresa Dent: As part of the standards, verification and monitoring needs to be looked at and that needs to be established as part of that.

Q38 **Caroline Lucas:** Thank you. Judicaelle, you were giving some stories of new ways that farmers are coming together to improve the environment. I want to go back to the issue of incentivisation. Are those benefits that they are getting from doing that sufficient in themselves to mean that we do not need greater incentivisation for engaging farmers in natural capital schemes, or is something else required?

Teresa Dent: We certainly need more help to get these groups going. They have a tremendous opportunity, as Minette has said, but at the moment there is no bespoke funding to help them set up. To have something to fund these largescale conservation plans, that would fund convening of the groups—at the moment that is all being done on a wing and a prayer from farmers putting in time and a small amount of subscription income, GWCT putting in a lot of resource—I have to go to confession occasionally with my trustees—and a small amount of grant funding that we have secured so far. We have had some FiPL funding, one NEIRF application and we hope to get a bit of heritage lottery funding.

Q39 **Caroline Lucas:** To the extent that there are co-benefits around things



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like reduced disease in livestock or increased yield from the land or increased soil health, which may be co-benefits of the work that farmers are doing together, does that give them enough of a commercial incentive to be doing this without the need for the extra grant funding that you were describing to get them together in the first place?

Teresa Dent: Not at the moment, but we are early days in this market. We only launched the first EFG 18 months ago. Whether one can reach the point you describe, I would hope so, but we are not there yet. The whole thing needs to be pump-primed to get there.

Q40 **Caroline Lucas:** Minette or Judicaelle, do you have any thoughts on that? Are you confident that we will get there with the right pump-priming, that in a sense the logic will be a virtuous circle and the benefits will speak for themselves?

Minette Batters: I am not confident at all unless we have a radical rethink in the ambition. As long as we continue to refer to the likes of when our current Secretary of State came into DEFRA as a demotion, we will not go anywhere. This is the building block of life, yet it is a market that does not exist and we have to define it. If we can define it and treat it in a similar way to how we have treated energy, there is a real future. The pump-priming it is not necessarily looking at the farmers, it is looking at the professional expertise, the ecologists and everybody else who have to be brought together to record all the data to allow these trades to be credible. That is why we have these environmental market principles but it needs massive ambition from Government to make it happen. It is more about the plan and the strategy. The money to pump-prime them comes naturally with that, effectively.

Q41 **Caroline Lucas:** Can I ask you a more fundamental question? Maybe you can answer it, given that you said that it was your last evidence session in front of a Select Committee. If you were starting with a blank piece of paper and a Government that did not have any particular ideological direction, do you think that markets are the best way to achieve the outcomes that we are trying to get? I understand that right now that is the game in town and you want to make them work the best way that you can, but if you had a piece of paper based on the experience that you have had in this space, would you do it via a market mechanism?

Minette Batters: We have to accept that it is both. I do not think that the state can afford to do it all and I do not think that private markets will do all of it either. It has to be about both. If we could get the foundation right, the sustainable food production foundation that delivers for food security and the environment—do not forget that we have 62 calculators.

One of our asks in an election is that we bring together a scientific advisory group. We would bring together the likes of NIAB, Rothamsted and GWCT potentially to crunch what the baselining would look like and ideally one tool or two tools or even five tools but not all 62 tools. If we could use that at scale across Great Britain to measure where we are—as Judicaelle said, in Cornwall it is going to be different to what is going on



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in Cumbria or Yorkshire. If we could do that, create that foundation and then allow the stacking of the private markets to work with public funding as well, that is your winning formula. I do not think that private markets can do this on their own and I do not think the public purse can do it on its own either. We have to know what is going on for it to work.

Judicaelle Hammond: That is absolutely right in terms of Government focus. Flipflopping is a real danger for markets. On your essential question about whether markets are the best way, a lot of those markets will be coming from compliance with regulation, be they in nature disclosure reporting, be they BNG or nutrient neutrality, that is all based on Government intervention. However, I agree with Minette on the rest. You do need the pump-priming and you do need the markets because there is respectability there as well as money to step up.

Q42 **Barry Gardiner:** My apologies for arriving late. I want to ask about the risks of non-delivery. To do that I want to find out what delivery looks like. Twenty-six per cent. of the land of England is currently protected. Is there any evidence that the land that is in the protected areas is farmed in a more sustainable way than the land that is not in the protected areas?

Minette Batters: You have to be very clear on what good looks like or what you are trying to achieve. It is very difficult for farmers when we see changing policies within the CAP, we potentially see the huge danger of flipflopping between parliamentary cycles on the back of having a multiannual plan rather than having a multiannual budget. We can deliver both and farms are up for that but we have to accept that it is different in different places.

Q43 **Barry Gardiner:** When you say we can deliver both, what does that mean?

Minette Batters: For producing food and for the environment.

Barry Gardiner: That was not my question, Minette. My question was about what protected and delivery look like. We know the stats of SSSIs—62% of those SSSIs that are supposed to be part of our protected areas are below standard or we have no record of what they are like. Only 38% were assessed as being in favourable condition. Unless we understand what it is to deliver, it is difficult to understand the risks of not delivering.

Minette Batters: Yes, but you have to start with the premise that food production does impact the environment, but there is no second planet on which to produce our food so we have to start with both. At the moment we are only measuring the state of that SSSI through the lens of the environment. I would say that you need to measure it through the socioeconomic lens, the food security lens and the environment lens to decide what the future should look like. That will mean potentially some farming changes that could be incentivised to make those changes. Food production does impact; the focus is trying to lighten that food production



impact but produce as much food. Otherwise, we could say that we are not going to produce food, we are just going to focus—

Barry Gardiner: I think that you are setting a false dichotomy here.

Minette Batters: It is what is happening. If you look at the challenges around Dartmoor, Penwith Moor and others, it has been what is happening. All I am saying is that we have to do both, which means that we have to take a responsible attitude to both.

Q44 **Barry Gardiner:** What the whole movement for ecosystem services and natural capital credits is seeking to do is to enable those who are engaged in our food production to do that more sustainably, not trying to limit their food production but trying to ensure that they do it most sustainably. Those are the benefits that we are seeking to achieve through these schemes.

Judicaelle Hammond: On designations, protection and so on, this is something that needs to be looked at as part of achieving for nature. As you mentioned, the statistics on the state of SSSIs at the moment are not great. We are talking with Natural England at the moment about how the designation process can be improved in order to have a roadmap. It is important for existing designations, to start with those, to define for each of them what success looks like.

At the moment, the management plans are not clear. As Minette said, we saw it on Dartmoor and we saw it in Penwith, so we need to start with that. Then, working backwards, what changes are necessary and what support do farmers need if they need to change their practices radically and, for example, there are going to be stranded assets or they need extra skills but we need to look at that separately from natural capital markets, which you alluded to. That is not true. However, a problem at the moment is that an SSSI cannot access biodiversity net gain because of the legislative duty. That must be looked at.

Q45 **Barry Gardiner:** Indeed, but you know well that the enforcement of that legislative duty seems to be fairly poor. The monitoring and enforcement is poor. My fear here is you are right to say that setting baselines is that without which nothing. You have to know the baseline. You then have to assess where you want to get to and then you have to make sure that you are monitoring and enforcing to get there.

Let me move on to the second part of this. Who bears the risk? Normally, in food production, farmers bear the risk. They bear the risk of the weather. They bear the risk of the floods. Who bears the risk when it comes to natural capital improvements? Who will be responsible for that? Will it be the farmer? A corn crane is just another commodity like a crop of maize. If the weather does one out and it does the other out, it is the same thing and so you bear the risk. Or will there be some special scheme here? Farmers typically can insure their crops. Will they be able to insure their natural capital credits?



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Teresa Dent: There is some discussion around insurance. A market has not developed yet. I do not know enough about it to know whether it will. The trades that happen at the moment are not trades in corn crakes—

Barry Gardiner: I was just joking.

Teresa Dent: —and that is probably good. Metrics substitute. The biodiversity metric calculates habitat provision and quality as a proxy for biodiversity and wildlife. The markets will develop like that. As long as the farmers deliver against those metrics, the risk is at least understood. We have a lot to learn about how this will pan out over 30 years—

Q46 **Barry Gardiner:** How will those metrics be monitored and how will they be enforced?

Teresa Dent: At the moment, all trades are verified either by the local authority or by Natural England.

Q47 **Barry Gardiner:** You know well that local authorities do not have the capacity. Only a third of them have the capacity to employ an ecological officer. God bless Natural England. We have a man sitting behind you. But I struggle to say that it can send people to every farm in England to check whether the credits have been properly achieved. We need something robust, do we not?

Teresa Dent: Yes, we do, but at the moment that is happening and trades are starting to happen. At the volume we have at the moment, it works.

Q48 **Barry Gardiner:** I am seeking from you recommendations for what should happen, not what is happening. What should happen? If we are going to get it right, it is not, "Well, this is what we are doing." It is, "We need this."

Minette Batters: A classic case in point is the ambition for building houses, which Labour has alongside the Conservatives. We look at what happened with nutrient neutrality. I have not been able to get a meeting with Michael Gove on this and nor has Teresa, but it absolutely should be possible with our housebuilding projects to have complete dialogue with these new trades so that housebuilders can come and develop these trades. Such an opportunity would not be reliant on the public purse, but there is no definition of what that looks like. There is not even a dialogue on what that should look like.

Q49 **Barry Gardiner:** In terms of Government here, at the moment the Treasury says to each Department when it comes forward with its programme and its plans, "Yes, you can have that capital resource. You can have that revenue resource. Here is your budget." The Chief Secretary to the Treasury pores over that and says yes or no, usually no.

Do we need a chief secretary for natural capital doing the same things across Departments? It would be in the Housing Department, not just a thing that Defra looks at, but the Government's responsibility to allocate natural capital and to make sure that any Department that comes



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forward with a programme sees it not only in terms of money but in terms of the national wealth, which is its natural capital.

Minette Batters: Definitely. I take credit and Wakehurst gives me credit for getting this Committee to go and see it, but it ultimately was Treasury-funded, BEIS-funded and Defra-funded but nobody had been to see it, despite the fact they were funding it.

Judicaelle Hammond: Cross-department working is a challenge at the moment and it would unlock progress on a number of things.

I would like to inject an idea about the use of technology. At the moment, we talk about people with clipboards and probes running around. There must be a better way of doing it at scale, which will include drones and probes that you leave there. If you have such a thing as a mobile phone signal—

Barry Gardiner: I have the Living England satellite-based habitat classification technical user guide. It was there on my phone as we spoke. We need that.

Judicaelle Hammond: Yes, we need that.

Barry Gardiner: We can use that for baselining and we can use it for monitoring, but we need an integrated system that does it and we do not have that.

Judicaelle Hammond: Yet.

Q50 **Barry Gardiner:** Yet. Any further recommendations about non-delivery risks that you want to make? The Committee is interested in that. How can we make recommendations that will be impactful here?

Minette Batters: It is difficult to sum it up. It is about getting everything right and the ambition right from the Government, starting from the ground up—what the public money will invest in, what the food security target will be—and then developing and defining these private markets. I made the point on nutrient neutrality and land use strategy. A danger is that we will see a lot more solar because solar is de-risked. It is that point on being index-linked.

A massive amount of work needs to be done to work with the industry. You hear willing voices from all three of us. We want to do this but the Government has to have that ambition to do it with us, define it, pump prime it and then help these markets move forward. We all that they need to on water quality and BNG. We know they need to. There is a danger with carbon that it overtakes everything else and it should be going slowest of all, probably.

Q51 **Barry Gardiner:** But do you all support the appointment of a chief secretary for natural capital?

Minette Batters: I am loathe to say a person because it is about a much bigger plan.



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Barry Gardiner: They would need a pretty sizeable plan, yes.

Minette Batters: If you had the plan, appoint the person to deliver the plan.

Q52 **Barry Gardiner:** Thank you. Can I thank you for all your work as president of the NFU?

Minette Batters: Thank you.

Chair: Thank you, Barry, and that concludes our first panel. I thank our witnesses, Teresa Dent, Judicaelle Hammond and in particular Minette Batters for your final appearance before a Select Committee. Thank you all very much indeed.

Examination of witnesses

Witnesses: Alan Carter, Karen Ellis and Dr Tony Juniper.

Q53 **Chair:** We will move straight on to our second panel. Thank you very much for sitting through the first and, hopefully, it will help inform both the questions and the answers.

I will start by welcoming Karen Ellis from WWF. Can you explain, Karen, your role and its relevance to our inquiry, by way of introduction?

Karen Ellis: Yes, certainly. Thank you. I am the chief economist at WWF UK. I am also on the Global Finance Practice Leadership Team of WWF's International Network, which works on finance issues. We work a lot with the private financial sector to promote a net zero nature-positive transition of the whole economy and the financial sector.

We have been working to define the net zero transition and also the nature-positive transition and how to mobilise private finance to do that. Nature markets are a big part of that, but I argue that we also need a nature-positive transition that invests in nature-positive production and consumption of goods as well. We are talking about a new economic model, as was referred to earlier.

Q54 **Chair:** Thank you. Alan Carter is the chief executive of the Land Trust, which, as I understand it, owns and operates land parcels in mostly urban environments to bring nature to the communities. Is that a fair characterisation?

Alan Carter: It is, indeed. Our charity is committed to long-term, sustainable management of green space and public open space. Quite often they are in deprived communities in urban or semi-urban areas and we use that space to deliver social value and charitable outcomes around the environment and biodiversity, mental health, physical health, education and suchlike.



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That land comes to us through all sorts of different ways, whether it is contaminated land or land that has come through the Suitable Alternative Natural Greenspace or SANG project, which we can all learn a lot from as we talk about this topic. We currently have ownership responsibility for over 2,800 hectares of land around the country and over 85 sites.

Q55 Chair: Thank you. That is perhaps a microcosm of the responsibilities of Natural England. Tony Juniper, chairman, welcome to you. We do not need you to explain what Natural England does, but I would like you to start by explaining the role that Natural England has in helping the Government to develop their natural capital policies. Then we will get into enforcement and other things in a moment.

Dr Juniper: Thank you very much, Chair. Everyone will be aware that Natural England is the Government's adviser on the natural environment and also a delivery body. We have responsibilities on both sides of that in being able to develop the kinds of mechanisms and policies that we are talking about this afternoon.

We are also a technical body. We have a great many scientists working in Natural England, some of whom apply their skills and knowledge to the development of the kinds of topics we are talking about today.

On the advisory side, we feed into the green finance strategy and into the various elements that the Government are putting together to develop particular markets. Over some time, we have been involved in the development of the voluntary markets for the woodland carbon code and the peatland carbon code. We have also been closely involved with the development of the two compliance markets that we have for biodiversity net gain and also for nutrient neutrality. Those four sit across the piece at the moment and generate some level of transaction. The biodiversity net gain will come into effect next month.

Just on those last two, the nutrient neutrality and the biodiversity net gain, as was said by Minette Batters earlier on, are good examples of where a legal requirement backed by some standards and some scrutiny and transparency, linked to the polluter pays principle, which is another broad Government idea around environmental policy, drives things forward so that people have some trust and confidence in the policy to the point where they put money into it and put their land into it, thereby completing a trade. We see confidence on both sides between buyer and seller as the core of being able to make this work.

You heard earlier from colleagues about the land carbon beyond trees and peatlands. More than 60 baseline methodologies are out there at the moment. A recent Defra report trying to make sense of this all described it as a Wild West situation. That will not generate confidence. It will not generate trust. Potentially, it will generate a lot of confusion and also some bad examples that might undermine the whole idea of ecosystem markets as people see disastrous outcomes either in terms of people losing money or in terms of damage to the environment. Creating that



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confidence and having a structure that gives people some level of certainty seems to be pretty core to the whole of this.

This whole idea of natural capital and ecosystem markets needs to be geared to meet nature goals, not just generating more economic activity but actually doing something for the climate-change and nature crises. As you look at that broad goal—and it is huge and demanding—see the markets not only in isolation but also alongside other mechanisms that we have, including regulation and incentives, including the ELM scheme payments, at the moment. If we look at those three things together and deploy them strategically, we might get to where we need to be. We advise on all of that.

Q56 Chair: That is helpful context-setting for us. Are you optimistic that the Government, Defra in particular, understands the holistic nature of this that you have just described and that there is therefore a desire to remove barriers and obstacles? For example, my colleague Jerome was talking earlier about stacking, having ELM schemes and also biodiversity net gain potentially on the same piece of land or in proximity to each other and building on each other, not to the exclusion of other opportunities.

Dr Juniper: It is challenging. At Natural England, certainly in my position, I feel privileged to have a broad view of all these different moving parts. It is fair to say that not many people have that because they are in a particular unit or a particular team or are looking at the challenge through a particular set of tools or policies and, therefore, do not necessarily see the breadth of it. Work always needs to be done to shed light on the different pieces that need to be li and to genuinely come with that holistic view. Minette said earlier that there has been a lot of change in the Department. It is wider than Defra, but there has been a lot of change. Keeping sight of 25-year goals in the plan published in 2018 is quite hard to maintain, never mind continuity and breadth.

Q57 Chair: On the point you are making about having an established baseline with BNG and monitoring and enforcement, the methodology used to assess biodiversity net gain—Barry was touching on it—uses satellite imagery as a proxy for the type of habitat that exists, which can be identified remotely and can be monitored over a period.

Is that how it will work, bearing in mind it has not yet come into effect? If so, does that have a wider application across the breadth of alternative natural capital instruments?

Dr Juniper: A discussion is going on and colleagues at Natural England are looking at this and how we can best capture data over time to know what goes on and whether the objectives of the biodiversity net gain are being achieved.

To let you know about a wider process going on, of which that kind of thing would be a subset, the natural capital ecosystem assessment sets out to get a baseline of the entire country, in effect. This substantial programme is led by Defra and Natural England colleagues feed into that.



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We will look at a wide range of methods of, over time, measuring change. Measuring change, of course, will let us know whether we are getting a benefit or not from the interventions we are talking about.

Chair: Thank you. I will bring in the others in a second. Chris, do you have a quick question?

Q58 **Chris Grayling:** We need a simple single methodology. For example, eDNA might be a good case in point. Ultimately, we hope to see real progress around increased biodiversity. Do we need a simple tool? There are some good potential tools either in development or beyond development now. eDNA enables us to track both the number of species in an area and the growth of species in an area. Do we need a simple methodology like that that can be used across the country? Each location will be different but, if you know how many species there are in a particular location and how that is increasing, that surely gives you a reference point to build your incentives.

Dr Juniper: eDNA gives us one metric, which is the presence or absence of species in a landscape. Quite a lot of what we try to do with Government targets is about abundance and also about the presence or absence of ecosystems and their health. It gives you some useful information but it gives you all the information. Pretty much every method you look at with biodiversity always leaves you wanting more.

Nature improvements, compared to what we might do to mitigate carbon emissions, are complex. For the context of your eDNA data from a particular locality, you need to understand that locality and the native biodiversity expected there normally to make a judgment about how intact that area is compared with somewhere else. The trouble is that biodiversity is always incomplete and is always about context, compared with carbon, where you put a tonne out into the atmosphere and it is the same everywhere pretty much with some qualifications.

Q59 **Chris Grayling:** The danger is that we make it all too complicated.

Dr Juniper: The trouble is that nature is complicated. It is not that we wish to make it complicated. That is how God made it, if you want to look at it like that.

Chris Grayling: If we make it too complicated, it will be unworkable.

Dr Juniper: We work hard to try to make these things easy to understand, to make comparable judgments between datasets from different places, and also to make it cost-effective to collect that data. This is why eDNA is a wonderful tool in being able to, for example, enable us to determine the presence or absence of great crested newts, which previously required expensive surveys with people going into the field overnight with torches to look for these animals. In fact, by taking a small sample of water from a pond, you can tell their presence or absence straight away.



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These are powerful tools, but they do not necessarily give us all the answers, unfortunately.

Q60 **Chair:** Thank you. I will bring in the other two before we move on. Karen, on the nature of the returns that investors in natural capital might look for from a financial and a non-financial measure, Alan will perhaps focus on the non-financial a bit more. But can you characterise for us whether it is clear yet what investors are looking for and how returns might be calculated? Give some characterisation around who will get what out of the natural capital deals that might be done and the share between the land provider, the financial provider and the broker or intermediary.

Karen Ellis: Yes. They are looking for a return or a reason to do it one way or the other. At the moment, returns tend to be quite low, uncertain and risky. Doing this has significant barriers, which is why I agree with Tony Juniper. We need compliance markets that drive their demand for biodiversity credits because, without that, the incentives are just too low.

We cannot rely on voluntary markets. It is critical that we put more pressure on the private sector to deliver nature recovery and align it with the goals that we have set ourselves, be they under the Environment Act or the global biodiversity framework, GBF, because that includes a clause that says we must align financial flows with it.

How do we do that? That has not been defined as yet in the economic strategy to deliver those goals. We argue that we need a nature-positive economic strategy that sets out the different requirements over time of each sector of the economy that has a big impact on nature to align with those goals.

Once you have set out that pathway, then you can start to hold business to account for delivering its part of that transition and reward or penalise them according to how well they contribute. That kind of process can give much greater clarity to the private sector on what it needs to do. It has, increasingly, that kind of guidance for net zero and not for nature positive. We need to replicate the architecture we have for net zero for nature positive.

Q61 **Chair:** Will the Taskforce on Nature-related Financial Disclosures do some of that?

Karen Ellis: Yes, up to a point. It is looking at how a business can assess its nature-related risks and opportunities, but it does not at the moment define what the private sector needs to do to align with nature goals. That is more like what the science-based targets for nature are trying to develop at the moment, but we do not have the clarity to link it to the delivery of GBF goals or indeed Environment Act goals, which is required to mobilise private sector action at a much bigger scale than it is currently. At the moment, the returns are just not there. It is voluntary for a large part and philanthropy based. The transaction costs are high. They try but they do not know how they can scale that up in the current circumstances.



Q62 **Chair:** Alan, on the less obvious financial benefits, is a market developing for the social prescribing of nature?

Alan Carter: There is a market developing and we mentioned in the first panel how few deals there are around BNG. We have just completed our first BNG deal and a number will go through shortly. That interplay between the private sector investing in this and the public sector but also the third sector, the charitable sector, of which the Land Trust is a part. To see how that develops is quite interesting.

We have talked quite a lot already about remote sensing, which is good, using satellite data and whatever, but we need ground truthing of that. Certainly, as we have baselined all our sites and areas we understand how many credits we have that we can sell to the market. We have some 2,000 credits that we know are available for the market, ready to be taken up by the private sector to invest in this. We are doing those, but the private sector still gets to grips with it. We have done surveys with the private sector and the housebuilders particularly, who see this as a challenge for them around profitability, their ability to deliver within this and how that affects the different land values within there. That is key.

We are seeing that as we then look at social prescribing, as we look at the social value from this, not only can we get the biodiversity and habitat benefits that we are looking for here, which is all good, but we can get significant other social value from that as well.

If you look at the SANG model that I mentioned in the introduction, as a charity, we are the largest non-public sector owner/manager of SANGs around the country. We have two of the top three largest sites. They are for a specific regulated purpose and they deliver that, which is fantastic. But those sites—and probably about £20 million in private investment has gone into those 13 or 14 sites that we have at the moment—deliver £8 million in social value per year and will do for the next 80 years, for which the funding is there to deliver that. That is not just the purpose of protecting the protected areas, ecology, biodiversity, habitats and all of that. It is also delivering all the health benefits that we talk about through social prescribing. The majority of the top four noncommunicable diseases in this country can benefit from planned activity in greenspace public space while delivering the BNG, the biodiversity, the SANG or whatever.

It is likewise with education and likewise with building social cohesion and resilience. Whether it is in the deprived communities that we work within, whether it is on brand-new multi-thousand-unit estates being built up and down the country, all of this can be brought together and delivered, bringing private investment plus the third sector plus the public sector within that.

We talk about this interplay within this with Natural England and the regulatory bodies, but also the legislation gives the ability for other responsible bodies as well to be appointed. That may be a local authority or another body—and the Land Trust is registering as a responsible



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body—because that check and balance is needed alongside the satellite imagery and remote sensing.

Q63 Dr Matthew Offord: I was thinking that all budgets are constrained at the minute, personal budgets, Government budgets, every kind. How can greater voluntary investment in natural capital markets be achieved?

Alan Carter: Money talks and you have to follow the money within this. Certainly through the development process, we sit quite closely as a charity within this sector working through the housebuilding and other sectors. Opportunity is there to bring this interplay to deliver this significantly at scale across the country. The housebuilders know that they need to deliver net gain. That is clear. From the middle of February, they have legally to do that. Some have been talking about this for quite some time and that is coming forward, which will certainly help.

There is opportunity to bring in private investment, as we have been talking about, but it is pretty complex at the moment and is quite risky because the market is just emerging within there.

Q64 Dr Matthew Offord: On two occasions then, you mentioned the word "opportunity". Who creates that opportunity and what role does the Government have in promoting that opportunity?

Alan Carter: The Government has created the opportunity by bringing forward this legislation and all the parties that have been involved in helping the Government bring that forward and quantify that. The regulatory bodies will also create the opportunity.

The flipside of the opportunity coin is the risks and the problems that come with that. Perhaps I mentioned opportunity twice because it fits with my personality and character maybe, but there certainly is the opportunity exists to make a significant difference for biodiversity, yes, but also for the communities that live around that biodiversity. Humans are part of, in a wider sense, the biodiversity. That neighbourhood nature and interplay comes into play there, which is of great use.

Interestingly, as we integrate that nature within the communities, the community gets to understand and value that, which started perhaps at a large scale through the Covid pandemic as we got to know the green spaces around where we live much more intimately than previously. People started to realise, understand and value and so the opportunity magnified.

That follows all the way through to ESG at the highest level. People then start to think about where they buy produce, the organisations they trade with, who they buy their house from and who they buy their car from to make sure that those organisations proactively and positively deal with the environment.

Q65 Dr Matthew Offord: You also mentioned the word "risk" a few moments ago. Is that a perceived or an actual barrier to invest? Which would it be? Are there any other barriers to investment?



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Alan Carter: There are plenty of barriers and plenty of risks around it and others on this panel will be more able to talk about financial investors into this.

From our perspective, the risks are around getting on there and delivering. There absolutely is an issue with the number of ecologists in the country and the need for that. It takes time to train and bring them forward.

The market is emerging and some of those risks are not yet known, but we have to understand as well that this is about creating the habitats and then nature does its thing around that. We will not change the new population from X to Y, but we will correct the habitat for the new population to increase itself. We need to be aware of the risks around that.

Q66 **Dr Matthew Offord:** Mr Carter invited other members of the panel to contribute.

Karen Ellis: Could I come in on your questions as well? You asked how you can stimulate voluntary action. Net zero transition plans have stimulated a lot more companies to engage on how they can deliver their net zero goals. The expectation that they will be required to deliver net zero goals is growing. The market will scrutinise them. They will have to publish transition plans and the market and, hopefully, regulators will judge them on those plans. That increases pressure for them to do good things to deliver their net zero targets.

The same could be true for nature as well if we were to integrate nature into those transition plan requirements. Indeed, we have worked as part of the transition plan taskforce that the Treasury set up to define how nature can be included in transition plans, firstly, to deliver climate goals and, also, to deliver nature-positive goals potentially as well. That can, first of all, get the private sector creative and excited about what it can do.

We believe that if we have nature-positive pathways in the way that we have net zero sectoral pathways mapped out that show we need to invest in renewables rather than fossil fuels, for example, it points to the investment opportunities that businesses know are coming. The Government will pursue these objectives over time and so they need to invest in the kinds of technologies and business models and businesses that will thrive and survive and do well in that new environment. The same could be absolutely true for nature if the Government sent strong signals. If a nature-positive pathway was mapped out towards regenerative agriculture, towards renewable energy that also delivered nature-positive goals, the private sector would know that they could invest in that and could be pretty sure that it will deliver a return over time as we transition the economy towards that more nature-positive outcome.



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Policy can still drive it more than voluntary action. Compliance markets are still crucial.

Dr Juniper: I agree. If you want some headings to think about to encourage more activity in this space, the previous panel mentioned the importance of transparency and being able to see who is delivering what and how that contributes to the bigger goals. You can then judge the activity that goes on against standards and science-based benchmarks and evaluate and accredit good projects so that you can know whether those claims are being delivered.

If you can see what is going on against a standard that everyone works to and then some accreditation and certification of the achievement of different interventions, the market will start to flow because people can see that it is real and will, therefore, have trust in it. That will reduce reputational risk and the risk of people wasting money.

The Government has a big role in that. Those two examples we have running in England at the moment, nutrient neutrality and biodiversity net gain, both have that.

Q67 **Dr Matthew Offord:** Excellent. You mentioned the private markets there. You just touched on them. Do you have any specific examples particularly of not-for-profit capital being invested with or without Government support for natural capital schemes?

Karen Ellis: We are working in partnership with NatWest, for example, which is keen as part of its net zero transition plan to invest in regenerative agriculture and to support the transition to regenerative agriculture in the UK. It already has some financing mechanisms out there for farmers to use to invest in regenerative agriculture. The problem it has is that the uptake is low. It is trying to work out how many concessionary finance it has to offer to get this uptake.

The uptake remains low because of the uncertainty about those returns. Will there be a demand or an additional premium for farmers who use regenerative approaches? There is a reasonably long—five to seven years, perhaps—lead time before they can start to make a profit again. It is a lot of risk and a long timeframe for farmers in particular to bear on their own.

We also need to think about the costs of the transition are allocated or managed through the supply chain. At the moment, it always seems to land mainly on the farmers. We need more pressure on the financial sector—and retailers and others in the supply chain have a lot more financial capacity in some ways to bear some of those costs—and through either regulatory approaches or transition approaches drive a co-ordinated solution to those objectives. I do not know if that answers your question.

Dr Matthew Offord: It does. That was insightful. Thank you very much.

Q68 **Clive Lewis:** A sociologist—and it is relevant to this—once said that not



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everything that can be counted counts and not everything that counts is worth counting. How do you technically measure the increase in value of these natural capital assets?

Alan Carter: There are metrics out there for measuring net gain. It would be helpful to have a single method of calculating changes in social value. We have developed our own methodology with external economists that does the job and we are proud of that. It values not just the environmental change but the wider social benefits that can come from that.

It is wider than just GVA or economic value. It comes down to how a place feels. In development terms, the market talks a lot about placemaking, creating places where people want to live and are happy to call home. It is not just about making the place. It is about keeping the place and making sure that the community feels that it is theirs, that they are proud of it, that they understand it, that they value it. This interplay on this particular topic is so important around understanding and valuing and making decisions about the natural world they live in so that they can understand it, value it and take it from there.

Yes, we can understand the pounds and pence and, if someone does some sort of physical activity in green space or some mental activity in green space, we know that they have less chance of going to the doctor. Their musculoskeletal issues may not be quite as advanced as they otherwise would be. Their mental health and their physical health is better. We can understand the value of that because of saved NHS visits and because perhaps they will be in work more. We run programmes around getting people into work. Sometimes they have been jobless for many years and sometimes all of their family are.

Yes, there is a hard cash term to that, but there is a much greater of that. As you said, some of that can be valued and some of it is about how it feels. As a society, that aspect is important.

Q69 **Clive Lewis:** Just to follow up on that, in an economic metric system in which the ultimate arbiter is GDP, will that necessarily work?

Alan Carter: That is one arbiter, but there are other senses as well. Not everything boils down to money. Why do you buy one product against another? That is not just down to price. It is down to lots of other things as well. So it is with this. Where do people want to live? How do people what they have around what they do? It is not just GDP. It is much more than that. We can use some of these other metrics.

Dr Juniper: I strongly agree with that and this discussion about how we value natural capital, how we get money into nature through that prism and how it needs to be part of that bigger picture that we touched on earlier. This is why at Natural England our approach is about nature recovery within particular places in localities where people live and work. We have a variety of different approaches working together and the natural capital/private market side of it is blended into something much bigger about the quality of life for the communities that will inhabit the



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places where, hopefully, nature is recovering, not just some dead numbers on a spreadsheet about how much tonnes of carbon are worth in a transaction.

We are keeping an eye on this as being a means to an end rather than an end in itself. It is one toolkit in the box alongside protected areas that we have, alongside incentives that we can pay to farmers, alongside the activity of community groups. The more we blend these things together, the better the outcomes we will get.

But what we are measuring is an important question. It is a series of abstractions in the end and we choose them based on some policy goals. Net zero leads us into metrics about carbon. We want to stop the decline of wildlife. Therefore, we have biodiversity net gain and some numbers there. Then the pollution of rivers and wetlands needs to be avoided, which gives us the numbers that we use in our nutrient neutrality calculators. Those carbon biodiversity and nutrient numbers turn into money through the credit markets created by people buying environmental benefits in return for environmental downsides that they will create through some work they will do.

Q70 Clive Lewis: How do you measure cultural value? That is a lot more complex.

Dr Juniper: Yes. There are experts in this. Actually, we have some at Natural England who look at cultural landscapes. National parks and national landscapes are not designated primarily for their biodiversity or their wildlife. It is for the beauty of the landscape, the historic value and the cultural heritage. People just that in various ways. I am no expert in it and I do not know how they do it, but it is different. People do it and that is how we finish up drawing lines around the boundaries of national parks and national landscapes.

Karen Ellis: Can I come in on that question, too? The ONS already does a lot of work around natural capital accounts and a lot of experimental work on different metrics and measurements for natural capital, which are already published. The problem is that they do not get much attention.

That goes to your question about GDP. We have developed thinking around how we move away from focusing our economy on short-term GDP growth all the time to better measures of economic performance. A future fitness metric could capture the assets upon which the economy is based, including natural capital, and the extent to which the economy is being shifted onto a low-carbon development trajectory, which will be necessary going forward if we are to thrive in the global economy. We need a different set of metrics beyond GDP and we should see greater emphasis on that, both in Government reporting at the annual budget, for example, but also in media commentary. It is a cultural change.

Q71 Clive Lewis: I guess some of us have been arguing for that change and moving beyond GDP metrics. Might this drive that? Rather than focusing



on the GDP end, looking at this might drive the outcome.

Dr Juniper: This is why this area opens a whole new discussion about the value of nature. For more than a century, we have made the case for the protection of nature, never mind its recovery, because it is irreplaceable, because it is beautiful and because it has some scientific value.

If you look at all the data we have about the decline of nature, you can see that did not work. Time after time, it has been deemed that it is regrettable that we are losing nature but it is inevitably the price of progress. We have not seen that by removing natural capital, we damage the long-term prospects for the economy and we create massive social costs. Being able to make what was previously invisible more visible in the economy and understanding that we are losing value as nature is declining is potentially a gamechanger.

If you look at some of the work of the environmental economists who have looked at this, my favourite is a piece from Robert Costanza, an American environmental ecologist. He published a paper a few years ago in *Nature*. He looked at the contribution of forests, grasslands, coral reefs and soils globally and determined their annual contribution to the ecosystem services was about one and a half times global GDP. Yet that is not reflected in how we pursue economic development. We often trade growth against the environment because it looks like a good deal. We get progress and sorry about the environment, but the upside is GDP increase, more comfort for people, more jobs or whatever. But if you put the ecological numbers in alongside the economic numbers, you start to transform your understanding, which is why this is potentially a powerful agenda if we can make it work. At that abstract level, you can see people beginning to think that we probably need to grapple with this, but then turning it into the structures, rules and standards that lead to transactions is the tricky bit.

Q72 **Clive Lewis:** That is interesting that you say that because markets look at things inherently short-term. What is the appropriate timing structure to work out whether there has been some kind of natural capital gain? The lifespan of an oak is however many hundreds of years, compared to aphid populations, which can go up and down. Would we need to look at a specific time period or would there be multiple? How would that work?

Karen Ellis: We can work back from the CBD goals or the Environment Act towards—and I talked about this before—the sectoral pathway so that we know what each bit of the economy needs to do to get to those goals and put a timeframe on it, just as we have for the net zero transition plan. We know by when we need to have phased out fossil fuels or petrol cars. We can work backwards to map out a pathway of transition and then monitor performance against it, ideally backed by strong science where it exists, to know how fast that transition is likely to happen. That kind of framework will give the private sector a stronger idea of what it has to deliver by then and, therefore, how much investment will be required.



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On your point about transparency, it will also be important to get the private sector to be more transparent about its impact on nature, which is why TNFD is important. We should mandate TNFD in just the same way as we were one of the first countries to mandate TCFD. Nature-related reporting will give us greater transparency about the impact our private sector has on nature, which will probably shame many of them and show how negative that is. We can calculate the impact that has on our whole economy for the medium to long term. That creates greater impetus and pressure on the private sector to turn things around and to showcase how they now invest to improve things to offset their damage.

Q73 Clive Lewis: As a final point, I guess lots of people who know the organisations you are from, might be concerned that putting your future hopes for that biodiversity gain and that restoration of nature into a market-based system that has in part been responsible for its erosion in the first place is a gamble.

Dr Juniper: It depends on those mechanisms and the extent to which they are regulated. You can build safeguards into that.

Clive Lewis: Politician-proof?

Dr Juniper: That is always under constant review, I dare say. But creating safeguards should never be the only thing we do. It always has to work alongside regulatory approaches and incentives that can be offered to different sectors to do things differently. Karen just mentioned the whole issue of transparency. Having information in the public domain is hugely powerful, plus culture change and encouraging people to think differently about their relationship with nature and how they consume and waste and everything else.

All those things need to operate together because this is such a huge subject. It will not be addressed by any one intervention. That is how I put it. The alignment with economics is critical and this enables us to do more of that.

Chair: Thank you. A quick supplementary from Caroline before we go to Chris.

Q74 Caroline Lucas: Very briefly to Karen, I liked what you said about how we need some way to track back just as we do with carbon budgets. We work out how much the budget is and then we work out how much we can emit.

What is the best way to translate that kind of architecture into the natural world, which is so much more complex? Is it to identify half a dozen salient measurements to look at, metrics to look at or sectors to look at? How would you begin to do that, given the complexity?

Karen Ellis: We have started to try to do that ourselves. It is complex but we have done, basically, what you said. We focused on agriculture and renewable energy as two sectors. What would it mean for them to do their part to deliver the global biodiversity framework? We picked the targets in the global biodiversity framework that seemed most salient and



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worked backwards to find out what that meant they would do. It is quite hard to quantify at this point.

It needs proper modelling, which we did not have the capacity to do. We would love to see the CCC do a similar exercise as it has already done. It has net zero transition pathways. Maybe it could do the modelling or maybe the Government could commission a similar independent body to model that pathway.

You need to think about interactions with that net zero journey as well, synergies and trade-offs, and also interactions between sectors. Which sectors will bear most of the burden for cleaning up waterways, for example? You have to make choices. But that is useful in itself because it gets the Government to be more explicit about what it requires of each sector.

Q75 Caroline Lucas: Is that bit of work that you are talking about in the public domain?

Karen Ellis: It is not yet but we will publish it soon.

Caroline Lucas: "We" is WWF?

Karen Ellis: Yes.

Q76 Barry Gardiner: Could I ask for a copy of the Costanza article in *Nature*?

Dr Juniper: Yes. My colleague is here. We will make a note of that and fish it out for you. It is Costanza in *Nature* 2014, Michael.

Barry Gardiner: That would be helpful. Hank Paulson's *Financing Nature* report from 2019 said that the financing that we need for nature globally has a \$722 billion to \$967 billion gap. We are talking about huge figures. While throwing money at the problem is not the answer, there is what Caroline was saying with Karen about identifying the key elements that can present the greatest problems, whether it is soil, whether it is air quality or whether it is water quality.

I would like to ask you so many questions but I want perhaps to focus on the mapping that Natural England is doing with the Living England project. I hope you were suitably impressed that I had it on my phone.

Dr Juniper: Very good!

Q77 Barry Gardiner: Tell us what contribution this ability or this system will make to the evaluation of natural capital assets. Will it be able to show tangible changes in those assets reliably? It separates habitat into 16 or 17 different elements and talks about probability. What sort of granularity do we get here and what trackability do we get here? If it is to play a role in financing for nature and ecosystem credits, it will need to have that granularity.

Dr Juniper: It is. That particular platform is quite coarse grained. I believe the resolution is 300 square metres, which for quite a lot of purposes is not fine enough to track what we need to track to determine



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whether we are on the road to nature recovery. It will give you an understanding of broad land use patterns across the country, urban, pasture, arable, woodland. It will not tell you the kinds of things that Chris was getting at earlier, those single ideas about what species are there and that kind of thing. But it will be one component alongside the EDNA data, plus what we have from ground surveys that enable us to build a picture.

We are hoping to go beyond that Living England map and to do much more detailed work through the natural capital ecosystem assessment, which is a major Defra programme that we are involved with. We have quite a lot of people engaged with Defra to undertake that analysis, which will hopefully give us the national baseline that we need to underpin more of the opportunities we are talking about today.

Living England requires people to go out in the field and look as well, still, and so it is not given down to the individual blade of grass.

Q78 Barry Gardiner: It is not possible to estimate the relative value of natural capital assets in the landscape using that tool?

Dr Juniper: No, not as I had understood it.

Q79 Barry Gardiner: Fine. I would like to put to you a question with your regulatory rather than your advisory hat on as Natural England. It relates to the ELM scheme.

It strikes me that when you look at what farmers will be able to receive ELM funding for, going back in time it was the old good agricultural and ecological condition—or GAEC—and it was the basic payments. How will this increase our ecological gain? How will ELM turbocharge this? You will have to look at this as regulator and also as advisor. What role do you have in that?

Dr Juniper: We have advised on how the schemes and the payments will work to encourage farmers to adapt their practices to have environmental benefit and we—

Q80 Barry Gardiner: Look, with some of these payments under the sustainable farming initiative, farmers will get paid to get a vet to come and look at the quality of the herd. Why does every decent farmer not do that anyway, for God's sake? Why do they need an incentive to do their job properly?

Dr Juniper: We have advised on the schemes and our advice has been part of a wider set of input that Defra has taken in determining the schemes. We have not decided those policies but we have advised on them. We will go into the field and will help in the delivery of some of them, including the landscape recovery scheme, which is the broader, larger-scale, multi-farmer, multi-land manager initiatives that, hopefully, can support the work that Teresa Dent talked about earlier on.

All this adds up to alignment with the overall nature recovery targets and Defra can track and report on that. We will advise and we will work with



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them to ensure that we get the tightest possible alignment between these two things because—

Q81 Barry Gardiner: It will not be as tight as your lips on this one, is it? You are being restrained. Come on. Give me a view here. Will it make a material difference to the ecological condition of farmland in this country? Are we talking about a step change or are we talking about keeping farmers happy with some sort of substitute for basic payments with an ecological badge?

Dr Juniper: I do not know but, if we are going to meet our nature targets, we have to have a close alignment between that land management policy and the nature targets because it is the single biggest thing that will enable people to move from where they are presently and into places where we can start to see the recovery of insects, birds and other wildlife that causes so much concern. Defra can track that to ensure that those two policy areas, agriculture on the one side and nature recovery on the other, are closely aligned.

Q82 Barry Gardiner: Karen, should we expect the Government to undertake a nationwide assessment of natural capital assets?

Karen Ellis: Yes.

Q83 Barry Gardiner: What should they then do with them?

Karen Ellis: That is an interesting question because it only makes sense in the context of having a plan or a strategy around what to do with your natural capital to maximise the economic benefits from it, basically. How do we think about the threats to our economy and to our society from future climate change and other environmental problems that will undermine our agricultural productivity, for example? How can we value the threats of nature loss and the trends and rate of decline that we see? What do we need to prioritise to turn around and get the best outcome possible? It enables that prioritisation of natural capital investment priorities, which the Natural Capital Committee talked about doing quite a few years back. There is still a real case to do that as part of a nature-positive economic strategy.

Q84 Barry Gardiner: You will have heard my question to the previous panel about having some person or body that acts as a chief secretary for natural capital and controls the allocation of natural capital in this country to see it boosted and to make sure that departmental objectives do not override natural capital objectives. How would something like that work? You are absolutely right to say that we should get a baseline of our natural capital assets and you see that as the Government's role. But then it can be the proper role in getting that baseline only if we then administer it properly. That means monitoring how it increases or how it is depleted and making sure that we regulate that. But at the moment, there is no single body to regulate it or to look at it in that holistic way, is there?

Karen Ellis: It is probably right that there is no one body to do that. But I also agree with the point made earlier: we need the plan and the



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strategy first and then a responsible person to deliver that. But for that to not be trumped by other objectives, we need a law as well. The Climate Change Act was where we started to see that bite and to see real constraints put around decision-making that did not just enable someone to trade off all these different objectives and end up undermining environmental objectives all the time. They never seemed to be prioritised.

We need a strong enough legal framework. We ask for a triple challenge Bill or a living planet Bill that looks at how we manage that challenge to our land use in the UK. How do we best deliver food for people and enough space to tackle climate change and give space for nature as well? It is not an easy question. We need a proper plan and thinking through the value of natural capital in different areas systematically to work out how we best deliver and manage those trade-offs. Until we have that legal framework for that to take place and guide decision-making, it will be difficult. At the moment, it is all fragmented, market-based and bottom-up. It will not add up to what we need it to deliver.

Q85 **Barry Gardiner:** Does any country in the world have such a legal framework?

Karen Ellis: I do not know of one like that. But I know countries that do more systematic conservation planning than we do and that have some kind of map and natural capital strategy.

Barry Gardiner: People talk about legislation for the rights of nature and things like that.

Dr Juniper: Ecuador.

Barry Gardiner: I am not advocating Ecuador.

Dr Juniper: Sorry.

Chair: Are you advocating a Soviet five-year plan, Barry, for nature?

Barry Gardiner: No, I certainly would not do that.

Chair: It sounded a bit like it to me. We will move on to Chris Grayling.

Q86 **Chris Grayling:** Yes. I will go back to the issue of metrics, but there is a danger of making everything too complicated. A legal framework leads to court case after court case challenging individual projects around the fringes. We have to be careful that we do not end up taking ourselves backwards in other ways. We have to take ourselves forwards in all directions and create an economic development environment that is beneficial to nature but also where nature does not hold the country back and make it impossible for us to deliver other objectives. That is important.

On the metrics issue, let us focus particularly on biodiversity and net gain. On what you said earlier, Tony, I understand the point you make but I worry about the classic point about not letting the perfect be the



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enemy of the good. We could spend years making this more and more complex and debating and discussing it and things would continue to go in the wrong direction. Doing something simple now could reverse the decline and start to make progress.

With biodiversity net gain in particular, which will soon be the principal tool in this country, how do we put in place a properly monitored, properly enforced, simple framework that makes genuine progress?

Dr Juniper: In terms of the simplicity, a lot of work has gone into this so-called metric, which enables people to measure the biodiversity that would be lost through a housing development or an infrastructure scheme. It enables you to then know what you need to recreate somewhere else plus 10%. That will be quite technical because it requires people to identify plants and animals, some of which will require specialist knowledge, but it, hopefully, gives then a straightforward conclusion such as, "You need this many biodiversity units to offset that particular project." Hopefully, once this gets going, the housing and infrastructure people will find that they can work with this and that it is straightforward.

On the monitoring, we will maintain a register. This is the transparency piece I mentioned earlier whereby you can see which land is delivering on what natural capital value, which will be there for everyone to look at. As we go along, as the AI technology, the drones, the satellites and the natural capital ecosystem assessment project develops, we will have more quality information against which we can assess whether the overall goals are being met. The biodiversity net gain is on a 30-year horizon. Hopefully, even though this has complexity in it, this will be straightforward conceptually at least, even though it requires specialist, and people can look at it to know whether the promise has been delivered in the years ahead.

It is important to know, though, that while we talk a lot about nature recovery in England now, which is a welcome shift from conservation, which was about keeping things as they were compared to putting back a lot of what has gone, biodiversity net gain is about keeping things as they are. It has the 10% uplift in it, but my specialists tell me that that was built in to recognise the uncertainty in the system because biodiversity is complicated and pinning down exactly what you are getting is difficult and so the 10% was added. That is net gain if it works as intended. But overall, it is important to remember that we are losing habitat as we create habitat and we are trying to stand still.

I will make an important point in this natural capital discussing that goes back to some of the points made earlier about SSSIs not being in great shape and everything else. That issue is important, but I would like to flag the extent to which in leaning into this nature recovery agenda we have a set of rules that were, largely, made for a different job. Biodiversity net gain is not one of those. It is new and it is forward facing. But the SSSIs, the national parks and the national landscapes were all invented in the late 1940s and were about defending little areas—or quite big areas—from development and encroachment. We are



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now in a different world where we still need conservation and we still need to maintain those special places, but now we talk about bringing the health of nature back because it has gone too low and the natural capital has been depleted. If you deplete your bank account, you want to get your capital back up again and so we are trying to do that as a country.

The toolkit for that is still evolving and it is not fully formed yet, but it is coming. Biodiversity net gain is one aspect of it. Local nature recovery strategies, going back to that place-based point we talked about earlier on, is another element about planning and thinking about where nature could be, not only where it is and where it is defended. A mindset shift is needed as we go into that phase. It is important to note that because frustrations are expressed about the SSSIs and concerns are raised about the state of them those are important questions. But we need more than that if we are to be able to do what we need to do.

Q87 Chris Grayling: Karen, on the enforcement point, if I build something on a bit of green land and I invest in a field and turn it into saltmarsh, for example, to get my biodiversity net gain I have a duty to make sure that saltmarsh does not become immediately derelict.

How should the enforcement take place? How can the improvement be sustained years later when, potentially, the organisation that did the job in the first place is no longer there because a developer has gone bust or whatever?

Karen Ellis: You need to have that built into the quality assessment of the credits and the integrity framework around these credits, for sure. We have some concerns about how the market could play out. Potentially, it is significantly beneficial if it is designed well, but evidence shows that in a lot of cases, monitoring or enforcement is inadequate either in the UK or more broadly globally and so benefits do not materialise or last, as you say. There are significant concerns over that.

Do the authorities have the capacity to monitor that effectively? Can we do that more cost-effectively? Probably coming on stream over time, yes, but at the moment it is not adequate.

On the 10% increase, evidence shows that the higher the net gain required, the more likely it is to deliver any positive benefits so 10% might not be adequate. Maybe we should look at a higher number. We could improve that biodiversity net gain scheme in many ways and make sure it delivers the environmental outcomes we need.

Q88 Chris Grayling: Again, I have another example. Moving a farm from conventional farming to regenerative farming clearly delivers a biodiversity gain. A risk is that you have developers developing housing, for which we have an acute need, buying farmland, rewilding it or whatever, taking land out of the food chain. With the systems we have created, can we migrate the biodiversity net gain requirement into a gain that comes through just more nature-friendly farming practices while food continues to be grown?



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Dr Juniper: The biodiversity net gain relies on people supplying new biodiversity to compensate for the loss of the old biodiversity. Since that is in a marketplace and farmers wish to participate in biodiversity net gain, rationally, they will most likely maintain their best farmland for producing food and will offer up much less good land for the biodiversity net gain. That will probably happen. To that extent, you will not necessarily see a massive impact on food production. You will not see a massive impact on food production anyway because of the relatively modest number of hectares involved with this compared to the overall amount of farmland in England.

It is also worth remembering that farmland is not all equal, as I suggested. Some 57% of the country's food is produced by 8% of the farms covering 33% of the land. It is highly skewed towards highly productive areas with pretty productive farms. Some of them are quite large, thereby accounting for those numbers.

This is where the land use strategy or land use framework is important. In a country the size of England of 130,000 square kilometres with 55 million people living in it, we need to produce a lot of our own food, we need more houses, we need infrastructure, we need to capture carbon in the land, we need secure energy including energy crops and solar panels in the mix at the moment, which also take land, plus we need industry, plus we need productive industries working from the land including forestry, plus we need to conserve our biodiversity.

We have said we will make 30% of the land protected for nature. If we start putting all that together, we probably would be confident in not reaching the best outcome if we have all of these things individually fighting each other rather than looking at the whole lot at once. That is hugely challenging but strikes me as rational if we are to make sense of a tight resource, land, and its natural capital and then apply that to a whole load of essential needs: food, housing, nature recovery, carbon capture, water security and energy security.

We have to accommodate all those things somehow. We probably generate quite a lot of stress in the debates as we have a fight between housing and green belt, between biofuels and housing, whatever the two or three things are. We can rarely stand back and look at how we do all these things at once.

From the nature point of view and the natural capital point of view, I have concluded that we ideally would seek, as we advance the cause of nature recovery, to do multiple things in the same place. Can we use a piece of land to catch carbon? Can it also soak up nutrients? Can it also prevent flood risk? Can it also help nature recovery? Can it also help public health and wellbeing through being open to the public? The answer in quite a lot of cases is, yes, it can, but at the moment we do not have the frameworks that draw us in that direction. We have a series of policies that do one thing at a time. That is not necessarily an effective use of public money or indeed the limited land that we have as a country.



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Karen Ellis: But as you said, we also need to increase the emphasis on nature-positive means of production, whether farming or other sectors. We envisage a framework that might drive that, similar to what we have with net zero. The emphasis should be on companies setting an emissions reduction pathway in line with science-based targets. For the residual emissions they still produce, they buy credits not to offset because they are already reducing emissions but as an additional contribution to the transition, continuing on that downward emissions pathway.

It is the same with nature. They have a set of targets that they need to meet over time to deliver nature-positive outcomes and reduce their damaging impact on nature. They buy biodiversity credits to make up for any residual. It becomes much more about driving nature-positive methods of production and consumption than about offsetting damage at the bottom end.

Q89 **Chris Grayling:** But can we within a UK context, where the projects are by definition small, get to that scale of activity?

Karen Ellis: That is a good question. Maybe there is a need for a global scheme as well because a lot of the nature we need to protect to save the planet from climate destruction is in the developing world and in countries that cannot afford to invest in that themselves. Maybe we need a global financing mechanism to deliver that more effectively.

Alan Carter: We need to not forget the areas of land that are not prime agricultural land. It is not just the farmers who have this, either. We have lots of urban green space. We have lots of brownfield sites, some of which can be developed. Some are good for habitat already. We have one of the country's first brownfield SSSIs at the Land Trust, which is fantastic. Those spaces can be enhanced significantly without taking food out of production to deliver some of these benefits that we have. It is not just farmers who can do this but the third sector and other organisations can do this.

Within this, we need to be mindful of that and ensure that we use all these assets to deliver that and not forget the corporate organisations that want to donate to this or need to donate as part of their operation. The housebuilders will fund all of this either through endowments or by buying the land. The developer will not maintain the space for the next 30 or 40 years. Probably a third party like the Land Trust or another organisation will put in funds to deliver that either by way of a one-off payment or some other ongoing annual payment. We see that coming out of the market a lot. We do not need private financial institutions to come and fund it directly or they will via investment in the development industry but that is where a lot of this will come from as well.

Q90 **Caroline Lucas:** Thanks very much. This last question is more practically focused on skills. Are we coasting towards a crunch point where skills shortages in the ecology sector will have a real impact on environmental quality? If so, what can be done?



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Dr Juniper: If you go to the specialist agencies like IEMA, a professional body that studies the skills availability in the economy related to some of these subjects, you can see that a gap is emerging with the people we have able to do quite a lot of what we need to achieve. There are some headings.

Quite a lot of this is around planning. Do we have people will skills in sustainable development working on the planning side?

A second is architects and green buildings and the extent to which we will be able to retrofit and create a built environment fit for a net zero economy.

A third is how the transport sector begins to align itself with this set of challenges. Then of course, farming, fishing, forestry and the broader subject of nature recovery have quite a lot of specialist skills embedded in their delivery.

Certainly looking at it from the point of view of Natural England, it is complicated because we compete with other sectors as well, but we find it quite hard now to recruit for some key areas. One is offshore wind. How do you do offshore wind sustainably? That is quite a specialist question requiring people with particular backgrounds. There are not many of them about and they are hoovered up by the big wind developers rather than us.

The other area where we have real challenges is on the planning side.

Q91 **Caroline Lucas:** On that, I guess, if we talk about natural capital investment in particular, does the logic of when this starts to gather momentum mean that the financial institutions themselves will recruit staff into it?

Dr Juniper: I can give you an anecdote. Some colleagues working in some of the Cambridge technical agencies, including the University of Cambridge Institute for Sustainability Leadership and the World Conservation Monitoring Centre, I have noticed—and this is not a survey but I have seen this recently—that their best people are now being pulled out by the private sector. It is probably good. It means that companies are paying attention and are investing in that, but it leaves a backfilling job to be done elsewhere.

Q92 **Caroline Lucas:** We talked earlier about only one in four councils being able to afford ecologists. Presumably, we will have the same problem. Potentially, those left who do have them or those who think they might like to recruit them in the future will be in competition with the private sector, which will be able to pay, presumably, more than local authorities can.

Dr Juniper: Exactly.

Q93 **Caroline Lucas:** Is there a role for the Government—or anyone else—in skills upgrading, not leaving it to the market, I suppose?



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Dr Juniper: Looking at what the dimensions of a skills strategy for a sustainable economy could be, to put it broadly, would be interesting. I have not fully studied that, but you touch on something real.

Q94 **Caroline Lucas:** Does Natural England have the resources you need to play your part in all of this?

Dr Juniper: Our budgets have increased considerably over the last few years. They have tripled since I came in as chair.

Chair: Thanks in part to a recommendation from this Committee.

Dr Juniper: This Committee made some astute observations about the need to increase the capacity at Natural England. That was appreciated and led to some significant changes.

It is important to note, however, that 80% of our budgets are effectively work commissioned from Defra. For example, on biodiversity net gain, we have talked a lot about local nature recovery strategies, the delivery of ELM, the bovine TB policy and the work we are doing on national parks and national landscapes. All those things are commissioned via Defra, which is great because these are all important and we need to do them for these natural capital and nature jobs.

It is important to know that only 20% of our budget is discretionary spend, including on our regulatory work, which is the sites of special scientific interest, the planning side and the species licensing side. We feel quite a lot of stress as that budget is contracted both by being cut year on year to achieve efficiency gains and also by being squeezed by inflationary pressures. It is good that the organisation has expanded to do the increasing level of work required, but behind that is a bit of complexity in the statutory capability and the discretionary capability we have being diminished at the same time, if that makes sense.

Caroline Lucas: The one should not be at the expense of the other.

Dr Juniper: Yes, that is right.

Q95 **Caroline Lucas:** Briefly, do either Karen or Alan have any reflections on the skills question?

Karen Ellis: Yes, let me just add to that. The private sector is massively skilling up. It is evident in the financial sector as well. I get to speak to a number of these groups and many people in the room have been recruited within the last couple of years. They are massively skilling up. That is exciting in many ways because they mean to engage with us properly, but it worries me slightly that the private sector will overtake the governance of what they do and leave it behind.

We have an opportunity to co-opt the private sector's resource and skills into what we need to be done. Get it to pay for the ecological assessments. Get it to pay some people in. The private sector loves secondments because they can learn other skillsets. Get it to pay for the



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resources we need as part of its nature recovery obligation. There are many ways.

Also, invest in education. I am not sure exactly what the Government's role is, but universities should train more ecologists and also economists, accountants and finance professionals in sustainability and nature and its relevance to the economy.

Q96 **Caroline Lucas:** We could have a nature GCSE. It could be transformative. Marvellous. I am mindful of time so I will quickly come to Alan if he has any last reflections on skills from his perspective.

Alan Carter: I agree with my colleagues on the panel. To add to that, the ecologists are the key at this stage along with the planners in the local authorities. A lot of this will be development-led.

We need to ensure that we engage also with the voluntary sector. It is right and appropriate that the ground-truthing of this in the initial assessment and the monitoring has to be done by professionals. However, quite a lot of it can be done by the voluntary sector, which is skilled and interested and has great specialisms perhaps sometimes beyond the private sector and the other sectors. We need to look at that.

Finally, I make a plea to the Government to invest in apprentices. BNG will be around for a lot of years. Natural capital will continue for a long time. If we invest in apprenticeships now, it will still come forward. As we invest in the AI and the other things, that will come forward as well. That might have a five-year or 10-year lead time, but it will be around for that time. It is beyond an electoral cycle, but it will make a significant difference. That is on top of what my colleagues have said.

Caroline Lucas: Brilliant. Thank you so much.

Chair: Thank you, Caroline. Thank you very much indeed. That brings our panel to a conclusion. I thank Alan Carter, Tony Juniper and Karen Ellis for their contributions today.