ENTERPRISE AND CULTURE COMMITTEE

Tuesday 16 March 2004
(*Afternoon*)

Session 2

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ENTERPRISE AND CULTURE COMMITTEE
9th Meeting 2004, Session 2

CONVENER

*Alasdair Morgan (South of Scotland) (SNP)

DEPUTY CONVENER

*Mike Watson (Glasgow Cathcart) (Lab)

COMMITTEE MEMBERS

*Brian Adam (Aberdeen North) (SNP)
*Mr Richard Baker (North East Scotland) (Lab)
*Chris Ballance (South of Scotland) (Green)
*Susan Deacon (Edinburgh East and Musselburgh) (Lab)
*Murdo Fraser (Mid Scotland and Fife) (Con)
Christine May (Central Fife) (Lab)
Mr Jamie Stone (Caithness, Sutherland and Easter Ross) (LD)

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Mark Ballard (Lothians) (Green)
Rhona Brankin (Midlothian) (Lab)
Mr David Davidson (North East Scotland) (Con)
Fiona Hyslop (Lothians) (SNP)
George Lyon (Argyll and Bute) (LD)

*attended

THE FOLLOWING GAVE EVIDENCE:

Angus Armstrong (ADAC Engineering Services Ltd)
Andrew Bruce Wootton (Scottish Estates Business Group)
Paul Cassidy (Castlemilk Economic Development Agency)
Mark Cullens (Glenrothes College)
Dr Lewis Dale (National Grid Transco)
Charles Davies (National Grid Transco)
Angela Duignan (Baywind Energy Co-operative Ltd)
David Gordon (Windsave Ltd)
David Newman (Plexus Media Ltd)

CLERK TO THE COMMITTEE

Judith Evans

ASSISTANT CLERK

Seán Wixted

LOCATION

The Chamber

Scottish Parliament

Enterprise and Culture Committee

Tuesday 16 March 2004

(*Afternoon*)

[THE CONVENER *opened the meeting at 14:06*]

Broadband Inquiry

The Convener (Alasdair Morgan): Good afternoon, ladies and gentlemen, and welcome to the ninth meeting of the Enterprise and Culture Committee this year. I have received apologies from Jamie Stone and Christine May, and Richard Baker has said that he will be slightly late.

Our first panels of witnesses are here for our inquiry into broadband in Scotland. One of the witnesses for the first panel is running late so I have decided to take the second panel first. We have Paul Cassidy, who is the information and communications technology co-ordinator of the Castlemilk Economic Development Agency, and Mark Cullens, who is the associate principal of Glenrothes College. I do not think that I need to say any more about your particular roles.

Mike Watson (Glasgow Cathcart) (Lab): Convener, before we start, I ought to declare an interest. Castlemilk Economic Development Agency is in my constituency and I have fairly regular contact with it.

The Convener: Okay, but I suspect that that is not a registrable interest.

We will launch straight into questions for the witnesses. The first arises from the Castlemilk submission but I suspect that it also applies to the Fife submission. You talk about enabling broadband and about how broadband can assist. However, I struggle to see how simply acquiring broadband per se will actually make a significant difference. I will play devil's advocate for a second: is there an element of, "Well, broadband is the latest technology so we'd better get it"? What tangible difference will broadband make for the area economies that you are trying to stimulate?

Paul Cassidy (Castlemilk Economic Development Agency): I see benefits in how organisations in Castlemilk are making progress in their use of technology, and I see benefits in how that technology is used to provide services to the local community. For example, a small business called Red Hot Comics provides a mail-order service using e-commerce. Putting in broadband has enabled that business to provide a more efficient service to its customers. Compared with broadband, dial-up offers slow internet access. Broadband can meet customers' needs more effectively.

Social economy organisations use broadband in a slightly different way. They do not use it to generate income; they use it to test out the technology. For example, Castlemilk Community Transport was considering developing a website and putting in networks. A year ago it had not even considered broadband, but now it has broadband, a website and a small network. The organisation is moving forward and using technology to provide better services to its client base. I do not know if that has answered the question.

The Convener: I am still struggling to see how that would make a significant difference to the economy of the area. Perhaps I am looking for too much in that respect and we are talking about only small improvements.

Paul Cassidy: At this stage in the game, it is too early to say. Many organisations are just beginning to dabble in broadband technologies and will evaluate service delivery by using the technology over the course of a year or two to demonstrate it and see if it is having a significant impact on the economy. That might be something to keep a watchful eye on. At this stage, because many of the organisations are just beginning to use the technology, it is a wee bit too early to see how much of an impact it is really making.

The Convener: I pick you up on one of the words you used. You said that organisations are beginning to "dabble" with the technology. Is that the most sensible approach? Might a more structured approach deliver better dividends?

Paul Cassidy: Sure. Small businesses with two or three members of staff might prefer to take a more informal approach to get to know what the technology can do before they use it in a structured way. For example, I have used laptops to train people in what broadband can do, give them an overview and then start them on using the technology. That is not intended to give them an economic result in terms of how the organisations deliver their services; it is to get the members of staff used to using the technology.

Getting people to use the technology in a constructive way is, I think, one of the big issues. Many people think that it is a good idea to get broadband in and give it a go, but more work needs to be done on training and raising awareness of how they can get the most out of the technology.

Mark Cullens (Glenrothes College): BRAG Enterprises—the Benarty regeneration action

group—runs a business and community learning centre, and it is a small business in its own right.

The business centre is competing in a market where businesses are mobile and will locate in different places. It is at a distinct disadvantage if its tenants do not have access to broadband. There is an economic impact on an area if businesses will not locate there because broadband is available 5 miles down the road in the nearest town. There is a competitive advantage to having broadband.

When I managed the organisation and we finally got access to broadband through a leased line, which was probably the most expensive route but was the only one available, it transformed how we did things, particularly on the learning side of the organisation. Community-based learning is about a range of learning experiences, not just those that are face to face with a tutor. Access to broadband enabled us to use multimedia websites that we could not access before; to conserve bandwidth, we blocked streaming media, for example, so the content of websites was severely restricted for the people who used our services.

It is often easier to consider the benefits when we consider what the situation would be if we did not have it. It is easy to say that it is always on, it is fixed price and it does not tie up the phone line; those are the three benefits that are most often talked about. However, it is also about the speed of access. We used to have to wait three or four days to get a CD from a website to do a software update on our servers because we could never download the software over the internet. When we got our leased line, we could do it in 15 minutes. Three days as opposed to 15 minutes is a long time when you might need a security patch, for example.

Broadband can transform how a business thinks and the speed at which it moves. If we think about what the situation would be if we did not have it, we see that we would be at a disadvantage to businesses that do have it.

Brian Adam (Aberdeen North) (SNP): I will ask about the practical use of broadband. You say that in Castlemilk a number of community organisations and businesses are using broadband, but what are they using it for? Is it part of the great development of websites, and what are they using them for? Are they using them to market their goods and services? Has that made any difference to their businesses? Alternatively, are they using broadband to deliver training to their employees or to attract new employees?

14:15

Paul Cassidy: Broadband is mainly used for the internet per se. Many of the social economy organisations rely on research for funding. If you are researching and downloading applications using narrowband, it can take an age and a day. Using broadband, multiple staff members can research and download, which is a lot more effective. Increasingly, our organisations are looking at online learning. CEDA is a learndirect Scotland learning centre, and promotes learning services throughout the community through an e-mail newsgroup.

Brian Adam: Is there much domestic access to broadband within the target area?

Paul Cassidy: Are you talking about public access or residential access?

Brian Adam: I am not talking just about having the opportunity to come along to the local project and make use of its broadband, but about whether many individuals have subscribed to broadband. If you are targeting a market and using high-speed, all-singing, all-dancing websites, and the target audience is still on modems, or not on the internet at all, that will be of limited value.

Paul Cassidy: Yes. Many organisations are just beginning to get to grips with broadband technology. They are using it in different ways, for example to design websites and promote their services online. Our customers have yet to generate much feedback on whether the service is really working and providing a beneficial service to our client groups.

One of the other issues is developing skills in the workplace. More organisations are looking at distance learning to reduce the amount of time that staff are released from the workplace. Tapping into online learning, whether through learndirect or through the local college, is a great way of using the broadband resource.

Brian Adam: So you both argue that the extension of broadband would be helpful in delivering lifelong learning, in particular to deprived communities, provided they have access. It is not just a question of the businesses and projects having access, because surely the target market must also have access.

Paul Cassidy: Absolutely. Public internet access points are dotted about Castlemilk. We are fortunate that we are on an ADSL network, so we can provide broadband services. More and more public internet access services are encouraging distance learning opportunities, whether through BBC WebWise, learndirect or the college, so the broadband infrastructure can be used to enable communities to access lifelong learning opportunities.

Brian Adam: Have you had any feedback from people who are still using dial-up modems, who have said, “You have far too much on your

system. I can't cope. It is taking me an hour and a half to download just the logo"?

Paul Cassidy: Absolutely. There are extremes. Some organisations continue to use just dial-up, and they see no benefit in moving to broadband. They are quite happy to send their two or three e-mails a day, and that does them; it is the way they work. They cannot justify paying a fixed-rate fee each month for broadband, because they are not using the internet enough. It is different strokes for different folks. The technology is being used by some small businesses and by community organisations. They are getting to grips with it and are working in different ways to deliver services, for example through websites.

Brian Adam: Obviously, Glenrothes College supports activities other than education, but on education, how easy do students find it to access material if they do not have broadband, either because they cannot afford it or because it is not directly available?

Mark Cullens: That question raises wider technology issues about secure access to the website. We have a VLE—a virtual learning environment—in the college network, within which students can access securely a range of learning materials. At present, students cannot log in remotely to access that material.

I want to talk for a moment about BRAG and the hunger for community learning. BRAG serves a population of about 6,000 people and operates an internet cafe that has more than 800 registered members. There is a real hunger for technology and for high-speed access to the internet. Despite not having broadband, we have still managed to drive up the membership base. People are interested and enthusiastic and they have a real opportunity to learn to use technology, for example, through learndirect Scotland. There have been massive media campaigns about adult literacy and numeracy. Internet-based software can be used to capture people's interest and enthusiasm in learning.

You are right about the demand. There are complex issues with colleges' virtual learning environments.

Susan Deacon (Edinburgh East and Musselburgh) (Lab): From listening to the witnesses and reading their submissions, I am struck by the fact that, unsurprisingly, a number of the issues on which they touch are generic and have been raised by a range of people from different places. However, some aspects of what they are involved in—particularly Paul Cassidy and his organisation—are specific to the needs of communities, groups and individuals who might be regarded as excluded, to use the jargon. I would like to explore that latter bundle of issues. I am not terribly comfortable with the jargon, but I am interested in issues that come under the umbrella of the digital inclusion agenda. I would like the witnesses to try to home in on where they think broadband fits, analytically and practically, in that agenda, as distinct from the need to close the digital divide more generally. My question builds on points that other members have touched on.

Craigmillar in my constituency raises many issues that parallel those that Paul Cassidy mentioned. From a practical point of view, it is important for us to understand whether the big need is broadband or whether we are still trying to play catch-up on other aspects of access to information and communications technology.

Paul Cassidy: That is a complicated question. Broadband has a role in communities throughout Scotland, for example in providing community access to lifelong learning or in promoting business development through e-commerce or in promoting e-empowerment. As more and more Government services come online, people will need to have access to broadband technology. To use learndirect Scotland as an example, if a person is working through an online learning course with a modem and finds that a task that is meant to take five minutes to complete takes an hour and a half, they will lose interest in the technology altogether. Society is becoming faster paced. Broadband technology allows us to keep in touch and informed, through e-mail or the internet.

At this stage, it is hard to pin down exactly what broadband should be doing in communities—it is being used in so many different ways—and to pin down exactly what is working and what we need to roll out across Scotland. We are at a very early stage of trying to encourage and support the people who are using the technology.

It is quite difficult for me to say, "This is the feedback that we are getting" or, "This is what is working". The committee should not get me wrong, however. The feedback has been positive—people are using broadband. Despite that, it is still difficult to pin down a couple of key themes to illustrate exactly what is working.

Susan Deacon: In your experience, has what we recognise as the digital divide shifted at all? I am not asking you to back up what you say with a pile of statistics—unless you want to do that—just to give me your practical view of the issue. I understand that the term "digital divide" was coined to illustrate the distinction between those who had access to ICT and those who did not. Are there different divides nowadays or is the issue more about the type of technology that people have access to?

Paul Cassidy: I think that there is a digital divide. There are people who want to use the

technology and who will actively go out and use their community website, community access points or learning centres. They might then go out and buy a personal computer and install broadband in their households. There are other people who need our support: we can raise their awareness, tell them about the benefits and yet they will not bother to take it up.

We work with two different groups of people in Castlemilk. On the one hand, there are people who really want to give the technology a go; they want to try it out and see what it can do for them. On the other hand, there are people who sit back and say, "We are quite happy using what we've got, thank you very much. We don't need to change. We don't need incentives or your support. We are quite happy as we are."

Susan Deacon: Although I am happy to move on if you ask me to, convener, I want to tease out the issue a little further. I am playing devil's advocate with this question. In the social circumstances that we are talking about, is there a danger that, if we put a lot of time, energy and effort into pushing forward the boundaries of the range of available technology, we could increase the divide? I am thinking of the number of people who are not even at first base.

Paul Cassidy: Sure. There is also the social divide. Are people going to use the cafés to interact and communicate or are they just going to e-mail one another and get involved in videoconferencing and posting messages on website message boards? We have to take on board all those issues when we consider the use of broadband, particularly at community level. What we are trying to do is roll out the infrastructure in community venues that are well used. We are trying to give people a face-to-face interaction.

On the other hand, we do not want to exclude people from the technologies. As I said, more and more services, including Government services, are coming online. A fine balance has to be struck between fast pacing the technology and not using it at all. It is hard at community level to justify and work out exactly what works at this stage of the game.

Murdo Fraser (Mid Scotland and Fife) (Con): I have two questions, the first of which will not detain us for very long, I think. I understand that the second panel includes people from rural communities. Some of the evidence that we have received goes along the lines of, "Broadband is very important for rural Scotland in particular because of the need to develop teleworking." People in rural and remote areas need to be able to work from home and so forth. Is it your contention that it is as important for urban Scotland to have broadband access as it is for our remote and rural areas? I imagine that that is the case, but it would be helpful if you could back up that supposition with evidence.

Paul Cassidy: I do not see why we should exclude one or the other: everybody is equal and all of us—whether we work in a rural village or a city centre—are entitled to access services online or by e-mail. I believe that everybody should be able to access the technology if they want it.

A household survey that was conducted in 2002 rated Castlemilk as one of the communities that had a high use of technology in the household—believe it or not. A number of public access internet points are dotted around the community to cover the geographical spread of the area and they are also well used. That demonstrates the need for this type of technology in the community, whether people use it to e-mail one another, pay their bills online or visit the community website to keep in touch and informed. There are different uses for it at community and household levels.

14:30

Mark Cullens: It could be argued that there should be a greater focus on intervention by means of agency support in rural communities, simply because the market in urban communities will look after itself to some extent in respect of the roll-out of ADSL. If a mass of people are willing to take it on, roll-out will happen, whereas people in rural communities will struggle for it. Perhaps there should be more focus on intervention in such communities, but it is just as important in both communities.

Murdo Fraser: You make a good point about intervention, which leads me to my second question. We have heard from other witnesses, and we accept that some Government intervention is probably required to try to enable access to broadband for the whole of Scotland, if that is deemed a desirable objective. How valuable is broadband to business, compared to, for example, money being invested in better transport infrastructure or better skills and training? We all know that Governments have a finite amount of money to spend on such projects and business support. Is broadband as important, more important or less important than those things?

Mark Cullens: I suppose that that depends on the business that one is in. For some businesses, it is certainly as important, if not more important, for money to be spent on broadband and the training that goes with it, or the training that it can enable, which is essential. Broadband is essential for communities that, given their rural nature, already have difficulties with a whole range of other services. Those communities will be further

disadvantaged if they do not have access to broadband.

Murdo Fraser: Does what you say apply more to rural communities or urban communities?

Mark Cullens: To rural communities.

Paul Cassidy: I back up what has been said. In urban communities, the importance of broadband depends on the type of organisation. Small businesses will not make best use of the technology. In general, in our business park in Castlemilk, small businesses have from two to five individuals and a computer with a dial-up connection. Most of the time, people are out on site, earning the bucks. It is difficult to justify broadband or to ask whether we should spend money on broadband or transport.

In general, one would aim broadband at small businesses that use e-commerce as a way to generate income, but not many organisations in Castlemilk are at that stage of the game yet.

Mike Watson: I have a joint question and then specific questions for each visitor. What seems to be common to the Castemilk and Glenrothes examples is that communities have been chosen in which there are high levels of disadvantage, and there has been an attempt to use broadband as a means of helping people to help themselves. Paul Cassidy outlined quite well how that works in Castlemilk. I ask Mark Cullens how that approach has worked in the area of Fife that BRAG covers. Do the points that Paul Cassidy made also apply to Fife?

Mark Cullens: In short, yes. BRAG has been in Lochgelly and a string of former mining villages. We try to provide access to the business centre tenants, which is a new initiative. Wireless networks are used in the business centre to demonstrate what the technology can do—people can roam around the centre using laptops and so on. The project and the internet cafe in particular have made a huge difference.

In my paper, I have tried to demonstrate that it is easier to explain what it is like not to have broadband. European computer driving licence assessments are all done online. People have five opportunities to pass an assessment. If someone fails an assessment as a result of the technology, they will have lost that chance. It does not matter whether the system crashed—the chance to pass that assessment will have been lost. It is frustrating when such things happen.

Before we had broadband, we blocked access to certain websites because they were too media-rich. When people clicked on links to such websites, they could not go to them—that is the reality of not having broadband access.

Mike Watson: In arguing for the extension of broadband, a useful tool is to show what life is like without it and what the immediate benefits are. Do the witnesses take the view that their communities would be significantly restricted if they did not have broadband, in terms of the work of local community organisations, both voluntary sector organisations and small businesses?

Paul Cassidy: That is certainly true of Castlemilk. My experience of dealing with such organisations is that many of them would lag behind in skills if they could not use distance learning to develop their ICT skills or increase their general awareness through using websites and e-mail bulletins. The skills gap is the big issue. Mark Cullens mentioned media-rich online learning materials. If people are using dial-up connections, they can forget about accessing the vast majority of content that I have used through the learndirect website. The ICT skills gap facing many staff in the voluntary sector and in small businesses in Castlemilk is still a big issue.

Mark Cullens: Learning and skills are the areas that suffer most if one does not have access to broadband. I would like to touch quickly on the use of technology in the future, particularly in adult literacy—we all know that there are huge issues with that in Scotland. Adult literacy and games technology in the learning environment are the two most exciting areas in which to engage with a range of people, including young people, who will not engage with traditional learning techniques. One needs to have broadband to access games technologies and multimedia technologies, and that will be particularly true in the future.

Mike Watson: At the end of his paper, Paul Cassidy says:

> "regeneration priority areas may require additional support in the promotion of a Broadband strategy."

I wonder why he says that. It seems to me that remarkable progress has been made. Across Scotland, take-up is only about 6 per cent, and other evidence that we have heard suggests that even in areas in which broadband is fully available, take-up is less than 10 per cent. That does not emerge from Paul Cassidy's paper. I ask him to explain the comment that I quoted, and I ask Mark Cullens whether it reflects his experiences in Fife.

Paul Cassidy: There has been an uptake in Castlemilk, but there is still a lot of work to be done to help organisations to get the most out of the technology, whether they use the internet to access information or to fill in online learning applications or funding applications. For small businesses, is broadband just a tool for developing websites and looking at e-commerce? There is still a lot of work to be done to educate such

organisations to make them aware of the opportunities and what broadband technology can do for them.

We have done a lot of work in Castlemilk to raise awareness. A lot of organisations realise what broadband is and they are taking it up, but are they fully utilising it? That is where we are just now, and we should build on that position. That is one of the reasons why—

Mike Watson: So the issue is not necessarily about taking the first step but about maximising the use of broadband.

Paul Cassidy: Yes. It is evident that the organisations are beginning to embrace the technology. Three years ago, the vast majority of voluntary organisations would not have thought about putting in a network. Now, networks are going in and websites are going up—the whole mindset is changing.

Mark Cullens: You are exactly right to say that the next challenge is the use of technology rather than just getting it. Glenrothes College has a mobile learning initiative bus—known as MOLI—which has been instrumental in going around rural exchanges, drumming up interest and promoting the use of broadband. A particular example, which is given in the paper, is that within a fortnight of its visit to the village of Ceres in Fife, the village hit its trigger level. That is a good-news story, but the next part of the story is that after MOLI has visited a local community and demonstrated the use of broadband, the take-up is often higher, in terms of exchanges that are enabled, because people have seen its benefits being demonstrated. They have seen the websites from which one gets the most use of and the most benefit from broadband access. The future for MOLI, beyond converting exchanges, is to demonstrate the benefits to businesses and to say, "Okay, you've now got broadband. Let's look at how you can use that most efficiently." If they would like to do their banking on line, for instance, we can show them how to do it securely. If they want to develop a website, we can show them how to do that. The next challenge is to maximise the benefit.

Mike Watson: The mobile learning initiative is an interesting project. How did you get the Scotland-wide remit for that? There must be plenty to do in Fife, but you have obviously extended well beyond that.

Mark Cullens: It is a partnership with Scottish Enterprise national and local partners, and is funded through the European Equal programme. We operate the vehicle on behalf of Scotland.

Mike Watson: We heard evidence last week about the triggers and the operating base, particularly in rural areas, so there is still a bit of work for you to accomplish.

The Convener: One issue that I would like to pick up again relates to the Glenrothes College evidence about BRAG. You were quite well down the way towards beginning to develop a wireless broadband system when British Telecommunications decided to jump in and do the same. What was your reaction to that? Were you gratified that your pressure had stimulated BT into providing it, or were you a bit hacked off that you had done all the work just to be gazumped near the finishing post?

Mark Cullens: It depended on the time of day, to be honest with you. Initially, I was particularly unhappy because we had done a lot of our own research, gone through some training and bought some initial test kit, and then BT said that it was going to test its system. BT was only going to do a test—a three-month pilot—and it selected two exchanges, one in Ballingry and one down in Wales, from thousands of exchanges. I could not honestly say how it decided on the Ballingry exchange.

The Convener: That was going to be my next question. Why, out of all the exchanges in Scotland, did it have to select Ballingry, which is the one that your area covers?

Mark Cullens: That is an excellent question, but it is one for BT.

The Convener: We may come to that. Was BT aware of what you were going through?

Mark Cullens: Yes. We set up a similar registration scheme to BT's, whereby we invited the local community to pre-register with us so that we would have our own trigger point and it would be worth buying the kit and ordering up the backhaul for the main part of the internet, or making leased-line arrangements. We had just about hit that trigger when BT said that it was going to test the new technology out on that exchange. Perhaps we acted to some extent as a pressure point and triggered—

The Convener: So BT was aware of what you were doing.

Mark Cullens: Yes. It was in the public domain.

The Convener: There are no further questions, so I thank Mr Cassidy and Mr Cullens for their evidence.

We now move on to our second panel, which is shown on the agenda as panel 1. We have with us Andrew Bruce Wootton, who is an executive committee member of the Scottish estates business group, Angus Armstrong, who is managing director of ADAC Engineering Services Ltd, and David Newman, who is director of Plexus Media Ltd. I invite each of the witnesses to state very briefly what their organisations do, which may be more obvious in some cases than in others. We shall then move straight on to questions.

Andrew Bruce Wootton (Scottish Estates Business Group): The Scottish estates business group represents the progressive business estates, predominantly rurally based. It promotes good practice, circulates new ideas and represents estates to business and other groups.

14:45

Angus Armstrong (ADAC Engineering Services Ltd): I am a chartered structural engineer and provide engineering services to various types of development, especially rural architects. I am now more widely based, with the benefit of broadband internet access.

David Newman (Plexus Media Ltd): Plexus Media is a small media company based in Cromarty in the Highlands. We specialise in creating web-based software, websites and other media elements.

The Convener: My first question is addressed primarily to the representative of the Scottish estates business group, but all the witnesses may have an opinion on the matter.

Clearly, the message is coming across that investment in this type of communications infrastructure in rural areas is very desirable. Already huge amounts of money are going into the rural economy, especially through the common agricultural policy, which runs at about £350 million in Scotland. Another £150 million or so is available through the rural development fund. Would any of you like to chance your arm and say that some of that money should be directed away from where it is channelled at the moment to other kinds of improvement?

Andrew Bruce Wootton: Few businesses that currently operate in the countryside do so very profitably. There is poor trading performance in, and poor markets for, most of the traditional rural enterprises, so redistribution of support might mean robbing Peter to pay Paul. However, I agree completely that money to support the countryside must be used to best effect. For that to happen, one would hope and expect that a slightly wider overview will taken of the greater good and of strategic objectives for the rural economy, post CAP reform and changes in forestry businesses and working methods generally. I agree cautiously that there may be an opportunity to consider ways in which support is provided to the Scottish rural economy, but no one should be of the opinion that an awful lot of money that is currently given to the agriculture sector is spare to be given elsewhere. However, that may be a prejudiced view.

David Newman: There is a worry that the roll-out of broadband technology could be done piecemeal by taking resources from different pots. It is far too important for that. I am worried about where the money will come from.

Angus Armstrong: I have nothing to add to what has been said.

The Convener: In its submission, Plexus Media indicates that it previously used other forms of connectivity and that it had an ISDN line before moving to ADSL. In the case of Plexus Media, will broadband be insufficient in the near or foreseeable future?

David Newman: That is a very good question. Over the past few years, we have witnessed that technology is always changing. As a nation—and probably as a world—we must get used to the fact that it will change from now on. We are no longer dealing with change over periods of four or five years—we should keep an eye on the situation all the time. The issue is too important for us to think that if we solve a problem one year, that solution will do for 10 years. Those days are gone.

The Convener: Do the rest of you think that it would be great just to have broadband, and that you will worry about the other technologies when they arrive?

Andrew Bruce Wootton: Possibly not, unless I have misunderstood the question. I agree with David Newman that if we focus simply on the current or next phase of broadband connectivity we will be in the same situation in five years' time. It is possible that in the countryside competitive markets will never be as efficient as they are in urban centres. We need a strategic overview so that options and agendas for solving today's problems also take the next step into account.

Brian Adam: I want to ask about the move between the different technologies. Plexus Media's paper says that, "due to latency problems", you decided that satellite was not appropriate for the kind of work that you do. Can you spell out in a little more detail what those latency problems were? Will such problems have wider implications, affecting more than just the media business?

David Newman: The problems do not affect other businesses in the same way as they affect us. In our case, we are constantly moving large numbers of files around. Having proper ADSL

coverage, or a proper broadband connection, enables us to do that very easily. The problem with satellite is that packets of information are sent up and then down again, which disrupts and somehow corrupts the signal. Even I am not sure of the exact technicalities, but it causes major problems for companies such as ours. I believe that people who use satellite systems sometimes have problems with online banking and things like that. People should be aware of those issues.

Brian Adam: The problem is not unique to satellite; all these systems fall over from time to time. That will always be a problem.

My question is for Andrew Bruce Wootton. Perhaps you might care to tell us a bit more about the seminar that you describe in your paper. You felt that there were

"a number of viable options for extending or introducing ASDL beyond BT enabled exchanges".

What did you mean by that?

Andrew Bruce Wootton: We were very impressed by the quality and quantity of information produced by Scottish Enterprise for the event that was held a couple of weeks ago. Even though we had been working very closely with Scottish Enterprise in developing the event, it was still an eye-opener for most of us who attended that the technologies, and even the availability of services, were far more developed for the extension of ADSL beyond enabled exchanges than we were previously aware. The price was also reasonably affordable, given a reasonable local demand.

When we came away from the seminar, we felt that the rapid and dramatic increase in enabled exchanges was possibly closing the gap caused by the existing problem of extension. However, we were also concerned that there did not appear to be a lot of information available on how we could jump the next hurdle. We were not sure that the imminent issues of how to upgrade from ADSL were being taken into account when the existing options for extension were being promoted to different people in the countryside. At the moment, many people clearly think that such upgrading is a long way off, but we all remember how ISDN was the issue of the day only a few years ago and now it seems to have gone by the wayside. As my colleague has said, it is just a matter of time until we will be looking at the next problem and working out where to go from there.

Those were our broad conclusions. However, the seminar was a useful exercise and provided a lot of answers to day-to-day practical questions. We hope that the event might be rolled out across the different regions so that information is made more easily available to people who may not be able to spare a day to come down to Edinburgh. The quantity and quality of the information are such that it really ought to be available more locally.

Brian Adam: It is fair to say that a number of the alternative proposals are perhaps aspirational. Some of them are at the pilot stage. However, as yet there is no evidence that they will have the widespread availability of the current BT arrangements.

I am intrigued by your suggestion that

"rural connectivity should be given equal prominence to other core infrastructure in regional Structure and Local Plans."

I presume that you would not want to limit that to rural connectivity but that you mean that connectivity ought to be built into infrastructure in the local planning arrangements. Is there not a problem with that? The technology is moving so fast that you will have to spell out that connectivity, how it might be delivered and who might deliver it, particularly in a business sense. Planning means identifying commercial industrial land, housing land and amenity land, and I presume that you will direct connectivity only to certain areas. I also presume that you are suggesting that developers ought to bear the burden of delivering that connectivity. Will you elaborate on that?

Andrew Bruce Wootton: Yes. In response to your last statement, I would say that an element of that work needs to be borne by developers, but if that element were too significant, it would become commercially unviable and there would be stagnation. It is an undeniable reality of the countryside that a lot of opportunity is missed simply because of the additional cost that any development faces outside urban centres. Many good things do not happen in the countryside because not enough forethought is given to reaching objectives—or a view is taken that is not wide enough. People often look at things through telescopic lenses rather than globally.

Although we are considering enabling the domestic use of broadband and attracting business into the countryside by providing them with the services that they require, the two sets of requirements are different and may involve two different levels of technology. To an extent, it appears that when communities are able to organise, there are solutions available for extending ADSL through an enabled exchange or from a satellite reception point. That requires co-ordination but it is certainly not impossible, particularly with the help of agencies and community representative bodies. Estates can also play an important role in that.

The domestic and small business market is one in which we are looking to develop rural regeneration. We need to consider what

businesses require in order to relocate, develop or extend into rural areas. Services such as transport and education and infrastructure of all kinds come into that equation, and so should connectivity.

Brian Adam: Do you agree that there are some practical difficulties with that? Some rural areas will set aside only enough land for a small factory. Are you saying that whoever takes on such development will have to deliver what might be a unique connectivity solution for that particular piece of land before they are granted planning permission?

Andrew Bruce Wootton: No—it is a question of horses for courses. A small piece of land in a fairly remote area might not be the right place to put a hi-tech industry point. However, the structure plan and the local plan will identify more appropriate areas where the potential warrants investment. I am led to believe that the use of fibre optic cabling will produce long-term benefits that will possibly lead to the development of technology over quite a significant period of time. That investment by the private and public sector might well be the long-term planning investment that some areas of the countryside need to deal with regeneration and redevelopment. That was the case at the Crichton centre in Dumfries. Regeneration and redevelopment are desperately needed in some cases and might be needed more after the effects of CAP reform kick in during the next few years.

Mike Watson: I will ask Mr Armstrong about the pilot scheme that his paper says was launched in June 2002. The paper does not suggest that the pilot is complete. What is its status? Has it been rolled out further than Crieff and Campbeltown?

15:00

Angus Armstrong: I do not know the status of the trial. I have not had a part in running it; it is run by the telecoms arm of Scottish and Southern Energy. The trial in Crieff is complete and was regarded as a success. The scheme has moved on to a commercial phase and commercial trials have been run in Stonehaven. I do not know how far the company has gone in other areas. The committee would have to speak to the company about that.

I have been quiet until now, but I would like to jump back to points that were made earlier. We talked of several possible developments in broadband and of concern about whether a solution for this year will be current next year. It would be a tragedy if we did nothing because we were concerned that the solution might become outdated in a year or so. My experience of broadband in Crieff is that it is a quantum leap forward. There is no comparison with what I had before. I now have a practical working tool that I did not have before and which is bearing significant fruits. We should persevere with it. I congratulate the Scottish Executive on its support and money for the initiative.

I am not a technical or IT person; I have a working business in structural engineering. IT is simply a tool for me, but it is a very useful tool. I am not completely genned up on all the different systems, but I am aware of them. It is clear that different areas require different solutions. We talked about developing businesses in rural locations and I am pretty sure that that would dictate a different solution from the solution that we have in Crieff. I apologise if I have wandered off at a bit of a tangent from your question.

Mike Watson: I would like to respond, but Brian Adam has a follow-up point.

Brian Adam: You suggested that broadband has made a big difference to your business. You often deal with rural architectural practices and send them drawings. You now have the capacity to send information, which is fine, but what proportion of your customers have the capacity to receive it? As I said to the previous group of witnesses, if you have lots of big gizmos, your customers will not sit to wait to receive them, or their system will fall over. How useful is broadband to your customers?

Angus Armstrong: That is a good question. In the conclusion to my paper, I said that if Alexander Graham Bell had been the only man with a telephone, he would have been a lonely soul. I say to the Scottish Executive, “Go forth and ensure that as many people as possible have broadband.”

The issue that Brian Adam raises has not been a problem for me. I receive drawings from and send drawings to people. I do not know what proportion of the people to whom I send drawings have broadband access. Perhaps they are just suffering the price that must be paid for having a traditional modem connection. My business is more efficient because it has broadband access. That has meant that I can communicate and do business with architects who are spread around rural Perthshire and rural Scotland and with people who are in Edinburgh.

My current major contract is in Ireland, which involves exchanging drawing files with Ireland. The project has a constant need for development and exchange of information, so we can exchange information through drawing files that are generated on computers. In addition, I have found a benefit from having an e-mail connection that is always on. Paul Cassidy referred to that. That is invaluable—I cannot emphasise that enough. It is like sitting in the same office as the people with whom I am working, although they are sitting in Ireland. I can clatter out an e-mail, which is

received by the person at the other end, who responds by typing something out and sending it back. On busy days, I can exchange 10 such e-mails; they zip back and forth, allowing for constant development. Distance is not a problem when we are in such a development phase. The fact that they are in Ireland and I am in Scotland does not matter—the job could be in Hong Kong.

Mike Watson: I am interested in the extent to which ADAC and Plexus have benefited, not only from the pilot study that involved ADAC, but from the fact that Plexus was the first company in its area to have wireless broadband. Without the two initiatives in that region, would the two companies now be connected to broadband?

David Newman: No, absolutely not.

Angus Armstrong: No.

Mike Watson: The Plexus paper states that BT initially said that Plexus would not be connected through ADSL, although it has changed its position. We received evidence to that effect last week. Does Mr Newman know of other businesses that have put pressure on BT, having received a negative reply in the first instance? Is there evidence that small companies such as Plexus have worked together to apply such pressure?

David Newman: Yes. Plexus has been involved in arguing for better technology for years. I participate in a group of technology-based companies from all parts of Ross-shire, from the west coast to the east coast. Some of the companies in the group are experiencing the same problems at present. They are trying to put pressure on and are hoping to get help from the enterprise company. The various forms of assistance that they receive from time to time have been absolutely invaluable to them, as they were to us.

If we did not have a broadband connection, wireless or otherwise, and if we had not been helped by Highlands and Islands Enterprise, I am convinced that BT would not be providing us with a line. It is due to be installed in two months' time. That pressure has been useful. Like many of my colleagues, who are making really important business decisions, I have experienced incredible frustration in trying to get answers from BT.

We considered a move out of our rural town just over a year ago because we were told that we would not get broadband if we were not in Inverness, which is the closest main town, or one of the other large towns that are nearby. It was not indicated that broadband would be provided in our town. Almost everyone to whom we spoke at that time, which is less than 18 months ago, said that we would not get broadband.

We are talking about really important decisions. If we had taken our business out of the town, we would no longer be employing the people in the town whom we now employ and there would have been a loss to the local economy. It really has a major impact.

Mike Watson: I was not aware of power line communications before now. Mr Armstrong's submission states:

> "the Internet is brought right to the customer through a normal power socket without the need to tie up an existing phone line or install a new one."

That seems to have great possibilities for rural communities, for example in Perthshire and the Highlands and Islands.

I am aware that Crieff is a town of some size. Mr Armstrong might not be the best person to answer my question; perhaps I should put it to Scottish and Southern Energy. Is there any reason why that form of broadband connectivity cannot be extended throughout most, if not all, of rural Scotland?

Angus Armstrong: Yes, there is a reason. I will explain how the system works, to the best of my understanding. It will be a crude explanation, as I do not have an IT background.

The fibre optic cable between Perth and Crieff comes to the main station in the town and transfers the internet song, as it were, on to the power lines. That is then distributed from the main station in Crieff to the substations. More technology is required at each substation to boost it. Only then does it eventually come to me.

Houses on the streets that have an enabled substation receive broadband access. Generally speaking, the odd farms and diverse dwellings in Strathearn are not serviced by a single substation, as they may be serviced by a transformer on a pole or whatever. That said, quite an investment in infrastructure is required to bring broadband to certain areas.

Mike Watson: Thank you. That explanation from a non-IT person was very helpful for another non-IT person such as me.

The Convener: Murdo Fraser will ask the next question.

Murdo Fraser: Mike Watson has rather stolen my thunder and has asked Mr Armstrong all the questions that I was going to ask. As I have nothing to add to what has just been said, I will happily pass to someone else.

The Convener: In his submission, Angus Armstrong mentions that a symmetric digital subscriber line delivers broadband to the substation. Is the quality of service received from that any better than the service that would be received from an ADSL broadband service?

Angus Armstrong: I have absolutely no idea. I have not been able to compare the two systems.

The Convener: We will ask Scottish and Southern Energy about that. Chris Ballance is next.

Chris Ballance (South of Scotland) (Green): I find myself in a similar position to that of Murdo Fraser, in that most of my questions have already been asked. However, I have one small question. Have any of the businesses that the three witnesses represent costed the benefits of broadband? For example, have you ever worked out the ratio of the financial benefit that you gain from broadband to its cost per annum?

David Newman: Since we got broadband, our business has completely transformed over the past year. I know from looking at our figures prior to the end of the financial year that we have done considerably well this year. I can put an awful lot of that down to being able to work more efficiently.

That said, it is about more than being able to work efficiently. We work in a completely different way from how we worked 15 months ago. All the different aspects of how we work and play have led to more efficiency, a greater responsiveness to customers and, at the end of the day, more money.

Chris Ballance: Is everything a benefit? After all, we have heard of technologies that have changed one's way of working, but businesses have had to run to keep up with those technologies and to be able to utilise their benefits fully.

David Newman: A moment ago, I talked about the way in which we work and play. Indeed, I was thinking about this matter on the train on my way to the meeting. I am sure that I speak for my colleagues at Plexus when I say that we all enjoy coming to work in the morning. In addition, we do things throughout the day that we would not have done before. My partner and I are both film fanatics and while we work we swap questions about, for example, bit-part players in certain movies. While one hand is working, the other is trying to find out the answer from Google. It is interesting. I like the interaction that broadband has led to. The way we work is very different from how we worked before.

That extends to our community and even our customers. I have noticed that the way we speak to and do business with our customers has changed. For example, when we used modems and even ISDN connections, we would probably have an initial conversation with a client over the phone and take a few notes. We might have a meeting the following day to discuss what the client wanted and then, after another day, we might get back to the client. It was a very analogue—or linear—way of working.

We do not do that any more. For example, a client might want their website changed. As they explain what they want to us over the phone, we might bring up their existing website on our screens and discuss it with them. If a client wants us to look at their method of taking online orders, my colleague, who is a programmer, will check it online and give instant feedback. Although such a conversation might last only 10 minutes, it can contain many things. First, we have given the client the feeling that they are talking to someone who knows what they are doing and, secondly, we have given them an awful lot of other information. By the end of the conversation, you will probably have sold yourself to the client, which is important. If it takes two or three days to get back to them, you will have lost not only extra time but probably the impetus of the initial meeting. When you use the technology, many little things like that can change.

15:15

Angus Armstrong: I will add to that from a slightly different perspective, although largely I agree with Dave Newman. Broadband makes business in the rural community more viable. I think that it was Alasdair Morgan who asked the previous panel whether it was just a case of grabbing hold of the latest technology. I do not disagree that there is a danger of that but, if someone is looking for a person with whom to do business, an ability to project a positive, up-to-date, modern image will help in securing the work. Securing work in the rural environment is difficult enough, because it is hard to convince people who are 50 miles away—perhaps even people from the town—that they can get just as good a service from a rural company as they can get in town. If I did not have a telephone, I am damn sure that such people would not do business with me. These days, it is not an optional tool. Having broadband capability gives a business in the town an edge; a rural company without such a capability is made to resemble the country cousin, with the result that it might not be able to convince people that it can do the same job for them as the business in town can.

Mike Watson: Paragraph 6 of Mr Bruce Wootton's submission includes the comment:

> "Estates, in partnership with their local communities, are well positioned to act as 'local champions' for smaller local businesses".

Does that simply mean signing people up to create the demand from BT, say, for ADSL, if that is possible, or, in more remote communities, could that mean working in partnership on a co-operative basis? You talk about small local

businesses or homes subletting from larger businesses. Will you explain more about what you had in mind in that paragraph?

Andrew Bruce Wootton: Okay. Such a model can work in situations in which there is an enacted exchange that extends out of the central village for nearly 4 miles and which covers a proportion of the exchange's business users—although not all of them by any means. Crieff has dealt with that by extending the service through the power lines. Such a set-up can cover the same sort of distance as an enacted exchange.

Wireless can go further, but there is a capital cost and it is necessary to have co-ordination of the people who will use the service for it to be viable, unless there is substantial public investment. One of the problems is fixing a core user—an anchor tenant—so that the scheme has core funding or revenue to keep it working and to pay for its up-front costs. Many working models of an extended wireless system have already sprung up in Scotland and I am pleased to say that, as a direct result of the seminar that was held a few weeks ago, there will be a few more, for which estates will act as the main sponsor. That will offer benefits to the estate businesses that operate in the area, which it will be possible to pan out to private businesses and domestic users.

An extended wireless system is another possible solution. An estate business or other large business, such as the House of Bruar in Highland Perthshire, which falls outwith the enacted radius of the local exchange, could act as an anchor tenant and pay the substantial cost of installing a wireless system. That would enable the surrounding smaller businesses and houses to benefit.

Mike Watson: Is that beginning to happen already?

Andrew Bruce Wootton: It is happening in the Borders quite a lot. The matter depends on whether further exchanges are rolled out. A huge number of exchanges have come online in the past year and, if more come online, that will reduce the number of situations in which the wireless option is sensible. However, some wireless systems exist and the more models are rolled out and the more service providers come online to provide competition, the more viable wireless systems will be. From what we have been told about some of the existing pilot projects, the capital costs are not terribly excessive when compared with the other options.

The Convener: As there are no more questions, I thank the witnesses for their evidence.

I inform members that I intend to have a short break after the next panel of witnesses.

Renewable Energy Inquiry

15:21

The Convener: Item 2 on the agenda is our inquiry into renewable energy. The first panel of witnesses comprises Charles Davies, who is the director of commercial policy for National Grid Transco, and Dr Lewis Dale, who is the regulatory strategy manager for National Grid Transco. I ask the witnesses briefly to say what their jobs entail, after which we will move to questions.

Charles Davies (National Grid Transco): My primary role at present is as the director of the BETTA—British electricity transmission and trading arrangements—project. I am also involved with other aspects of commercial policy such as charging and contractual arrangements.

Dr Lewis Dale (National Grid Transco): My job is primarily associated with our on-going discussion with the Office of Gas and Electricity Markets, the regulator, but I also look after combined heat and power and renewable issues in the company.

The Convener: You have submitted a full paper in evidence, which I suspect would repay rereading several times. I will ask a couple of general questions—I am sure that my colleagues will pick up the technical details. Most of the paper seems to be predicated on the development of wind energy either onshore or offshore. Is that because you reckon that that is the most likely scenario? The paper pretty well ignores tidal or wave energy.

Dr Dale: Our evidence is based on the work that we have done to respond to renewables. As our paper points out, the Department of Trade and Industry's transmission issues working group has asked us to consider reinforcements to our network. Charles Davies and I are involved in the distributed generation co-ordinating group and we have been asked to examine intermittency issues. Wind power is seen as the front-running renewables technology; people expect to see a great deal of it by 2010 and they are asking us about the network issues that would arise for wind power with a high-voltage transmission system.

We have had discussions with wind power developers who are thinking about connecting directly to our system or who are talking to distribution networks in England and Wales. I am sure that many other renewables projects are talking to the distribution companies, but, as they would not need to talk to the high-voltage network, we have had little contact with them up to now.

The Convener: Why would those projects not need to talk to the high-voltage network?

Dr Dale: We own and operate the 400kV and 275kV transmission system. As a rule of thumb, a connection to our system would be the most economic option only for a large generator—certainly with more capacity than 100MW. Smaller generators would normally talk to their distribution network operators and connect at a lower voltage. If they do not require a generation licence, they might never have a commercial relationship with us.

The Convener: Surely if a lot of small generators are coming on line, their activities will have consequences for the part of the network that you manage.

Charles Davies: That is certainly the case. The small generators will have an impact on the flows on our transmission system. Clearly, if 10 50MW generators connect to a distribution network in a particular area, the 500MW that are generated will have a significant effect on the flow on our system, increasing it in an exporting area or reducing it in an importing area. Nevertheless, at least in England and Wales, those generators will connect to and have contractual relationships with the distribution networks and we will be aware of them via our contacts with the distribution networks.

The Convener: Our next panel today will include witnesses from a project that gives houses their own windmill—if I can put it that way. If such technology were significantly to take off, what would be the impact on the grid?

Dr Dale: Central heating boiler replacements that produce electricity are another such technology. We have considered scenarios in which there are large amounts of distributed generation of various sorts. Generation at the lower voltage level in the home or near to where the electricity is consumed certainly alters the flows on distribution networks and, to some extent, changes the way in which those networks operate. At the high-voltage level, we might find that there is less flow from our network on to the distribution networks and we might even find that the direction of the flow changes, so that distribution networks transfer electricity to us.

Although the flows on the network might change as a result of such generation, our role will probably remain, first, to make large bulk transfers of energy around the country. For example, Scotland is rich in renewables, but there is a lot of load in the south-east, so the power must find its way through our network to meet that load. Secondly, our role in ensuring that generation and demand are balanced from second to second will continue, although the way in which that balancing is done might change because the generation is no longer from large power stations but from much smaller power stations.

The Convener: I am not sure exactly how much electricity can be generated from such projects—we will find out when we hear from the next panel of witnesses. Could lots of small generation of that type make your job easier, or cheaper?

Dr Dale: That would depend on where the generation was—

The Convener: Everywhere, I presume.

Dr Dale: Gas-fired CHP generators in the home, for example, will be close to the large load centres and the power will not need to be transported very far. However, in relation to wind power, there will tend to be more generation in the windier areas, so we could still expect to see a need for large bulk transfers.

The second aspect of our job is about balancing. Predictable small generators do not add much to our balancing task, but very intermittent generators—I suspect that small wind generators will be as intermittent as bigger wind generators—will require us to take additional balancing actions to deal with that intermittency.

15:30

Brian Adam: Good afternoon, gentlemen. I found your paper challenging—it was not always easy to follow. Would I be right in thinking that the outcome of the discussions on BETTA will have a significant influence on the kind of renewable energy that is economically viable and on the various possible scenarios that you paint in your paper? I take it that those discussions, which are at a fluid stage, are important.

Charles Davies: They are important—

Brian Adam: I am sorry, but I should have declared an interest. I am a very small shareholder in your company.

Charles Davies: The outcome of the discussions on BETTA is important in a number of areas, not least that of renewables, but primarily in establishing proper and efficient arrangements for running a single Great Britain market and a single Great Britain transmission system, in place of the separate systems that we have at present. From a National Grid perspective, we have to look at the issue in two ways: from the point of view of our current role as transmission owner and operator in England and Wales and from that of our potential future role as system operator for the Great Britain system.

Brian Adam: Would it be fair to say that, as the only other two transmission operators are in Scotland, and they are still generators, transmitters and distributors, we have to take cognisance of the fact that the comments that you are making would have a significant effect on your

competitors? Changes in BETTA, or indeed changes in the capacity of the interconnector, would have a significant commercial implication for your company and for the two Scotland-based companies that are involved in distribution.

Charles Davies: Commercial elements are involved, but I would not agree that we are competing with the Scottish companies in any respect. Our licence precludes us from involvement in generation and supply activities, so we are not involved in any way in those activities in England and Wales, nor would we be in Scotland. We are clearly involved in transmission activities in England and Wales and have the potential to be involved in Scotland. However, those are monopoly activities that are subject to regulatory oversight; they are not competing activities, because, under the proposed BETTA licensing arrangements, each of the three transmission licensees will have a geographical area in which it is the transmission owner.

Brian Adam: Nevertheless, it would be fair to say that, in the regulatory environment that BETTA sets out, there are different drivers that will influence how well each of the companies does. That almost runs contrary to the idea behind BETTA. Your submission mentions several times that the arrangements are cost reflective and that variations to those arrangements are almost always made to keep the transmission side of the two Scottish businesses viable. The bulk of the profits of Scottish Power, for example, comes from the lines rather than from the distribution side or the generation side. BETTA will have a big influence over that and therefore over whether those companies can afford to invest in the connections that are required to deliver the renewables, let alone anything else.

Charles Davies: I certainly have no in-depth knowledge of the structure of the accounts of Scottish Power or Scottish and Southern Energy, or of where the bulk of their profits come from. However, I do not believe that the BETTA proposals as they are currently structured in any respect involve head-to-head competition between National Grid and the transmission owners of the two Scottish companies, which will remain their licensed business. I do not think that there is anything in the proposals that are currently being consulted on that would lead to such a circumstance.

Brian Adam: Will you say a little more about why there must be early decisions in advance of the introduction of common market arrangements for GB-wide transmission access? Why do we need early decisions about how the interconnector and other infrastructure changes that might be required will be dealt with?

Charles Davies: Currently, there is a capacity and a capability to send 2,200MW of electricity from Scotland to England, which is based on a contractual agreement that has been established between National Grid Transco and the two Scottish transmission companies. If renewable energy is expanded in Scotland—and we all expect that to happen; certainly our Scottish colleagues say that there has been a great deal of activity and many connection applications—that will lead to increased requirements for transmission capability, so that electricity can go from areas in which it is produced to areas in which it is likely to be consumed, such as the south of England. Scotland already has a generation plant surplus.

The longer such decisions are postponed, the more restricted the capability of developing Scottish renewables resources will be, because the physical infrastructure will not be in place to transmit electricity from the additional generating capacity in Scotland to the market in England. There must be an increase in the physical capability of the system to move the megawatts from the new wind farms in Scotland to the demand centres in England and Wales. Therefore, we think that the sooner such decisions are made, the better.

Brian Adam: Any greater predominance of offshore energy would more likely be south of the border and capital costs and the cost to the consumer would be lower. Is it fair to say that?

Charles Davies: The capital costs of reinforcing the transmission infrastructure would be lower, but the capital costs of the offshore wind generators are likely to be higher and the connections from the wind generators to the shoreline—which are not included in the joint study that was undertaken with Scottish Power and Scottish and Southern Energy—are not included in those costs. Certainly, the transmission reinforcement cost is lower, but offshore wind costs are likely to be higher.

The Convener: I take it that that is what you are talking about in paragraph 30 of your written submission, where you say:

"We believe that the most appropriate approach would be for Ofgem to agree the need for an initial co-ordinated set of reinforcement works in Scotland and England & Wales so that future funding of the associated investment costs can be assured."

What exactly does that mean?

Dr Dale: For investments that we make in our network, we receive future funding if Ofgem agrees that the investments have been efficiently incurred. Part of our written evidence explains that it is difficult to demonstrate, using existing methods, that our planned investments are efficient. We could wait until BETTA is in place and generator projects are under way in Scotland and use that to demonstrate that reinforcements

are a good idea. Unfortunately, that could mean that there would be a long period when the network would be undersized and a barrier to the development of renewable generation in Scotland. Therefore, we suggest that, rather than wait until a definite need is apparent because people have built wind turbines, it would be a good idea to develop the network in parallel with such developments to ensure that the capacity exists when they start operating, which would secure their route to the market.

The Convener: Effectively, you want Ofgem to say to you, "We think that this amount of capital investment is needed. Go ahead and we'll allow you to recoup the costs of that plus make a reasonable profit in your charging." Is that correct?

Dr Dale: Yes.

The Convener: Have you had any indication of whether that suggestion is being favourably received?

Dr Dale: Ofgem consulted last October on possible ways forward for dealing with the investments. We and the Scottish transmission companies are having to extend our price controls by a year. We expect Ofgem to deal with that issue as part of the regulatory arrangements for extending our price controls. There will be an opportunity for dealing with that this summer.

Murdo Fraser: I am sure that your written submission is comprehensive and that it is comprehensible to people who understand such matters. However, I find it somewhat opaque—perhaps my colleagues would concur with that view. The last sentence of your submission—in paragraph 49—states:

"Measures that will improve the incentives in the electricity market to maintain security of supply, however, are likely to increase the imbalance costs faced by intermittent generators."

Can you explain what that means?

Dr Dale: In the new electricity trading arrangements markets, which were introduced in England and Wales in April 2000, generators and suppliers can buy and sell electricity and self-operate their generators to meet their contracts. National Grid's role is to do the residual balancing. The vast majority of the electricity that is bought and sold in England and Wales is controlled by the parties concerned—more than 95 per cent of energy is largely driven by generators self-dispatching themselves to meet their contracts.

The incentives on generators to follow their contracts and on suppliers to contract for the electricity that their consumers require come, in part, from imbalanced charges—that is, charges for not following their contracts. If a generator contracts but then does not generate to meet that contract, we as the system operator have to find electricity from somewhere else at short notice. The cost of that action is met through imbalanced charges on the generator concerned.

15:45

Murdo Fraser: Thank you. That was a good explanation. What are the measures that you speak of that would improve the incentives to maintain the security of supply?

Dr Dale: There are some questions about the future security of supply. For example, last summer we saw historically low plant margins—the surplus of generation over peak demand for the coming winter. On that basis, we informed the market and tried to encourage generators to bring plants out of mothballs to meet those peak demands. One of the measures that are being discussed to try to encourage generators not only to keep their plants in service and not mothballed, but to build new generators, is to alter the imbalanced charges to make the consequences of not having enough generation more severe. One can see that that would be good for encouraging generators into the market and for dealing with the security of supply, but, if the generator is intermittent—such as a wind turbine, given that the wind blows hard or less hard on a particular day—imbalanced charges could give rise to more commercial difficulties.

Murdo Fraser: Am I correct to say that, because of the way in which the charging regime is going, people will find it less attractive to invest in wind turbines?

Dr Dale: That could be one of the outcomes. We have to distinguish between charges to pay for the networks and to ensure that there is enough network capacity and charges that arise in the energy market between the market participants to encourage them to have enough generation to meet the contracts that they enter into. We are talking about the latter. Those charges arise in the energy market—they have nothing to do with National Grid. However, they form an important part of ensuring that people meet their contracts.

Murdo Fraser: I think that I understand that. The net effect of what you suggest seems to be that it is more in the financial interests of the generators to develop less intermittent forms of energy production. Do you agree?

Dr Dale: Yes.

Mike Watson: Paragraphs 42 to 44 of your written submission set out the standby generation requirements in some detail, but I am not clear on the cost. You say that about one third of conventional capacity

"can be retired without any increased probability that load

reductions would be required due to generation shortages on cold days".

You go on to say that, as the amount of wind increases, a smaller proportion of conventional capacity could be retired. You talk about the costs of that in paragraph 48, in which you reckon that an additional £40 million per annum would be necessary for 8,000MW of wind turbines. What would be the cost for the larger example that you give? Would that still fit in with your point that

"economic and market factors will become increasingly important"?

How do those two issues relate, if indeed they relate at all?

Dr Dale: First, I will explain the different sums of money that we are talking about in our submission and where they occur as a result of the present structure of the electricity market. The

"£40m per annum for 8,000MW of wind turbines"

is the cost that we estimate might be required to deal with short-term intermittency and the additional balancing tasks that we would face. When I say "short-term", I am talking about the last few hours before real time.

Wind is a more intermittent form of generation than the generation that we see at present in the electricity market. To some extent, the intermittency gets averaged out with demand forecasts and other uncertainties in the market. Nevertheless, our estimate of £40 million is based on the fact that wind will be less certain in the short period before real time. Reserves and frequency-responsive generation would have to be brought into service for that period of time.

That issue is separate from the need to keep standby capacity in the electricity market to deal with peak demands on days when there is very little wind. That is not a cost that we, as National Grid Transco, would see; it would be borne by the generators and suppliers in the larger electricity market.

In our calculations, we tried to work out how much existing generation—I am talking about thermal power stations—would need to be kept in service to deal with cold days on which there was little wind. That is the issue to which we refer in paragraphs 42 to 44, whereas paragraph 48 addresses purely the short-term balancing in the last few hours of operation.

Mike Watson: Thank you for clarifying that.

You mentioned the costs that would be borne by suppliers in the larger electricity market. Would they be willing to bear those costs? Would they say, given those costs, that it was worth while for them to get involved in wind generation? At what level might the suppliers say that they were not prepared to bear the costs?

Dr Dale: That is a very good question, and one to which we would like to know the answer. If the market works efficiently, as more and more wind power is developed the costs of keeping flexible generation in the market will appear in the power prices in the market. I presume that that will either encourage flexible generation to remain in service or encourage customers to contract with forms of generation that are different from intermittent wind generation. It is difficult to predict which of those two outcomes—

Mike Watson: In other words, more reliable forms of generation.

Dr Dale: Quite so. There are more reliable, less intermittent forms of renewables.

Chris Ballance: In paragraph 13 of your submission, you estimate the network reinforcement costs. Did you assume a level of small scale and micro scale—by which I mean a level of less than 500kW or so—or were the costs assumed to be purely from larger wind farm developments?

Charles Davies: The key issue in respect of the figures in paragraph 13 is the location rather than the voltage of the connection.

In the studies, particularly the onshore study, we assumed that there are levels of renewable generation in Scotland. Our scenario provided for levels of 2,000MW, 4,000MW and 6,000MW. The transmission reinforcement costs will be the same, in essence, regardless of whether there is a large number of small generators of 500kW or less, or a smaller number of larger generators. The local connection costs may be different, because there will be variations in the system's flows, as we said earlier. I gave the example earlier of using 10 50MW generators or one 500MW generator. Equally, one could cite the example of ten 500kW generators or a 5MW generator, which would still affect the flows on the system.

The companies that act as transmission operators in Scotland at present may see the situation as one of negative demand, or of decline in demand, in the exporting area. Such decline will lead to increased exports from the exporting area, however, and in our judgment will require a certain level of transmission reinforcement. As far as we are concerned, the issue is the location of generation rather than the voltage of connection.

Perhaps the next panel of witnesses will discuss the prospect of a large number of houses in Scotland having individual wind generators. From our point of view, the important fact is that the generators are in Scotland, not that they are small individual generators. That is what we were trying to sort out in paragraph 13 of our submission.

Chris Ballance: Would not the effect of such generators be purely to reduce demand, in Scotland or wherever? I understand that some of the micro-generators are on the consumer side of the meter and that, therefore, they are not exporting back but merely reducing the level of demand. Does not that reduce the flow?

Charles Davies: Let us examine the arithmetic. The numbers are broad, but let us assume that demand in Scotland at a particular time is 4,000MW and generation in Scotland at that time is 6,000MW. Therefore, 2,000MW is being sent to England and Wales. If 1 million homes suddenly acquire a wind generator and demand in Scotland decreases from 4,000MW to 3,800MW, Scotland will be capable of exporting an additional 200MW to England. Demand will have reduced and the balance between demand and generation will have changed from 2,000MW, in my first example, to 2,200MW. That will be seen as negative demand or as a reduction in demand, but it will provide for the potential to increase the flows on the transmission system and it will require reinforcements.

I come not from Scotland, but from south Wales, which imports a large amount of electricity. If windmills were placed in south Wales, the flows on the transmission system would be reduced even though the windmills would be operating at the individual household level. The demand in homes in south Wales and the flows that we have to put there would both be reduced. The question of how local generation, or distributed generation, affects the need to reinforce the transmission system relates to location and the existing flows on the system.

Chris Ballance: I think that I understand. Less generation of all kinds in Scotland, and more in south Wales and south-east England, would help National Grid Transco the most.

Charles Davies: No.

16:00

Dr Dale: The unstated assumption in the discussion that we have just had is that if micro-generators are introduced into people's homes, they will consume less electricity.

The effect on the transfers south into England and Wales would depend on what happened to the other generation in Scotland. At the moment, Scotland has a surplus of generation, which is why it exports to England and Wales. If more generation is brought on but existing generation is not closed, there will be even more power to export. Of course, there could be a scenario in which micro-generators replaced existing generators in Scotland, in which case the exports to England and Wales would remain the same and the reinforcements would not be required. The effect would depend on the overall balance between total generation in Scotland—whatever the type—and total demand in Scotland.

Charles Davies: I want to return to a comment that Chris Ballance made. I think that he said that we would like there to be more generation in the south and less in Scotland.

Chris Ballance: I will put that another way. I was making the point that that would be most helpful to you, in terms of avoiding the need for network reinforcements.

Charles Davies: I accept that entirely. It is our job and we have an obligation to meet the requirements of users; what I like or do not like is irrelevant. If generators want to locate in Scotland, it is our job to provide a service to them and to reinforce the network. I agree with your point, as you restated it.

Chris Ballance: That brings me neatly to my next question. We have talked a lot about the Scotland-England interconnector, but will you tell us a little about the interconnector with France? Does it have a role to play and would it be worth mentioning?

Charles Davies: The interconnector with France is different from the one with Scotland—at this point, as a non-engineer, I will get technical and Lewis Dale will have to tell me where I get it wrong. The interconnector with France has a capacity of 2,000MW, which is about the same as the one across the border between Scotland and England. It is direct current, rather than alternating current, which means that it is controllable. We set a dial and say, "How much do you want to send and in what direction?" With an AC system, the power flows according to various laws of physics, which I am sure that Lewis Dale can describe more accurately than I can—

The Convener: Perhaps we will skip that bit.

Charles Davies: The point is that one cannot control the flows in the same way. One current is controllable, the other is not—that is the non-engineer's understanding. The flows over the England-Scotland border are determined by how much generation is on in Scotland and in England, what the demand is and so on.

The French interconnector was built in the mid-1980s as a joint project between the old nationalised industries: the Central Electricity Generating Board and Electricité de France. Pre-privatisation and up to the late 1990s, it exported almost continuously from France to England as a base-load 2,000MW. Since then, because of falling prices in the England and Wales market and rising prices in continental Europe, the flows have been more evenly balanced and the

interconnector has not been utilised as fully as it used to be. Sometimes the electricity flows from England to France and sometimes it flows from France to England. The flows on that interconnector are determined by suppliers, not by National Grid Transco. We operate the interconnector, but the flows depend on the contracts that people in England have struck to take supplies from France and vice versa. That is the background to the French interconnector—I am not sure what else you had in mind when you asked about it.

Chris Ballance: I wanted to understand more about that interconnector, because I knew that it existed but I knew nothing about it. I have no idea whether it has a bearing in terms of alternatives for network reinforcements and whether it has extra capacity that could be used to help to balance a large amount of wind power.

Charles Davies: The flows in our existing system in England and Wales are predominantly from north to south; there is generation surplus in the north and demand surplus in the south. In the GB market, the situation is even more marked. As we said, there is surplus generation in Scotland. From a system point of view, having the potential to in-feed 2,000MW from France to England is extremely useful, because it reduces the amount of transmission investment required. Of course, in the opposite situation, if we were exporting 2,000MW to France, we would be adding to a demand that is already excessive. That would cause more issues of system reinforcement to arise.

Lewis Dale might want to talk about how we deal with intermittent energy sources.

Dr Dale: It is possible to use the controllability of the link to France to address some of the intermittency issues that we have spoken about. Whether that is the right thing to do depends largely on the price of the service. Calling on large amounts of power at short notice is a premium service. It is more expensive than getting base-load. We have to compare getting that service from France with getting it from coal stations, oil stations, gas stations or any other provider. Increasingly, we can call on the demand side. Cement works and aluminium smelters can switch off their demand very quickly to help us to balance things. The link to France is one of our options, but time will tell whether it is the most cost effective.

Chris Ballance: I would like to ask you more about that last point, on reducing demand. Has that happened? What is the capability for that?

Dr Dale: Getting more electricity on to the system at very short notice is quite a specialised service area. A number of providers can provide that service. There is pump storage in Scotland and north Wales; there are gas turbines that can be run up; and some coal stations can operate in a mode that provides extra power. However, those are expensive options. Because the activity is fairly lucrative, some demand takers have found it worth their while to respond either to the market price or to instructions from their control centre to turn down their demand very quickly—sometimes automatically. In that way, they alter the balance of supply and demand at very short notice.

Chris Ballance: I was not aware of that possibility. Has it happened often?

Dr Dale: Since NETA, which has tended to identify better the costs of such services, the demand side has increasingly played its part in that activity.

Charles Davies: We have contracts with people who are large users—predominantly steelworks, aluminium smelters and cement works. They either provide an instantaneous response to a drop in generation—by shutting down a pot line aluminium smelter, for example—or provide for reserve after about 10 minutes or so.

The Convener: A point that is often made by those who are against wind farms in all their manifestations concerns the problem of intermittency. In paragraphs 37 and 39 of your submission, you seem fairly bullish about how well you can cope with intermittency. Paragraph 37, in which you talk about coping with balancing costs, says that, if the amount of wind is limited, the situation can still be accommodated. You seem to be implying that you do not see that as much of a problem. You say that even the problem of the 140-millisecond dip that trips everything out, as happened in Germany, can be accommodated with investment. Is that a fair appraisal of what you are saying?

Dr Dale: That is right. As Charles Davies explained, the intermittency issues can be dealt with by using aluminium pot lines and so on. We can call on all sorts of services to address wind intermittency, so we do not see that there will be a technical limit. In fact, around the world, there are some islands that have 100 per cent wind; they have standby generation, battery storage and the like, but inherently there is not a technical issue. It is just a question of ensuring that the standby or storage, or whatever you use to address the intermittency, is there and paid for. The economics are probably the biggest issue.

Some of the technologies that have been used in wind turbines up to now have been very sensitive to voltage dips, which can cause them to trip off the system. However, wind does not make up a large proportion of the generation, so if some of the turbines trip off from time to time that has not been a serious issue. However, if wind makes

up a large proportion of the generation, losing it all at once will obviously be difficult to deal with.

We have been discussing that issue with manufacturers and wind developers, and such discussion is occurring across the world. You may be aware that Ireland has called a moratorium on the development of wind power while that issue is being addressed. We want to avoid such difficulties, and any barrier to the development of wind power, by ensuring that that problem is sorted out before it becomes a serious issue. Our understanding is that manufacturers can solve the problem in the design of the wind turbines and the control systems that they use.

The Convener: Thank you very much. We reserve the right to write to you again to ask for clarification if we discover on second reading that there are things that we have not understood.

Charles Davies: I apologise. We shall have another look at our drafting capabilities and thin down our evidence.

The Convener: I am sure that it was more the nature of the topic than your drafting.

Charles Davies: Please write. We will be more than happy to respond.

The Convener: Thank you for your evidence.

I was going to suspend the meeting briefly, but I think that in view of the hour we should carry on. We move to the second panel of witnesses, to whom I apologise for the fact that we are taking their evidence a bit later than we had planned.

We have with us Angela Duignan, who is the project development manager of Baywind Energy Co-operative, and David Gordon, who is the chief executive of Windsave Ltd. Will you tell the committee briefly what each of your respective firms do?

16:15

Angela Duignan (Baywind Energy Co-operative Ltd): Baywind Energy Co-operative Ltd is the first and largest community-owned renewable energy scheme in the UK. Energy4All, which is a subsidiary of Baywind, was set up to spread the concept of community ownership, which is prevalent in countries such as Denmark and Germany. Community ownership maximises the economic benefits from wind farms because the turbines are owned by the community in which they are placed, so the profits stay within the community.

The Convener: Where are you based?

Angela Duignan: Our office is in Cumbria.

David Gordon (Windsave Ltd): I am grateful to the committee for giving me the opportunity to present information on Windsave and to answer the committee's questions. Most of the evidence that the committee has heard so far involves renewable generation on a large scale, particularly offshore and onshore wind. I hope that I can help to persuade the committee that small is also beautiful, and that the product that we have developed can make a significant contribution to the renewable energy target, quite literally at household level.

I am particularly pleased to be giving evidence to a committee of the Scottish Parliament, since the micro wind generation system that we have brought to the market is a Scottish concept, which will largely be manufactured in Scotland and will be marketed first here in Scotland. I would sum it up as a Scottish opportunity. We have a product that is a world leader, with all patent rights secured, and which has potential application wherever the wind blows.

There are three main strengths to the product—

The Convener: I wonder whether I could stop you there. I did not want a long presentation, because there is a fair bit about the company in your submission. Is your product in commercial development or is it awaiting demand from the consumer before you can begin to produce it commercially?

David Gordon: It has been produced commercially and we are getting ready to roll it out in June or thereabouts. We have finished all our trials and tests, and all our prototypes.

The Convener: What does the product look like? What size is it compared with, say, a conventional television aerial?

David Gordon: The diameter of a wind blade is 1.5m, and the size of the generator is 210cm by 300cm, so it is quite small.

The Convener: Obviously, the cost of the product will come down if many people take it up, but if I was your first customer, what sort of payback would I be looking for?

David Gordon: You would get a payback in less than five years.

Richard Baker (North East Scotland) (Lab): How much will a unit cost?

David Gordon: It will cost £750.

Richard Baker: What percentage of a household's electricity will be provided by the unit?

David Gordon: It will save in excess of 15 per cent.

Richard Baker: So the majority will still come from traditional power supplies.

David Gordon: Yes; the unit provides supplementary power.

Brian Adam: Do you envisage any planning problems in urban areas? People get into difficulty getting planning permission even for satellite dishes, which are smaller than the system you describe.

David Gordon: That is a fair comment. I am sure that certain areas may not be too happy, but to date, all the local authorities to which we have spoken from the north to the south have been exceptionally helpful and have bent over backwards to help us to do some sort of roll-out. However, we are still at the early stages of getting a direct picture.

Brian Adam: You gave us a figure for the purchase cost of the unit. Does it cost significantly more on top of that to install? You talked about there being a three-pin plug, but I presume that there will still be costs.

David Gordon: The figure that I gave includes fitting.

Murdo Fraser: That is an interesting proposal. I remember that many Highland crofts used to have a windmill at the back, which was generally used for pumping up water from a well. A small windmill at the back of a croft would not be an unusual feature in the Highland landscape. Clearly, there will be a direct benefit to a householder who decides to install one of the units, but is there any tie-in with the renewables obligation certificate regime?

David Gordon: Yes. At present, we are going through the clear skies accreditation process. Once that has been completed, we intend to issue an annual green dividend cheque back to the consumers.

Murdo Fraser: So if I install one of your machines, I will get a cheque back. From whom will the cheque come?

David Gordon: The cheque will come annually through the Co-operative Bank, which will handle the matter for us. The money that is generated from the electricity will be paid by the DTI and will go into a trust account to ensure that it is safe and sound. We can enable that process because we have built into the unit a remote metering facility and we have the host software that can read the meters monthly. More than a year ago, we were involved with the DTI because at that point micro-generation had to produce 1MW a month to qualify. Through a Government white paper, that figure has now been changed to 1MW per annum.

The Convener: Is the machine on the consumer side of the meter?

David Gordon: Yes.

The Convener: So it does not feed into the grid. If I have one of your machines installed and go away on holiday, does that period qualify for anything and, if so, why?

David Gordon: Every household has a 300W to 400W base-load, whether that is the security system or the fridge ticking away. Because there is an inbuilt sensor in our system, it supplies only the amount of energy that the household needs.

The Convener: I have a question for Angela Duignan. Some of the committee members were in Denmark recently, where we discovered that a lot of the wind generation there is a result of community involvement—many communities own wind farms. One reason why they are running into problems in some areas is that, as the wind farms get larger and larger, they are less about serving the community and more about a commercial venture, albeit one in which the community has shares. How do we avoid that problem?

Angela Duignan: Denmark has reached a high level of generation from wind power—on the west coast, the figure is up to 25 per cent—whereas we are at around 1 per cent. We are nowhere near the same level of saturation. We are working with larger developers who have consented projects so that we can buy one turbine out of 10, 20 or 50 and offer it up for community ownership. Our marketing is done locally, which is how Baywind was formed. Priority is always given to local people. In that way, the project maintains its local identity. The board members are drawn from average, everyday people in the neighbourhood. That is exactly what has happened with Baywind, which is a locally run co-operative for local people. That is what we are promoting.

The Convener: So you do not have any plans to expand outwith your own area, and you are sticking with what you have got. Is that correct?

Angela Duignan: No. After Energy4All was set up, we started an expansion process, which involves negotiating with the big developers so that, when they go into an area—we have one agreement with Falck Renewables and the Renewable Development Company, or RDC Scotland, which has just got consent for Boyndie wind farm—

The Convener: For what, sorry?

Angela Duignan: Boyndie wind farm is a seven-turbine project up in Aberdeenshire. We hope to be able to give a proportion of that wind farm to the local community, so that the profits can stay in that community, which can have its own green energy co-operative to address environmental measures. That is what our activities in Cumbria involve. We have taken the Baywind concept and we are using that model where we can to reach agreements with developers wherever a commercial wind farm is being constructed.

The Convener: You are acting almost as a facilitator. Where the local community does not have the knowledge or the experience, you are saving it from going up the learning curve that you had to go up when you set up. Would that be a fair summary?

Angela Duignan: Yes, that is what we are doing. We are being assisted through the Co-operative movement, which is supporting us in that work.

Chris Ballance: You are involved in a relatively small wind scheme in the South of Scotland region, at Lauder. Do you have any experience of working with bigger wind schemes? What reception do you get from Scottish Power and other electricity people?

Angela Duignan: We have approached all the wind farm developers to ask whether they would be interested in giving a proportion of the developments to community ownership—in fact, it is not giving, as the developers get paid for the turbine. So far, we have only the one deal in Scotland, which I mentioned earlier. There is some reticence on the part of some people in the industry to partake in such schemes, but we are working with them to overcome their hesitations, which are normally drawn from the perceived complications of legal and financial agreements. The best way to put it is that we are working on them.

Chris Ballance: Are the legal and financial implications particularly complicated? Do you have the solutions on hand?

Angela Duignan: Each wind farm is set up separately, and it depends on the company and on how the projects are financed. It is done on a case-by-case basis, but I would say that anything can be resolved if the will is there. We would like a lot more energy to be put into promoting the idea.

Chris Ballance: Your submission mentions

"run-of-river hydro schemes that are virtually unexploited".

I do not think that we have heard about "run-of-river hydro schemes" from anyone else. Could you expand on that?

Angela Duignan: There are some run-of-river hydro schemes being developed at the moment. When I went through all the technologies—biomass, wind, hydro and solar power—I found that, when we get down to schemes that communities can develop themselves, the costs, risks and requirements for knowledge are prohibitive. Very little grass-roots development is going on in the UK at the moment, and that is what I was referring to. Hydro developers are working on such schemes, but I was referring more to the community-based opportunities—I did not explain that very well.

Chris Ballance: You spoke about community ownership increasing public acceptance and satisfaction. That point is well made, and we heard it made in Denmark. What could the committee recommend to encourage community ownership?

Angela Duignan: Energy4All is doing work on developing community ownership through the generosity of Baywind members—who are based in Cumbria—who believe in community ownership. Much of the debate on community benefit has focused on trust funds, which are a separate issue. The community ownership idea has much more potential, but it has gone unnoticed so far. We must bring it to the attention of communities that the opportunity for community ownership exists and that now is the perfect time for it because the planning stage is the most fruitful time for exploring and developing community ownership.

Susan Deacon: I have further questions about Baywind. I thank you for your interesting written submission, which is thought provoking and encouraging and shows considerable ambition. However, I am keen to explore further what you believe needs to be done to translate that ambition into reality. It strikes me that, relative to what has been achieved since Baywind was established in 1996, you need to up the pace to a phenomenal extent. I am casting around for anything that you might like to add about how momentum can be achieved.

Energy4All is applying community ownership within the context of renewable energy, but it clearly has wider applications and I am particularly interested in hearing more about that. You made international comparisons with Denmark and Germany. I defer to the experience of committee colleagues who, unlike me, were in Denmark recently and may have the answer to my question. In Denmark and Germany, to what extent is a substantially higher level of community ownership of renewable energy schemes a product of a wider prevalence of community ownership in general and to what extent is community ownership prevalent only in the renewables sector? Can you unpick some of that to give us a sense of where we are relative to everybody else and how we might get closer to them, if that is where we want to go?

16:30

Angela Duignan: Sure. First, 1996 was almost eight years ago, but Baywind is probably the only large-scale, community-owned renewable energy development in the country. We are unique, but four new wind farm co-operatives should come on stream this year alone: three in England and one in Scotland. We must prove that community ownership can work under the ROC system. The

main problem has probably been that the renewables industry has been banging its head against a brick wall. However, now that the permissions are coming through and the megawatts are getting on to the ground, the concept of community ownership can be brought in. We have resolved most of the grid connection and planning problems, so now is the time to introduce the concept of community ownership. That is why we seek support at this stage.

We must promote the idea of community ownership, particularly in rural areas, so that communities themselves can provide the services that they need. I note that the committee is carrying out a broadband inquiry. The Phone Co-op sponsors a community broadband network, which allows communities to supply services that they need but perhaps cannot get from a developer, who is interested only in financial benefits. In contrast, social enterprises service the community within which they exist and work, which turns a business's emphasis round completely. Profits are important, because otherwise a company would not exist—we have returned good profits every year since we began operating—but a business can both service its community and make a profit. The revival of social enterprises has started. The more awareness there is of the opportunities that are out there, the more those opportunities will be taken up and the more examples of community ownership we will have. I believe that the idea of community ownership can be expanded from renewable energy into everything.

Susan Deacon: Can you elaborate a little on the wider Co-operative movement, to which you referred a couple of times, in terms of who is working with you to develop community ownership models and where? Have you any comment on the plan to establish the co-operative development agency—which is a specific Executive commitment—and how that might have a bearing on your work? I hope that I got the agency's title correct.

Angela Duignan: Baywind is a co-operative and we work accordingly, with a one-member, one-vote system. The minimum investment is £250 and the maximum is £20,000. Further, we created a savings scheme when we first set up to enable people who could not manage the £250 minimum investment to work towards it. The idea is to open involvement in the co-operative to as many people as possible. The Co-operative movement, which gave Baywind a support grant, is developing a renewable energy network and is about to get an officer on board to help with that. However, we are currently the only renewable energy co-operative. I do not know whether that answers your question.

Susan Deacon: It does. Anything that you can add to what we know will help the committee. If we assume that we agree with the model that you have presented, what can be done by public policy intervention to promote community ownership and make it happen more extensively?

Angela Duignan: We are considering the issue from two angles. First, we accept that, because of the policy, the risk and the money involved, big companies lead most wind farm projects—it is a risky business to be involved in. Most of our work is focused on such projects and, as I said, we are doing that off the back of the Baywind shareholders, so any assistance that we can have to support our work would be greatly welcomed. Secondly, the grass-roots level is untapped. If a community is committed to renewables, it immediately comes up against the barriers of knowledge and risk money. Overcoming such barriers is the key to getting other technologies, particularly biomass, off the ground. A developer will choose the most profitable sites, but wind and biomass are everywhere. Therefore, the issue is about tapping into such resources and tapping into the needs of all the communities that want green energy.

Susan Deacon: I have a final, specific question on a similar theme. In your written submission you made a point about grant support:

> "If grants offered by government could be match funded by private equity through co-ops many more schemes would be available".

Can you elaborate on what kind of grant regime you want in place?

Angela Duignan: Only one grant scheme is available for community renewables and it is available only if the renewables project is a not-for-profit one. To me, that contradicts the point of community ownership, which is to get an alternative income stream into rural areas that do not often get offered an investment opportunity such as renewables. The grant scheme had to fit with European Union state-aid rules, but there are ways round those and I would like them to be explored.

Chris Ballance: I have a short question for David Gordon. You predict that 190,000 units will be installed within the next six years. That seems to be a very optimistic prediction. That figure must be the equivalent of more than 10 per cent of Scottish houses. How realistic is that prediction?

David Gordon: Once consumers see that they can save energy quickly, a large roll-out will take place. Many of the 190,000 units that are predicted for Scotland—the figure excludes England—are for small and medium-sized enterprises and commercial organisations. When we launched in early December, there were 40,000 hits on our website and we have an extensive order book. Providing that we get a fair

wind, we should be able to get a reasonable roll-out.

Chris Ballance: Something tells me that you may have used that analogy before.

David Gordon: I am sorry. I remind members that the savings are immediate.

The Convener: You make the perfectly reasonable point that having installations on public sector buildings would send a strong message. Has interest in the scheme been expressed by the Scottish Executive and local authorities? Do you believe that the Executive should push it more?

David Gordon: The response from local authorities and government bodies in Scotland has been terrific. We have a list of contracts for units that we are ready to install. Public sector bodies have been super.

The Convener: I was hesitating to recommend the Scottish Parliament, because that would probably count as a design change and serve as an excuse for charging another £20 million or so.

Mike Watson: Don't go there.

The Convener: We will not go down that route.

David Gordon: The cost might end up as £7,500 a unit.

The Convener: I thank both witnesses for their evidence.

Football

16:41

The Convener: Item 3 on the agenda is the investigation into Scottish football. I ask members to declare any interests that they feel they must declare.

Mike Watson: I am a director of Dundee United Football Club.

Brian Adam: I am a small shareholder in Aberdeen Football Club and a season ticket holder.

The Convener: We are receiving declarations of interest from the most unlikely sources: I invite Murdo Fraser to speak.

Murdo Fraser: I am a debenture holder at Rangers Football Club. [*Interruption.*]

Mike Watson: Why is that unlikely?

The Convener: Okay—

Mike Watson: With a name like Murdo Fraser, I would not expect him to be a debenture holder at Celtic.

The Convener: I remind members that we are in public session.

A paper has been circulated setting out the background in professional football and the Scottish Premier League that has prompted the suggestion that we conduct an investigation. The paper includes a suggested remit and structure for the inquiry, which indicates how it will be carried out, and three recommendations. The fact that the last Scottish university to offer Latin and Greek teaching courses is ceasing to do so is no reason to let standards slip. I point out that under "Expenses" the paper should read "*de minimis*" rather than "*de minimas*".

We will begin by considering the second recommendation, which relates to the remit for the investigation. Are members happy with the remit that has been suggested?

Members *indicated agreement*.

The Convener: The first recommendation is that the committee agrees to appoint a reporter or reporters on Scottish football. I suspect that Richard Baker would like to be appointed, as he suggested the inquiry. Are other members interested in taking part?

Brian Adam: I suggested a similar inquiry at our away day at the beginning of the session. At that stage, there were not quite so many clubs in serious difficulty. I would be interested in taking part in the investigation.

The Convener: Are members happy for us to appoint joint reporters?

Members *indicated agreement*.

The Convener: The third recommendation is that members agree to allow me to deal with the expenses. In case any members of the press are listening, those will not exceed the de minimis limit of £100. Is that acceptable?

Mike Watson: It might be acceptable if there were just one reporter, but I am not sure whether it is sufficient for two. Given the number of organisations that need to be covered, the reporters should not go to the same places. The figure may have to be increased, perhaps even doubled. If we double the number of reporters, we cannot cover the ground with the same expenses.

The Convener: I suggest that for the moment we deal with the matter as recommended. If it appears that the limit will be exceeded, I will request additional funding from the Conveners Group. Is that acceptable?

Members *indicated agreement*.

Meeting closed at 16:44.

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