

WEDNESDAY 9 DECEMBER 2009

Present

Arran, E
Brookeborough, V
Caithness, E
Carter of Coles, L (Chairman)
Dundee, E
Lewis of Newnham, L
Livsey of Talgarth, L
Palmer, L
Sharp of Guildford, B
Symons of Vernon Dean, B
Ullswater, V

Witnesses: **Mr William Worsley**, President, and **Professor Allan Buckwell**, Policy Director, Country Land and Business Association, examined.

Q38 Chairman: Good morning, welcome. There are just a few things as we get going. You should have a list of interests in front of you, which have been declared by Committee members. This is a formal evidence-taking session of the Sub-Committee and so a full shorthand note will be taken, and this will be put on the public record in printed form, of course, including on the parliamentary website. We will send you a copy of the transcript and you will be able to revise it in minor terms. This is a session on the record; it is going to be webcast live and will be subsequently available. As you start, perhaps you could state for the record your name and official title and then perhaps, Mr Worsley, you can offer us some opening comments and possibly give us a little bit of information about the background of your organisation, as not everybody here is familiar with the CLA.

Mr Worsley: Thank you very much, my Lord Chairman, and thank you for inviting us to attend this Committee; it is much appreciated. My name is William Worsley; I am the President of the CLA and I am also a farmer and forester from Yorkshire. With me is

Professor Allan Buckwell, the Director of Policy at the CLA. To tell you a little bit about the CLA: it is a membership association with just over 35,000 members representing the owners of rural land and rural businesses in England and Wales. We represent over 260 different types of rural businesses, and our membership is very varied: 25 per cent of our members own less than 25 acres; 50 per cent of our members own less than 125 acres, and obviously we represent large estates and small landowners. Regarding the interests of this Committee in climate change and farming and forestry, it would be fair to say that farming and forestry are potentially hurt more than they are helped by climate change, so as an association we are not complacent. We produced our first report on climate change back in 2001 and have produced subsequent reports since then. We have indeed produced a carbon calculator, which was launched two years ago at the Oxford Farming Conference. If conditions become unsuitable for growing of crops, then crop production will cease. This is the sort of thing that will creep up on us, particularly with forestry where the length of rotation of a forest in the UK is lengthy. In the United States, for example, land is not necessarily cropped every year, depending on the climate, and whilst currently this would be unthinkable in the United Kingdom, it is something that climate change could bring upon us. We are inclined to put adaptation and mitigation together rather than treat them separately. Farmers are, on the whole, small businesses, very often one-man bands. I could describe them perhaps as “nano businesses”, and, therefore, there is a limit to how many initiatives farmers can cope with. Looking at the whole issue of climate change, it is very important to bear that in mind. There are things that the EU could do which would help farming and forestry adjust. We have experienced initiatives that create difficulties, for example the recent Pesticides Directive, but there are also things that could help such as biotechnology. We are, quite frankly, going to need all the tools that science can provide to design farming systems that can cope with climate change.

Q39 Chairman: Perhaps I can kick off looking at some of the specific questions. You have addressed this partly in your opening comments, but in the area of agriculture and forestry, what do you see as the main challenges to adaptation in these sectors?

Mr Worsley: I think that land managers will have to do most of the adapting, but it will be down to Government to promote the issues of climate change.

Professor Buckwell: If we just list the main adaptations that we are talking about, they are: heat stress on animals and plants, helping animals and plants cope with extreme events like late frosts, hail, extreme snow dumps and water stress in both directions - too little water, drought, and prolonged periods without rainfall, and then on other occasions too much water, too much precipitation in too short a time so that the land cannot cope with it, so that we get floods, which would have a serious impact for agriculture as well as for towns and villages. There will be more plant and animal disease. We are already seeing this, it is not just theoretical, because disease agents are over-wintering and because, as the temperatures have risen, then certain vectors of disease like the blue tongue virus midge have systematically spread north. These are not theoretical possibilities; these are happening. These are things to which the sector has to adjust. As William has said, the concern is that it will creep up on us with startling events from time to time.

Q40 Chairman: Moving on from there, how do you see the impact on other things that occur in the rural landscape, employment, recreational space and food production?

Professor Buckwell: Most farming businesses are multi-polar, multi-functional, and are engaged in other activities too. You are absolutely right that the impacts of climate change can be on the environment, which affect tourist businesses and recreational businesses as well as farming businesses. There are those interactions to which the sector has to adjust. In some ways, that gives the sector some resilience, because you hope that whatever this year's manifestation of unhelpful climate, at least one part of the business is not suffering if other

parts are; it is part of the point of diversifying businesses. It is a multisectoral problem, that is for sure, and because the CLA is a business organisation it is primarily concerned with those businesses as businesses rather than specifically with their agriculture enterprise or forestry enterprise or tourism enterprise or whatever else they have.

Q41 Viscount Brookeborough: To what extent do you think the built environment is having an effect on farming? Obviously, the water runs off it more quickly, and there are plans for large expansion of housing.

Mr Worsley: This is particularly about rainwater, I assume. There is certainly concern, from my own personal perspective. The annual rainfall in my part of Yorkshire has not increased particularly over the last decade, but what has happened is that, instead of it trickling throughout the year, we have very dry periods and then very, very wet periods. We are suffering from a more extreme quantity of rainfall. It is extraordinary that we have had two supposedly one-in-a-thousand-year events in the last few years: Cockermouth this year, Carlisle in 2005. I can give you a few other examples: Boscastle in 2004, Helmsley again in 2005, and Tewkesbury in 2007. It is creating a real problem and it is something that is worrying people. From my own personal experience, I suffered from flooding in 2000 and it is very frightening. It tends to happen in the middle of the night. The concreting-over of the countryside and floodplains does not help, but I think from an agricultural and farming perspective there are opportunities for mitigation by storing water upstream. I see that as being just part of the solution.

Professor Buckwell: We would see the urban areas causing 93 per cent of the problem. Agriculture is responsible for just 7 per cent of Greenhouse Gas emissions - but that is a cheap point. There is an interaction here. There is no doubt that land managers are doing things in the rural areas that are not helping flood prevention downstream. We have got to find ways to get contracts between the parties in flood catchments to deal with this.

Q42 Chairman: How do you see the role of land management, which again you have touched on in dealing with this issue?

Mr Worsley: Again, using my own personal experience, for example because my farm is the upstream side of the village, we were able to put in a relief ditch to mitigate flooding. That was something we were able to do because we owned the land on which we could do it, and working with the community we put in a mitigation scheme. So far, for the last nine years - touch wood - it has worked. I think that land managers can play a very major role. One of the things I have been looking into is the ability to use small-scale controls to hold water upstream so that it filters down. It is very interesting, if I look at my own catchment area, we can tell almost within the hour when flooding is likely to happen. A day later it will hit Malton, which is the town downstream, and two days later it will hit York. Having now had quite a lot of experience of this, we can see exactly when it is going to happen and what is going to happen. There is an opportunity, right across the country, for land managers to be able to do work to hold the floodwater back on grassland so that it does not damage arable crops. Arable crops are badly affected by flooding and yield is lost, whereas on grassland it is less of an issue. There are lots of examples where we could mitigate rather than it being the answer.

Q43 Earl of Caithness: Do you think there is going to be a need to re-train farmers to be land managers, given all the pressures that are now put on farmers? If you go and talk to traditional farmers who, as you said, are normally one-man bands, they have been trained to produce good crops and good stock, and that is what they think of in the morning and that is what they think of when they go to bed; they do not think often of the holistic running of the countryside, which is going to be demanded of them now throughout the UK.

Mr Worsley: I think farmers have to be land managers and they have to move in that direction. Obviously you are talking about a very large number of people, and individuals

have different attitudes. I may be being naively optimistic, but I think on the whole farmers do look at themselves as land managers - certainly landowners do. They need to be encouraged to think of the holistic approach. The problem with farming is the economic viability of farm businesses. Because there is not much money, it creates difficulties. We launched over a month ago the Campaign for the Farmed Environment, in conjunction with the NFU and with a very large number of other bodies, supported by the RSPB, Natural England and the Environment Agency. This is about encouraging farmers to engage voluntarily with environmental land management. This is part of moving people from just pure production of wheat or beef to look at the broader environment. One of the things the CLA has been promoting is its food and environmental security policy, because we see environment and management of the environment as being a key part of land management.

Professor Buckwell: The re-training is certainly necessary. But we have not yet created the impetus and the feeling amongst farmers that they want to be re-trained and be engaged more in the wider land management roles and producing public environmental services as well as food. That signal requires further action on society's part to incentivise this kind of behaviour. Farms and farm businesses are not charities; they are trying to make a living; so there is a real role for public policy here to create the frameworks that create the incentives, which then signal to the people who are doing the job, "I need to know more about water infiltration and water management on my land".

Q44 Baroness Symons of Vernon Dean: I am sorry if I am hideously ignorant about all this, but I am not quite sure why this is so different from what has happened before. I live in the Bourne Valley in Hampshire and I look at local history quite a lot. The records back in the 1820s and 1830s show huge amounts of flooding at the time. People turned out and dug ditches. You talked about being able to mitigate what was happening on your land. I am sorry if I am failing to grasp something here but that is what farmers have always done. In

fact, the villagers all turned out and dug all the ditches round where I live, and they are still there now. It was not a matter of public policy and something elevated to that degree, but a matter of survival. That was obviously what you did in order to be able to grow what you needed to grow. I am not grasping why this is so sensationally different now from what has gone on before when there were periods of great flooding, which happened periodically in the past and which undoubtedly happened within our fathers' lifetimes or our grandfathers' lifetimes.

Mr Worsley: Again going back to my own patch, we have kept rainfall records for over a hundred years. We can see the pattern. We have got recorded the times of bad flooding. We had some very bad flooding in the 1930s. The pattern that does seem to have changed is that we seem to get more extreme events. I have been farming up in Yorkshire at home since 1980, when I took over the farm. Through the eighties and nineties I thought of our farm as a fairly dry farm. Through the two thousands it has become a pretty wet farm. I think that events have become more extreme. The annual average rainfall has not changed a lot but it has become more extreme. We had some flooding in 1986, but that was the only time in my lifetime that we had a real worry about flooding. This is just a normal Yorkshire village, and I am just using it as an example. There is now a fear factor that there never used to be. With regard to your point about landowners and land managers getting on and doing the job, you are absolutely right, but various things have changed. More land is now drained so more water is coming off the land and not being held on the land. More areas have been built up, so there is more tarmac, so you get greater run-off. So there is more water running off the land than perhaps might have been held back on the land fifty or a hundred years ago.

Q45 Lord Lewis of Newnham: Your comments bear very much on a timescale, because this is quite clearly one of the problems. If you look at the White Paper, they make certain proposals as far as timescale is concerned for adapting to their framework. In fact, they say

that phase 1 will be from 2009-2012, which will be for the preparatory ground work, and phase 2 from 2013 onwards, which is the period for implementing the comprehensive strategy they have announced. I note in the paper that you gave to us that you have also used 2013 as quite a critical factor. Then you present what I find a very exhaustive list of alternatives that you would want to employ. It strikes me from the way you are talking now that there has got to be some form of priority involved in dealing with this, because you are not going to do all these by 2013. What would be the general order of priority that you see, and what is your view of the timetable?

Mr Worsley: I will comment generally and ask Allan to comment in more detail. I do not think one could accuse the White Paper of rushing it! We think the timetable is realistic. We are concerned about the resources that are available, particularly bearing in mind the state of the public finances both nationally and in the EU. Because of the other pressures on public finances, it will make it more difficult to mobilise resources to combat the issues of climate change. We see the CAP as part of the answer, and we think it is very important that the UK Government stops bashing the CAP.

Professor Buckwell: If we are talking of priorities for adaptation, plainly it is only sensible to adapt to the things for which there is evidence of problems. We are not going to adapt just on the basis that it might happen - well, even that statement needs more discussion perhaps! The priorities in the UK will be riverine, and coastal flood defences. Plainly that is our problem; in southern Europe it will be drought and water management. I am not absolutely sure what your geographical focus is as an EU Committee, but we are in the UK. Another aspect of water management on farms in the UK is farm reservoirs and storage, however the development of reservoirs does not depend on EU legislation, it depends on the UK planning system. Those would be some of our priorities. I guess that we will come on to this later in our discussion, but because we put mitigation and adaptation hand-in-hand and do not think it

is sensible to fragment them and have a system to deal with them independently but deal with them together, a lot of the mitigation actions to do with information and getting understanding of best practices and how to improve efficiencies of feed and fertiliser use on farms, these are the things that demand the action that take resources. It is a question of what framework they fit into and in what time period, but the need for them is now.

Q46 Lord Lewis of Newnham: If you take water as your priority, how far are you involved with the Environment Agency which, after all, is responsible for many of the features that you are talking about?

Professor Buckwell: Constantly.

Q47 Lord Lewis of Newnham: And there is a good relationship there?

Mr Worsley: We have a great regard for Lord Smith, the Chairman. We believe that he is bringing the change that is needed into the Environment Agency. I suppose there are a lot of different people, and some of the change he is pushing is taking time to filter through, but we do see change happening there. We believe they have a very important role to play and were involved with, for example, the Campaign for the Farmed Environment. As an association we would not be doing our job properly if we did not meet with them at the highest level regularly and on a local level even more regularly. The answer is that we do work with them and we lobby them and try and encourage them in what we believe to be the right direction. We also believe it is very important that organisations such as the Environment Agency engage with, and work with, landowners and land managers to try and get the best answers. The trouble is, to a degree they are very overworked. It is quite difficult. I am trying to lobby them to support me on my idea of upstream water storage, and they were reasonably helpful, but I think they could have been a lot more helpful. That is just one specific example. That is

the sort of way that they can engage with the people who own the land to do something towards the issues of flooding.

Q48 Viscount Ullswater: You are talking about the EU strategy and say that adaptation and mitigation go hand-in-hand, but do you see that the EU is having difficulty balancing this because there are a couple of mal-adaptations you mentioned, the Pesticides Directive and the spread of GM crops? Do you think they have got their strategy balanced?

Mr Worsley: We believe that climate change mitigation and adaptation have got to be done at EU level. We think it is bigger than just the national issue, so it is essential that it is looked at as an EU issue. A number of the initiatives, the Pesticides Directive being just one, remove some of the tools that we have at our disposal to fight climate change, and I think we are going to need as many of those tools as possible because of the challenges. Speaking as a forester, the species of trees that I am currently growing, Corsican Pine being one, I am no longer planting because of disease. There is a real concern about other diseases that climate change will bring, which will mean the trees you have planted and nurtured for decades suddenly will die and be the wrong species. I believe this is a bigger issue than one that just the UK should be looking at.

Professor Buckwell: It is a difficult balance to strike. It certainly occurred to us that if you put too much focus on adaptation there is a danger you send the signal out that we are not controlling climate change, so we had better work out how we are going to live with it. Equally, it is inevitable that we are going to have to live with whatever the climate delivers to us. The EU strategy is sufficiently stratospheric that it is hard to nail down whether they have erred too much in one direction than another, so we do not criticise it. Another problem is that most of us do not know, in concrete terms, what we want to do and what are the private and public programmes necessary to mobilise the actions of both the mitigation and

adaptation. This is very much a feeling of a learning-by-doing activity here that we are all engaged on. Their approach is sensible and we do not criticise it.

Q49 Lord Palmer: You have already touched on my question, but do you agree that the knowledge base about the impact of climate change on agriculture and forestry - and I remind you that I am involved in both - across the European Union needs to be developed, as the White Paper proposes; and, if so, what gaps in knowledge have you so far been able to identify? Is the European Landowners Organisation (ELO) broadly in agreement with the CLA's position on this?

Professor Buckwell: Yes. The knowledge gap is finding out the practices that work to help farming cope with the climate stresses that it confronts; and also, because we are putting mitigation and adaptation together, how you do farming and produce less nitrous-oxide and methane, which are key questions that we really do not know the answers to. We know that part of the answer is more efficient fertilisation of your crops and feeding practices, but those messages have been out there for twenty or thirty years, and the fact is that not everybody is adopting them. Why not? Plainly there are things getting in the way, either information or other things that we have not properly understood, for example the real pressures on farmers doing their work, their timing, their access to appropriate machinery and so on. What are these obstacles, and how do we unblock them? This is what is so difficult about this subject. It is quite hard to write down the six bits of research that would enable us swiftly to adapt better and mitigate more; but there are plenty of people asking the question around Europe. It does seem to us that this is the strength of the European Union potentially, that somebody will alight on good ideas somewhere across Europe, so the more there are the means to share that information, the quicker we can all learn and adapt.

Q50 Lord Palmer: Is the ELO broadly being supportive of the CLA's position?

Professor Buckwell: Absolutely, yes.

Mr Worsley: Very much so.

Q51 Lord Palmer: That is encouraging.

Professor Buckwell: It is another vehicle through which we, as practical land managers, get together and say: “How are you coping with this in Denmark? What are doing in Italy?” It is an important part of the learning process.

Q52 Lord Livsey of Talgarth: If we look at Pillar Two, integrating adaptation of agriculture and forestry into the Common Agricultural Policy, the White Paper calls for measures for adaptation and water management to be embedded in rural development programmes between 2007 and 2013. In your view, how far is this already happening across the EU, and what obstacles, if any, have you identified? I realise that you have mentioned one or two items relevant to this already.

Mr Worsley: It has not happened very much specifically as climate change measures. For example, the Rural Development Regulation did not include a specific focus on climate change. The ELO argued that it should. The emphasis really only arrived in the health check as one of the new challenges, and our concern is that there is no new resource for this.

Professor Buckwell: Exactly. In the UK the additional compulsory modulation which applied in the rest of the European Union - it applies here too - was offset by reductions in voluntary modulation. This is technical stuff for those that do not know CAP! The upshot of the changes in the health check were that there were no new resources in the UK for dealing with the new challenges. Therefore, unless we had already built them into our rural development programmes - we certainly talked a bit about the words “climate change” appear in the design of the stewardship schemes and so on - there was not a big new initiative mobilised to deal specifically with this.

Q53 Lord Livsey of Talgarth: The White Paper also indicates that the CAP's contribution to adaptation must be examined in the review of the CAP after 2013. You know that the farming community in particular is anxious about quite a lot of aspects of this. How do you see the CAP best contributing after 2013 with regard to the adaptation of both agriculture and forestry, and to what extent can synergies between adaptation and mitigation actions be achieved? In view of what you have said here, Professor Buckwell, the whole question of the balance between the Single Farm Payment system and rural development is what people are getting quite anxious about.

Mr Worsley: We have been arguing that the CAP must change post-2013 to focus more on non-market public goods et cetera from land management. We have been arguing that for quite some time for it to become Europe's policy for food and environmental security. We think that the two need to link in together. We see that markets will not necessarily produce all the answers, and, therefore, we do need support; and the CAP is a way to deliver this. We also think in regard to the CAP that we need to decide what it is for and what it is to deliver, and then decide how it should be resourced, not the other way round. One of our real concerns is that people are talking about cutting the CAP budget and then deciding what the CAP is for. We would argue very, very strongly that is the wrong way to deal with this. It is one of the tools available to us to resource the tackling of climate change, but it will need to be funded appropriately and properly to be able to do that. This constant hit at the Common Agricultural Policy is not helpful.

Q54 Lord Livsey of Talgarth: Sir David King has said that climate change is the biggest threat in the 21st century that the world faces, and in particular that is true of the UK. Do you think that we are now in the sort of situation that we were in at the time of the Second World War when food security was a huge issue and now we are in a situation where climate change is a huge issue?

Mr Worsley: I think you almost need to link the two. Climate change is a huge issue and that is why we, as an association, have been engaged with it now for ten years in a lot of detail. Linked with that is the whole issue of food security. Certainly climate change is happening, and we have to adapt to it as well as mitigate. However, as parts of the world cease to be able to produce food and the world is demanding more food, with population growth and also people wanting better quality food as the world right across the board gets richer, there is no doubt in my mind that there will be an issue of food security. It is not the sort of food security we were looking at in 1939 and 1940 when you had U-boats stopping food coming to the UK. I look at this as global food security, so it is a slightly different approach. I think that climate change is something that is here. To a degree we are going to have to learn to manage it and live with it, but we are going to have to produce the food, otherwise people will go hungry. Look at what happened last year or the year before when there were riots on the streets because the price of rice had gone up. It happens very quickly, and it is something we have to be very aware of. As one of the wealthy countries of the world, we have a global responsibility to play our part in this.

Professor Buckwell: Europe is in a strange position in that the temperate zones, we are told by climate science, may be less negatively impacted than the polar and equatorial regions of the world, which again, as William says, heightens our responsibility to react. Paradoxically, the funny thing is that a more food-insecure world is a higher food-price world, which therefore then says that farmers may get more of their rewards from the food market; but it intensifies the requirements to deal with the non-food public environmental services that go alongside the food. The value of those services will increase because the scarcity of the environment will increase in these circumstances, and the cost of putting them right will increase. That is why we say that a European policy for food and environmental security, which treats the two things together - because the people on the ground, the farmers, are

managing both the environmental services and the food services so we have to give the right signals to them to get the right mix - means a bigger role for the CAP.

Q55 Baroness Sharp of Guildford: Can we move now to forestry? You mention in your paper that there will have to be some adaptation. For example, the beech tree will be under stress and we will have to look at different species. How might the forestry strategy be updated to assist with the adaptation within the EU as a whole? How else might the adaptation of agricultural forestry be assisted by EU policies both within the EU and other areas of the world?

Mr Worsley: There is an EU forest strategy but there is no common forest policy. I have been deeply involved with forestry for a long time now and I am personally a passionate forester. As a small industry, it seems to spend more time having lengthy meetings and, with the greatest respect to those meetings - and I have attended a large number of them - they achieve remarkably little! I must be more polite! I think it has a really important role to play. The Government has set out a target that it wants to increase new planting to 10,000 hectares a year, but there is no money to do that with. We would like to help. We are not against the principle of that, but it would have to be properly resourced and supported, and ways need to be achieved to do that. There is also grave concern about trees like beech - and there are a number of others - there is a threat to oak, to horse chestnut, a tree that I personally particularly like, and, as I mentioned earlier on, Corsican Pine. These are species that ten years ago we planted lots of, and now we are being told that there is no future for these species. That gives me cause for concern. I see forestry as one of the answers because of the ability of the tree to sequester carbon. I think we need to put more resources into forestry, not just new planting but management. I have argued many, many times with the Forestry Commission about the importance of resourcing management. Forestry is a land use, but it is not supported like farming is. We would argue that perhaps it should come within the remit

of the Common Agriculture Policy and there should be support for forestry that would enable planting to take place and for woods to be properly managed.

Q56 Baroness Sharp of Guildford: Pillar Two of the CAP, the shift over towards land management and environmental management, does not include forestry.

Professor Buckwell: It does include forestry but to a limited extent, and the resources deployed for forestry are pretty limited. There is an interesting point as to how much this demands public money. In the right circumstances, if afforestation in developed countries was part of carbon trading, you would not need public money; there would be potential for business-to-business transfers from the sectors that are purchasing carbon credits. That issue is embroiled in the much bigger issues about trying to stop deforestation in developing countries, and our perception is that developed country afforestation is still low in the priorities of the climate change negotiators in Copenhagen to do much about it. We keep suggesting that European afforestation could be part of that process. In the absence of that, William said that the Government has endorsed more forestry. I am not sure that the Government has, but Natural England has certainly suggested 25 per cent forest cover in the uplands, and the Read report produced some figures about increased afforestation. Our question is: how will that be incentivised? It is not a charitable activity, planting trees!

Q57 Viscount Ullswater: It is at the moment!

Mr Worsley: Speaking as a forester, I absolutely agree.

Q58 Earl of Caithness: Can I follow up your point about woodland management because I totally agree with that, I think we have been one of the worst woodland managers in the world in the UK, partly as a result of the Forestry Commission's policies. Do you not think it is high time that we moved away from the current policy of clear-felling to having mixed

uneven-aged woodlands, which nature produced right at the beginning and are, if managed properly like the Swiss do it and some of the Americans do it, much more profitable than planting trees only to clear-fell them?

Mr Worsley: I am not sure I would fully support that. It is a really interesting subject! I think it depends slightly where you are. There are very good examples of continuous cover forestry in the UK where it does work. Certainly when I have practised it up in my part of the world it has been very difficult to achieve. We would have to really get on top of the rabbits. That makes it very difficult. We have a different climate. I think the management intensity that is required for continuous cover forestry is considerably greater in plantation forestry. I have to declare an interest because I practise plantation forestry and I do it in a landscape-sensitive way, but it is much more straightforward on overall scheme, if you are producing the same quantity of timber but you are doing it in a simpler structure. I do not think that continuous cover as opposed to plantation forestry is the issue, I think it is about managing the forestry and - we are going to disagree here - it is about getting more woods planted.

Q59 Viscount Brookeborough: On the subject of getting more woods planted, where are they going to be? I live in Northern Ireland and we have the Forest Service rather than the Commission, but it is the same thing. They have tried to encourage farmers to plant forestry, but they have not really told them the pitfalls of planting small plots of forestry that can never be harvested because they are too small or that are in the wrong place; they have been merely after the percentage increase. If we remain in the lowlands, we are reducing our capacity to produce food. This must be an issue when we look at the population growth. If we encourage it in the uplands - I do not have any upland forestry - it would appear that the quality is not really there and thinning cannot take place. Somebody once said: "Planting in the flow country is planting in the blow country." Where are we going? We do not have a policy that really looks at it.

Mr Worsley: That is a really serious point. What we must not do is plant up good agricultural land that can grow wheat. There was a lot of planting done in the sixties and seventies that is completely inaccessible. Vast areas of Scotland were planted and nobody thought how they were going to get the timber out. In the Pennines there are plantations, and the roads cannot cope with removing the timber, so a lot of planting that has been done is actually never going to be anything than complete rubbish. I think, however, there are marginal areas that can perhaps only grow grass that can be planted. I also think that, though planting-up of corners of fields and things will not produce timber, the environmental and landscape benefits can be enormous. I have seen lots of examples where people have planted woods but they are never going to be of timber value. Indeed, the Forestry Commission owns vast numbers of small woods that they never manage because they are not in an economic state. However, I think there are areas that can be planted up and that can produce saw-log timber that can be accessed, and that are not going to be detrimental to food production. What we really must not look at is planting up good agricultural land that should be growing food.

Q60 Viscount Brookeborough: On the marginal land that you talk about, there is an issue there with the quick flow of water. I know there are new ideas on creating sponges and things, but the fact is that the marginal land, especially in our part of the world because we have got high rainfall, keeps the water where it is at the moment, and you cannot do both, plant trees and keep the water there, otherwise you have the same problem all over again.

Mr Worsley: Indeed, we do not want to see all of the moorland and hill land, those beautiful landscapes, planted back-to-back with Sitka Spruce or whatever. We have learnt the lessons of how to plant from the mistakes that still haunt us from the fifties and sixties. However, I do believe that areas can be found which will not solve the problems but which will be realistic to plant.

Professor Buckwell: Some of the small woodlands can be important for what is nowadays called “green infrastructure”; this is the connectivity of ecosystems to allow adjustment to climate change; but, as William says, it is very difficult to know how to motivate that other than through public payments, unless some other mechanism can be found.

Q61 Viscount Brookeborough: We also need to produce timber.

Professor Buckwell: Yes, absolutely.

Q62 Earl of Dundee: Adaptation, in its own right - what roughly do you think this will cost in the coming years?

Mr Worsley: I think I will have to give you a very straight answer that I really do not know. Did you want to quote those Stern figures?

Professor Buckwell: Can I go down this route? This is a really important question that is perfectly reasonable to ask because we are not going to motivate anything until we can provide some sensible answers. What are the costs of delivering these various ecosystem services, which will help enable us to manage climate change and the other changes that are taking place? We have done a lot of work on this, and a number of groups are doing this. In fact, we published a report through the RISE Foundation, which is a Brussels organisation, called *Public Goods from Private Land*. We will leave this with the Committee, if we may, Chairman. Some of the evidence has quantified both the value of these services and the costs of delivering them. It is part of trying to encourage the research community to bring information together to answer these questions. In our view, these are always going to be difficult areas because you are dealing with non-market services, so you cannot go to the market and look up the price or the cost of delivering a particular service. There is a lot of ingenuity and imagination out there where we can get some orders of magnitude. One of the main conclusions is that the resources that we are currently deploying to provide these

services that make our ecosystem more resilient and able to cope with climate change - the resources that could be justified are considerably more than we are spending by very large margins. In our written evidence to the Committee we played with some figures based on the Stern report. I would be interested to see whether this is laughed at, but there is a serious point there to my mind. If Stern says that in the fullness of time it can be worth spending up to one per cent of GDP dealing with climate change, we are nowhere spending a hundredth of one per cent in dealing with it at the moment, so we have got a long way to go.

Q63 Earl of Dundee: Your Copenhagen paper referred to “significant constraints due to lack of investment in adaptation”. How then do you see these constraints becoming eased?

Professor Buckwell: It is a good question! The constraints we had in mind were things like cutbacks in agricultural R&D in this country - and not just in this country - and there is an obvious way to put that right, except in the present public expenditure climate that is a hard thing to say. Constraints of low profitability in farming restrict the ability of the industry itself to do the investment, the drainage, the irrigation, the reservoir construction and so on. A third constraint is the lack of a well-developed, integrated farm advisory service. We are not asking or expecting a publicly-financed advisory service - that is history rather than the future - but it will take resources to integrate the existing advisory efforts. It is partly a matter of organisation and there are questions about putting resources into these things if we are serious about unblocking the constraints.

Q64 Earl of Dundee: The White Paper highlights a number of possible sources for funding adaptation, and among those what type of co-ordinated package will work best, do you think, and beyond that what other possible sources of funding adaptation might also be used?

Professor Buckwell: First, we do think there is a central role for public payments for public environmental services that land managers can provide. However, it is not the whole answer.

We are wide awake enough to know the difficulties of making that case, although if we say climate change is the biggest problem confronting us, then we have to match that with decisions about resource allocation. However, we think there are opportunities for environmental markets. That is about creating markets to deliver some of these environmental services. We think there are opportunities to get transfers from businesses to businesses rather than public sector to businesses. We have already talked about one, carbon sequestration, if land management were part of that, and also water filtration. There are examples where water companies pay land managers to change what they are doing in order to reduce the cost of dealing with problems such as discolouration in water. There are opportunities where upstream and downstream interests can get together and arrange for better management. In other parts of the world there is the use of biodiversity banking, where sectors that are effectively destroying biodiversity, the development sector, pay land managers to provide biodiversity in other parts of the country.

Q65 Earl of Dundee: What is the evidence for that to date?

Professor Buckwell: In the US billions of dollars worth of transactions currently taking place, in Australia too. We do this in this country - most people say rather inadequately - through section 106 agreements in planning, but there is another potential set of tools there which are a kind of market-based approach - that was the phrase I was looking for - to try to deal with some of these problems. They need a regulatory framework within which they happen; they will not just happen by magic.

Q66 Lord Lewis of Newnham: Can you give us the figures? You gave us a very tempting figure of one per cent of GDP. A recent publication by the Royal Society quotes a figure of two billion for the research councils to be investing in looking at the basic research that is involved. What are your figures?

Professor Buckwell: The figures are the figures we put in our written evidence, where we just played with Stern's 1 per cent of GDP and said that if you took agriculture's share of greenhouse-gas creation of that, the arithmetic says seven per cent of one per cent of UK GDP is about £900 million. I am not suggesting that we conjure up £900 million to spend on this, but if we spent £9 million on it, it would be a start. To be honest, I think we are using these figures illustratively to make the point. We are not suggesting that these are well worked-out figures to motivate specific actions.

Q67 Lord Lewis of Newnham: But they are not incomparable with the figures that the Royal Society has given.

Professor Buckwell: Absolutely, no. There is no contradiction, absolutely. We are saying that if this is the biggest problem confronting us, then it would seem a bit odd if we do not deploy some real resources to deal with it.

Q68 Earl of Caithness: You have answered quite a lot of what I was going to ask you, but do you think when you look at the EU White Paper that it is an adequate framework for integrating adaptation.

Professor Buckwell: We think it is a sensible start. There are 27 member countries. The White Paper is covering not just agriculture and forestry but the whole economy, and so at that level of generality the things they have said are perfectly sensible. The difficult bit is now turning the specific bits that affect our sector - and we obviously care most about that - into practical action. It is about how to learn by doing and how to create these information flows and get the advice out on farms.

Q69 Earl of Caithness: From what you said earlier, you are clearly differentiating between food security and food sustainability because food sustainability has proved to be a disaster

for the markets. Looking at the agricultural product market, and after the price rises of 2007 and 2008, particularly the rice market, do you think that the EU ought to be doing more to ensure that the agricultural food market, which is not functioning properly at the moment, does function?

Professor Buckwell: It is a big challenge, but we should not react by intervening in the way that we attempted to through the sixties, seventies and eighties. We are not suggesting in any way that a retreat to market management by Brussels committees is an appropriate way to react to these problems. To my mind the most important lesson that came out of the food price spike of 2007/2008 was how rapidly the supply response occurred. If you look at the changes in crop areas and production in Europe and the major parts of the world in 2008, markets work. Farmers are obviously concerned about their costs, and at the moment the reason they are in the doldrums is because prices are right back down and their costs have risen. I do not think market manipulation is the answer to volatility issues. It is a very real question what instruments are, and we would say that paying farmers for their public/environmental services is a pretty good stabilisation instrument. You can be sure of those payments because you want those services not just this year and next year but the next decade and the one after that too.

Q70 Earl of Caithness: From the food security point of view, are you happy that 80 per cent of food produced in Scotland goes to the major retailers and nobody controls the major retailers?

Mr Worsley: One of the things we have been calling for is an independent ombudsman to work in that direction. There are big issues of distribution of food. As food goes through very few major retailers it would be very easy to block the distribution network, which could cause major food shortages in a very quick timescale - fires, terrorist threats and everything

else. We are straying off the subject slightly, but there is risk with a distribution network of the type that we have.

Q71 Viscount Ullswater: I would like to ask your opinion: if agriculture and forestry were included in the Emissions Trading System, would it bring money to the industry, or would the industry have to pay? It would do both, I am sure, but on balance?

Professor Buckwell: You are absolutely right that agriculture is an important source of emissions and we have not got control and a grip of that, so it is not just a one-way flow, you are absolutely right. The honest answer is that I do not know, but the fact is that we do not have to invent carbon capture and storage; it is called photosynthesis and it is what trees and plants do. Again, we ought to be finding how to motivate that knowledge to achieve storage of more carbon.

Q72 Earl of Arran: There is at the moment a huge amount of hot air in discussions about climate change because no-one really knows what to do except for the obvious things. Your organisation has huge responsibility, representing ownership of vast tracts of land in the country. There is growing scepticism in general about climate change, and it is becoming very controversial. In order to bring your membership into play - and they will have to come very largely into play from the point of view of responsibility for change - are they all behind the view that something needs to be done about climate change, or is there a certain reluctance?

Mr Worsley: The answer is that with a membership of 35,000 you are never going to be able to get everybody singing from the same hymn sheet.

Q73 Earl of Arran: You would have had in the Second World War.

Mr Worsley: You probably would.

Q74 Earl of Arran: You could see the enemy.

Mr Worsley: Yes, the enemy is more difficult to see. As an association we try very hard to consult with our members. One of the strengths of the CLA is that it is member-led. There are branches and committees of members that filter in to the CLA policy. As I said, our first climate change report was published in 2001. There were two years of work that went into that before it was published. The answer is that, as best we can, I think we have brought our members along with us. There are certain members - I know of one, a member of my family, that is a very strong sceptic of any form of climate change - but I think on the whole, very largely our members do see this as a real issue. The reason I see it as a real issue is from personal experience. I commented earlier about the issues of flooding and excessive rain. I think the climate has changed already. Put bluntly, if you look at the amount of pollution that we as a race have pumped into the environment over the last two hundred years since the Industrial Revolution, that has got to have an effect, just to go back to the absolute basics. I think the answer is that our members are, on the whole, largely signed up to the importance of this issue and believe that something needs to be done. This has been through the CLA Council numerous times and there have been several reports on it. We have done four major papers on climate change over the past decade. Each one has been completely signed up to by the CLA Council and the engaged membership. I would think that CLA is pretty engaged behind this.

Professor Buckwell: Yes, and I would add one thing: they are very keen to have a chance to get the opportunities for renewable energy: wood fuel, anaerobic digestion, bio-fuels. If we can pay for storing carbon, we are very keen on that, whoever we sell it to.

Mr Worsley: And, indeed, small-scale heat generation. These are all the sorts of things that our members really can contribute to. If we can produce small-scale local heat generation plants and biomass. The one thing that has given me a little bit of encouragement as I have

seen the price of saw-log timber halve in the last twenty years, is the wood fuel market. Of course, if that can build up, it gives an incentive to manage those woods that are really not of much economic value, because you are not talking about quality saw-log timber but just biomass.

Q75 Chairman: I think that is the moment to draw things to a conclusion. Mr Worsley, Professor Buckwell, thank you very much. Thank you to the CLA for very clear evidence. Good day.

Mr Worsley: Thank you very much, my Lord Chairman, for giving us the opportunity to come and give evidence.