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RURAL AFFAIRS, CLIMATE CHANGE AND ENVIRONMENT COMMITTEE

Wednesday 12 September 2012

Session 4

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CONTENTS

RURAL AFFAIRS, CLIMATE CHANGE AND ENVIRONMENT COMMITTEE
18th Meeting 2012, Session 4

CONVENER

*Rob Gibson (Caithness, Sutherland and Ross) (SNP)

DEPUTY CONVENER

*Annabelle Ewing (Mid Scotland and Fife) (SNP)

COMMITTEE MEMBERS

*Claudia Beamish (South Scotland) (Lab)
*Graeme Dey (Angus South) (SNP)
Alex Fergusson (Galloway and West Dumfries) (Con)
*Jim Hume (South Scotland) (LD)
*Richard Lyle (Central Scotland) (SNP)
*Margaret McDougall (West Scotland) (Lab)
*Dennis Robertson (Aberdeenshire West) (SNP)

*attended

THE FOLLOWING ALSO PARTICIPATED:

Professor John Barrett (University of Leeds)
Professor Jan Bebbington (University of St Andrews)

CLERK TO THE COMMITTEE

Lynn Tullis

LOCATION

Committee Room 4

Scottish Parliament

Rural Affairs, Climate Change and Environment Committee

Wednesday 12 September 2012

[The Convener *opened the meeting at 10:47*]

Carbon Accounting

The Convener (Rob Gibson): Welcome to the first meeting of the Rural Affairs, Climate Change and Environment Committee after the summer recess. I have received apologies from Alex Fergusson, and I remind members and the public to turn off mobile phones or BlackBerrys as leaving them either in flight mode or on silent affects the broadcasting system.

Agenda item 1 is an evidence session on carbon accounting and the Scottish Government's carbon assessment tool with two academic experts in the field: Professor Jan Bebbington, from the department of accounting and sustainable development at the University of St Andrews; and Professor John Barrett, from the department of sustainability research at the University of Leeds. I welcome both witnesses and invite them to say a few words either about what they do, or about the context of the discussion to allow us to get into questions as soon as possible.

Professor Jan Bebbington (University of St Andrews): Thank you for the opportunity to give evidence to the committee. First, I should perhaps distinguish between our areas of expertise; although we are both into carbon accounting, the term has—unfortunately—two distinct meanings and we represent the different parts. I hope, however, that our very varied expertise will prove helpful.

Carbon accounting sometimes takes place at nation level, which is primarily the focus of the carbon assessment tool, and relates to the big flows of carbon that arise from activities in an economy. That is where Professor Barrett's expertise lies. As an accountant, I have expertise at an organisational level and look at what an organisation such as, say, the Scottish Government or the Scottish Parliament might do with information of that sort. I realise that the situation is horribly confusing; we might use the same term, but we are talking about distinctly different layers. As I have said, I hope that our expertise will be complementary.

The Convener: Thank you. John, are you happy with that explanation of what you do?

Professor John Barrett (University of Leeds): Yes. The difference is pretty much the same as that between an economist and an accountant.

I thought that I might give a very brief bit of background. I provide the United Kingdom Government with consumption-based accounting emissions—we have a five-year contract for that work—and understand the assumptions and uncertainties associated with the method. After all, pretty much the same methodology is used. I have also undertaken for the UK Government the same assessment for a 20-year time series and can offer some comparisons, if members think that that will be useful.

Finally, as I am writing a section on this subject for the Intergovernmental Panel on Climate Change, I might also be able to give an international perspective, if you think it relevant.

The Convener: What significant progress, if any, has the Scottish Government made in trying to assess the budget's carbon impact?

Professor Barrett: My understanding is that the same methodology has been used for a few years now and that, although some improvements might have been made to it, it has not expanded beyond understanding the impact of spend. For example, it does not look at what we might call downstream as opposed to upstream impacts—in other words, the impact of the policy or strategy in a particular portfolio.

Nevertheless, we should not hide the fact that it is excellent to have a wider definition of carbon impacts over and above an organisation's direct emissions and I very much welcome the approach. Indeed, the fact that the Scottish Government considers the carbon impacts of its spend throughout the supply chain is fairly ground breaking. It is an excellent starting point but, as I am sure that we will discuss later, I recommend that progress be made quite soon on understanding downstream impacts and increasing the policy applicability of the methods.

The Convener: Do you wish to respond, Professor Bebbington? Your microphone will come on automatically.

Professor Bebbington: Does that mean that I can be turned off automatically as well?

The Convener: That sometimes happens to us in the chamber.

Professor Bebbington: I echo Professor Barrett's comments on the robustness and novelty of the approach. However, from an organisational perspective, accounts have two possible functions, the first of which is control. In other words, the account is used to inform some decision-making process and therefore to change the outcome. The second function is accountability. If the account is

provided to other people—the committee, for example—it can be used to focus again on decision-making processes.

Those control and accountability functions are not necessarily absent from the process that we are discussing, but they have not been fully realised in a way that would have been quite useful. Although we are entering the third year of having such an account, it is impossible to tell from the materials how past carbon assessments have informed the budget's development and what outcomes might emerge from the assessment for future planning. Of course, the committee has the ability—indeed, the duty—to scrutinise all that.

The process dovetails at least in part with the report on proposals and policies work, which is very future orientated in nature and sets out the things that will be done to meet climate change objectives. What is really special and interesting about this particular account, however, is that it examines the impact of the core spending and core commitments in the budget. Those issues are separate but both are really useful in finding out whether the aspiration for a low-carbon economy is supported and informed by low-carbon decision making. Although that sort of thing is invisible to me, you could make it more visible if you get the right people in these chairs.

The Convener: We will let this issue roll, as I am sure that members have lots of supplementaries.

Richard Lyle (Central Scotland) (SNP): I have two questions. First, how has the Parliament used the results that are generated by the tool in the budget scrutiny process and can it improve the way it uses them? Secondly, does the toolkit require revision or updating?

Professor Barrett: I have two points to make. First, in essence you have a picture of the upstream supply chain impacts of spend. Broadly speaking, I suppose that there are two ways of reducing such an impact: first, reduce expenditure, and secondly, spend differently—or, rather, spend more efficiently from a carbon perspective.

Therefore, the tool's application is more in internal sustainable procurement and in the examination of issues such as what products the money is spent on, whether the money could be spent on products with lower carbon output and whether we could improve efficiency in general management so that we purchase less paper, fewer computers and so on. To me, it is an internal sustainable procurement tool as opposed to a tool that evaluates policy.

The improvement involves the fact that it is necessary for an accounting system to evaluate each individual policy's contribution to the future emissions of Scotland, from the production and consumption perspectives. That is the element that would be the next logical step. That is possible. There are some questions about how it can be done, and there are various pathways that can be taken—I can elaborate on that later.

In summary, downstream impacts are the next logical extension.

Professor Bebbington: I echo those points, as they are absolutely spot on.

That use of the tool would allow a much more robust on-going policy evaluation process. A lot of that happens already with regard to strategic transport policies—providing a carbon footprint of a policy and scrutinising that decision making—but it does not necessarily result in different decisions being made. At the moment, partly because we are at the early stages of the process, people note the carbon account with interest—either with delighted interest, or with interest that is more like, "Oh dear." However, what might happen next in the governmental and parliamentary processes is difficult to see.

There are pointers elsewhere in our economic system that might enable us to get some traction going. The national health service has good carbon-footprinting information that examines the supply chain upstream and operational impacts in the same way as the account that we are discussing does. The NHS realised that 60 per cent of its carbon footprint is on the procurement side, with the rest coming from heating and lighting hospitals and so on. A lot of the carbon footprint that is associated with procurement involves drugs, so the NHS knows that, if you and I never have to swallow any drugs or turn up to a hospital, that will be a low-carbon strategy—it is also a tremendous strategy for you and I in health and wellbeing terms.

A few organisations—not a lot; mainly those that have been working on their carbon footprint for eight to 10 years—are starting to conduct more of a whole-system analysis, which is what my colleague was talking about. An account that does not go into the whole system is fine, but only as far as it goes.

As I said, some of the necessary data exists in various transport assessments and so on. Certainly, it must be informing the proposals and policy work, as that involves the modelling of different ideas. However, the people who are starting to do quite interesting things are thinking about the whole system, not just their wee bit of it. As policy makers, the whole system is in your hands.

I would not revise how the numbers are calculated, but I would revise how the toolkit might use those numbers in conjunction with other

accounts and processes. They are entirely open to development.

The Convener: We move on to deal with the environmental output model. Dennis Robertson has a question on that subject.

Dennis Robertson (Aberdeenshire West) (SNP): To ensure that the initial question is asked in full, I ask you to read it out on my behalf, convener.

The Convener: What are the positives and negatives of using a methodology that does not account for the emissions that arise as a consequence of spending decisions, for example from road use?

Professor Barrett: The first thing to say is that the methodology for calculating upstream emissions using environmental extended input and output is recognised academically and by a number of European institutions as by far the superior and leading method to use in order to get a full picture of the supply chain of spend. I think that it is the correct choice to have that methodology in place for that particular analysis. A number of European studies have supported that. I suppose that that is a positive for the method.

11:00

The negative part is that the model is static. It gives us a snapshot of the efficiency of production for one year, but it does not necessarily give us a valid understanding of the future consequences of policy. Input-output analysis is not its purpose or its strength. The static nature of the model is an issue.

I will try to describe this without getting too technical. If we spend £1 on a product, input-output analysis looks at the current structure of the economy to see what the impact of that will be. However, when we spend £1 on a product or anticipate doing that in the future, the structure of the economy changes and the model does not predict that very well. Basically, there are non-linear relationships in the future that it does not predict. The economy changes depending on where we allocate spend and so on.

There are a number of economic modelling techniques to overcome those problems. Some rely more on probabilistic methods and some on scenario approaches, but there are a number of modelling outfits in the UK that have spent a lot of time working out the detail of the consequences of implementing particular strategies, and there are methods of doing that. They relate partly to input-output analysis, and the modelling outfits use that, but they also have a rich combination of additional information on how economies behave depending on where investment is placed and what the subsequent emissions might be.

Dennis Robertson: To relate that to an example, if we build a piece of infrastructure such as a road and we project or forecast usage of that route and the associated transport emissions, is that where the problem lies—in equating the accounting?

Professor Barrett: Yes. The accounting that we have will tell us the carbon implications of building the road, including whatever goes into the road—asphalt or whatever it is. I am not an expert on road building, as you can tell. However, it does not take account of the fact that people might use the road more and it might induce further traffic and create additional emissions. Economic scenario modelling would give us that analysis. Such models are used in transport planning to some extent, but they have not been used much in looking at the infrastructure and capital investment programme and how that might change how people live, how industries function and how people use transport systems. We now need that analysis.

Annabelle Ewing (Mid Scotland and Fife) (SNP): When we talk about road use, some people see a picture of increased car use and more emissions, but by the same token we could have increased bus use and fewer cars. We could have green buses and very low emissions.

The Convener: And electric cars.

Annabelle Ewing: Indeed.

As we go forward with more sophisticated measurement of outputs, it is important to ensure that we take into account all the important changes that we hope to see sooner rather than later. I think that you alluded to that with your reference to societal changes.

Professor Bebbington: Absolutely, and the proposals and policies document seeks to set that out. However, the reason why an assessment of the budget is important is that, in the budgeting process, a series of things are set in play that we will have to clean up later by, for example, modal shift in transport, and if those things are locked in, it is difficult to unlock them.

Carbon accounting is useful because it focuses on the time when the money is allocated. I am sorry—I am an accountant, so that is what I will focus on. At the moment at which we commit the money, we are committing future carbon. That is not at all unchangeable, as you know, but to a certain extent it is hard wired in.

Claudia Beamish (South Scotland) (Lab): Some of the issues that I wanted to cover have been discussed already. I will not speak for

everyone here, but I find the assessments quite challenging.

The Scottish Government has argued that a comprehensive assessment of use impacts would be challenging and quite difficult to do. Do you know of any other Administrations or organisations that are taking that approach?

Professor Barrett: There are some examples of energy modelling in the Department of Energy and Climate Change in planning future infrastructure for a low-carbon economy. DECC has an energy model that looks at where investment would be placed and what the consequences would be for future emissions, and whether those meet the Committee on Climate Change's future carbon budget. There are a raft of issues around uncertainty of outcome and so on, but those models exist in some areas of policy.

In transport, there is some planning and forward projections are made for how a particular intervention might relate to different emissions. Those models exist, but they are not used comprehensively.

We undertook a study for the waste and resources action programme in which we examined 13 resource efficiency strategies for the UK and how they could contribute to emissions reduction if they were introduced. However, no one has produced a comprehensive annual assessment of policies and how they will change future carbon emissions.

On the question whether it is difficult to do such an assessment, it is not easy in that specialist support would be needed, but there seems to be quite a lot of expertise in the Scottish Executive on some of those elements, although perhaps not on all of them. It comes down to the question of how important it is to understand what the future carbon emissions from different strategies and policies will be. If that is a key policy agenda, I cannot understand how we can move forward without knowing that information, even though there is uncertainty in the outcomes and some areas may be difficult to assess.

It is necessary to know which policies to implement and to be able to assess whether they are working, and to assess the contradictory nature of different policies that pull emissions in different directions. For example, there may be a comprehensive road-building plan alongside a plan for pedestrianisation and increased public transport use. The issue that arises seems to be not what is funded, but what is not funded. Such a model would help to give some insights into that.

Claudia Beamish: Are there international examples in which such assessments have led directly to alterations in policy that have had an effect?

Professor Barrett: Some countries are more strategic than others in the way that they use modelling to guide policy. One example is Germany, which forecasted how investment in wind energy infrastructure would contribute to emissions reduction in the future and how introducing a feed-in tariff would affect future markets. There has been some comprehensive modelling underlying policy decisions.

I am not sure whether it is necessary to go through portfolios and initially assess, for example, how the justice portfolio might affect future emissions. My initial assessment would be that it would probably have no significant effects. Some up-front assessment would be needed to establish which policies are likely to have an impact on future carbon emissions in order to prioritise things, rather than trying to address an area that is of little consequence for carbon emissions.

Claudia Beamish: Sorry to delay things, but I want to push that question a bit further. Do you know of examples of departments working together where there are different effects? For example, any shift towards more low-carbon transport, which we are all aiming for, might have an effect on health and on other areas. Do you know of any joined-up thinking taking place?

Professor Bebbington: I have examples of joined-up thinking, if that helps. Because of my discipline, my examples are pulled more from the organisation level. Some organisations have invested substantially in considering that question, even though it is challenging and difficult and the numbers will not be entirely exact. BT has done interesting work in which it modelled what it hoped would be the likely increase in business activity and revenues and then figured out how much more efficient it would have to be to track the climate change legislation reduction trajectory. The company picked something that if it, and everyone else, could be in line with, collectively, we would get there. Using that approach, BT shaped its choices about a range of things. That is an example of an organisation that wishes to carry out best practice taking a piece of legislation and considering what it can do. BT and other organisations have their own marginal cost abatement curves to help decide which initiative to pick first to generate that.

You asked about different departments and the trade-offs. I have been involved in a piece of work that was sponsored by the Chartered Institute of Management Accountants and which involved working with water companies and environmental agencies to figure out whether the consenting regime was right. When a company releases water into a natural watercourse, it has to meet a minimum pollution standard. The standard is set on the basis of the lowest level at which the water

is ever likely to flow in the watercourse because, that way, the risk is correct and there is the right margin of error. However, for much of the time, the level will be much higher, so the water could actually be treated less intensively and released at a relatively dirtier level, thereby saving carbon but with the same biological outcome. The outcome would be the same, but the method by which we got there would be slightly different.

The water industry and environmental agencies have realised that there is enough real-time water data to start to take that approach. Some water companies will share their real-time pollution and river flow data with the environmental agency, which might not have that data. The two have a relationship of trust, which might enable them to consider what we call agile governance or variable consenting. That does not yet exist, but the example shows that, when there is good enough carbon data and a good enough idea of the desired outcome, we can make progress.

That is not a technical solution such as green buses or whatever—although I am happy about green buses; instead, it is a solution about governance and relationships and how people interact. That social technology is likely to be important. In that example, the existing regulatory regime was not designed for the low-carbon world, but now, through clever ways of thinking about relating with other people, we could achieve quite a big reduction fairly quickly. That is the example that I know best of different parts of the system—although not different departments—having a strong conversation with each other to achieve an appropriate environmental goal but with a lower-carbon approach.

The Convener: I have a technical point for John Barrett. The Scottish Executive has been known as the Scottish Government since 2007, but it is officially so now in all our dealings.

Professor Barrett: Sorry.

The Convener: That is all right—it is a small matter.

Graeme Dey (Angus South) (SNP): What do you consider to be the advantages or disadvantages of the consumption-based approach that is taken in the assessment? If we were starting from scratch, is that the approach that you would take?

Professor Barrett: Yes, it is the approach that I would take, as it gives a more complete picture of the emissions that are associated with spend. If the overall goal is mitigation and the reduction of emissions, the most important issue is not whether the emissions were inside or outside Scotland. The global goal is clear, and a tonne of carbon is a tonne of carbon, and that is that. The correct decision was taken. The approach has many advantages and involves a broader definition of responsibility, which I praise.

As for negatives, there is more uncertainty in assessments of more than territorial emissions. We have undertaken an assessment for the Department for Environment, Food and Rural Affairs and we recently gave evidence to the Energy and Climate Change Committee on the level of uncertainty. Additional uncertainty of between 3 and 5 per cent is associated with the calculations. However, I see no other negatives to trying to reduce carbon in that respect.

11:15

Professor Bebbington: Another positive thing is that the approach is consistent with the domestic effort target in the Climate Change (Scotland) Act 2009, which is an element of that act that shows leadership and aspiration. That does not punt emissions offshore and say, “We’re great,” although we are creating emissions elsewhere. The consumption basis is spot on and is consistent with the aspiration.

Annabelle Ewing: My questions are about so-called induced emissions. As far as I understand it, they represent the emissions that would be so-called induced by the domestic spend that results from higher salaries for public officials who are employed by the Government and for anybody else whose salary is controlled by the Government. Apparently, the Scottish Government previously included such emissions in its modelling for the assessment, but it will no longer include them. What are your views on that approach?

By practice, I am a lawyer, not an accountant, and it is famously said that lawyers cannot add up. Professor Barrett talked about uncertainty. It seems to me that including such emissions would involve making a series of assumptions about how increased salaries would be spent, which would raise questions about reliability. What would be the uncertainty factor for that? What differentiation would be made for times of recession and for people’s behaviour and attitudes to their spend changing? We talked about the importance of people changing their behaviour. You are the technical experts. From a scientific and economic perspective, what is your view on the induced emissions approach?

Professor Barrett: I feel that the approach is a step too far. We are talking about understanding the carbon emissions of households. Perhaps I am being too subjective, but I think that how people spend their money is their choice. I do not know what policies or practices could be put in place to affect how people choose to spend their salaries.

In such accounting, ignoring that issue is pretty commonplace. All organisations ignore it. It was ignored in the UK Government's study that involved a 20-year time series of the impact of its spend, and it has been ignored in all the assessments that I have done for organisations.

Professor Bebbington: I second the wisdom of the choice to ignore induced emissions, for two reasons. If a reduction in carbon is achieved by impoverishing all civil servants, it is not a bright idea. Do not get any ideas—I can see that going round the room. The people in the background do not look as happy about the idea as you guys do.

To an extent, the budget reflects that point, as slightly less carbon is tied up in it because there is less money to spend. That does not make the situation a good thing. Sometimes, it is difficult to know unambiguously whether increases or reductions in carbon are good or bad, so the context is important. That is why we do not know whether induced emissions are good or bad.

The question links firmly to the point that the Scottish Government uses the national performance framework incredibly well. In that framework, carbon reduction is not the only game in town. It is an important part of our policy domain and it may be critical for future prosperity and wellbeing, but it is not the only thing we are trying to do. If we targeted the carbon-intensive bits and found that they were all in the health service and said, "Let's close the health service," that would not be a smart idea.

It is really about increasing the nuances in our understanding of what carbon means. That is why I expressed reservations about induced emissions, because they are not interrogated to the extent that we can really understand whether they are good or bad. Unfortunately—maybe because I am an accountant—the answer is always that it depends on the context. For those reasons, it is wise to leave out induced emissions. Also, though, it points towards a more systematic and nuanced approach, which will come with time and the use of this kind of data.

Graeme Dey: Following on from that, if you disregard certain things or leave them out of calculations, how accurate a measurement does the carbon assessment tool provide?

Professor Bebbington: It depends what you say that it is an account of. As I said before, there are several measurements that account for different things. I guess that I would be keen that it was visible that something had been disregarded—so that one would know what is in and what is out—and that the approach was applied consistently, so that one might have some grip on what the trend is.

When we are looking at induced emissions, people who possess and use that kind of salary have available to them the same opportunities as the rest of us to catch the bus, walk, cycle or whatever. Leaving out induced emissions does not mean that those issues are not addressed elsewhere in the system.

Annabelle Ewing: Leading on from that, people sometimes ask whether the Scottish Government's approach could be extended to encompass the use of what could be termed social and environmental data. What are your thoughts on that? It may be subject to similar caveats to the ones that you have just outlined with respect to induced emissions, but it would be helpful for the committee to get some input on those issues.

Professor Barrett: As I understand it, you are asking about extending beyond carbon analysis to include other environmental and social concerns.

Annabelle Ewing *indicated agreement.*

Professor Barrett: Carbon is easier to analyse than other pollutants because it generously distributes itself evenly and has an even effect globally. Some pollutants do not; therefore it matters very much where they fall and where they are produced, which is not the issue with carbon. You are therefore entering a world of considerable complexity once you wish to consider sulphur dioxide emissions or other emissions that have more regional or local effects. To do so may be useful for an overall assessment, but it will not link well to impact, so there are issues with that.

There are also issues with data and extending the model. My educated guess is that in the absence of complete knowledge of all the data sets in Scotland, it would not be easy to extend the study without further assessment and research.

Professor Bebbington: I second that. For example, there are guidelines on how to do water accounts but it really depends on how much it rains and what your catchment is and so on.

The nearest thing that the Scottish Government uses, quite appropriately, is the ecological footprint. That calculation is nowhere near as exact, and never will be, as the calculation for carbon, but as a way of shaping a conversation, a discourse and an understanding about the broader environmental impacts of what is going on, it is quite important.

There are also things like the equality measurement framework. A distribution of environmental harm and environmental positives by income groups, and by various groups that we might be interested in in equality terms would also provide a social insight. Work done in the equality measurement framework and so on, and

unpacking things along equality lines, gives us a pretty good glimpse into some of the social aspects. For example, a distribution of those who generate the most carbon from transport, for example, might show us that it depends on how much money they have got.

As I say, it is appropriate to use the ecological footprint as a really good—although not exact—discussion point on the nature and impact of our lifestyle. Bearing in mind that it has larger data problems, it is a way getting a glimpse of the social aspects.

The Convener: This will make interesting reading when we go back and look over what has been said.

What are the advantages and disadvantages of a methodology that relies on industry carbon-intensity averages rather than on real emissions figures?

Professor Barrett: I might need to understand the question better, but my general feeling is that the methodology does rely on absolute real figures. It divides them by the output of each industry sector before it runs through the model. So, it is complete in its accounting structure; it accounts for all the carbon of every pound that is spent. In that respect, it is extremely thorough.

One thing that is lacking from the report is a carbon intensity figure. If the carbon figure is just going to go up or down, depending on how much you spend, that will not, as Jan Bebbington suggested, really tell you much about your performance. It may be useful to know what the CO_2 figure is for every pound that you spend. Also on the carbon intensity side, over time you could easily remove the underlying improvement in the efficiency of the economy to find out whether that is the reason for the reduction, or whether it is a result of changes in internal policy. You could combine the use of absolute figures with carbon intensity figures to gain a more precise figure.

Professor Bebbington: I have nothing to add to that.

The Convener: Good. That is what I like to hear. It is interesting to hear that we can develop the policy by having two forms of measurement.

We will now look at influence on spending decisions. Jim Hume is going to ask questions on that.

Jim Hume (South Scotland) (LD): Good morning to you both. It has been stated that

"carbon costs need to be weighed against other objectives that spending programmes are intended to deliver".

Do you agree or disagree that the previous carbon assessment process has actively influenced the spending decisions of the Scottish Government?

Professor Bebbington: It is hard to agree or disagree because there is no evidence base to enable us to make that assessment systematically. I cannot imagine that it has not influenced the decisions, but there has been no tracking of that from period to period. In some ways, the carbon accounting sits alone—it is what it is—and if that narrative were brought to the fore and made more explicit, that would be really helpful for the committee.

Professor Barrett: I have seen no evidence on its use. Maybe the influence has been internal and has not been shared with the public.

Jim Hume: Can either of you see how the assessment could be developed and improved to allow it to be used to influence spending decisions?

Professor Barrett: Its extension to allow people to understand the downstream consequences of decisions would help spending decisions. To me, that is the most important extension that is needed. It would also be good if the data started to inform internal sustainable procurement strategies. That would be its greatest application. The data could be used to identify carbon-intensive activities in more detail and to question whether those items should be substituted with something else or simply not purchased. Until they have an impact at that level, the data that we have at the moment are probably not being used to their full capacity.

Jim Hume: That is useful. Thank you.

The Convener: Let us move on to the development of individual level assessment.

Margaret McDougall (West Scotland) (Lab): What are the advantages and disadvantages of individual level assessments, and are those in use anywhere else?

Professor Bebbington: Can you clarify what you mean by individual level assessments?

Margaret McDougall: The Scottish Government has, in the past, stated that carbon appraisal of individual policy measures and specific spending lines will be needed to better understand the carbon implications of individual strands of Government activity.

Professor Bebbington: That question points to what Professor Barrett has already said about the importance of extending the data set and the model to deal with those elements. That is not to say that data are entirely absent, but they are not consistently present in various activities and lines of thinking. In that respect, although we are making headway, data are of firmer use when they are extended to cover what happens as a result of a particular policy.

11:30

The proposals and policies that are laid before the Scottish Parliament that set out how the climate change targets will be met often look at extra discretionary activity that is capable of reducing the carbon in the system. The individual level assessment that you are talking about will address how to reduce carbon in the core and capture all activities, rather than catching an array of additional activities, and that would be helpful and important.

Professor Barrett: The model needs to be applied at the level where decisions are made. For example, if spending decisions are made in different portfolios, or even at a lower level, that is where the model would need to be applied.

Claudia Beamish: It would be helpful if you could say a little about how that model might be applied.

Professor Barrett: For me, it is about spending decisions. For example, there are a number of options if the replacement of electrical equipment is being considered in one of the portfolios, including the implementation of a longevity policy in which everyone is told that they cannot have a new computer but can have a system upgrade that might have a considerably lower carbon impact. They could also purchase computers that have a lower carbon impact or purchase computers that use less energy. Whoever makes that decision—being in a large organisation, I am never quite sure who makes those decisions—needs that information available to them. They also need to be questioned and held accountable on whether they used that information adequately to justify their decision.

Dennis Robertson: To use your example, would that encourage manufacturers to promote computers that have low-carbon emission rates and that are produced with a low-carbon impact? Would that encourage more competition and fewer carbon emissions throughout the industry?

Professor Barrett: The Government is in a unique position to do that: with a spending profile of £33 billion, I would hope that it could help to influence business decisions significantly. It would not surprise me, were a policy to be implemented in which only machinery of a certain standard would be bought, that that standard would be met fairly quickly by those wishing to sell to you. I am confident that that approach would have a positive impact.

Margaret McDougall: Are you aware of any other Governments or countries that use that method?

Professor Bebbington: I can tell you about a sector that does that. We have common purchasing policies across all the universities in the UK because that is the only way to pool our money to be at a level to buy what we need on a diminishing budget—a lot of the public sector has joint purchasing arrangements with exactly that aim and outcome.

That is particularly important with energy ratings—buildings are rated; everything is rated now—because there is good evidence about its impact. That rating exercise has led to something called choice editing. I will use a shop as an example. If a shop wants to provide an array of different branded white goods for customers to look at, then it will stock A and B of every different brand because it wants to keep the brand open and to provide goods with different energy ratings. That approach with white goods and other items that are labelled with an energy rating was successful over time in driving innovation and moving manufacturers towards only producing the best goods. In that respect, collective purchasing—or focusing purchasing on particular outcomes, of which low-carbon emissions is only one outcome that you might be interested in—is enormously effective.

The Convener: We want to think about the results relating to the draft budget for this year.

Richard Lyle: I found Professor Bebbington's answers very interesting. If we take Government spend plus local government spend, we will get somewhere near to between £40 billion and £50 billion, and better procurement could reduce emissions and carbon content.

The assessment of the 2012-13 draft budget states that the emissions impact of Government spending can be traced back to similar sources such as electricity production, and that is where it touches on the point that I have just made. As a result, the carbon intensity of spending across portfolios is very similar. Is there sound methodology behind the assertion that the carbon intensity of spending across portfolios is very similar?

Professor Barrett: Yes, it will be consistently applied across every product and portfolio and so it will be able to provide meaningful comparisons on carbon intensity.

The Convener: Do you have a further point, Richard?

Richard Lyle: A couple of weeks ago, my wife wanted to change a lamp to a low-intensity light bulb. An ordinary bulb used to be 45p, but these low-intensity bulbs are £3. Does that induce people to reduce their carbon footprint? You are saying that Government could spend better through procurement; could we encourage manufacturers to make ordinary people spend better through reducing prices?

Professor Barrett: Price is a strong driver of people's purchasing decisions so yes, we could. I do not want to get too heavily into light bulbs, but I would hope that the light bulb that you bought will last longer, so its overall cost per hour of luminescence will be lower even if you needed to make a greater capital investment in the product.

There might be a job to do in communication and education, and I am keen to see intervention to make sure that lower-carbon products cost less. Considerably more work needs to be done on ecological taxation reform and other areas to move towards such a system.

Professor Bebbington: Whole-life costing, which is an approach to looking long term as opposed to short term, would probably support the kind of decision that Richard Lyle is talking about. Whereas we might not expect individual households to make that sort of calculation up front, I expect institutions to be quite sophisticated in making those calculations in order to get best value. We are talking about public money so, if something is more expensive but better in the long term, choosing it should be the natural outcome of the decision-making process about value.

The Convener: Could you explain more about why rural affairs and the environment and infrastructure and capital investment tend to have higher carbon intensities?

Professor Bebbington: From the assessment, I think that it is partly because of the balance of what is sitting underneath. Agriculture, for example, is particularly carbon intensive.

If an activity that falls under a department's remit is appropriately carbon intensive, it needs to be made less intensive over time, but it might just naturally be that way because of the type of activity and not because there is anything odd or remiss about the combination of elements.

The Convener: We know that land use is quite a big carbon emitter, and that new structures, such as bridges, could be the same, which might be why we are concerned that the things for which this committee and the Infrastructure and Capital Investment Committee are responsible are in the spotlight.

Professor Barrett: You are right that they are more carbon intensive, because the products that are purchased have greater carbon intensity. That is why it is so important to consider the downstream impact. If, for example, the capital infrastructure that was built was a significant number of wind turbines, the downstream impact would far outweigh the upstream impacts, so it would be worth the carbon investment to get long-term gains. That is why you need the additional information to balance the information on spend.

The departments that you mention might be spending efficiently, but you cannot tell that from the top-line figure, which is why there is a need for supplementary information based on the assessment and the inclusion of downstream consequences.

The Convener: Good. Thank you very much. Margaret McDougall has a question on parliamentary scrutiny.

Margaret McDougall: This year, all committees in the Parliament are required to consider how climate change has been considered in determining the spend in all Scottish Government departments. What questions could committees ask ministers about that across all portfolios?

Professor Bebbington: One key thing that we identified as one of the limitations of the process, or something that at least led to invisibility around the process, was how the data influenced decisions. There may well have been a whole series of thought processes that are not evident from published documents. I would ask for concrete examples—I would want more than one—of how the proofing process has played through. In particular, I would look for significant decisions.

Someone told me that their organisation—an energy manufacturer—had put Dyson hand dryers in all their gents toilets. I am pleased that the organisation did that, but it is totally immaterial in its total carbon, because that is driven by its energy mix. I am keen for committees to ask how significant the stories are that might emerge about how tools of this nature play through. The committees should look for significant things, not things that are nice-to-haves but maybe deal with only a small amount of carbon.

Professor Barrett: Something that the Committee on Climate Change did quite well in its previous progress report on the carbon budgets was to recognise that the top-level figures do not give enough insight into whether we are progressing to achieve future goals and future budgets. It came out with a set of indicators by which to assess whether the necessary investment is in place, because there is obviously a significant time lag from the decision to invest to when something is built, to when it is operational, and to when it reduces carbon.

I suggest asking specific questions. If it is related just to the spend, I would draw up some indicators to assess the progress that Scottish Government departments are making. I suggest questions such as these: how has the information affected and sustained your sustainable procurement plan? Do you have a sustainable procurement plan? How is it implemented? What evidence do you use in the decision-making

process? Can you point towards specific policies that have reduced carbon in spend? I suggest taking that approach rather than relying on the information, because the information is the top-line indicator and it does not give you enough information about whether the departments are doing well.

I would also like—sorry, I am getting a bit repetitive—to get departments to look at the downstream part and think about the consequence of their policies.

The Convener: In Scotland, there is a particular issue with the state of development of the measurement of the effect of rewetting peatlands. The Government has done research on the issue and the committee is particularly interested in it as a potential spend item. From your knowledge, are we at the point at which we could say that some general expenditure on the issue would be very useful, because of the potential size of the carbon sink that we are protecting?

Professor Bebbington: I am happy to respond to that. The land use policy work that took place a few years ago identified that whether carbon stores get disturbed climatically or through human processes, such as farming practices or land use practices, the issue is incredibly important. It is important to understand carbon stores, particularly those on Scottish soils, not just in the peatlands but in other soil structures. I am not a soil scientist, but I talk to soil scientists who tell me that that is where a lot of the big money is at on big carbon and that keeping it locked is the key. The best way to deal with climate change is not to let the carbon out in the first place.

11:45

Richard Lyle: On contracts and preventative spend, should there be a section in contracts that defends a council if it decides to give someone a contract because they have reduced their carbon usage or footprint? For example, a contractor from 50 miles away might submit a bid for a contract that is slightly dearer than that from a contractor from 100 miles away, but the council might award the contract to the former because of the carbon reduction from being closer.

Professor Bebbington: Audit Scotland, which would scrutinise the council's spend, has a best-value duty with regard to sustainable development that would incorporate not only carbon advantages and disadvantages but other things. The mechanisms are there for the situation that you described to be regarded as best value in an appropriate way, but the key would be whether Audit Scotland has enough sophistication to be able to do that. I know that it is not totally uninformed about that area but, in the past year and a half or so, I have lost touch with what is happening in Audit Scotland's internal process in that regard, because I do not have any access or authority to be involved in that process.

I do not know whether it is timely to ask Audit Scotland how it would view such a scenario. If a local authority thought that there would be sanctions from Audit Scotland if it made the kind of choice that you described, we can see why it would be risk averse about doing that and perhaps would not make such a choice. Perhaps Audit Scotland can help as an enabler in that process.

Richard Lyle: That was exactly the answer that I was looking for, because sometimes Audit Scotland goes back to councils to say that they should not have done something. However, it would surely be different if a council decision helped carbon reduction, which is the point of what we have been discussing this morning, given that councils and Government have such massive spending.

Professor Barrett: Just to add, a council could not make the decision that was described with inadequate evidence. We often hear councils saying that they will go for the local supplier, but that supplier might be incredibly inefficient in its production methods. We should not always assume that the transport component has the greatest impact, although people have done that for years with food miles, which represent a fairly small proportion of the impact of food. Most of the impact is from the production and processing. Decisions about impact should be based on full information and a complete assessment.

The Convener: So we are probably looking for optimum value rather than best value. It is easier to assess some of the extra elements that Richard Lyle talked about.

The witnesses' evidence has been very interesting and has set us up well for our scrutiny of the Government's report on proposals and policies and the budget. We thank the witnesses for coming along to give us such good-humoured and well-informed evidence. I have no doubt that we will see you again.

11:48

Meeting suspended.

11:52

On resuming—

Subordinate Legislation

Trade in Animals and Related Products (Scotland) Amendment Order 2012 (SSI 2012/198)

Bluetongue (Scotland) Order 2012 (SSI 2012/199)

Wildlife and Countryside Act 1981 (Exceptions to section 14) (Scotland) Amendment Order 2012 (SSI 2012/205)

Wildlife and Countryside Act 1981 (Keeping and Release and Notification Requirements) (Scotland) Amendment Order 2012 (SSI 2012/206)

Conservation (Natural Habitats, &c) Amendment (Scotland) Regulations 2012 (SSI 2012/228)

The Convener: Item 2 is subordinate legislation. The committee has to consider five negative instruments. I refer members to the paper on the instruments. Members should note that no motions to annul have been received in relation to the instruments. Is the committee agreed that it does not wish to make any recommendations on the instruments?

Members *indicated agreement.*

The Convener: Thank you. As previously agreed, the committee will have all further discussions on its work programme in private. I therefore ask security to clear the public gallery so that we can move into private session.

11:53

Meeting continued in private until 12:07.

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