

# **TRANSPORT, INFRASTRUCTURE AND CLIMATE CHANGE COMMITTEE**

Tuesday 28 October 2008

Session 3

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## TRANSPORT, INFRASTRUCTURE AND CLIMATE CHANGE COMMITTEE

### 19<sup>th</sup> Meeting 2008, Session 3

#### CONVENER

\*Patrick Harvie (Glasgow) (Green)

#### DEPUTY CONVENER

Cathy Peattie (Falkirk East) (Lab)

#### COMMITTEE MEMBERS

\*Rob Gibson (Highlands and Islands) (SNP)

\*Charlie Gordon (Glasgow Cathcart) (Lab)

\*Alex Johnstone (North East Scotland) (Con)

\*Alison McInnes (North East Scotland) (LD)

Des McNulty (Clydebank and Milngavie) (Lab)

Shirley-Anne Somerville (Lothians) (SNP)

#### COMMITTEE SUBSTITUTES

\*Alasdair Allan (Western Isles) (SNP)

Gavin Brown (Lothians) (Con)

David Stewart (Highlands and Islands) (Lab)

Jim Tolson (Dunfermline West) (LD)

\*attended

#### THE FOLLOWING GAVE EVIDENCE:

Dr Dan Barlow (WWF Scotland)

Professor Jan Bebbington (University of St Andrews)

Roger Levett (Levett-Therivel)

Dr Craig Mackenzie (University of Edinburgh)

Duncan McLaren (Friends of the Earth Scotland)

John Stocks (Carbon Trust)

Dave Watson (Unison)

#### CLERK TO THE COMMITTEE

Steve Farrell

#### SENIOR ASSISTANT CLERK

Alastair Macfie

#### ASSISTANT CLERK

Clare O'Neill

#### LOCATION

Committee Room 1



## Scottish Parliament

### Transport, Infrastructure and Climate Change Committee

*Tuesday 28 October 2008*

[THE CONVENER opened the meeting at 13:59]

### Budget Process 2009-10

**The Convener (Patrick Harvie):** Good afternoon. I welcome everybody to the 19<sup>th</sup> meeting this year of the Transport, Infrastructure and Climate Change Committee. Apologies have been received from Cathy Peattie, Des McNulty and Shirley-Anne Somerville.

I remind members and everybody else who is present that all mobile devices—pagers, phones, BlackBerrys and so on—should be switched off.

Today's session is our first opportunity to take evidence on the Scottish Government's draft budget for 2009-10. We will report our views on the Government's spending plans to the Finance Committee. This year, we have agreed to focus in particular on the climate change element of the committee's remit.

I welcome our first panel of witnesses. Professor Jan Bebbington is from the department of accounting and sustainable development at the University of St Andrews; Dr Craig Mackenzie is from the University of Edinburgh's department of sustainable enterprise; and Roger Levett is a development consultant at Levett-Therivel—I hope that I pronounced that correctly. I thank you for joining us. You have time to make some opening remarks by way of introduction. We will then move to questions.

**Roger Levett (Levett-Therivel):** Thank you for giving me the opportunity to be at the meeting.

The commitment to carbon assessment, which the committee is considering, is an admirable move that would put Scotland well ahead in the game of carbon management and sustainable development, but there are complications. I will not say more about those complications at the moment; I say only that members have an important opportunity to ensure that things are done in a way that is not counterproductive, which is a risk.

**Professor Jan Bebbington (University of St Andrews):** I second those comments. They are enormously helpful, both in respect of the climate change bills and the technique in question, which is one of many.

I would like to say two things. First, accounting and accountability go together. The accounting has to follow accountability channels, otherwise we will be lost.

Secondly, once we have the tools—which are not straightforward to get—I am interested in how carbon accounting is incorporated in decision-making processes. You could have a wonderful account, ignore it and carry on. That is an important element of the whole.

**Dr Craig Mackenzie (University of Edinburgh):** I simply want to express a certain amount of ignorance about the nature of the carbon assessment tool. I find it difficult to understand what is being proposed, which makes it difficult for me to make an assessment. I have a number of questions about the scope of the tool that would be worth discussing. In particular, I am interested in the linkage between the proposed tool's ability or otherwise to assess the carbon impact of the budget, and the proposed climate change bill and its target. There is a huge opportunity to do something very interesting in that respect.

**The Convener:** Thank you very much.

I will begin with questions that build on your introductory remarks. The Government has made a commitment to introduce a carbon assessment tool. At this stage, do you have any understanding at all of the different methodologies that may be being considered or of the most appropriate methodology to adopt? As Dr Mackenzie said, it is perhaps difficult to talk about that at this early stage. What progress has the Government made in developing the carbon assessment tool?

**Roger Levett:** All that I know about that is what is available on the Government's website, which is very little. There is a commitment to introduce a carbon assessment tool and consultancy work is under way. I did not even know who the consultant was until I asked Jan Bebbington a moment ago.

There are various methodologies around for such jobs, but, as far as I am aware, no tool has yet coped with the job of looking at the whole of a Government's budget. There are good reasons for that. The job of considering a Government programme in its totality is not at all the same as simply grossing up the effect of individual projects for which we can do carbon assessments, and it is very different from assessing private sector projects. In a sense, a company's job is to get rid of as many externalities as it can, and it is perfectly entitled to try to restrict the range of things that it is responsible for in producing its product, which means that assessing the carbon consequences of what it does can be relatively simple. The Government, in contrast, is responsible for picking up all those externalities.

Its job is to consider the effect of policies throughout Scotland. That means that it has to consider the indirect effects, which are often more important than the direct effects.

For example, if we improve the energy efficiency of buildings, we might well get the rebound effect of people burning more fuel. That happened throughout the United Kingdom between 1970 and 2000. Housing became much more energy efficient, but the energy that was used per household remained the same because people took advantage of the extra efficiency and cost reductions. They became more careless, heating their homes to higher temperatures and leaving the heat on in rooms that they were not using.

It is dangerous to consider the direct effects of an intervention without considering its broader effects. However, as has been said, the broader effects depend on all the other things that are being done, so it is slightly artificial to consider the Scottish Government's budget in isolation from all the regulatory interventions and other effects that the Government can have. The problem is that we have to consider all those things in the round, but the indirect effects become extremely difficult to measure. I would say that it is impossible to measure them rigorously, so we need a big element of judgment. We must not simply crank the numbers in an accounting system.

Whatever assessment tool is developed, it must be as objective and evidence based as possible, but it must also take into account judgments about the broader effects of policies. As far as I am aware, we do not yet have a tool that does that.

**The Convener:** Does that imply that, whatever the Government publishes as the result of conducting a carbon assessment of a budget, it needs to be clear about what we do not know?

**Roger Levett:** Yes—it must be clear about the uncertainties. That means that the assessment must be done by somebody who is independent of the Government, because it is all too easy to be pushed into making assumptions that favour a particular programme. We can see that in relation to sustainability appraisal and strategic environmental assessment. They are relatively objective and easy to do compared with what we are talking about today, but when they are commissioned by an organisation that wants to get its plan or strategy through, the organisation obviously does not want the consultant to raise awkward questions. As soon as the consultant does that, the organisation is likely to ask, "Where's the evidence?" Often, there is no evidence for the most important, complex and significant impacts, and the consultant is forced to chase around and do extra work to substantiate things that they think are important but which the author of the plan does not want to hear. If the

consultant says things that the author does want to hear, no question will be asked about evidence and the plan will go through on the nod.

Professor Bebbington was right to mention the institutions, because they are important. The process must be independent, and it must link in with decisions. Another problem at present is that, often, the appraisal is done and people look at it but there is no obligation to act on it. The single most important point is that, if a policy or decision will increase carbon emissions, that must be clearly noted, and the person who makes the decision must have a higher justification for it. There are various ways in which that can be done. One way would be to require any plan that will add to carbon emissions to be justified in terms of a public good that cannot be achieved in any other way, and which therefore overrides concern about the carbon impacts. We need that test as decisions are taken. Otherwise, the carbon assessment tool will not make the required difference to carbon emissions.

**Professor Bebbington:** I would like to see the matter in context because, looking at it from outside the Government, it is hard to see what is going on. I think that there is actually a layering of assessment. Some of the carbon tools that are being discussed fit within that, but they are not the sum total of what is being done.

First, there is the carbon that arises from consumption in Scotland. Given the commitment to footprinting in the performance framework, we will presumably have a sense of that when the data are in place. Through the footprint, we will be able to identify the carbon effect of consumption in Scotland.

A further matter is the production of carbon in Scotland—I use "carbon" in the sense of "carbon equivalent". The budgeting tool does not measure that, but it pushes towards doing so by considering the carbon that is tied up in Government spend. However, until we know what the total carbon in Scotland is, it is difficult to make sense of what to do with the share that is tied up in the Scottish Government's spend. To understand the context, we need a picture of carbon production in Scotland as a whole.

Thereafter, there is the carbon reduction trajectory, which we hope will be laid out in the climate change bill when it is introduced. That involves a difficult policy decision about what to prioritise first for policy intervention to strip carbon out of the economy and follow the trajectory. That must be subject to a decision-making process and I cannot tell whether that is tied up in the carbon tools that the Government has talked about.

The third layer, which comes back to decision processes and context, is the choice of what to do.

That involves asking whether a piece of infrastructure such as a road or a housing programme is consistent with our trajectory. If so, that is great. If not, we can ask whether we wish to proceed with it and squeeze carbon out of the system in another place. At that point, an enormous amount of horse-trading would go on to make sense of the position. I emphasise Roger Levett's point that we should not rely just on the numbers, because the numbers—with boundaries, assumptions and all those things—will always be fuzzy at the extremities. What is needed is a democratic decision that involves more than just looking at a bunch of numbers, doing a crass cost benefit analysis and saying, "Let's go for that one."

Such layering would be needed to make decent carbon-accounting-based decisions in Scotland. Some of the suggested tools fit in with some of that. The high-level assessment of Government spend as part of production is the first layer. Implementing carbon impact methodologies is the final layer. There are two bits, but perhaps they are not brought together coherently in that context.

**Dr Mackenzie:** I echo some of those points. My experience relates primarily to private sector carbon accounting—big companies assessing their carbon emissions. The starting point in that assessment is to define the entity that is being assessed, such as Tesco, and to define boundaries. Doing an entity assessment for Scotland is conceivable, but it is hard for me to conceive of how an entity assessment of a budget could be done, because a budget is not a thing that emits carbon. That points me to the conclusion, which echoes what Jan Bebbington said, that if any carbon assessment is to be done, it needs to be an overall assessment of the impact of policy—of which the budget is a major part—on Scotland's carbon emissions. That has all sorts of challenges and problems, but it is conceptually doable.

If we assess just a budget, we run into huge allocation issues. I will give a practical example. One expenditure item in the budget is the financing of the Scottish Building Standards Agency, which sets building standards for Scottish buildings and has a significant impact on climate change. Will the carbon impact assessment of the budget take account of changes in building standards? The same goes for Scottish Enterprise, which another chunk of the budget funds. Will the assessment of the budget take into account all the carbon implications of Scottish Enterprise's activities?

If the budget has an item for building a bypass in Aberdeen, it is quite easy to calculate the carbon emissions that are associated with that. However, that applies to a relatively small proportion of expenditure. A huge chunk of expenditure is for

Scottish public pensions. How do we assess the carbon implications of that? Some people have tried to consider the carbon implications of investments.

On the basis of my experience of undertaking such exercises in the private sector, I find it hard to see how any conceivable tool will be able to consider a budget per se. We can assess Scotland's emissions and public policy impacts on Scotland's emissions, but trying to strip out everything except the budget will be very difficult.

14:15

**Roger Levett:** To add to what Craig Mackenzie said, we have tried to assess the carbon effects of things like a bypass around Aberdeen. Even that is not trivial, because it is not just about the carbon involved in building the bypass or the traffic that goes round it over the first few years, but what effect it has on people's travel patterns more broadly. If it makes it easier to drive relative to other modes, do we get a shift? Do the bus services that people used to use shrink because there is less patronage, which means that more people drive and so forth? If we ignore those effects, we will get a misleading result. However, although those are the effects of any significant infrastructure project, there is no way we can simply calculate those effects because the error bars get so big after the first few years that we are having to make judgments about them.

**The Convener:** To pursue one of Dr Mackenzie's points, presumably we would have to expect the system to take account of the fact that a Scottish Enterprise—to use one of your examples—that pursued its existing approach to enterprise policy might cost the same to the Scottish budget as a Scottish Enterprise that pursued a more decentralised, localised economy agenda, which was intended to achieve carbon savings.

**Dr Mackenzie:** It might be exactly the same. I suppose you could say, "For the purposes of assessing the carbon implications of the budget, we'll take into account only those spending decisions that have a significant impact on decision making at the agency level." If a £10 million cut in Scottish Enterprise's budget meant that it could not pursue that distribution strategy, you might want to attribute that to the budget. However, we get into difficult conceptual questions about how to attribute such implications to a budget that is only part of a much wider set of public policy activities.

**The Convener:** In February, when the Cabinet Secretary for Finance and Sustainable Growth announced that the carbon assessment tool would be developed by the Government, he said that it

would be available by 2009-10. We are now considering the draft budget for that period. To what extent does the draft budget make it possible to allow an assessment of the carbon impacts of Government spending plans?

**Professor Bebbington:** I gave evidence to the Finance Committee on a similar topic. It is too hard to tell. None of the modelling is there yet to make sense of where things sit, although there may be possibilities for that elsewhere in the system. We do not have the big model of what the pattern of carbon looks like, taking imports and exports into account, so it is difficult to tell.

One thing that might be of interest to the committee is the commitment in the national transport strategy a couple of years ago to a carbon balance sheet for transport. I do not know whether that has been followed through in the public domain—to the best of my knowledge it has not. I was involved in the drafting of that commitment. The idea behind it was that there is a fairly coherent set of transportation policies, and a level of activity that we know quite a bit about. There are many methodologies for assessing transport choices. It is also an area in which carbon emissions are rising rather than falling, which they are in other areas. We might want to prioritise our efforts at understanding what is going on there and transforming that impact.

I like ands, not buts, and if there were a follow-up on that carbon balance sheet on transportation, we might be able to get a sense of how carbon budgeting might play out, and how to work out the complexities of that analysis on a smaller—but not simpler, because it is still hard—scale. There may be the possibility of a two-pronged attack. The work that must have gone on to make that commitment in the national transport strategy may be further advanced than carbon accounting and budgeting for the whole economy. There may be some opportunities there.

**The Convener:** We have briefly discussed the carbon balance sheet for transport, and we will come to it in later questions.

**Rob Gibson (Highlands and Islands) (SNP):** What is our present level of knowledge about the measurements that we have to make? The Government is rightly being ambitious and the carbon assessment tool is a work in progress—we agree that it is good to have one. Are we good at making particular measurements at the moment?

**Professor Bebbington:** It is hard to tell because there is not an enormous amount of data about that in the public domain. I imagine that the carbon accounting that sits behind some transport policies will be quite good. However, there is a potential weakness. One would anticipate that a carbon account of sorts might be created over

time as part of the data that sit behind strategic environmental assessments for particular policies or approaches, but some projects in the past 18 months or so have not had strategic environmental assessments attached to them, so we are still waiting to see how that plays out.

I agree that the Government's targets are incredibly ambitious. Our first round of measurements will not be perfect and nor will the second or third but, if we hesitate and wait for perfection, we might not start the learning process. Accountants have quite a casual attitude to numbers in many situations, as you probably know to your cost. As one myself, I would take a first-rough approach, believing that although the measurement is not perfect, it is perfectible. However, we must not ignore things that are quite significant but look like they might not be. That is perhaps the best hope for making the process work.

**Roger Levett:** I do not know the details of what has been done in Scotland but, in general, we are now quite good at knowing how much less carbon can be achieved in particular kinds of buildings if they are built in one way rather than another or how much less carbon is needed for people to move around in some ways rather than others. It is much more opaque how we put those technologies together and what the overall effect is because we do not have tools that allow us to understand how much difference it makes to people's behaviour if we reconfigure a town so that the buildings are much more energy efficient and there is better public transport.

That is where Craig Mackenzie's point that the budget cannot be considered in isolation from the overall policies comes into play. Often, there are big items in the budget—such as education, health care or the support for Scottish Enterprise that the convener mentioned—that could be enormously beneficial for carbon if the budget lines are spent in some ways and damaging if they are spent in others. With some budget lines it is clear: for example, public transport expenditure is likely to be good for carbon and the trunk roads expenditure is likely to be bad, although it is difficult to say by how much. That can be quantified only if we ask what effect building the extra roads will have on people's travel patterns against a particular set of future oil prices and levels of public transport quality.

We are groping our way towards that, and it is no shame that nobody has assessed it rigorously. I hope that the carbon assessment tool will attempt to examine those matters in a policy-literate, systems-literate, qualitative way—which backs up what Jan Bebbington just said—and not get bogged down in numbers. In particular, it should not overemphasise the measurable



numbers because they tend to relate to the simpler, shorter-term effects, which are often only a small part of the overall effect. I hope that it will be a tool for policy discussion and appraisal rather than an attempt to capture everything in a set of numbers, which would be bound to be wrong.

**Dr Mackenzie:** Rob Gibson asked what we can measure. We are very good at measuring some relevant factors. For example, we are pretty good at measuring power station emissions, as the European Union emissions trading scheme has a good structure for calculating them. Also, because every house has an electricity meter and a gas meter, we can calculate the carbon emissions that are associated with domestic energy consumption.

A big chunk of the budget goes to housing. The question is to what extent Scottish housing emissions, which we can measure accurately, are accounted for in that budget. To what extent are changes to the housing budget and the various expenditure items in it attributed to a reduction or increase in the carbon emissions that are associated with housing expenditure? The question applies to housing and housing-related policy more generally.

Jan Bebbington made the important point that there must be an evolving process. Over a period of years, we will get some fairly robust answers to a number of questions. As the Government seeks to meet its targets under the climate change bill, getting good answers will be a big issue in Scottish politics, so it is imperative that there is a lot of transparency around the methodology for developing the tool and iterating it year after year. Unless there is transparency, debate and discussion, there will be a lot of doubt about the veracity of judgments and the numbers that are implied. We have seen nothing about the tool in the past six months, which is not the best of starts as far as transparency is concerned.

**Rob Gibson:** That is not surprising, given the stage of development that has been reached.

Say that we were deciding whether to develop a railway or a road because of the implications for the economy. Weighing up the carbon cost of such a development against the cost of not doing it is, in the end, a political judgment. We have got to have such development—it might be for a renewable energy project. The tool must take such issues into account.

You agree with us that the carbon tool must be used to mainstream sustainable development; you have said that, so my question does not need to be asked in a more specific fashion. Integrating climate change impacts into the budgetary process, which we are trying to do at the moment, is in its infancy. How would you like the process to

have been developed practically by this stage next year?

**Roger Levett:** I would like to see something simple. If a quick and dirty assessment shows that a project is likely to increase greenhouse gas emissions, it should have to be justified explicitly at a higher level of proof or testing and should not go through on the nod. The budget should specify more clearly how things will be done. If we spend a lot of money on splendid new hospitals that are energy efficient and easy for people to access by public transport, we score a carbon benefit as well as social and health service benefits. Alternatively, we can build more hospitals on the outskirts of cities, where they can be reached easily only by car, and to low levels of energy efficiency. A line that says that we will spend a lot on hospitals does not tell us how the money will be spent. There must be some differentiation, criteria and conditions for budget spending.

The tool should also trigger joined-up thinking. I noticed a line of £11 million a year for active travel, which is 1 per cent of the transport budget, under which it falls, and 0.1 per cent of the health budget, where it is not mentioned. Getting people to live more active lifestyles by building walking and cycling into their daily routines is one of the best multiple hits that we can get on sustainability; it affects a raft of issues, including liveable spaces, health and carbon. Someone should shine a spotlight on the issue—if we are serious about carbon and the other issues that I have mentioned, we should spend more of the budget on active travel and less on trunk roads.

As Jan Bebbington said at the start of the meeting, the way in which the carbon assessment tool is used, and decisions are scrutinised and challenged to ensure that alternatives are examined, is even more important than the numbers that are produced. The SEA is supposed to do that, but it could be strengthened further. It is already being used more effectively in Scotland than in most other places, because of the way in which it has been built into the system, but it would be useful for SEA recommendations to be given more weight, so that people had to explain why they were not following them. Those are not direct answers to your question about the carbon assessment tool, but important points about how carbon assessment needs to latch into the broader process of decision taking and scrutiny of the budget to produce more sustainable outcomes.

**The Convener:** Unless the witnesses have anything specific to add to that, we will move on.

**Professor Bebbington:** Those are very good ideas.

14:30

**Charlie Gordon (Glasgow Cathcart) (Lab):** Are any other problems or risks associated with the introduction of carbon accounting in the Scottish Government budget?

**Professor Bebbington:** I will turn that around a bit. Some of the risks are around our believing in the numbers absolutely and not acting in a strategic way in a policy context. The risk of not carrying out carbon accounting is severe, too. Given that we are perhaps painting a slightly gloomy picture about how difficult it is, it is worth emphasising that if we do not start to consider and quantify carbon, we will sleepwalk into the process, regardless of whether we hit reduction trajectories. Even if the data are difficult to obtain and it is difficult to draw the boundaries, it would be a huge risk for us not to carry out carbon accounting, because we would have no steer, particularly in relation to the climate change bill. Having such a bill really drives the process, because it means that there is an articulated end point and a governance process for how we might reach it.

**Dr Mackenzie:** There are significant risks if the tool that is used for the budget contains a different set of assumptions about carbon and carbon accounting from those in the framework for assessing whether Scotland is on target for the climate change bill. If a different methodology is used for carbon measurement in those two areas, there will be huge confusion and problems for policy making in Scotland. The methodology needs to be unified. There needs to be a carbon assessment of public policy, not just of the budget. Not only the budget but public policy will help to deliver the 3 per cent target—if it is a 3 per cent target.

**Roger Levett:** I endorse what Jan Bebbington said. The carbon assessment tool is a positive thing, and all our whingeing about the detail should not obscure that. Every Government that is serious about climate change is going to have to grapple with that. In a sense, Scotland is in the lead through its having made its commitment, which we should applaud and support. All my comments are intended to help make the tool work effectively.

One has to have a careful eye on two things. The first is what we are comparing. We are after actual reductions in emissions throughout Scotland, which is not the same as reductions in the growth of emissions, although a lot of appraisal tools confuse them. Less bad is not the same as good, and good is not the same as good enough. We have to avoid scoring up savings against hypothetical futures that might not happen, which is one of the great problems with a lot of carbon trading. We must not assume that an

efficiency improvement is the same as a carbon reduction. Clarity about the baseline and what we are comparing is essential.

Secondly, we must trigger a consideration of the alternatives. One reason why we are struggling a little with how we assess budgets is that we do not know what the alternative would be. One could imagine lots of different ways of spending the same budget by shifting it between or within sectors. One of the most useful things that the carbon assessment process can achieve is the opening up of a debate about whether doing things differently, rather than not doing them, would have different carbon benefits while achieving all the other policy objectives that the budget is designed to achieve.

The Government's proposal is hugely positive, and I hope that our comments are interpreted as our suggesting ways of ensuring that it is effective, rather than our saying, "Don't do it."

**Charlie Gordon:** Is there a risk that the introduction of carbon accounting could lead to creative carbon accounting or some carbon emissions being placed off balance sheet—assuming of course that you think that those are bad practices? Do you wish to highlight any other potential methodological problems?

**Professor Bebbington:** As soon as you start measuring things and there is a political process and a set of targets, things get a bit woolly. It is difficult. I am not sure that I have a firm opinion on this, but from time to time I hear suggestions that some carbon is more valuable than other carbon. We know, for example, that the carbon that is pulled out of the system early is the most valuable, given the lifetime of CO<sub>2</sub> in the atmosphere. The earlier that carbon is taken out the better, so in that respect early carbon is better than later carbon.

The other issue is what the carbon is for. That is difficult, because people make different assessments of which carbon is most important. If there was a carbon budget, in winter the carbon for warmth would be the most important carbon in my household. In that respect, not all carbon is equal. One way of balancing your carbon is to plant trees, but there is a variety of views about such offsetting and the benefit and the quality of that carbon.

There is always a risk of what Charlie Gordon referred to as creative carbon accounting, but in some ways it comes back to Dr Mackenzie's point. Having transparency and scrutinising the account that is offered is probably the best defence in figuring out whether there are fudges in the system. Although fudges are tempting, in the long term they are not helpful, because the reason for getting rid of the carbon is to create an

environment within which we still have a Scotland that functions well and is fair to people. In a broader sense, there is little to be gained from deceiving ourselves, but there are issues about measurement and rules, for example.

**Charlie Gordon:** So accountancy may yet be an art.

**Dr Mackenzie:** It is not a perfect solution, but there is a split between accountants and auditors. Accountants do the measurement and auditors check it. For the carbon tool, some accountants will do the measurement. The question is whether anyone with some independence will scrutinise the figures and raise the questions that we anticipate will need to be raised.

**Roger Levett:** There is no end of possible fudges and problems. How many hours do you have to talk about them?

I will home in on two. Offsetting outside Scotland is a fudge and an evasion, because we need all the carbon reductions that we can get. We need the ones that we are buying elsewhere, but we also need to make reductions in the United Kingdom. There is a danger that if we buy offsets outside the UK, it will license us to relax and to keep on being wasteful in a way that we cannot afford to be if we are to hit the targets that we are talking about, particularly the 80 per cent target. We should be very leery about saying that we will buy offsets on the global market because that is more economically efficient and gets us off the hook. We all have to do our bit—the buck stops everywhere.

The other point, as Jan Bebbington hinted, is that the equivalence between different kinds of emissions is a matter not only of science but of policy. For example, the radiative forcing coefficients of different greenhouse gases are usually assessed over a 100-year timeframe. According to the latest estimate, over that timeframe, all the extra effects that aviation has had are only about 1.1 times the pure carbon effects rather than the two or four times that we were talking about a few years ago. However, if we look instead at the effects over the next 10 to 20 years, which is the period over which Stern has warned us we need to stabilise our emissions if we are to avoid catastrophic climate change, all the effects of aviation become much more significant and an uplift factor of two or four or even higher becomes necessary. There is science behind the different amounts of climate change that are caused by different gases, but there are also policy judgments about timing.

Again, there is no simple objective answer. The only way that we can deal with the matter effectively is by being transparent and saying

either that we are taking a 100-year view—by which time, as Keynes said,

“we are all dead”—

in which case aviation is not much worse than other things, or that we are really concerned to turn emissions around within the next 10 or 20 years, as Stern says we should do, in which case the multiplier for the extra emissions from aviation should be two or four or even higher.

It is a policy and value decision; it is not something that can just be read off from the science. The decision needs to be out in the open and explicitly stated in any accounting. The antidote to many scams and chicaneries is openness—openness to challenge and to scrutiny.

**Charlie Gordon:** Have you observed—outwith Scotland—carbon accounting problems that should be avoided in Scotland?

**The Convener:** Does the silence from the witnesses mean no?

**Dr Mackenzie:** Where do we start?

**Roger Levett:** In many places, people are falling into the mistake of looking only at short-term and quantifiable effects, and not at longer-term issues. I have said a lot about that already, so I will not say any more. However, that is the biggie—acknowledging that public policy is not the same as companies' decisions. The issues that we have all been talking about have not been taken fully into account by many of the present processes. We need to consider the totality of decisions, rather than simply pick off little projects and add up the results, which would give a very misleading answer.

**Professor Bebbington:** A potential danger lies in converting carbon into money to be put up against everything else, as opposed to considering the physical emissions. We should consider the physical emissions rather than apply some sort of shadow price—a monetary estimate of the value of the carbon. Enormous problems can result from that. It is one of the big pitfalls to watch out for.

**Charlie Gordon:** My final question is about the other side of the coin. What would be the most effective carbon accounting methodology for the Scottish Government budget?

**Roger Levett:** There is none. However, a methodology should take all points into account. I am struck by the fact that committee members are hearing the same thing from all three of us on the panel. You could get a shopping list from what we have been saying, and you might care to offer such a shopping list to the poor people who are trying to develop the budget. However, I do not think that there is an off-the-shelf methodology.

**The Convener:** I guess that we figure it out by doing it.

**Roger Levett:** Yes, but while watching out for the problems that we have mentioned. I endorse what Jan Bebbington said about monetisation. The problem with monetisation is that you can end up saying that the benefits of some policies outweigh the carbon costs. That is exactly how you should not be thinking about carbon. You have to consider what will help you to hit your carbon budget; you cannot trade carbon off against other things.

**The Convener:** Roger Levett raised the issue of aviation. The Scottish Government intends to include aviation and shipping in its legislative targets, and it seems that Westminster will today agree an amendment to do the same with its legislation. Does the panel agree that the alleged complexities of allocating emissions from those sources should not be a barrier to including them in an assessment tool for the budget, for example in relation to the promotion of tourism—even if we are a bit late to include the homecoming?

**Dr Mackenzie:** Yes.

**Professor Bebbington:** Yes.

**Roger Levett:** Absolutely. Previously, there was a fudge and an evasion, and I am delighted that the Government is thinking again.

**Alison McInnes (North East Scotland) (LD):** Do the witnesses have a view on the overall impact of the proposals in the draft budget for 2009-10 on the Scottish contribution to addressing climate change?

**Professor Bebbington:** I am sorry, but no. The situation is too complex. Without any baseline data, it is difficult to comment. Some things in the budget will be positive and some will be negative, but quantifying that is virtually impossible from outside the system.

**Roger Levett:** Recently, I have spent a lot of time considering the equivalent policies in England, and I can say that the commitment to public transport here is outstanding. The only shame is that it will be undermined by the commitment to road building.

**Alison McInnes:** What additional information would be useful in evaluating the climate change impact of the budget?

14:45

**Roger Levett:** There should be much more information on how things will be done. I have already mentioned issues such as the location and energy efficiency of hospitals and schools.

As the convener touched on earlier, the fact that the overall purpose is framed in terms of growth rather than development will be a huge obstacle. It becomes much harder to reduce carbon emissions if the commitment is not to human wellbeing directly but to economic growth as a means of increasing human wellbeing. According to some interesting recent research, there is no measurable relationship between economic growth as measured in gross value added terms and human wellbeing. The problem is that in a globalised market, growth will almost inevitably be carbon intensive; indeed, we have already heard murmurs of the need to reduce fuel prices to get the economy moving. By framing economic objectives in terms of growth, we set up a tension with our attempts to reduce carbon that might not exist if they were framed in terms of wellbeing.

The irony is that an awful lot in the budget is concerned not with growth but with wellbeing. As a result, making the change that I have suggested would be easy and would mean that none of the benefits that the budget is trying to achieve for Scotland would be lost. I find it sad, therefore, that the Government has put up this extra unnecessary barrier to achieving carbon reduction.

**Dr Mackenzie:** If the climate change bill is passed, there will be a need to change pretty dramatically the trajectory of emissions in Scotland. In many respects, particularly with regard to major expenditure, the current budget is business as usual. There are some marginal improvements that might or might not be outweighed by marginal increases elsewhere, but if we are to achieve a 3 per cent per annum reduction over the next 30 years, our thinking on retrofitting housing stock, for example, has to change pretty radically. There is not much evidence in the budget document that the kind of transition that we are looking for has begun.

Of course, that raises the question of the kind of carbon accounting that we need in order to make the necessary political decisions. There must be a pretty radical step change in a number of key areas. There is a broad understanding of what those areas are and what we might need to do about them, and we do not necessarily need sophisticated financial accounts to tell us about any of that. However, we will need to take some quite hard—and, in some cases, quite expensive—decisions to spend money in new ways and on new areas, and that debate needs to take place over the next few years.

**Professor Bebbington:** On the question of additional data that might be useful outwith whatever is provided by the carbon assessment tool, it would be quite interesting to see a commentary on the budget that specifically showed how it played out with regard to our desire

to reduce carbon emissions and tackle climate change. There could even be a carbon audit of the budget; indeed, given its remit, the committee might be well placed to carry out such a task.

It is difficult to know where you are if a budget does not come with carbon figures. If, in the first round of the process, we can pull out certain softer issues, such as how we can do any of this or whether dialogue can be encouraged, it might help policy makers to join up various elements and make more sense of what they are trying to do. Taking that kind of discursive approach in the first place might give a glimpse into the broader issues and debates before the numbers are finalised and plonked down. Indeed, if there were an independent carbon audit of the budget, more time could be spent with people on exploring the “how” question.

**Roger Levett:** That is a great idea. Sustainability appraisals tend to get results if, at the start of the process, we ask people whether they can suggest better ways of doing things. I do not know whether you have the clockwork or the mechanism in that respect, but if you do it would be enormously helpful.

The budget document contains the terrific term “cross-compliance”, which I presume means that, in achieving one objective, you must ensure that you are achieving all of your other objectives. I have seen no evidence in the budget—which, as a high-level document, probably does not contain such detail—that people have started to ask how we can achieve certain objectives in education, skills and so on in ways that reduce carbon emissions. After all, the way in which things are done can be beneficial.

To latch on to that term, cross-compliance involves asking, “What tests have you done to ensure that you are achieving certain objectives in a low-carbon way?” That approach could be enormously powerful, but, again, it would involve a kind of discursive, informal commentary approach to feedback about the budget, which would not rely on precise carbon numbers of the sort that we have been talking about today.

**Alex Johnstone (North East Scotland) (Con):** To what extent will the programmes that are funded in the budget assist the Scottish Government in meeting its climate change targets?

**Roger Levett:** I cannot add anything to what I have already said. It is hard to tell, because the information is given in a broad-brush way. Some things are clearly good, some things are bad and others might be good or bad, depending on how they are done. We do not have enough information to say for sure.

**Dr Mackenzie:** To add to what I said in response to the previous question, we know that in a number of areas we should be significantly reducing emissions. For example, we need to dramatically improve the energy efficiency of the existing housing stock and find ways to reduce emissions that are associated with air travel. Other aspects that we know we need to do something about, such as large areas of energy policy, are outside the devolved powers.

With regard to the devolved areas, if we are to meet the targets that are set out in the climate change bill, there will need to be big investments in retrofitting housing. However, only small investments are being made in that area. There must also be significant changes to the way in which we travel around Scotland. There are some positive signs, but not the step change that will be needed if we are to meet the targets.

**Professor Bebbington:** We have already kind of answered the question. Dr Mackenzie has talked about the 3 per cent annual reduction in absolute terms that will be needed to meet the 2050 target. We need to find a way of decoupling economic growth from carbon emissions, which has happened to only a limited extent. If you include growth in the process, the efficiency gains need to be higher. Whether we meet the climate change targets depends on how much growth you put in the system, because growth compounds as you try to get an absolute reduction, which sets quite a big barrier. There is also a question about how that growth takes place, which relates to Roger Levett’s point about how you might do things. If you can decouple growth from carbon emissions—which I encourage, as it might enable you to hit the targets—resource productivity in the economy will become much higher. That is the kind of thing that will enable you to square the circles that are implicit in, for example, the national performance framework.

**Roger Levett:** Better still, decouple quality of life, rather than growth, from environment. Work that we did a few years ago showed that we have no realistic hope of increasing resource efficiency fast enough to keep pace with economic growth. Given that growth has stopped anyway—for other reasons—would it not be clever of us to promote human wellbeing instead and not worry about growth, and decouple human wellbeing from environmental damage, which is a relatively easy thing to do, particularly if, for example, instead of just trying to improve the energy efficiency of how we move around, we learn to move around less? Instead of being ashamed of the fact that Scotland is a remote, unspoiled place, we should glory in that and benefit from it in terms of the pattern of economic development.

**Alex Johnstone:** Is there anything in the budget that you would be inclined to develop because of its positive effects on climate change?

**Roger Levett:** There are lots of positive things. There is the £11 million for active transport. I would rather that the figure was 10, 100 or 1,000 times as big as that, but it is a start. The emphasis on public transport is good. Further, the emphasis on equity that runs through the budget points towards a different pattern of economic progress that is not necessarily dependent on growth. The priority that is given to health is terrific, although it would be nice if it were less about the treatment of sickness and more about prevention through better diet, a more active lifestyle and so on.

There is a terrific amount that is good in the budget, although I endorse Craig Mackenzie's comment that there is no sign of a step change towards a more sustainable society. There are some marvellous things to build on, but there are also some bad things. The budget is within the conventional economic growth paradigm, which tries to be better about redistribution and house training it. It is not a budget for a sustainable society—that would look very different—but there are a lot of positive elements. I do not want the committee to get the feeling that we are sneering at everything in it.

**Professor Bebbington:** I endorse those comments. Roger Levett ran through a long list of the positives. The likes of the Saltire prize and the innovation in renewables technologies, particularly in marine energy, are also enormously positive, partly because we have the capacity in Scotland, but also because they provide a practical and sensible response.

**Dr Mackenzie:** I mentioned the afforestation programme. There are several difficulties in the detail of forestry and carbon, but potentially it is a huge area for Scotland to grow economically in a carbon-efficient way. If we reafforest substantial areas of the country, there is the potential for them to become a large carbon sink, as long as that is coupled with lots of aggressive initiatives to reduce carbon elsewhere.

**Alex Johnstone:** As we are on the specifics, do you have any specific examples of measures in the budget that will have a negative effect?

**Roger Levett:** Negative in the sense of increasing carbon?

**Alex Johnstone:** Yes.

**Roger Levett:** The roads programme.

**Alex Johnstone:** Is that the only one?

**Roger Levett:** That is the biggie.

**Dr Mackenzie:** Tourism promotion is controversial. Encouraging Scots to stay in

Scotland and not travel to Spain is positive; encouraging Americans to come to Scotland is, from a carbon point of view, a disaster—for all its other benefits to the economy.

**Roger Levett:** There is still an emphasis in the economic development strand of the budget on competitiveness, globalisation and internationalisation. That all depends on more long-distance transportation of goods and people, which is carbon intensive and makes us more vulnerable to the uncontrollable external events that are setting us in such a tailspin at the moment. We have seen the reasons why it would be sensible in economic as well as environmental terms to reconsider that growth trajectory.

**Rob Gibson:** I wonder how well, in your analysis, you adapt to the fact that, geographically, Scotland is spread out. We have scattered communities, which contribute lots of different things to the wealth and wellbeing of the country. It is easy to say in logic that we should stop Americans travelling here, but the logic continues that, if they come here, we should keep them in Glasgow and not let them go to Stornoway.

We are talking about the geography of Scotland, and we need a policy that allows people to move around the country—they are currently prevented from so doing by the appalling nature of the transport infrastructure. Surely we cannot divorce the development of transport from carbon accounting. I am not talking about the M74 but the need to develop the north of Scotland and the Pentland Firth in order to support the Saltire prize. We need roads, railways and sea transport to those places to do that. If the budget says that we have to spend carbon in that way, presumably we have to build in the geography of Scotland to allow that to happen. We cannot take the ideal model of a circular place around which there is growth—in the central belt, for example. That is not Scotland.

**Professor Bebbington:** I am not sure that that was the inference behind what was said. I cannot remember the exact statistics because I have not brought the transport stats in my head today, but I think that something like 60 per cent of people in England have yet to visit Scotland and discover the joys of being here. That is an enormous market for tourism growth. If they can travel here in a low-carbon way, and if the public infrastructure is such that they can see the country in a low-carbon way when they are here, that will benefit both tourism and people in remote communities in Scotland, not purely people in the central belt. That would hugely benefit the quality of life of people in rural places as well as those who come here to visit.

The two issues are not incompatible, but there is a new paradigm.

One of the exciting things about the steps that Scotland is taking to tackle climate change is that it is thinking about how we get the benefit without the adverse carbon consequences. We are not arguing—nor should anyone argue—that, for carbon reasons, we should abandon the need to benefit all the people of Scotland. Rather, we should hold on to the benefit but decarbonise it. We agree that the issue is not whether we do nothing or do everything; it is somewhere in-between, which is a new place to go.

15:00

**Alison McInnes:** The panel has already identified that the draft budget is very much business as usual, which will not take us to where we want to go. Are there any missed opportunities for quick wins next year?

**Dr Mackenzie:** There is certainly growing talk of a so-called green new deal. If this potentially very deep recession leads to large-scale unemployment in the building sector—I understand that 40,000 jobs have already been lost in the sector in Scotland—and if the UK Government decides to increase expenditure in a Keynesian way to dig ourselves out of recession, there will be a huge opportunity to put those unemployed builders to work in retrofitting the housing stock. Clearly, no such line is in the budget yet, but it will appear at the UK level if Keynesian demand management happens. That would be a quick win for the next two years that could help in all sorts of ways.

**Roger Levett:** Likewise, quick wins could be achieved with safe routes to schools, hospitals and stations. I return to that tiny budget line of £11 million for active travel. If we multiplied that figure by 10, there are people out there who could spend the money effectively and quickly. That would provide a carbon win as well as a wide range of broader health and wellbeing wins.

**Professor Bebbington:** I will re-emphasise Dr Mackenzie's point about the built environment. Fuel poverty is ramping up enormously and is incredibly worrying for people in Scotland. Within the low-carbon strategy, a large social gain is also available. That is perhaps not so much an opportunity to be grasped as an injustice that must be dealt with.

**Roger Levett:** I know how careful one must be about urging the Scots to copy anything from London, but the committee could look at Ken Livingstone's concierge service. Basically, that service removes all the barriers of anxiety and hassle for people who can afford to pay for energy efficiency improvements but do not implement them because they do not know where to get trustworthy work from. The concierge service

arranges everything and takes the costs out of the fuel bill savings that people make. The great thing is that the service was actually pioneered by Edinburgh's bill savers programme a few years ago. London copied Edinburgh, so now you can copy back again.

**The Convener:** When the committee visited the London mayor's office some time ago, we heard some presentations about that concierge service, so we are aware of it.

Before we close this evidence-taking session, I want to return to the carbon balance sheet for transport that Jan Bebbington mentioned. Earlier, she recognised the value that that would have but I want to ask about the process around it. Of the various aspects of Scottish Government spending, it seems to me that transport should be an area in which it should be possible to make rather quicker progress than we have seen. Does the panel share that view? How quickly might we reasonably expect the Scottish Government to make progress?

**Professor Bebbington:** I do not know the precise detail on what is happening behind that work. I have the additional benefit of having some insight through my involvement in the Sustainable Development Commission, although the commission as an institution has not seen the transport balance sheet.

Given the crucial role that transportation plays in our total carbon impact, and given the expenditure on, and importance of, transport, one might have anticipated that at least something sketchy would have been provided reasonably quickly.

The committee will do what it wishes but, given its remit, the most helpful way forward might be for it to call for a dialogue on the issue sooner rather than later. A transport balance sheet was proposed two years ago. I believe that work has been done on it, but I do not know what stage that work has reached. I am aware that the civil servants who are responsible for the climate change bill are under an enormous amount of time pressure and are doing all sorts of other things, but it would be really nice to see a transport balance sheet at about the same time as we see the bill.

**The Convener:** We are talking about a piece of work that began in 2006. The most recent written answer that I recall receiving suggested that it would be available in draft form for the 2010-11 budget, which is towards the tail end of the current Administration.

**Dr Mackenzie:** The climate change bill creates a huge need for powerful analytical tools to set public policy in the future. If we do not have the tools, we will not be in a good position to achieve the targets that the bill sets. It is a pity that it is

taking such a long time to produce a transport balance sheet. Technically, it could be produced quite quickly, and we need it.

**Roger Levett:** I agree with what has been said.

**The Convener:** We have covered the other transport issues that I intended to raise. I have one final question. You have broadly welcomed the Government's ambition in creating the methodology for the carbon assessment tool, which is a substantial new initiative. If the Government can develop it to a robust level, so that there is consensus that it works and makes sense, would it be appropriate for us to amend finance legislation to make it a legal requirement for any future budget, under any Government?

**Roger Levett:** Yes.

**Professor Bebbington:** Yes.

**Dr Mackenzie:** Yes.

**The Convener:** As members have no further questions, I thank all three witnesses for taking the time to give evidence to us. We will consider the budget for the rest of the meeting and for a little while after that. I am sure that you will be interested in seeing our report when it is available.

I suspend the meeting for a few minutes to allow a change of witnesses.

15:07

*Meeting suspended.*

15:11

*On resuming—*

**The Convener:** I welcome everyone back to the meeting. We will continue the discussion with our second panel of witnesses.

I welcome Dave Watson, who is the Scottish policy organiser for Unison; Dr Dan Barlow, who is head of policy for WWF Scotland; Duncan McLaren, who is the chief executive of Friends of the Earth Scotland; and John Stocks, who is the manager of the Carbon Trust in Scotland. I thank you all for giving your time to join us. I am sure that some of you listened to the questions and answers in our previous session and will therefore be aware of some of the issues that will arise.

I invite the witnesses to say some words of introduction before we begin our questioning.

**John Stocks (Carbon Trust):** I welcome the notion that we should develop assessment tools. We should know what our carbon footprints are as individuals and what organisations' and the nation's carbon footprints are. As we battle with climate change and head towards achieving deep cuts in carbon emissions, we need to look hard at

the numbers and measure and account for carbon. Any initiatives in that area are to be welcomed.

I agree with the previous panel that there are many issues to be resolved and many complications to be worked through, but that should not prevent us from trying to take action. We need to take action, start to account for and measure carbon, and explore and work our way through allocation issues.

**Dave Watson (Unison):** We broadly welcome the use of carbon assessment tools. Our members currently use such tools at the local level. Scottish local authorities, health boards and universities have been at the forefront of using some of those tools, which, proportionately, have been used much more here than they have been in the rest of the United Kingdom. Obviously, we recognise that using such tools on a national basis is much more challenging. We do not think that any particular tool should be used at the moment, but we welcome the general approach towards developing a tool that will reach the goals that the Scottish Government has set out.

**Duncan McLaren (Friends of the Earth Scotland):** I am wearing a second hat today as one of the directors of the new carbon accountability programme that is funded by the Joseph Rowntree Charitable Trust. I mention that because the main aim of that programme is to ensure that we fairly attribute responsibility for carbon emissions as a means of driving reductions and to avoid the risk of carbon fraud and mismanagement as the value of carbon grows. Both purposes match up with the objective of having a clear climate or carbon assessment tool at the national budget level.

15:15

**Dr Dan Barlow (WWF Scotland):** I similarly welcome the Scottish Government's commitment to introduce carbon assessment. I was fortunate enough to give evidence to the Finance Committee during its scrutiny of the budget last year. One of the key concerns that I flagged up at the time was the difficulty of examining the draft budget as proposed and working out what its impact would be, so I welcome the Government's commitment to introduce such a tool.

The tool may enable us to avoid missing opportunities to help deliver our carbon targets. There are a number of areas in which we are spending large amounts of money in a way that will perhaps not help to deliver the carbon targets, but the tool could readily help us to do so—carbon assessment could be positive and beneficial. With regard to the other areas, we must keep the focus on a strategic, high-level assessment of what the budget does.



We need to acknowledge that making commitments in the budget to programmes or projects is often the first stage. If an assessment is not undertaken at that stage, by the time that we come to undertake it there is a huge amount of momentum behind those projects. By that point, it can be too late to influence the decisions that are being made or to determine whether we have made the best ones.

This is the right place to consider what those spending commitments mean for carbon; to consider how the tool will be used to assist us make proposals that will help; and to ensure that we rule out projects that are seriously incompatible with the targets to which we are committed.

**The Convener:** Thank you very much. I will begin with a general question around methodology, which I also asked the first panel of witnesses. What is your understanding of the different methodologies that could be adopted? Which is the most appropriate? How much progress is the Government making, and at what speed, towards the development of the tool?

**Dave Watson:** There is no tool, and at this stage a huge amount of work has not been done. As I said earlier, some good local tools have been developed through the Carbon Trust and others. Those are being used, and we can work up some of them. The tool that is developed must be credible, and must be based on the best science. It must be transparent—such things are not always transparent—and it must be adaptable across the public sector, because we need to have common measuring methods or we will get into the same difficulties that we find with the budget, in which the format seems to change every year and it is difficult to make judgments from one year to another. If the good work that is carried out at local level is to be replicated at national level, it is important that we get that common tool.

It has been suggested that we use the Department for Environment, Food and Rural Affairs measure, which is the price of carbon. We have some reservations about that, as we feel that carbon is possibly underpriced. I understand that the DEFRA figure is around £25 per carbon tonne; the Stern report equivalent would be £53-plus. Duncan McLaren's organisation has argued that the UK level should be nearer £100.

I am not a scientist, and I will not judge between those figures, but the true figure is clearly a good deal higher than the DEFRA figure. It is clear that the higher the price, the more of a challenge it will be—particularly for the public sector—to respond to it, in terms of making the changes that we need to make. On the other hand, if we pitch the figure too low, we will end up with a Heathrow third runway type of argument, in which there is allegedly a very small price for carbon, which is

therefore outweighed by the alleged economic benefits. That is a good example of where not to go in making such judgments.

There are methods that can be used, and the Scottish Government's approach of bringing people together to seek to develop a new tool that is specific to Scotland is the right one. It involves us looking through the climate change bill, and examining particularly closely the statutory duties on public authorities that we have argued should be in the bill. It is also important that we consider the proposal to establish a Scottish climate change committee that can respond in a Scottish way to develop the assessment tool, rather than relying solely on the work that is done at a UK level.

**The Convener:** In case anyone wants to respond to those points, I point out that we will have a lot of evidence sessions on the bill itself, so I would rather not get into too much detail on the specifics of the bill. We should focus on the budget and the assessment tool today.

**Duncan McLaren:** I wanted to pick up on that point, because there is a tendency for us to think that we ought to quantify financially the carbon implications of the budget—the Cabinet Secretary for Finance and Sustainable Growth has indicated that he wants to do that—and thereby bring carbon into the financial budget.

I believe that we should do almost the opposite. We should quantify the carbon implications of our financial spending and take them into the carbon budget that the climate change bill will establish, so that our base metric is carbon measured against our targets, rather than money measured against the budget. That is because, as Dave Watson says, the value of carbon in a monetised system—whether we use a market price from the emissions trading scheme or the DEFRA shadow price—does not necessarily match our targets. The trajectory that we as a country need to take to reach the 80 per cent target is steeper than that in the emissions trading scheme, so the value of carbon in that scheme will not deliver our target. We must start from the basis of our targets and of quantifying them in that way.

Methodologically, that simplifies our task. It means that we are not doing a two-stage process of measuring the carbon impacts then analysing their monetary value. It means that we do the first stage, which is measuring carbon impacts and comparing them with our targets. Methodologies can help us on our way to that, but nothing extant can do the whole job. Dan Barlow will talk about existing measures.

We can approach the matter on two broad levels. The Government appears to have made some progress—albeit slow—on both levels. The

first level involves assessing the carbon implications of particular projects and investments and the second is the broader budget level of bringing that information together and considering the implications of spending lines. In the longer term, it would be most profitable to look at the interface between those levels and at models that are based on input-output methodologies, because they allow us to do more than aggregate the impacts of X number of projects. The impact on the economy as a whole of several spending projects is not just the aggregate of the money that is spent, and the impact in carbon terms is not simply the aggregate of the carbon that each project generates.

We need to consider methodologies such as the tool called Bottomline<sup>3</sup>, which the Stockholm Environment Institute developed with research by ISAUK Research and Consulting or, from the private sector, the methodology that a company called Trucost has developed. Both those methodologies provide some input-output analysis. However, they probably need further refinement if they are to be applied nationally.

**Dr Barlow:** I concur that the purpose and focus must be to ascertain the carbon impact. We need to ensure that we have projects and policies that are compatible with Government objectives and with what we recognise is a global imperative—tackling climate change.

I agree with Duncan McLaren that we do not have one tool that is perfect, but there are tools that enable quite a lot of information to be deduced. One example is the Stockholm Environment Institute's work on the resources and energy analysis programme, which enables the impact of a policy to be assessed on an area basis such as the whole of Scotland or a local authority area. For instance, proposed spending on energy efficiency improvements in housing stock could be run through the model, which would calculate the carbon impact.

The Bottomline<sup>3</sup> tool can consider a specific project, so we could ascertain the impact of building the new Forth road bridge, for example. That includes the input-output model, so it is based on a comprehensive amount of available data. Both those tools would help. It is interesting that Highlands and Islands Enterprise has used the Bottomline<sup>3</sup> tool to inform its investments—it studied the impacts of its investment spending decisions on the carbon footprint. The model has been used to inform investments.

We can learn quite a lot from tools that are out there in producing a model that will work to ascertain the Scottish budget's climate impact.

**John Stocks:** The convener asked about our understanding of methodologies and about

progress. There is no single methodology, nor will there be one because the matter is complex. A series of methodologies will come into being to address different sorts of emissions. Direct emissions, which Dave Watson talked about, are the easiest to address, and we are working tremendously hard with many public sector organisations on them. Indirect emissions and the emissions that other people make as a result of policy interventions are a lot harder to measure and allocate. Therefore, we need a single methodology that lays down the framework within which we must operate, but there must also be a series of tools that allow us to understand a policy's full carbon implication.

There is one final point: we must reduce our carbon emissions, so I suspect that we need an overriding methodology that sits above all that and allows us to examine the level of fuel that is delivered in Scotland every year and to ensure that the trajectory is going in the right direction. We know that, in addition to direct emissions, there are underlying trends. We discussed the fact that economic growth creates additional emissions. We also know that, in general, there is steady growth in the emissions of organisations that are not growing but just doing business as usual. That comes particularly from their use of electricity because of the increased use of information technology.

If we looked at individual models, we might believe that we were reducing emissions but, if we consider everything in total, including the slight increase in emissions from organisations that are doing business as usual, the increase from economic growth and the total amount of fuel that is delivered in Scotland, we might find that Scotland's emissions are rising. We need that global, over-the-top, absolute number to show where we are, as well as how—and if—all the tools are contributing. That would be the final cross-check.

**The Convener:** I have one more question about the speed of progress. When the cabinet secretary announced in the Parliament that the tool would be developed, he called it

"a new initiative that I am working to have in place by 2009-10."—[*Official Report*, 23 January 2008; c 5290.]

The 2009-10 budget is the draft budget that we are considering and we are clearly still at an early stage of development. To what extent does the draft budget allow an assessment to be made? Do the witnesses have any view on progress towards having a tool in place by 2009-10?

**Dr Barlow:** We certainly welcome the commitment that the cabinet secretary made. We also recognise that the initiative is new and that there is a lot of work to do to determine the best

model for it, so we are sympathetic to the fact that a timescale was given over which that work could be developed. My concern is that it is still difficult to match the sums of money that are allocated to certain headings in the draft budget with the outcomes and outputs that they will deliver. That information is necessary if we are to work out the budget's carbon impact.

For the Government simply to say that it will spend a certain amount of money on housing and regeneration makes it difficult to work out the carbon impact. If the Government framed that in terms of spending a specific amount of money on refurbishing a specific number of properties to make them reach a certain energy-efficiency standard, it would be possible to run that through a model and determine the carbon impact. Likewise, if the Government said that it was going to build a specific number of new, zero-carbon homes, we could run that through a model and work out the impact. However, at the moment, the housing budget does not provide the level of outcome or output detail to make it easy to work out the impact.

The position of the transport budget is similar. There are some data on some of the projects that are being supported but also quite a lot of big numbers attached to broad headings, which makes it difficult to put that budget into a model and determine its carbon impact.

There is still some way to go to produce a budget document that enables us to model the carbon impact.

15:30

**Duncan McLaren:** Dan Barlow is right to say that the level of detail in the budget document does not fully support the process, but there is a further problem. The purpose of undertaking a carbon assessment should be to drive budget reallocations, rather than our waiting in ignorance until the end of the process and then asking, "What is the carbon impact of this budget?" If the assessment is to be effective, it must be applied when the draft budget is published and not at some later point. I recognise the challenges of developing the methodology—on both fronts—but the speed of progress has been too slow to deliver on the promise for the 2009-10 budget.

There is probably still time to do some relatively high-level, quick and dirty assessment—if I may use that phrase—at least to give the Parliament some better information before the budget debate early in the spring.

There is another data quality issue on the spending side. Rather than the outcomes that are sought, that side is concerned with what is bought, be it through direct procurement or through

indirect spend that trickles down into the economy. The disclosure standards for the carbon impacts of the private companies that operate in the economy are not good enough to enable us to be accurate about those impacts. We cannot say, "This is the carbon impact of the Government spending X hundreds of thousands of pounds on this company's products." Despite the good work of the carbon disclosure programme, we need more consistent standards of carbon disclosure.

On that point, I will comment on another place. It is to be regretted that, during consideration of the UK Climate Change Bill, although the standards for corporate reporting of carbon emissions were accepted, their introduction was put back to 2012.

**Dave Watson:** In direct answer to the question, we are not aware of much progress in relation to the national initiative. We have certainly been involved in a lot of local work to develop local carbon measurement tools and other effective work at that level. I am not saying that no national work is happening; it is just that it has not involved our people, who have been involved in local work.

In fairness, the budget document is a high-level one. There is little below level 3 in the Scottish Government's spending hierarchy, which makes things difficult. However, it might be that we can build something up from the good work that is being done locally.

One of the previous witnesses made the point that we should consider the matter in its global context and at least make some commentary on the progress that has been made, but I would also like effort to be made on some things that we do not see in the budget. For example, a lot has been said about the efficient government programme, under which initiatives could be taken that would not only reduce carbon emissions but save money and lead to public money being used more effectively. We tend not to see such initiatives. In fact, I would argue that some initiatives work against carbon savings.

**John Stocks:** It is clear that we will not have an assessment tool in time to assess the 2009-10 budget. Has the speed of progress been good or bad? Given that the issue is so new and that there are so many issues to consider, it will take a long time to work through.

Tomorrow, the British Standards Institute and the Carbon Trust will issue a range of publications that give guidance on calculating the footprint of products and services. That work has been in gestation for about two years, and the active work to create a publicly available standard has been continuing for 16 months, including two rounds of consultation. The methodology is relatively simple compared with the one that is being considered for

the budget. I give that example to show that things take time.

The issues are complex. There are lots of things that need to be worked through and understood, and there are processes and procedures to be adopted. We are not making enough progress to meet the date of 2009-10. We are making progress, but it will take a long time.

**Rob Gibson:** I am interested in exploring the potential benefits of integrating a form of carbon accounting into the Scottish Government's budget. A couple of years ago, we passed legislation on strategic environmental assessments—I was on the committee that considered it. Have we assessed how well that first stage is working? We are talking about developing part of the SEA methodology.

**Dan Barlow:** That is a pertinent question. As we heard from previous witnesses, we should take a similar approach in the budget to the SEA approach, in order to ensure that we make informed decisions having assessed the alternatives. I am not aware that there has been a comprehensive review of how the SEA is working. Work is under way to consider how effectively the SEA supports assessment of greenhouse gas and climate change impacts. I have flagged up a number of quite significant weaknesses in the current SEA approach, particularly around data availability. There is almost a get-out clause at the moment, whereby if there are no data, you can get away with saying that you do not know what the impact is. When we are talking about climate change and whether we are trying to avoid global catastrophe, it is not good enough just to say that the data are not available. There is a lot of work to do to strengthen the current SEA process and to ensure that we thoroughly assess alternatives. There are examples of where that has been attempted. We could learn a lot from the SEA approach and consider how to apply it to the budget.

I agree completely with Duncan McLaren that it is critical that we incentivise an early discussion about where funds should be allocated to make the best impact in terms of compatibility with our climate emissions trajectory. As Roger Levett said, we have to consider the impact of having an active travel budget that is on a par with the budget for road building. We are some way away from doing that.

**Duncan McLaren:** On the SEA, when the Environmental Assessment (Scotland) Bill was going through Parliament, we argued that it should contain measures to ensure active post-implementation monitoring of whether outcomes match predictions in an SEA. Sadly, that was not required and I am not aware that monitoring is carried out consistently. That has rather reinforced

the limitations of the SEA, to which Dan Barlow referred, in relation to quantification of greenhouse gases. Among the lessons from that are that if the SEA is to be really effective, there has to be post-implementation monitoring, and that the SEA has to have more teeth. We would advocate that if an SEA shows a significant increase in greenhouse gas emissions, then clearance for the programme, policy or project should sit not only with the relevant minister but with the minister who has responsibility for climate change—there could be a sort of call-in, whereby the project would have to be cleared by the climate change minister, in the light of the climate targets that the Government has accepted.

**Dave Watson:** It is difficult to measure the effectiveness of SEAs. However, progress has been made. If nothing else, the process of conducting SEAs has led to a cultural change in an awful lot of public bodies. It forces officers and politicians at local and national levels to look carefully at impacts, even if they cannot always measure them, and to go through a series of processes and ask the right questions. I have sat through debates in councils and health boards and have seen members of boards and councillors ask questions that they would not have asked before SEAs were in place. We should not underestimate the value of the cultural change that a process such as SEA puts in place. The game is now how we go one stage further and get measurements. That is something that a carbon assessment tool helps us to start doing, although it is not easy.

As I said, I do not think that it is about simple monetary measurements alone. There has been work on multicriteria assessment, and research from elsewhere in the world has identified a range of measures that I think will help to take cultural change to the next stage.

**Rob Gibson:** Can you supply the committee with references to that research?

**Dave Watson:** I will be happy to send the committee a very good research report on emerging methods of sustainability evaluation, which I read not long ago. It contains a brief executive summary, for which I was grateful—I am sure that committee members will also be grateful.

**The Convener:** That is helpful.

**John Stocks:** I cannot comment on the impact of SEA at the moment.

**Charlie Gordon:** Are there problems or risks associated with the introduction of carbon accounting to the Scottish Government budget?

**Dr Barlow:** I am sure that there are problems and risks, but it is obvious that I am wholly sympathetic to and supportive of the introduction of carbon accounting into the budget process.

There are a couple of problems that we need to avoid. We need to ensure that carbon accounting is introduced in a transparent manner. There must be early discussions at which groups and the public can contribute on how money is allocated and be made aware of the implications for our ability to deliver on carbon targets.

I am keen that we should avoid getting too hung up on attaching financial values to carbon impacts because of the weaknesses of the approach, which witnesses have described. There are so many weaknesses that if we got hung up on such an approach to informing decisions about carbon pricing we would not deliver the overall objective, which must be to achieve compatibility with the carbon targets that we need to set.

Another challenge is the timescale over which we consider carbon impact. On what timescale will we work out the impact of transport spending to which we commit? Decisions on major road projects set us on a trajectory for decades, as do decisions on power generation or the quality of housing that we build. We must be clear that we are working out carbon impacts over 50 or 100 years; we cannot get away with saying that we have worked out the impact over five years. We know that big infrastructure stays with us for decades.

When we consider carbon impact we should consider all greenhouse gas emissions and not just carbon dioxide. There are significant non-CO<sub>2</sub> greenhouse gas emissions that we need to take into account, which is a particularly significant issue in Scotland.

**Duncan McLaren:** There are a number of potential risks, but I agree with Dan Barlow that the value of putting the measure in place outweighs the risks. First, there is the monetisation risk. The application of a carbon value below the carbon value trajectory that we need in Scotland would allow projects such as major motorways to be justified on the ground that the economic benefits outweigh the notional financial carbon cost. That would be a dangerous risk to take.

Secondly, there is a risk that we will fail to measure system-wide impacts. For example, if we are considering building a bypass round a major city and we take into account the carbon emissions from extra vehicles only as they travel along the 10km stretch of new road but not when they return to the existing road network, even though the building of the bypass would stimulate journeys of 100km, the results will show only a tenth of the impact, and the value or measure of the carbon impact of the spending decision will be badly distorted. We need to measure system-wide impacts.

Thirdly, there are risks attached to using the carbon intensity measures that are used in the Bottomline<sup>3</sup> or Trucost methodologies. In essence, such an approach leads to the conclusion that spending £X in construction will generate a certain amount of carbon and spending £Y in the water transport industry will generate 10 times as much carbon. I am talking about a real example from the Highlands and Islands, which was helpful to me, in which a study noted that investment in construction works at a harbour could have been categorised as either.

It is important to get the categories right, but we must not simply shift our spending to things that appear to have lower carbon intensity—we must also consider the intensity of investments in terms of job creation and social gain. We could say that it is far better to invest in internet start-up companies than in carbon capture and storage companies, but that would be a wrong decision in Scotland.

The fourth risk is that carbon accounting will be done without an adequate independent audit. Ideally, the process should be led by an independent body, but if it takes place in the Government, it must be audited independently to ensure that there is a fair degree of carbon accountability.

15:45

**Dave Watson:** The key issue is how we measure the cost of carbon against the other factors that we measure, most of which relate to economic impact. Like Charlie Gordon, I remember the days of creative accounting in local government to get around a previous Government's public expenditure constraints. We dreamed up some pretty imaginative methods in those days.

**Alex Johnstone:** Surely not.

**Dave Watson:** I am sure that my colleagues may be tempted to do the same thing in the future if they do not get the right answer. I regard the proposal for a third runway at Heathrow as being a model of creative accounting—we must admire the skill of whoever was responsible for it, but the outcome was clearly ludicrous. We must see both sides of the argument. We tend to measure carbon costs simply against economic impact, which misses out social and other tests. That is why multicriteria assessment is important.

I suspect that the committee will be told that carbon accounting is too complex and will delay decision making, and that there will be further bureaucracy and red tape, contrary to the principles of deregulation. Nothing comes without work and effort—our members are predominantly responsible for producing the reports that will be

required. My counter-argument is that the issue is too great to ignore. I do not need to give the committee a lecture on the impact of climate change on our economy, jobs and society. We have to carry out carbon accounting, regardless of whether it makes the process more costly and time consuming that it would otherwise be.

To get around creative accounting, we must agree on some standard processes Scotland-wide. I am happy for those to be part of an audit approach. Appropriate audit mechanisms should be built into the best-value process, as is theoretically the case at the moment. If we have commonly accepted practices, staff who move between organisations will be aware of them and be able to deal with them; such practices will become second nature when staff evaluate projects and work. Importantly, it will be possible for us to compare like with like across authorities. That does not mean that there will never be a road project in the future—although Duncan McLaren may not agree with that—because there are occasions when road projects are needed. However, it means that there will be some generally accepted measurements.

**John Stocks:** One of the risks of carbon accounting is that we will stop thinking about accounting for carbon. Essentially, we need to understand what carbon emissions we are creating so that we can account for them, and to understand what they are and how they relate to our absolute targets. The great danger of debating carbon accounting is that we will start to assess the monetary costs of carbon and move away from the absolute measure of what we must achieve.

As we start to think about measuring the carbon impact of policies, it is essential that we understand where responsibility for carbon lies. On whose plate should lie responsibility for the individual's commute to work? If we put it in the wrong place, that might lead us to make wrong decisions and allow some people to avoid assuming their full share of the responsibility.

That takes me to questions of transparency. When we examine the carbon footprints of businesses and try to sort out some of their issues, it is essential that we end up with a transparent result. However, we do not yet know the answers to some of the questions around responsibility, but we cannot duck those questions. There is a temptation to make things too tidy—we should not do that. There will be questions that we will have to set aside because we do not have the answers to them, and we will have to say that we have done that.

**Charlie Gordon:** I would like to get some information—not necessarily today—about problems that are associated with, or the limitations of, carbon accounting that have been

observed outwith Scotland and which our witnesses consider should be avoided.

**John Stocks:** I cannot think of any.

**Dave Watson:** All the stuff that I have read says that carbon accounting is a wonderful thing.

**The Convener:** It might be that there are simply no examples from abroad at that level to draw on.

**Duncan McLaren:** I have set hares running with contacts in New Zealand where, I understand, some work has been done. However, I am afraid that they have not got back to me in time for today's meeting. If they generate anything, I will be happy to share it with the committee.

**The Convener:** That would be helpful.

**Charlie Gordon:** What would you recommend as the most effective carbon accounting methodology for the Scottish Government budgets?

**Dave Watson:** I do not think that we know the answer to that question. As we said before, the methodology does not exist at the moment. We have some very good local tools that we need to join together to make a high-level tool for Government, but we do not know how we could do that. In fairness, the Scottish Government's approach, which involves getting people together to examine examples and develop something that is fit for purpose in Scotland, is the right way forward.

**Dr Barlow:** I agree that we do not have the perfect tool at the moment. We should ensure that we develop a strategic tool that enables us to avoid getting too bogged down in the nuts and bolts. Likewise, we recognise that the tool should tell us whether our direction of travel is right or wrong. There are some tools in existence that we can use elements of. The resources and energy analysis programme tool and the Bottomline<sup>3</sup> tool, for example, give us quite a lot that we can build on. It is not impossible that we might develop a nice tool over a short space of time.

Reflecting on what your previous witnesses said about the situation with regard to the carbon balance sheet for transport, I find it worrying that, after two years there appears to be no sign of its being published. It must be a relatively easy task—certainly, we can ascertain reasonably well what the impacts of various road-building projects will be. That approach might help to inform a process that would work for the whole budget.

**Duncan McLaren:** In the shorter term, I would back the approach of building on REAP and the Bottomline<sup>3</sup> tool and piloting the tool in certain sectors, such as transport. In the medium term, we need a broader econometric modelling approach. Some good work has been done recently by

Cambridge Econometrics to model the United Kingdom economy. That project has involved aspects such as building in household behaviour sub-models. The work was designed to assess the response of the economy to Government interventions and spending. Unfortunately, in Scotland, as far as I am aware, there is no equivalent model that is of that quality, and to produce one would be relatively expensive, if not necessarily time consuming. However, in the medium to longer term, such a model would provide a good back check for the rougher, quick and dirty modelling approaches and would show whether we were genuinely aggregating up the effects reasonably at whole-economy level.

**The Convener:** I have a brief question following Charlie Gordon's earlier question about creative accounting and various other wheezes that might be developed. From the previous panel, we heard some criticism of the concept of offsetting. Only half jokingly, people have made comparisons between carbon offsetting and the naked short selling that we have seen in the financial sector recently. What are the panel's views on the place that offsetting should have within carbon assessment of Scottish Government spending?

**Dr Barlow:** Our principal aim should be to incentivise domestic action by introducing policies that change emissions levels here in Scotland. As individuals, societies and Governments, we all have a responsibility to do that, but there are also many advantages in moving quickly to cut our emissions. We can develop the opportunities that are associated with that by building a renewable energy base in Scotland and by making huge improvements in the energy efficiency of our housing stock.

There are also social and health aspects. If we move to building an economy in which there are much greater levels of walking and cycling, we will see the benefits in terms of health, wellbeing and fitness. Our role should be to focus on domestic action. I would be very cautious about offsetting because there are many issues about the credibility of offsetting schemes, although a couple of them have been shown to be far more credible than others. Overall, I would take an approach that incentivises people to look at what we can do to cut emissions here in Scotland rather than focus on cop-out options that involve buying credits from elsewhere.

**Duncan McLaren:** I would be equally disappointed if the budget included a line for purchasing offsets, whether from overseas or in Scotland. One inspiration behind our carbon accountability programme was that we saw offsets that were clearly an abuse of the consumers who bought them because the offsets involved reselling carbon reductions that would have happened

anyway. That is not the purpose of offsetting, which should be to achieve additional emissions reductions. If possible, I would avoid endorsing any level of offsetting, which must always be a final resort after domestic action and efficiency measures.

**Dave Watson:** I largely agree with those comments. Frankly, some offsetting schemes have been less than credible. Where such schemes exist, they should be minimal and time limited. Sometimes, our approach to the issue seems to be a bit like saying to children that they will not like taking their medicine because it does not taste very good. We need to switch the argument by highlighting the real benefits that are to be gained in terms of quality of life and in terms of the economic advantages of taking the initiative.

From a trade union perspective, the only time factor that I would put in place is the need for what we would call a just transition approach to any major changes. Obviously, there should not be an immediate impact on the workforce, so we need to allow time for any major changes. If offsetting includes building in time to implement just transition measures, we would support that. However, that should be time limited.

**John Stocks:** Given that there are many opportunities in the Scottish economy to reduce our emissions base, I do not see why offsetting need have any part in the budget. We have plenty of opportunities to spend the money on getting emissions down rather than on offsetting them elsewhere.

**The Convener:** That is very clear. Thank you.

**Alison McInnes:** I will move on from considering the assessment tools that we would like to see to looking at what is actually in the draft budget for 2009-10. What are the panel's views on the overall impact that the proposals in the draft budget will have on the Scottish contribution to addressing climate change?

**Dave Watson:** As many people have picked out, it is difficult to answer that for all the reasons that have been given. The obvious specifics are in transport, where the budgets for rail and bus transport are flatlining but the budget for roads is increasing. We are certainly not anti-roads, but whether the draft budget strikes the right balance in that expenditure is an issue to be picked up on.

I would highlight some less obvious issues for the committee to consider. In the efficient government budget that I mentioned earlier, there are two areas in which the environmental impacts have not been picked up on properly—one is procurement. In order to gain savings, procurement is being centralised and big companies are winning contracts at the expense of small local companies. I have been at a number

of meetings over the past year at which local firms have said that they used to have contracts with Scottish Water, for example, but have now been driven out because they cannot work on the scale that is required for big procurement contracts. For example, a great deal of documentation is required. We have to be wary that, although centralised procurement might save money on paper, it is actually doing a lot of damage to the economy and the environment. As an example, in Dumfries and Galloway I heard about Glasgow plumbers going down to Dumfries and then having to go all the way back because they had forgotten their kit. Such examples are small but important.

16:00

The second area is shared services. Debates can be had about whether virtual ways of sharing services can be created, or about whether things can be spread across Scotland, but some of the private consultants who are driving the issue would like big sheds to be built in the middle of Scotland, where public shared services could be stuck. That would have a huge impact on the environment. On paper, it might save money in some budgets, but the environmental consequences of all the travelling and upheaval that would be involved would be significant.

Location incentives should also be considered. Public authorities tend to provide incentives for organisations to relocate. I will give committee members an example. The Trades Union Congress had a pilot project in Scotland on greening the workplace. One of the companies in the project had actually relocated the workplace that we were using from the centre of Glasgow to Lanarkshire because of the financial incentives that it was offered to do so. When we asked questions during the audit on workplace greening, everyone said that they drove to work. We asked why, and they said, "There's no bus service and it's a hell of a hike from the station. In the past we just walked to work, but now we have to arrange car sharing and so on." We were supposed to be greening the workplace, but we discovered those issues only when we carried out the audit of all the members of staff. The incentive for that company to change its location was perverse.

The last thing that is not in the budget, but which I would like to see, is support for workplace greening initiatives. Two thirds of all emissions in Scotland are related to the workplace, but little support is offered to reduce those emissions. Some work is going on at local level, but too often the initiatives are top-down—in other words, they are examples of what some of our members call "hunting the plaques". Public bodies or other bodies will say, "We are doing all these things, we have a wonderful document, and we get a plaque

for our reception area." Such initiatives will rarely involve the staff at the sharp end. The initiatives have to be bottom-up. If we can build enthusiasm, not only will we develop the kind of initiatives that we want, we will win support for the broader changes that will have to be made if we are to tackle climate change.

**The Convener:** Thanks for that—and you get extra points for bringing a Joe-the-plumber argument to the Scottish Parliament.

**Dave Watson:** I will get the pig in later.

**Dr Barlow:** As has been said, it is difficult to assess what the impact of the budget will be. However, we can ascertain, for example, that expenditure on transport is unlikely to be compatible with the commitments on carbon. A huge sum of money will still be invested in motorways and trunk roads. Although a significant amount of money is being invested in public transport, the balance is not yet quite right if we are serious about tackling emissions from the transport sector. Such emissions are currently rising.

There has been significant investment in other sectors such as microgeneration and energy efficiency, on which more advice will be offered. That investment is to be welcomed and is likely to help to take us in the right direction.

I want to note the significance of local government expenditure. Local government now has a considerable amount of financial autonomy. We therefore have to be sure that the framework that is developed and applied at Scottish Government budget level can also be applied at local government level. Because of that autonomy, spending by local government can have a lot of impact and influence. It will be important to know whether local government has ascertained the impact of its spending and whether it has considered alternative scenarios. We have to ensure that local government is doing its bit to contribute to meeting targets.

**Duncan McLaren:** I endorse what has been said about the budget for transport issues. However, I also want to note that the budget introduces investment in affordable housing. With an assumption, which I hope is not too heroic, that the housing developments will be high quality in terms of efficiency, that is a positive move. It is a step in the right direction that would match the idea of a green new deal. I regret, however, that the investment seems to focus on new and additional housing rather than on improvement of existing stock, but Alison McInnes's question was about what is in rather than what is not in the budget.

**Alison McInnes:** I will give you a chance to come back on what is not in the budget later.



**John Stocks:** My issue with budgets concerns the public buildings that we are building—the schools and hospitals—and ensuring that there is adequate pressure in the financial system to drive people towards looking for lower carbon buildings, particularly at the earliest stage, so that we build the buildings with the minimum whole-life carbon cost. I do not think that there is enough pressure in the budgets for that. Too much of the pressure is the other way—there is too great a perception that good value is low cost.

**Alison McInnes:** What additional information would help in evaluating the climate change impact of the draft budget?

**Dr Barlow:** We need to ensure that the spending commitments are aligned to the commitments on outputs and outcomes. For example, a lot of work has obviously gone into producing the figures on housing and regeneration, but that detail is not available. I would like to think that the Government could say that, with a certain amount of money, it will retrofit X number of properties in Scotland. That would allow us to deduce the carbon impact. Similarly, if the Government said that one part of the transport budget was going to do something specific in relation to public transport and we analysed what that might mean for modal shift, we could begin to quantify the carbon impact. At the moment, it is difficult to do that because that level of detail has not been provided in many areas.

Let me echo John Stocks's comment. Clearly there will be lots of investment in public body infrastructure, much of which is likely to be encouraging, but it is impossible to know whether that will be helpful. If the Government made a commitment that new prisons, schools and other public buildings would meet certain standards, we could begin to work out what the impact would be. In the absence of such a commitment, it is impossible to know.

**Duncan McLaren:** That information would be useful, but there is an alternative approach, which would be for the Government to divide the budget and say, at a broad level, which part of Scotland's climate changing emissions each portfolio was responsible for. It could then set a target for each portfolio in line with its national targets. At the simple measurement level, that would be the quickest and dirtiest approach.

That could be linked to a climate fund mechanism—a possibility that we have explored—which would provide that, if a portfolio failed to meet its target reduction, it would pay into a central pot that was then used to buy the public sector emissions reduction investments that John Stocks mentioned. There are many such investments, and in that way, the Government could ensure that the overall targets were still met.

**Dave Watson:** Some of the narrative in the budget document refers to overall objectives; I would like a narrative that described how the budget would achieve some of the objectives—for example, greener Scotland, which is one of the Scottish Government's six objectives.

At this stage, we do not have the tools for measurement. However, it would be useful to have, for example, even just a box that showed a specific initiative in each portfolio to demonstrate how we were driving forward an environmentally sustainable agenda. The Government could pick out a particular project in which to do that. I agree with Dan Barlow's point about refurbishment, and not just around housing—this is where I make my lipstick-on-the-pig point. The issue is not just new-build housing. Private finance initiatives, in which we pig in with private finance, inevitably involve new builds rather than the refurbishment of existing buildings. We need to encourage environmentally sensible investment, which will also allow us to identify good examples that other public bodies can pick up and run with.

**Alex Johnstone:** The panel will have caught on that the questions in this session are the same as those for the previous panel. Given that my questions have already been answered to a certain extent, you should not feel that you have to repeat yourselves, but I will ask them anyway just in case we can bring out other specific points.

To what extent will the programmes that are funded in the draft 2009-10 budget assist the Scottish Government in meeting its climate change targets?

**Duncan McLaren:** It is a matter of repetition. Some areas, such as the investment in affordable housing that I have already highlighted, will have benefits. However, other areas such as centralised procurement and the bias in infrastructure spend on transport might have negative effects.

**Alex Johnstone:** In that case, I will cut to my next question. Which, if any, of the funded programmes in the budget will be particularly beneficial in meeting the climate change targets?

**Dr Barlow:** I can talk only about potential, because we need to see the details. However, the housing and regeneration programmes and the investments in public transport could be very positive and could certainly take us in the right direction.

**Duncan McLaren:** I should mention the active travel investments. However, as witnesses on the previous panel pointed out, they form a very small proportion of the health budget, which contains some elements, and the transport budget, which contains the rest.

**Dave Watson:** I think that we underestimate the health budget's importance to this agenda. In that respect, I must highlight the shift towards focusing on the importance of public health initiatives to environmental sustainability. It is not easy to pick that out of a high-level budget document, but it is there nonetheless.

**John Stocks:** I realise that this is a very partisan answer, but the funding for the Carbon Trust will be beneficial.

**Dr Barlow:** I am hugely encouraged by the significant budget line for education, because I, for one, strongly believe that it will probably be the next generation who will have the passion, conviction and the answers that we need to get us out of some of this mess. I welcome the commitments that the Government has made on investment in education, because that kind of funding will have huge potential with regard to solving some of our current problems.

**Alex Johnstone:** Does the budget have any particularly negative elements? I know that road building has been mentioned—I am sure that it will be mentioned again—but are there any other negative elements that you wish to highlight?

**Duncan McLaren:** The budget still contains residual spend on the air route development fund. Not only does that have a direct negative effect by increasing the amount of air travel, but it makes Scotland more vulnerable to international markets and the chaos that we have recently witnessed in them.

**Dr Barlow:** I share the view that the biggest cause for concern is the transport allocations.

**Rob Gibson:** In response to Dan Barlow's emphasis on the money that we should put into education, I wonder whether it would also be a good idea to audit how well that money is spent. After all, it is one thing to spend more in education; it is another to ensure that we have a clear idea of whether that money is being used effectively. I do not think that we should put forward the general proposition that it is good to spend more on education without answering that point. As a former member of the Education, Lifelong Learning and Culture Committee, I can see why people want more money, but I have heard no answers to the question whether they are using it efficiently.

**Dr Barlow:** I do not claim to be an education expert. However, I completely back the principle that we should invest in the next generation and that we make decisions in the most informed way to ensure that we get the desired results. Given the curriculum's stronger emphasis on environmental sustainability and global citizenship, we should welcome the investment in our future generations.

16:15

**Duncan McLaren:** I will use this opportunity to make a more general point: an effective audit of the spend within different budget categories is fundamental and entirely compatible with a carbon assessment. Indeed, the carbon assessment tool ought to give us a measure—at least for the carbon side—of how efficient the spend is in different headings. It would be desirable for the committee to consider how to ensure that there is an incentive to improve that measure above and beyond disclosing the intensity of a spend's carbon impacts. We would be keen to explore with the committee how best to provide the portfolio managers with such an incentive to improve the effectiveness of their spends.

**Dave Watson:** I agree with the point about audit. My only caveat would be that we must ensure that we build it into the new scrutiny regimes that are coming out of the Crerar review. We are bringing together scrutiny regimes and we do not want to start building more on top of that. The audit must be built into the standard system so that it does not have additional bureaucratic consequences.

**John Stocks:** I agree with Dave Watson. We are in a resource-constrained world. That applies equally to money, and we need to ensure that we use every bit that we have as wisely as we can. We need to keep our eyes on that.

**Alison McInnes:** I said that I would give the witnesses a chance to talk about the missed opportunities in the budget, so I ask each of them to tell me about any glaring omissions, particularly any quick wins in the carbon agenda.

**Duncan McLaren:** I mentioned the idea of increasing spend on improving the quality of existing housing, which obviously has benefits for fuel poverty and other social benefits as well as economic ones. There is probably also potential to redirect more money under the common agricultural policy budget headings to ensure that our agriculture industry cuts emissions. That is obviously of some concern now that we have agreed to have all six gases in the climate targets. The methane emissions from agriculture are significant, and the agriculture money should be targeted towards their reduction. Similarly, introducing effective project-level greenhouse gas assessments under the modernising planning agenda would provide not only quick wins but wins that would persist for many years because we would get the projects right.

I endorse what Dave Watson said about centralised procurement. I would not necessarily advise not centralising procurement but, if it is centralised, we should at least ensure that carbon implications are part of the criteria for making

decisions and that that is used to drive improved carbon disclosure by the companies that supply the Scottish Government.

**Dave Watson:** I mentioned green workplaces and commented that I am pleased that we now have jugs of water at the committee. As a representative of Scotland's water union, it annoys me when I give evidence to a committee and have to open a bottle of water. Full credit to the committee for using jugs. If that was done throughout the Scottish public sector, the savings would be significant and it would show support for one of Scotland's finest public services—Scottish Water—rather than supporting fancy bottled water that we do not need. There would be a big saving and a big environmental benefit.

**The Convener:** We feel vindicated.

**John Stocks:** I will make a last comment on the built environment, which accounts for about half of our carbon footprint. If we are to make an 80 per cent cut in emissions, we will have to make an extremely radical cut in the carbon footprint of our building stock. A large proportion of our 2050 building stock exists today and we urgently need to start tackling that issue.

**Dr Barlow:** I echo those comments. Greater investment in active travel and less in trunk roads and motorways would also be helpful. Investment in existing buildings is critical. We also need to require local authorities to adopt a similar process and practice because of their autonomy in the budget settlement. They, too, have a critical role to play.

**The Convener:** Further to your comments on the retrofitting of existing buildings, demand reduction, microgeneration and so on, any questions around how much it would be appropriate to invest in those things would be like asking, "How long is a piece of string?" What level of investment in those things would give the impression that a substantial start could be made?

**Dave Watson:** Often, a huge amount of investment is not required; the money already exists in the budgets. The methods that have been used to finance big capital construction projects, particularly those that use private finance, have driven new-build solutions at the expense of refurbishment. School projects are the best example of that. Time and again, the original proposal has been to refurbish a certain number of schools in an area, but in the end, after the contractors became involved, the existing buildings were all knocked down and new ones were built. That is crazy in environmental and financial terms. The money is already there to make the investment; a change in the way in which schemes are financed is required, as is a

change in the culture and the way in which we respond to the demand for services.

**The Convener:** I invite the other witnesses to comment on the domestic side of things.

**Duncan McLaren:** At a symbolic level, an investment to match the £100 million that has gone into affordable housing would be on a scale that would show commitment. As John Stocks said, existing buildings account for a much greater share of emissions than new buildings do. More investment would of course be desirable.

**Dr Barlow:** WWF recently produced a report on Scotland's existing housing stock, and developed a model showing how much it would cost to increase the efficiency of that stock and what the reduction in emissions would be. Rather than trying to cite figures off the top of my head, I will happily provide them to the committee. They are contained in our report, which provides estimates of the carbon savings and of the investment that is needed to deliver them.

**Alasdair Allan (Western Isles) (SNP):** We tend to identify buildings, transport, industry, agriculture and energy production and transmission as climate change priorities. Has the Government managed to mainstream environmental concerns into all those public policy areas?

**Dr Barlow:** The Government's budgeting and spending approach has shown a welcome commitment to recognise that there is great scope for developing things in a joined-up way, so that we can achieve a number of outcomes through one policy. I refer, for example, to achieving wellbeing and environmental objectives through tackling fuel poverty. We are making progress, and the greener strategic focus is helping. However, the way in which the budget is framed shows how long a journey we still have to make before we can seriously demonstrate that sustainable development has become core to the Scottish Government.

Progress has definitely been made in some respects, and we welcome hugely some aspects of the Government's approach. However, there is still a considerable amount to do, especially considering the climate emissions and ecological footprint challenges that we face. Now that the Government has made clear commitments on climate and has pledged to reduce Scotland's global ecological footprint, we can say that the high-level commitments are there. We need to work through a lot of the detail, however, to realise those commitments, to influence how decisions are made in Government and to influence where money is spent on delivering those commitments.

**Duncan McLaren:** Alongside the budget processes, the Government has integrated environmental objectives into the single outcome

agreements and into its single purpose indicators for the whole of Scotland. Those are welcome developments, which begin the process of mainstreaming. The process is still stuttering, however, in the translation from the broad objectives into practical choices on spending.

We see that clearly in the health care budget, for example. The element of that budget that is spent on preventive health care compared with the element that is spent on curative interventions is minuscule. Large curative interventions will therefore continue to be required, because we are not investing in prevention. The managers of budgets at that level need stronger financial incentives. More money should be available to managers if they choose to invest in joined-up solutions through a climate fund and less money should potentially be available to them if they reject such solutions and fail to deliver on joined-up objectives, including carbon emissions objectives.

**Dave Watson:** On the positive side, there has been the impact of the cultural change that the strategic environmental assessment brought on. The ministerial portfolio change has been helpful, but there is still confusion across the Government about the portfolios. The strategic objectives and the commitments that the Government and the Parliament have made are also positive factors. However, I am concerned that reducing carbon emissions is still seen at all levels as an add-on. I made a point about tough medicine. We do not have all the explicit mechanisms in place to force people to measure such things at every stage. To do that, we must make a cultural change that will result in support being won among the broader workforce and public for the changes that need to take place.

**John Stocks:** I support what the other witnesses have said. We have seen progress, but looking for the lowest carbon options is not yet a matter of being business as usual.

**Dr Barlow:** The Government's other core purpose of encouraging sustainable economic growth has been strongly articulated over the past year or so. I am concerned about how dominant that aim has become in Governmentspeak, because how the Government is interpreting it has not really been defined. If encouraging economic growth is dominant, the risk is run of undermining progress elsewhere and of our not focusing on wellbeing and living within the limits of the planet's resources.

**Alasdair Allan:** You probably noticed the three of us who are from crofting and agricultural constituencies conferring when emissions in agriculture were mentioned. We reached the conclusion that cattle might have been on your mind, but we wondered whether you think that the

Government can identify possible improvements in agriculture in other areas.

**Duncan McLaren:** Two or three large areas in agriculture need to be considered. Methane emissions from ruminants are, of course, at the top of the list; nitrous oxide emissions resulting from the use of fertilisers are second. Improved control and more careful use of fertilisers is one answer to that problem. The third area is the oxidation of carbon from organic soils, particularly waterlogged soils. Stopping anything that is waterlogged being ploughed up and perhaps even restoring waterlogging to carbon-rich soils in particular might be the best way of reducing emissions. Of course, we would want the rural development and agriculture budgets to be used to reflect those benefits so that farmers are paid for delivering them to society in the same way that they are paid in other respects.

**Alasdair Allan:** Does that imply that you want the system to deincentivise people who keep ruminants?

**Duncan McLaren:** There are several ways to maximise the carbon efficiency of cattle in particular, which involve considering their numbers, stocking patterns, diet and feeding stuffs. However, I am not expert enough on the details to say whether Scotland has too many cows or whether we should encourage people to consume the meat that is produced by Scottish cows and not import meat from elsewhere in the world, which increases our global carbon footprint.

16:30

**Dr Barlow:** The food that we eat constitutes a significant part of our impact in terms of our carbon emissions and ecological footprint. There is huge scope for reducing that component of our impact through a number of measures that will also support agriculture in Scotland as we move towards more local, seasonal and organic food.

**The Convener:** The carbon balance sheet for transport was mentioned earlier. Do you have any views on the benefit of such a piece of work? Also, what are your views on the lack of progress on the matter, given that work on the balance sheet began in 2006 and, as we have been told, we will not see a draft version of the balance sheet until some time around the end of the current parliamentary session?

**Dr Barlow:** It would be valuable to see what progress has been made. We welcomed the initial commitment to the approach, as transport is responsible for a significant amount of our emissions and is a sector that is going in the wrong direction at an alarming rate. It is essential that people are able to make informed decisions on transport, and I think that it is worrying that it is

taking such a long time to develop the balance sheet, especially as that piece of work could help us to develop a model for the rest of the budget. We could build on the lessons that have been learned in the process of producing the balance sheet. It could give us some useful pointers with regard to a wider assessment of the budget.

**The Convener:** Is there any clue why the Government is taking so long to do the work?

**Dr Barlow:** If there is, I am not aware of it.

**Duncan McLaren:** I agree with what Dan Barlow has said.

**Dave Watson:** My trade union represents a lot of people who design a lot of our roads, so, clearly, we are not opposed to road building per se. However, it is important that road building be included in any carbon balance sheet for transport, as it is as important as the other elements in the carbon assessment process. I am not aware of the reason for the delay, however.

**John Stocks:** When we conduct our carbon footprint assessments of companies, sites and products, we find that, when we start to look at absolute numbers, unexpected things are uncovered. We do not yet have an intuitive feel for those things, and having a carbon balance sheet would help us to understand what the numbers really are, which would help us to make informed decisions. We need those tools.

**The Convener:** Leaving aside the balance sheet, do you have any comments on Transport Scotland's strategy?

**Duncan McLaren:** Transport Scotland is about to publish the results of the strategic transport projects review. I do not know exactly what will be included in those results, but I note that the review has been conducted at a time when oil prices have risen rapidly above their previous average, and that, therefore, most of the analysis will be based on an unfeasibly low oil price. I question whether it is now valid to put the same economic values on those schemes. I also question whether it is right to define as strategic only extremely large-scale projects. In my view, it would be equally strategic to invest in a widespread way in improving the safety of our streets so that walking and cycling—the active transport modes—became more popular. Given that walking is done by almost everyone almost every day, it should perhaps be seen as the most significant mode of transport.

**The Convener:** It certainly would be refreshing if projects that are being undertaken now were not going ahead based on assumptions about oil prices that might have been true five or 10 years ago.

My final question is the same as my final question to the previous panel. If a sufficiently

robust assessment tool methodology was developed, would you support changing the finance legislation so that any future Government would be required to conduct such an assessment when it introduced a budget to the Parliament?

**Duncan McLaren:** Yes, that would be entirely appropriate. In the interim, before such a robust methodology is brought forward, I would advocate changing the finance legislation to encompass a system like the climate fund mechanism, which would provide an incentive to shift money between budget headings according to their success or otherwise in meeting climate targets.

**Dr Barlow:** I fully support that. It is imperative that the legislation be amended to ensure that such an approach is taken to the budget.

**Dave Watson:** We support such a legislative requirement. There are difficulties in that approach, however. For example, would the information be measurable enough to be tested by judicial review? Speaking as a lawyer, I can see some interesting challenges around that area. Basically, we support the principles behind such a move, because it would help to deliver the cultural change that needs to happen.

**John Stocks:** Yes.

**The Convener:** That is the sort of concise answer that I am looking for. I thank our witnesses for their evidence and their time.

*Meeting closed at 16:36.*



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