

# **ENTERPRISE AND CULTURE COMMITTEE**

Tuesday 25 November 2003  
(*Afternoon*)

Session 2

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## ENTERPRISE AND CULTURE COMMITTEE

### 10<sup>th</sup> Meeting 2003, 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)

#### COMMITTEE SUBSTITUTES

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:

Dr Janet Brown (Scottish Enterprise)  
Mr Gordon Campbell (ITI Scotland)

#### CLERK TO THE COMMITTEE

Judith Evans

#### ASSISTANT CLERK

Seán Wixted

#### LOCATION

Committee Room 1



## Scottish Parliament

### Enterprise and Culture Committee

*Tuesday 25 November 2003*

*(Afternoon)*

[THE CONVENER *opened the meeting at 14:01*]

### Item in Private

**The Convener (Alasdair Morgan):** Welcome to the 10<sup>th</sup> meeting of the Enterprise and Culture Committee in 2003. I have apologies from Jamie Stone, whose flight was cancelled.

The first item on the agenda is to agree whether we wish to take in private item 3, which is consideration of the first part of our draft report on the Scottish solutions inquiry, as is normal practice for draft reports. I also seek the committee's agreement to take in private similar agenda items at our 2 December meeting and, if necessary, our 9 December meeting. Is that acceptable to members?

**Susan Deacon (Edinburgh East and Musselburgh) (Lab):** I appreciate that doing so is consistent with normal practice, as you said, but a number of committees are revisiting the issue. Did we not say at an early stage that we were going to think about the balance of items taken in public and in private? I accept that we are where we are with the draft report, but will there be an opportunity for us to think about the matter in line with the former Procedures Committee's recommendation on items in private, which a number of committees are considering?

**The Convener:** I am happy to put an item on the agenda for next week if the committee wishes to have a debate on our general approach to the matter, if that would help to clear the air. The discussion would be not about the draft report on the Scottish solutions inquiry, but about our approach to reports in general.

**Susan Deacon:** The former Procedures Committee's general concern, which I share, was that, on balance, too much business was being transacted in private. One of the practices that the committee's report on the founding principles of the Scottish Parliament questions—and which many witnesses to that inquiry questioned—is considering draft reports in private, which is exactly what we are going to do. I could not remember where we had got to on the issue, if we had got anywhere on it, and I take the opportunity

to flag it up for us to consider consciously at some stage—not necessarily next week—rather than just adopting past practice.

**The Convener:** There is a debate on the former Procedures Committee's report in the chamber tomorrow afternoon and I suspect that the issue is one that will be raised then. We will leave it hanging on the wall at the moment and, if you wish to raise it with me again following tomorrow's debate, I will put it on the agenda for a future occasion. In the meantime, do we agree to take those items in private?

**Members** *indicated agreement.*

## Intermediary Technology Institutes

14:04

**The Convener:** We come now to item 2 on the agenda, on intermediary technology institutes.

**Christine May (Central Fife) (Lab):** I remind the committee that I was a member of the board of Scottish Enterprise when it agreed to set up intermediary technology institutes.

**The Convener:** We will now hear evidence from Dr Janet Brown, the director of competitive business with Scottish Enterprise, and Gordon Campbell, the chairman of ITI Scotland. I think that Mr Campbell has to leave us by about 2.50 to catch a flight to London, so we will understand if he has to slip out in the middle of the discussion, if it is still continuing. I invite either one or both witnesses to say a few words by way of introduction.

**Mr Gordon Campbell (ITI Scotland):** We thought that we might do a Box and Cox. Janet Brown, who has been involved with ITIs for far longer than I have, will start. I might add something later if I feel that it would be helpful.

**Dr Janet Brown (Scottish Enterprise):** I will start by putting ITIs in the context of the smart, successful Scotland strategy for economic development. It is important to consider the economy as a whole. Scottish Enterprise has been considering how to support all aspects of what companies need in order to grow in today's global marketplace. We have been looking into human capital and considering how to ensure that the people are available for companies to grow; that the skill set is appropriate; that the necessary finance is available for companies to grow, both at the early seed stage and beyond; that infrastructure is available by way of building space, incubator space and so on; and that the specialised business support is there to allow companies to take the opportunities that exist in the global marketplace and to make the money that will drive the Scottish economy.

One component of that is companies' ability to access the technology that will take them into new marketplaces. As the committee is aware, there is a significant productivity gap in Scotland and the rest of Europe. Much of the reason for poor productivity can be viewed in relation to innovation and companies' ability to take advantage of new opportunities and to improve their production mechanisms and new product introductions.

A significant portion of the effect is associated with a low level of business research and development. Scotland has half the business

research and development rate of the United Kingdom as a whole, whose rate is itself 50 per cent of that of the average for countries in the Organisation for Economic Co-operation and Development. That factor makes a significant contribution to the poor performance of Scotland's economy.

We have attempted to identify mechanisms for jump-starting business R and D, which allows companies to locate and interconnect with global marketplaces and to complete their first stage of development in a pre-competitive environment. That allows them leverage to put their own business R and D on top, so that they can make their own products and services, which will make them money and make them successful.

The ITIs developed from that basis of working out how to achieve a large corporate R and D focus in Scotland in the absence of large corporate R and D activity. The intermediary technology institutes—it would get very tiring if I said that all the time, so I will call them ITIs for short—are a joint project between Scottish Enterprise and Highlands and Islands Enterprise. It is essential that they work Scotland-wide. ITIs are valuable for all companies, throughout Scotland, and the programme has been targeted in that way from the start.

The goal of the ITIs is to help to increase the number of companies that are actively pursuing new markets in the global marketplace through high technology. They will support the foundation and growth of existing companies through the development of technology platforms, which companies will be able to access and use in their own competitive environments. They will commission and work on programmes that will help companies to identify markets and to develop the appropriate skill set and level of technology for them.

The ITIs focus on life sciences, energy and what we call techmedia, which means communications technology and digital media—everything from the pipes and switches in a computer or an interconnection system to how data are sent downstream into computers, why broadband is needed and the pull effect, which relates to the interaction of human beings and data.

The life sciences institute is based in Dundee, the energy institute is based in Aberdeen and the techmedia institute is based in Glasgow. The institutes are commissioning bodies and not everything will be undertaken in those geographical locations. The goal is to have maximum benefit throughout Scotland—in rural regions as well as urban conurbations.

I will hand over to Gordon Campbell, who has been ITI Scotland's chairman since the end of July.

**Mr Campbell:** I will not duplicate what Janet Brown has said. It is important to identify the distinguishing feature of ITIs: the fact that they are market-driven organisations. Their remit is to identify opportunities and to match fundamental research to those opportunities, not to operate the other way round. Some organisations look for markets for existing technologies but the ITIs take a different approach. They consider market requirements and match technology to them.

Janet Brown mentioned the structure of three institutes for three broad technology areas. A fourth element is the shared services group, which is designed to avoid duplication by ITIs. Each ITI has or will have its own chief executive. I am the non-executive chairman of ITI Scotland, but in the past few months I have been doubling as the energy institute's chief executive until a person is recruited to that post.

The ITIs will report to a board that comprises non-executive directors and representatives from Scottish Enterprise and HIE. Four non-executive directors have been identified and have agreed to work on the board. The ultimate responsibility is to Scottish Enterprise as the funding agency. As for progress to date, we have appointed three of the four chief executives and the staffing of the ITIs is progressing quite well, as we have approximately 50 per cent of the people whom we expect to employ. The marketing of ITIs to the research community and to companies has commenced. We had some 660 attendees at the marketing presentations that we undertook at the end of September and in October. A crucial element is market foresighting—identifying the directions in which markets are going—and research is being commissioned in each ITI. We now occupy offices in the geographic regions that Janet Brown identified.

I could say a lot more, but I guess that that is enough.

**The Convener:** One of your documents says:

"The immediate priority of the ... executive team will be to develop the exact detail of the model."

You talked about fundamental research that is geared to market opportunities. I understand that ITIs commission others to undertake that research. If the research is successful, it will result in intellectual property or something a bit more physical that could be patented. To whom does that belong? How does that become commercialised so that a Scottish company can use it, exploit it and make lots of money from it?

**Mr Campbell:** Perhaps I should not have used the phrase "fundamental research". I prefer to use the phrase "enabling research", because it is not the basic research, it is the next step down in development. However, that does not change your

question at all. Intellectual property is an extremely important issue. Where we will finish is not yet clear. There will be an iteration as a result of discussions with the universities and companies. Our preferred solution is for the intellectual property to reside with the institutes, so that the institutes can have the maximum flexibility in helping the commercialisation of the intellectual property. However, that is not cast in stone. We are in discussions with the universities and their representatives about how that intellectual property will be maintained.

14:15

**Dr Brown:** I will add a little history. During the establishment phase of the ITIs, we had a standing committee, chaired by the Universities Scotland representative, who is the principal of the University of Strathclyde, at which we had on-going discussions about intellectual property ownership and the use of intellectual property. You are absolutely right that in anything that the ITIs do, it is essential that the ownership of the package of all intellectual property and intellectual assets is defined clearly, so that companies can get their hands on it and use it as fast as possible. We have had on-going discussions with the Universities Scotland liaison group and with the commercialisation offices of all the universities.

We have reached the point at which there are no show stoppers to the approach that is being taken by the ITIs and, with the first programmes, we are at the point of dotting the i's and crossing the t's. Fundamentally, there is no disagreement about the fact that an ITI is similar to a large corporate R and D company that purchases intellectual property and research from a university or company environment. The same sort of rules of engagement apply. All intellectual property rights have to be understood at the beginning of the programme to ensure that companies can use the intellectual property at the end.

**The Convener:** I understand now how intellectual property gets from the universities to you, but it is the next step that I am not so clear about because, at the end of the day, somebody will want to make lots of money out of that intellectual property. How does that work?

**Mr Campbell:** The key is to exploit the intellectual property rapidly. We see intellectual property as being a source of income to the institutes, so that they can reinvest in further development. There are a number of ways in which income for the institutes can be generated and a number of ways in which intellectual property can be used to the benefit of Scotland, from licensing the intellectual property to companies to companies developing products based on intellectual property, which may or may

not be as a result of licensing. Frankly, it is early to say. There are a number of options. The key point is to see IP being used to generate economic worth.

**Dr Brown:** The other component is the measurement criteria that Scottish Enterprise will apply to the ITIs. Gordon Campbell is correct to say that we need a market direction and a business environment within the ITIs, which operate in a commercial environment. It is also important to recognise that the measurement framework that Scottish Enterprise will apply will aim not to maximise the return of intellectual property revenue to the ITIs, but to maximise company value. It is not about selling to the highest bidder, but about selling to gain the best economic impact for Scotland.

**Brian Adam (Aberdeen North) (SNP):** Mr Campbell suggested that we need to do things rapidly in order to capitalise, but "rapidly" is not a word that is associated closely with this project. I know that there were discussions within Scottish Enterprise on the matter a number of years ago and it has certainly been debated in the Parliament over the past four years. The idea has evolved from centres of excellence to the rather more sophisticated approach of the intermediary technology institutes. When will we appoint a chief executive for the intermediary technology institute for energy? What progress is being made on that and on all the other appointments that are required to make the ITIs fully functioning?

**Mr Campbell:** I think you are saying that "rapidly" is a subjective word, or at least that it is capable of a number of interpretations, which is certainly true. You asked about the appointment of a chief executive officer for the energy institute. We—I say we, although this happened before I was involved—were close to identifying an individual, but the process fell through at the last minute. The appointment has been one of our key priorities in the past two or three months. We have identified a number of candidates of what we believe to be high calibre and we are now in the process of persuading them that they want to do the job. I hope that we will be successful in the relatively near future.

**Brian Adam:** Did I hear you say that you had identified properties for each of the institutes and that they were occupied?

**Mr Campbell:** Yes.

**Brian Adam:** Are you in a position to tell us where the properties are?

**Mr Campbell:** One is in Aberdeen, one is in Dundee and two are in Glasgow. I can give you the addresses of the two in Glasgow, but not of the ones in Aberdeen and Dundee.

**Dr Brown:** I can cover that. The permanent location for the shared services is 180 St Vincent Street in Glasgow. The three institutes on energy, life sciences and techmedia are all in temporary accommodation, because they will all get new facilities. The techmedia institute is presently at 176 St Vincent Street, with a view to its moving somewhere else in Glasgow; we are considering Pacific Quay as a potential site. The institute in Dundee presently occupies temporary premises in the technology park in Dundee and will move to another building in the same park when it is constructed. In Aberdeen, both the temporary and permanent locations for the institute are in the science and technology park.

**Brian Adam:** You indicated that work had been commissioned in relation to identifying opportunities. Are we commissioning consultants to come up with answers and reports and, if so, how much of the budget will be spent in that area and how much will go towards the sharp end, or delivery?

**Mr Campbell:** Given that we have basically started from scratch and given that a lot of the market foresighting requires a high degree of manpower, we have commissioned consultants to help with the market research. A major input is the skill and experience of the chief executives of the institutes. A second element is that each of the institutes intends to appoint an advisory group, which will be made up of people with international experience of the market and the technologies concerned. Ultimately, there will be an in-house advisory group, but at the moment we are commissioning research through external consultants, which was necessary to get us started. Our ultimate target, which Scottish Enterprise defined, is that somewhere between 85 and 90 per cent of total expenditure will be for directly funded research. We will probably achieve that balance in nine to 12 months' time. At the moment, a higher percentage is being spent on what you might call overheads rather than research.

**Mike Watson (Glasgow Cathcart) (Lab):** I want to ask about what is, to some extent, the starting point for this issue, which is the low figure for research and development across the UK, which Dr Brown talked about.

The information that we have been issued by your organisation, says that

"The use of existing government and EU mechanisms to support company R&D is poor"

and that an ITI is not a substitute for company-driven research.

As part of your preparatory research, have you identified why spending on research and development is so low in Scotland? I appreciate



that it is low across the UK, but why should it be lower in Scotland than it is in the rest of the UK? Further, why should it be lower in the UK than it is in Europe or the United States of America?

How can you be sure that the work that you do will translate to corporate research and development in a way that will ensure that there is a lasting benefit from the work that is done by the ITIs?

**Mr Campbell:** Janet Brown is better placed than me to answer your first question because Scottish Enterprise did all the original research in that regard.

**Dr Brown:** Companies embark on research and development work because they need to innovate to enter new markets. To develop new products, they need to undertake research and development work. One of the challenges in Scotland is that we do not have a lot of companies that play in the global environment. There are some excellent companies that do good research and development work, but there are not enough of them. The first stage is the need to understand the markets and market opportunities that exist. After that, there is a need to establish what new products and services need to be developed and what research and development work needs to be done to develop them.

The number of companies that understand that cycle is not as high in Scotland as it is in other regions. It is certainly not as high as it needs to be if Scotland is to be successful. The fundamental point is that the drive for research and development does not currently exist. There is no point going to a company and saying that it needs to do more research and development. Companies need to know why that is the case. They need to be closely involved in a fast and driven marketplace to appreciate fully the need for research and development. The companies in Scotland that take part in such a marketplace devote a significant amount of their revenue and income to research and development, but we do not have enough of those companies.

Further, we do not have enough large companies that are undertaking significant research and development work. A lot of the foreign direct investment that we get involves little on-going research and development, but that is often the engine by which companies learn about new market spaces and product requirements.

**Mike Watson:** I understand that a lot of companies that are active in Scotland and which employ a number of people here have their head offices and research and development facilities elsewhere, which means that the work does not take place in Scotland or, indeed, the UK. Nonetheless, how can Scottish companies be

made to understand the need for more research and development? I presume that, at the end of its £450 million 10-year programme, Scottish Enterprise envisages a situation in which it can withdraw from the area—whether ITIs continue or not—and in which the growth that has been established will continue organically. However, how do you intend to get to that point if there is not a mindset in business in Scotland that says that companies need to spend more on research and development?

**Dr Brown:** The fundamental point relates to markets. The first thing that needs to be done is to ensure that companies understand the market opportunities. That is what the ITIs are heavily focused on at the moment, which is why consultants are examining market opportunities closely. Once we have ensured that companies understand the market opportunities, we can provide a mechanism by which they can take advantage of them.

**Mr Campbell:** You raise an important point, which concerns something that I feel strongly about. International companies, by and large, bring their intellectual property to their headquarters—that is a natural response for companies—so a country tends not to get the research element unless a company has its headquarters there. There are exceptions, however, and the only way that I know of to change companies' perceptions is for Scotland to establish a reputation for excellence in a particular technology, so that people realise that if they want to conduct research in that field, Scotland would be the best place in which to do that. One of our objectives must be to establish such areas of expertise, so that people automatically say that Scotland is the place to go for research in certain areas of, for example, life sciences, technology or energy. That is the only way to break the cycle whereby companies do their R and D at their headquarters. The issue has been grossly underestimated. We will try to identify and promote areas of expertise, so that people will eventually say, "We had better go to Scotland for that kind of research."

14:30

**Mike Watson:** That worries me slightly, because we already have great strengths in the life sciences in Dundee, in energy in Aberdeen, and in aspects of techmedia in Glasgow. I understand that you want to build on those strengths, but if you do not move into areas in which there is less or no development in terms of Scottish business or high-tech enterprise, you might broaden the base that already exists but you will not necessarily make a significant extension into new areas of research.

**Mr Campbell:** If you are suggesting that we move into radically new areas, I think that that would be a mistake, frankly.

**Mike Watson:** I do not suggest that you do so at the start.

**Mr Campbell:** If you are saying that we should move into contiguous areas that leverage the skills that we already have and put them into new sectors where there is a market demand for them, I entirely agree.

**Mike Watson:** The report "ITI Scotland—Realising Scotland's potential" says that the

"process will be managed throughout by ITI Programme Champions who will work with members".

Who will the programme champions be?

**Dr Brown:** To identify a technology platform to address a particular market space, one must consider the different components of the work and knowledge that must be pulled together to provide a platform to which companies can gain access. Several pieces of work, which might be done in different places, might be commissioned and intellectual property and access might be purchased from other places. It is important to co-ordinate that necessary but complex activity and that will be the programme champions' role. The programme champions will ensure that all six pieces of the technology platform are carried out on time, to schedule and to the desired level, so that the platform can be delivered to the companies that need it.

We regard the role of programme champion as having a programme management function, but also as a way of developing the person involved. You asked how we might increase the number of companies in Scotland that are interested in the markets. A programme champion who is working on a project and pulling together all the different strands will be an incredibly valuable asset for any company, which will want to get their hands on that person, bring them into their company and take the maximum advantage of the platform. Indeed, the champions themselves might start new companies.

**Mike Watson:** Will the programme champions be employees of the ITIs?

**Dr Brown:** They will be contracted in to work on a particular programme. The goal is for them to become part of the programme and be taken advantage of—in the nicest possible way—by the companies, because knowledge inside someone's head is a lot more valuable than a piece of paper that contains intellectual property. It is about adding the people component to the process.

**Mr Campbell:** I do not think that the champions will necessarily be employees of the ITIs. The ITI

will have responsibility for them, but they might be part of the university or company—it is a question of identifying the best person for the job.

**Richard Baker (North East Scotland) (Lab):** We have heard quite a lot about the structure of ITI Scotland, but do you have any information on the structure of the individual ITIs? I am interested in the energy ITI in particular. I am aware that some appointments have been made, but we are still waiting for the chief executive officer to be appointed and it will be interesting to see how that evolves.

**Mr Campbell:** In essence, there are three parts to each of the institutes. Each institute will be slightly different, and the difference will depend on the nature of the market that the institute is in and, to some extent, on the preference of the chief executive as to how he organises his institute.

As I said, there are three elements. The first is the need to understand the technology and the markets. There is also an element of marketing the ITIs—of selling them to the members. The third element is knowledge, or intellectual property, management. There is also the overarching institute, which tries to provide all the shared services—the nuts and bolts of running something. The institutes do not duplicate each other, nor do they waste their time doing the bookkeeping, as it were.

Although we are making good progress overall, we are making slower progress on the energy institute. That is largely because it is pretty tough to go down the recruitment path and then to say to the CEO, "By the way, here are the guys who work for you. We know that you have had nothing to do with recruiting them but, tough luck, they are yours." We are trying to progress the appointments in those areas without saying, "That is that." When the CEO comes on board, we will be able to say to him, "Here are the short-listed candidates for each of the positions. Get on with it." I admit that the energy institute is slower than the others.

**Richard Baker:** My second question relates to duplication, which you mentioned. If there is to be no duplication of effort, how will you ensure that the energy ITI collaborates with the Scottish Enterprise energy team in Aberdeen? Does Scottish Enterprise expect to maintain its investment in its energy team? How can we ensure that that team is seen as an additional resource and that it is not replaced by the energy ITI?

**Mr Campbell:** I think that Janet Brown should answer the question about Scottish Enterprise. The ITIs are keen to work with Scottish Enterprise. An enormous amount of work went into the formation of the ITIs and a lot of the conceptual

thinking, which in my view was of a very high grade, was done by Scottish Enterprise. It would be crass if we did not work with Scottish Enterprise and utilise all its expertise. A key element of the ITIs is that we continue the involvement with Scottish Enterprise. We have a slightly different remit from Scottish Enterprise and we want to deliver on our own remit. As I said, it would be madness to ignore all the work that has been done and not to utilise it.

**Dr Brown:** I will cover the point on clusters. Basically, the question related to the energy team in Aberdeen. Scottish Enterprise has a distributed biotechnology cluster that operates across the country. There are also several different focused clusters in the area of communications technology and digital media. Next year, Scottish Enterprise will bring together the activities of competitive business, which is the organisation that I run, and the cluster strategy.

As of 1 January 2004, those two things will be combined with an express view that we need to maximise the benefit of the ITIs to the cluster. We also need to continue to support companies and the whole activity in the cluster arena, not only in energy but across the board. We need to do that over and above the activity in the ITI, as it may or may not intersect with the activity in a lot of the companies that are playing in the life sciences arena, for example.

That point also applies to the Highlands and Islands, with which we are closely linked. We want to ensure better linkage between the activities of Scottish Enterprise's cluster energy team and what is happening in the Highlands and Islands in particular. We need to ensure that we maximise the benefits and that we do not focus on only one aspect.

**Richard Baker:** What consultation have the ITIs undertaken with local stakeholders in the industries that are involved in this area? I hope that not only the existing players in the energy industry, but also groups such as Aberdeen renewable energy group are consulted. There are great proposals for a new energy centre in Aberdeen and I make a plea that, when you consider a new location for the ITI, you think about taking up a position within that centre, if it goes ahead.

**Mr Campbell:** I think that we need to pull together all the resources that are available and to collaborate on that. If you were to ask me whether we had done that yet, I would say that we had done so to a small extent, but not nearly enough. That will be part of the development process.

**Richard Baker:** How will you ensure that that happens to a greater extent? It is important to have good will at the outset of the project in

relation to the location for the ITI. What work is going on to ensure that there is greater consultation?

**Mr Campbell:** The attendance of other bodies at our marketing presentations has been quite good. There is a two-way interest and we need to build on that.

**Dr Brown:** All the CEOs have said that one of the challenges is getting into the individual companies. It is a lot easier to deal with a university environment, where there is one big block to go to. We are using the Scottish Enterprise network to try to identify the key players that the CEOs need to be introduced to and need to meet on an on-going basis. That is a challenge.

A couple of weeks ago, I gave a talk at the Institute of Directors and a small company was represented in the room. Although the company had been invited to the seminars, that information had not filtered up to the CEO, so the CEO did not know about it. We accept that there is a challenge with the small to medium enterprise community. We are trying to leverage the knowledge that the Scottish Enterprise network and the cluster teams have of the specific companies that need to be involved in, and could benefit from involvement in, the ITIs.

**Mr Campbell:** This week—it might even be today—there is a meeting between the SMEs in the techmedia industry.

**Chris Ballance (South of Scotland) (Green):** My question is linked to that issue. I was pleased that you talked about having an impact in rural, as well as urban, areas. Most businesses in rural areas are SMEs and microbusinesses—one-person concerns—especially in the sphere of information technology. Do you have targets in that area? I would like you to talk a bit more about how you intend to link in with the smallest businesses. It is easy to see how you could link in with the big businesses, but I foresee that you will have more of a problem with odd little one-person concerns that have little contact with Scottish Enterprise.

**Mr Campbell:** I am not sure that I agree that it is easier to link in with big businesses. The ITIs are probably far more attractive to the SMEs than they are to big businesses. Big businesses and SMEs represent challenges, but they represent different challenges. As I said, there is a meeting between SMEs and the techmedia group this week. We will repeat that meeting with the other sectors. It is vital to involve the SMEs; that sector is possibly a more fertile area in which to operate.

**Dr Brown:** You are right that, although a lot of small companies throughout Scotland interact with the Scottish Enterprise network, some do not. One of the challenges is how we market the ITI to

those groups and how we use the local enterprise people to maximise the number of people that we touch. It is essential that the SMEs understand that they do not necessarily have to work with Scottish Enterprise to work with the ITIs, but we can use the Scottish Enterprise network to get out the message and to make people understand that it is worth taking the time to understand what is going on in the ITIs. You are right that the process should not be focused only on those who go through Scottish Enterprise's door. The business gateway is another opportunity for us to market the ITIs and to get in contact with very small areas; it can also be used in the Highlands and Islands.

**Mr Campbell:** The ITIs should give small businesses confidence. Sometimes, small businesses feel threatened by working with large ones. Having an umbrella from the ITIs, or an arm around their shoulders, should give them more confidence.

14:45

**Christine May:** My question expands on Richard Baker's point. How can we maximise the bang for the buck? I assume that you have done all the marketing and development properly, but what parallel work are you doing to ensure that Scottish research groups and institutions are best placed to bid successfully for work? Are others developing that strand alongside you?

**Mr Campbell:** A fundamental role of the ITIs will be to sponsor such research, aimed at a market requirement. A host of issues arise to do with leverage. We will have to get the universities to work collaboratively rather than competitively, to work with research organisations in industry, and to obtain financial support for research, at a national or European level. Ultimately, we want to become self-sufficient, but that will take a long time. The work should be self-perpetuating.

**Christine May:** Are you encouraging international partnerships between groups of researchers if expertise is not currently available in Scotland?

**Dr Brown:** The ITI CEOs are trying to understand the competency in the research base in Scottish companies and to understand market opportunities. Taking those two together gives the opportunity for Scotland. We may then see a jigsaw puzzle, of which seven of the eight pieces are available in Scotland. The eighth piece has to be obtained as quickly as possible to ensure that companies can use the technology. Scottish Enterprise, the Scottish Executive and the Scottish Higher Education Funding Council will have to decide whether that piece of the jigsaw is critical and whether it will have to be brought to Scotland

or strengthened in Scotland. Strengthening that piece of the jigsaw will be the role not of the ITIs, but of the rest of the infrastructure. Something may be a one-off requirement—or it might have to be bought once but would not be needed again for 20 years—and not needed as an infrastructural piece.

International collaboration happens when the eighth piece of the jigsaw is needed. The programme manager has to bring together all the pieces. We are already sponsoring and facilitating international collaboration in other areas in the same sort of market space, such as the Edinburgh-Stanford link and the Kelvin Institute that has been established in Glasgow. It is important that the Scottish research base understands—as it does readily—that it plays in an international marketplace. We need to work with the research base to ensure that there is linkage.

**The Convener:** I think that you said that you would be working towards spending 70 or 80 per cent of your budget on this type of research. I am not sure whether contracts for research are subject to European tendering rules. Would you have to advertise in the *Official Journal of the European Union*? How will you ensure that seven eighths of the money that you spend will be spent at Scottish institutions?

**Dr Brown:** We have been working to ensure that we are compliant with the requirements of the journal and state-aid law. That is associated with the fact that the research will ultimately be used by companies. We are very aware of the requirements of the journal, but we believe that we have a mechanism—by virtue of the fact that the areas of opportunity that we are considering have a complete resonance with the research capacity in Scotland—through which researchers in Scotland can say that they alone can carry out such research. We do not believe that we must go through the journal—we are currently considering that, but there does not seem to be a problem in that area.

**The Convener:** So you are basically saying that unless you find that an absolutely necessary piece of research cannot be done in Scotland in the required time scale—

**Dr Brown:** Time scales, quality and delivery must be considered. The goal is to enable companies to use the research, and not to strengthen the infrastructure of universities in Scotland.

**The Convener:** So otherwise the research will be done in Scotland.

**Susan Deacon:** It is clear that there will be a dynamic phase in the development of ITIs in the coming months and years. Will you tell us more

about how the ever-evolving model will be monitored and evaluated? How will things be reported? Perhaps "reported" is a heavy-handed word, as I am talking not only about more formal public accountability processes, but about how we will be able to see and learn about how effective the model is and how we can reach a judgment at a strategic level about the contribution that the ITIs are making to the strategy in "A Smart, Successful Scotland" and to delivering intangible but hugely important spin-off benefits?

**Mr Campbell:** Those questions would best be answered by Janet Brown, as Scottish Enterprise has spent a lot of time on measures of performance. There is a considerable and necessary document on measuring the performance of ITIs, but I suspect that it would make the auditors much happier than the entrepreneurs.

What you say about wider and less quantifiable issues is important. Earlier, I said that we want companies to say that Scotland is the place to go for research, development and commercialisation of new products and new ideas. That is the ultimate test. Janet Brown can probably give the committee more confidence in respect of the auditors.

**Dr Brown:** I am happy to talk about the issues that have been raised. It is essential that we have an appropriate monitoring and evaluation process for ITIs. For the past three or four months, we have worked with the Scottish Executive and Scottish Enterprise joint performance team to ensure that we have appropriate measures and targets in place for ITIs. The performance of individual ITIs will be measured against an operating plan agreed between ITI Scotland and Scottish Enterprise, which will have associated targets. Those targets, which we will measure in the overall ITI programme, incorporate some things that were mentioned—the softer stuff—including the impact of the ITI's activity on the cluster. It is important that we consider all those things.

We should not just measure how many spin-out companies we have and how many licences we have sold. We should also consider whether there has been an increase in the number of companies coming to Scotland to get involved with the ITIs and whether that has had a knock-on effect on the number of companies that are involved—independent of the ITIs, but in an associated field—with university research departments.

The document—Gordon Campbell is right to say that it is lengthy—has a series of metrics and it considers three phases. The first stage is the establishment phase, which draws on other institutions round the world that have been set up to do this type of work, have been in play for the

past 10 or 15 years, have been successful and have had a significant impact on their local economy. We have examined the leading indicators that they saw in their first two or three years, which identified the particular factors that had an impact on the economy in their region. We will consider those factors in the early stages, as well as how many companies the ITIs can get involved, how many multinationals are interested, how many small companies are interested and what level of engagement there has been in the community. Those are the early-stage measures.

When programmes start to run, there is the activity measure. Are the programmes relevant to the marketplace? Are we starting to see companies wanting to take things off the table? Are they starting to implement their own R and D, to go from the platform to something that becomes a product that they can sell? Those measures are in the middle phase. We then start to measure the capacity of the company base—not the quantity of companies, because having 10 very small companies is not necessarily as good as having four medium or large ones and we must be careful to balance the measures against the true economic impact.

I suppose that the answer is that a framework is being finalised between us and the Executive. The framework has a series of stages and a variety of measures. The ultimate measure is to look at the market areas that the ITIs are focusing on and to create a baseline by looking at a market area that they are not focusing on. In five years' time, we can examine the environments that the two areas are sitting in to see whether there is a difference and whether there has been a broad impact around the market space that is supported by the ITIs.

**Susan Deacon:** I noticed that you referred twice to the length of the document. Could a better balance be struck between, on the one hand, robust evaluation and monitoring processes and, on the other, excessive bureaucracy, engineering of processes and the diverting of vital energy and resources to measurement rather than performance?

**Dr Brown:** I totally agree, and that is why the measures that we use do not do that. The measures will be used as if the ITIs were companies. What will they deliver? They will deliver to their operating plan, as agreed at the beginning of the year. The data that they collect are data that they will use to run their business.

The aspect that I was talking about is what Scottish Enterprise should do to ensure that the whole thing works. Scottish Enterprise must be involved in providing support for companies to take advantage of the ITIs. We must work with the private sector on finance provision so that

companies can afford to take advantage of the ITIs. Those issues need to be played in, and we should consider them as components. The onus of the huge document is on Scottish Enterprise, not on the ITIs. The ITIs need to be able to move quickly, as we discussed earlier, and to move with the market direction.

**The Convener:** As you know, the Scottish Enterprise budget is always under scrutiny—if people are not avidly trying to move it elsewhere. From your remarks, I am not clear about when we will be able to judge whether the concept is working. At one stage, you said two to three years, but you also mentioned five years. When will we be able to say that what we have done with the £45 million per year is really a good thing?

**Dr Brown:** To go way back to the beginning, the fundamental premise of the ITIs came from other regions of the world that had instigated similar activity that had had a significant economic impact on their region. If we examine the length of time before those institutions started to see a rapid change in the number of high-value companies in their regions, we find that it takes about five, six or seven years before significant change occurs. That was the case even in areas where such activity happened naturally, such as the San Francisco bay area. The history of the bay area's incubation period shows that it took five to seven years before what was happening there had a significant impact.

15:00

We are saying that if all that we measured was the number of companies, we could not measure anything until we hit five to seven years, and that is far too long for us to be investing that amount of money without seeing whether the leading indicators are there. In the early stages, if nobody comes to the party, it is not a good party. So, if there is no increase in interest and global presence as a result of the activity being undertaken in Scotland, we should seriously consider whether we are doing the right thing, but that is not measuring the number of companies after two or three years, because that will not be a significant number. Such development does not come until later. There are different measures. We should examine those all the way through and have a goal for each one. If we fall short of the goal for each one, we should assess whether the programme is on track.

I do not know whether that answers the question fully.

**The Convener:** Was it international comparisons that made you decide that £45 million was enough to buy the wine for a good party, or was that simply the money that happened to be available in the budget?

**Dr Brown:** We came at that number from two different directions, one of which was international comparisons. We went and asked places such as Singapore, Canada and regions in Europe what amount of money they thought would be right if they wanted to have an impact in a specific marketplace—not the world—and what they were putting into their market-focused technology institutes. The answer was around £15 million.

From the other standpoint, we had been running the proof-of-concept fund for four or five years and were putting between £5 million and £6 million per year into the research base, so we asked ourselves whether we were having a significant impact on the type of research that was being undertaken. The answer was, "Sort of, but not a huge amount."

Therefore, £5 million is too low and £15 million sounds about right—we could not manage to go much higher than that in the short term—so the figure of £15 million came from those two perspectives, as well as from examining the type of investment that goes into the research activity of the universities in Scotland, which is something like £600 million to £700 million a year. We want to have enough impact to make a researcher wake up in the morning and think, "Oh, I might go after that," but we do not want to have such a large impact that we skew the system, because one of Scotland's strengths is the university research base.

We came at the matter from those two standpoints. We went to the board with the three institutes and the funding proposal. We were not told, "You have this much money. Divide it up." We basically said, "This is what we think we need to run the programmes." The £450 million assumes that £15 million per year per institute is spent on research programmes and that that continues at a flat level. Therefore, to keep up with inflation or to increase research and development, the institutes will need to get private sector interest and money towards the end of the programme. We have an internal measure for that.

**Christine May:** How confident are you that what is being done would not have been done anyway?

**Dr Brown:** The issue is the market drive. It is all about market drive—that is one thing that I want the committee to remember from my evidence. The programme is not about the commercialisation of existing research in the universities, although some of that is likely to be used; it is about pulling a market understanding into Scotland and allowing an additional amount of research to be undertaken as a result of that market understanding—the exciting, sexy bits that an academic would do and the boring stuff that is necessary to pull all those pieces of research together so that a company can use the research.

It is not about basic science. A lot of companies will say that they can get research from a research organisation but they cannot get anybody to take it to the next stage because it is not exciting and vibrant. The programme is about pulling the whole thing together so that a company can use such research.

**The Convener:** There are no more questions. I am glad that you said that we could make a judgment in two to three years, because that gives us the opportunity of coming back to you in this parliamentary session to find out how successful you have been.

We now move on to item 3 on the agenda, which, as already decided, will be taken in private.

15:05

*Meeting continued in private until 15.55.*





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