



Cynulliad Cenedlaethol Cymru **The National Assembly for Wales**

Y Pwyllgor Menter a Busnes **The Enterprise and Business Committee**

Dydd Iau, 14 Mehefin 2012
Thursday, 14 June 2012

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Cynnig o dan Reol Sefydlog Rhif 17.42 i Benderfynu Gwahardd y Cyhoedd o'r Cyfarfod
Motion under Standing Order No. 17.42 to Resolve to Exclude the Public from the Meeting

Yn y golofn chwith, cofnodwyd y trafodion yn yr iaith y llefarwyd hwy ynddi. Yn y golofn dde, cynhwysir trawsgrifiad o'r cyfieithu ar y pryd.

In the left-hand column, the proceedings are recorded in the language in which they were spoken. The right-hand column contains a transcription of the simultaneous interpretation.

Aelodau'r pwyllgor yn bresennol
Committee members in attendance

Christine Chapman	Llafur (yn dirprwyo ar ran Keith Davies) Labour (substitute for Keith Davies)
Alun Ffred Jones	Plaid Cymru The Party of Wales
Julie Morgan	Llafur (yn dirprwyo ar ran Julie James) Labour (substitute for Julie James)
Eluned Parrott	Democratiaid Rhyddfrydol Cymru Welsh Liberal Democrats
Nick Ramsay	Ceidwadwyr Cymreig (Cadeirydd y Pwyllgor) Welsh Conservatives (Committee Chair)
David Rees	Llafur Labour
Kenneth Skates	Llafur Labour
Joyce Watson	Llafur Labour

Eraill yn bresennol
Others in attendance

Berwyn Davies	Pennaeth Swyddfa, Addysg Uwch Cymru Brwsel Head of Brussels Office, Welsh Higher Education Brussels
Yr Athro / Professor Richard B. Davies	Is-ganghellor, Prifysgol Abertawe Vice-chancellor, Swansea University
Yr Athro / Professor Philip Gummett	Prif Weithredwr, Cyngor Cyllido Addysg Uwch Cymru Chief Executive, Higher Education Funding Council for Wales
Christina Miller	Cyfarwyddwr, Swyddfa Ymchwil y DU Director, UK Research Office
Yr Athro / Professor Hywel Thomas	Dirprwy Is-ganghellor, Ymgysylltu a Rhyngwladol, Prifysgol Caerdydd Pro Vice Chancellor, Engagement and International, Cardiff University

Swyddogion Cynulliad Cenedlaethol Cymru yn bresennol
National Assembly for Wales officials in attendance

Kayleigh Driscoll	Dirprwy Glerc Deputy Clerk
Gregg Jones	Y Gwasanaeth Ymchwil Research Service
Siân Phipps	Clerc Clerk
Anne Thomas	Y Gwasanaeth Ymchwil Research Service

Dechreuodd y cyfarfod am 9.15 a.m.
The meeting began at 9.15 a.m.

Cyflwyniad, Ymddiheuriadau a Dirprwyon Introduction, Apologies and Substitutions

[1] **Nick Ramsay:** Welcome Members, witnesses and members of the public to today's meeting of the Enterprise and Business Committee. This meeting is bilingual and headphones can be used for simultaneous translation from Welsh to English on channel 1 or for amplification. The meeting is being broadcast and a transcript will be published. I ask Members to turn off their mobile phones and other interfering equipment. There is no need to touch the microphone—it should operate automatically. In the event of a fire alarm, please follow the directions from the ushers. We have apologies today from Dafydd Elis-Thomas, Byron Davies, Keith Davies and Julie James. We have substitutions. Suzy Davies will be coming in to substitute for Byron Davies and Christine Chapman is here in Keith Davies's place. Julie Morgan is here for Julie James.

9.16 a.m.

Ymchwiliad i Horizon 2020—Sesiwn Frifffio Inquiry into Horizon 2020—Briefing Session

[2] **Nick Ramsay:** This is the first meeting in which we will take evidence for this inquiry. I thank our witness for coming in today. The aim of this inquiry is to assess the opportunity for Wales from the draft proposals, particularly the synergies between Horizon 2020 and EU structural funds. The European Commission's draft research and innovation programme is due to come into force in 2014. I thank Christina Miller from the UK Research Office for agreeing to come in today to help us with some of our questions and information-gathering exercise. Would you like to give a brief overview of the Horizon 2020 proposals, Christina? We then have some questions for you.

[3] **Ms Miller:** Thank you all again for inviting me here today to a very beautiful part of the world. It gives me great pleasure to be able to give you a briefing session on the overall structure of Horizon 2020, which I hope you will find useful to your inquiry.

[4] I am from the UK Research Office based in Brussels, and I have prepared a few slides to help structure my brief introduction. Please turn to these as we go through. The UK Research Office is the UK Research Council's office in Brussels. We operate under a very broad mission to promote effective UK engagement in EU research, innovation and higher education activities. The office is sponsored by the research councils but we also have over 130 subscribing organisations, of which six are Welsh universities. They are all actively engaged with the activities that UKRO carries out.

[5] As an office, we help subscribing and sponsor organisations to make informed decisions about the funding opportunities that are available to them. This includes giving them information on what funding opportunities are available and how to apply for them. A lot of the work that we do relates to the implementation and management of projects, so we take a longer term view from start to finish, and help organisations to build a strategy for approaching these.

[6] We also have an important role to play by engaging subscribing and sponsor organisations in the EU debate. We provide information and analysis on the latest developments of research policy, and we also gather feedback from our stakeholders to be able to use this through informal liaison. This interfacing is important for us, as an office, to help us maintain an effective suite of services, but also for understanding the wider policy issues. Therefore, when we have informal discussions with the EU institutions, and with the research councils, as is part of our role, we are able to have a greater understanding of the

issues that our subscribing organisations face.

[7] Looking ahead to Horizon 2020 is very topical at present, because everyone is focused on the next EU programme for research and innovation. As you will see from the next slide, the Horizon 2020 proposal is the proposal for funding research and innovation at a pan-European level. This is the principal funding programme based on shared cost. Therefore, it is shared cost between the EU budget from taxpayers' money and the institution. This is always something important to bear in mind. The proposal, which was launched in November 2011, was based on a series of extensive consultations through the common strategic framework for research and innovation. You may have seen discussion documentation referred to as CFSRI. This is what it was discussing: where the EU member states agreed that research and innovation would be brought together in Horizon 2020.

[8] The universities were also involved in the Department for Business, Innovation and Skills consultation process—that is, the national member-state consultation processes—which fed into the wider EU member-state consultation processes. At present we have a proposal for Horizon 2020. However, we are now at the stage where this proposal is being discussed between the European Parliament and the council of the European Union for the member states. This ongoing legislative process, called the ordinary legislative procedure, or co-decision, will continue up until the point at which the Horizon 2020 regulations are adopted before it can be launched. We are currently in the middle of the debate. I will shortly give a few insights into the overall structure of the programme and where we are with that. Horizon 2020 is due to be launched in January 2014. However, prior to it being able to be launched, a number of other important EU regulations need to be adopted, including the EU financial regulation, on which the rules for participation in Horizon 2020 will be based, and the multi-annual financial framework. This is basically agreeing the EU budget, the complete budget, and the overall envelope dedicated to Horizon 2020.

[9] In parallel to all of this, before we look at the details of Horizon 2020, I would like to stress the importance of engagement with the last calls in the current EU programme for research and technological development, framework programme 7. The 2013 work programmes are due to be launched in mid July. A number of orientation papers have already been published on these areas. I am aware that the Welsh higher education and research communities are currently examining these through their European funding co-ordination groups in order to identify possible calls in which they may wish to engage. These last calls will represent the highest budgets thus far in framework programme 7 and, in many areas, are particularly important to get engaged with because they will be a bridge to the types of projects that will be funded in the future under Horizon 2020.

[10] As an office, we are encouraging all stakeholders to participate. If individual researchers are interested in taking part in European funding, but decide that they choose not to take part this time around because something appropriate does not come up, we would like to encourage them also to register as evaluators and to make clear that they would like to evaluate proposals. This is an excellent way for individuals to gain the inside knowledge on what takes place.

[11] I understand that you have already received some briefing regarding the structure of the proposals. In my slides, I presented a very basic overview to highlight that Horizon 2020 is an exceptionally diverse programme. That is one of the difficulties, because, while it is a big move towards simplification, we are dealing with a large, diverse programme that is aimed at providing opportunities of European added value to be used in complementarity with existing member states and at including regional programmes.

[12] Horizon 2020 in simplistic terms is split into three main pillars of approximately equal weighting. Excellence in science focuses on research-driven areas. That is where the

European Research Council sits and where the Marie Curie Actions sits. Furthermore, novelties for Horizon 2020, namely future and emerging technologies, often referred to as FET, which currently sits under ICT and, to some extent, under energy, will be expanded across all areas according to the proposal under Horizon 2020, along with, importantly, research infrastructure, which is necessary for being able to maintain European excellence in research. Excellence is one of the strands across all programmes of Horizon 2020, so it should not be confused as only taking place within the excellence in science pillar.

[13] The societal challenges pillar is a new approach under Horizon 2020 to addressing European collaborative research. That has been the basis, for many years, on which the framework programme operates. So, the original proposal for the societal challenges pillar was to have six broad multidisciplinary challenges. In recent discussions with the member states in the European Council, it has been agreed that these six challenges will be expanded into seven societal challenges, separating the social sciences and humanities challenge from the security challenge. That is identified on the next slide, to give you the new heading. So, this is one of the major proposals being put forward in the negotiation process by the council. However, if we refer back to the original proposal, societal challenges will fund collaborative research but will require a more multidisciplinary approach. However, having said that, there is building on a lot of continuity, as you have already seen, from what we currently have in framework programme 7, again, emphasising the importance of being involved at the moment as well as looking ahead to Horizon 2020.

[14] The last pillar is the industrial leadership pillar. That is where the key enabling and industrial technologies will sit. In fact, many of these areas, listed under the key enabling and industrial technologies, build on existing themes under framework programme 7. However, we expect a greater emphasis on downstream activities with a greater focus on innovation and collaboration in applied areas, particularly in collaboration with industry and with small and medium-sized enterprises. The industrial leadership strand also includes opportunities, including a new programme, for SMEs and a number of newly designed opportunities for access to risk finance. So, this is where we will see many of the things that currently sit under the competitiveness and innovation programme brought into Horizon 2020.

[15] Another novelty brought into Horizon 2020 is the European Institute of Innovation and Technology, which spans, in a sense, Horizon 2020 and is not designated under any particular panel, hence how I have represented it on the slide.

9.30 a.m.

[16] Another point to add, from the partial general approach of the European Council, has been the proposal, in order to bring together the horizontal activities, to include cross-cutting and support measures under a single pillar. This is the subject of an ongoing debate, as are the amendments that have been put forward by the European Parliament in the reports that have recently been published. In many senses, these amendments echo what the European Council has said regarding the overall structure, but they also emphasise the importance of the wider policy agenda for synergies with other programmes. This is an important area. Of particular importance are synergies with cohesion funding—so, structural funding—and with the European research area as a whole. I am very happy to answer any detailed questions that you might have on the latest situation in the negotiation process. I can refer back to some of these areas, if that would be useful.

[17] **Nick Ramsay:** Thank you, Christina. That was very helpful. There was a lot of information in your presentation. I am sure that Members have some questions for you. David Rees wants to ask the opening question.

[18] **David Rees:** Thank you, Chair.

[19] Thank you for the presentation, Christina. It was very helpful. I know that your focus is clearly on the research side, so some of the synergies involving structural issues may not be appropriate topics for questions. I would like to focus on where we are now before talking about where we want to go, and I therefore wish to look at FP7. Focusing on Wales, but also on the UK as a whole, how successful have we been in achieving FP7 funding, in having greater collaboration with other EU institutions, which is a major part of this, and in having greater collaboration with industry, as our partners in such projects? If we are going to go forward under these new proposals, I want to see where we are and how far we have to go.

[20] **Ms Miller:** That is a very good point. Thank you for the question, David. With regard to where we are now, we should move away from statistical information for a moment. The most important thing is that the UK excels in collaboration with the EU. The UK as a whole, including Wales, collaborates in areas where it has strength. So, the important thing is to be clear that there is already a lot of work going on. In terms of where we need to go, the important thing is that we must build on the experience that we have at present. The UK, overall, is the second biggest recipient of framework programme 7 funding, and I am aware that you have already been provided with related statistics. We need to ensure that every individual university is aware of the opportunities that are there, and we somehow need to try to reach out to industry. We need to ensure that the universities are engaged in the process, so that they can help shape Horizon 2020. It is particularly important to ensure that organisations are involved in the European technology platforms and the discussion groups that take place within them, so that they can feed into and shape the agenda and so that they are better placed to respond to the calls that are going to take place this year and in future years under Horizon 2020.

[21] My personal view, based on working at the UK Research Office, is that we should take a qualitative approach to looking at where we need to go, and maximise opportunities for bringing in researchers from elsewhere, such as through the Marie Curie Actions. We would therefore be building on the excellence that we already have with the training of researchers, again through the Marie Curie Actions—through the initial training networks and through individual fellowships—and taking a stepwise approach to doing so. This is a programme where, on the whole, we have to respond to particular topics, and we do not know how they are going to be structured under Horizon 2020. It is a very difficult challenge to set exact expectations, because this is a dynamic programme. This is probably one of the biggest difficulties that you will be faced with—saying that this is the success that exists at present, and this is what would you like it to be. That is because this is an ever-evolving programme. I am sorry if that is not a direct answer to your question.

[22] **David Rees:** That is alright. I understand your answer. My feeling is that we need to do the groundwork as to where Wales currently sits in the programme. If we want to discuss at the next meeting where they are going to take us, we need to know where they are. We have six institutions involved with the UK Research Office. How long have they been involved with UKRO and supported it? Is there an indication that other institutions in Wales are going to come on board?

[23] **Ms Miller:** On the first question, on how long the organisations have been subscribers to UKRO, I am afraid that I cannot answer that off the top of my head, but I will send the details to the group afterwards. The subscribers are fully engaged with the activities of the UK Research Office. Nick Bodycombe, for example, is a subscriber representative who sits on the UKRO board. That is useful for engagement and managing the strategic mission of the office and provides an opportunity for a representative within the community.

[24] Can you remind me of the second part of the question?

[25] **David Rees:** Have you any awareness of other institutions that are looking to become subscribers to UKRO? There are some universities that are not on the list that we have.

[26] **Ms Miller:** In the past, we have had tentative inquiries, but we operate on a case-by-case basis. It is an annual subscription and they can choose to subscribe at any time. We have not been approached directly or formally to set up subscriptions with other universities in Wales. It is open for them to talk to us at any time. I stress that the UK Research Office provides a number of services that are free of charge to any organisation. The office has funding for two posts to provide the national contact-point service for Marie Curie Actions and the European Research Council. Welsh universities have been particularly forthcoming in assisting us by providing venues for training events in both those areas over the last seven years, while I have been working at the UK Research Office.

[27] Additionally, we publish free of charge the 'European RTD Insight', which is funded by the British Council. It is available to any researcher or organisation that would like to have an overview of the last month's policy developments in research and higher education, the major activities and events that are coming up, and any research news—it is a digest of getting involved in projects. There are a number of opportunities for them to be involved. They are welcome to attend our annual conference, which will take place in Leeds later this month, if they would like to find out more.

[28] **David Rees:** You said that future work programmes for FP7 are due in July, although you did not give us any figures as to whether any have submitted proposals or are intending to do so—Welsh institutions in particular. Do you have an indication of that position at the moment?

[29] **Ms Miller:** That is a difficult question to answer, because we get a lot of inquiries from our breadth of subscribers about what is coming up. However, individual organisations do not tell us exactly what they are going to do. Unfortunately, we are not in a position to know what everybody will apply for. However, there has been a lot of interest. For the first time, the European Commission has launched orientation papers in many areas. Hopefully, that is proving helpful to the research community. I am aware that there are discussions on a regional basis as to how these calls are matching up to the strengths that you have within Wales. A lot of work is going on, although I am not sure of the details.

[30] **David Rees:** The role of the research councils is to fund UKRO and to be a major feature of it. What are their views of the success of the current FP7 and the transformation to Horizon 2020?

[31] **Ms Miller:** The UK research councils are obviously very supportive of framework programme 7—they are involved themselves in many European research area networks—and are highly welcoming of the Horizon 2020 proposal and the overall structure.

[32] **David Rees:** Do you think that it meets their ambitions for the future?

[33] **Ms Miller:** In the research councils' response to the Horizon 2020 proposal, they were highly welcoming of the proposal and set out a number of areas. For example, they were very welcoming of the splitting of the final societal challenge into two challenges. So, there are some specific details, but overall there seems to be support for the approach.

[34] **Alun Ffred Jones:** Rwyf am ofyn cwestiwn syml iawn. Beth yw'r prif wahaniaethau rhwng bwriad Horizon 2020 a'r drefn bresennol? **Alun Ffred Jones:** I want to ask a very simple question. What are the main differences between the Horizon 2020 proposal and the current regime?

[35] **Ms Miller:** The main difference between Horizon 2020 and the current regime is the involvement of the innovation strand, bringing in aspects of the competitiveness and innovation programme, having a greater focus on innovation throughout the programme and bringing in the European Institute of Innovation and Technology. However, there is a lot of continuity from what we have at present under framework programme 7, so there are not as many differences as one might expect between the two programmes.

[36] **Alun Ffred Jones:** Mae datganiad yma sy'n nodi mai prif fwriad Horizon 2020 yw ariannu ymchwil ardderchog. Byddai rhywun wedi disgwyl mai dyna fyddai'r cynllun presennol yn ei wneud. A oes rhyw wahaniaeth nad wyf yn ei ddeall?

Alun Ffred Jones: There is a statement here that the main intention of Horizon 2020 is to fund excellence in research. One would have expected that that is what the current scheme set out to achieve. Is there some difference that I do not understand?

[37] **Ms Miller:** You are quite right that this is part of the wide communication from the European Commission. However, if we go back to the start of framework programme 7, exactly the same statements were being made. 'Excellence' is referred to throughout framework programme 7. Indeed, the evaluation criteria for any proposal under framework programme 7 will have had the excellence of the research as a major component of the evaluation process. So, this is something where there is continuity, but it has a greater focus and a greater political focus in the discussions.

[38] **Eluned Parrott:** Looking at the way in which the themes have transferred over into societal challenges and looking at the words 'excellent science' at the top of one of the columns here, do you think that the EU has conflated the word 'science' with the word 'research'? What opportunities do you think there are for the humanities in this? Have we missed an opportunity to look at ways to reinvigorate the arts and humanities in Europe, given that one of the UK research councils that supports you is the Arts and Humanities Research Council?

[39] **Ms Miller:** That is a very good question and it is one of the areas that I personally feel quite strongly about. The word 'science' is used a lot in European research policy and, in fact, is often used interchangeably with the word 'research'. We always stress within the office to use the word 'research' more often, because it means the whole breadth of opportunities in anything that is covered under the treaty. So this is a very important point to make.

9.45 a.m.

[40] On the second point, regarding social sciences and humanities, in their response to the Horizon 2020 proposal, the UK research councils articulated that the original proposal for inclusive, innovative and secure societies brought together too many different aspects so that it was not clear how social sciences and humanities could be addressed. That is a simplistic view of their response. However, the research councils would very much like to see greater clarity on how social sciences and humanities can be properly addressed within the multidisciplinary societal challenges.

[41] **Eluned Parrott:** One thing that concerns me with regard to humanities research being focused towards societal challenges such as this is that, with science, there is an opportunity for blue-skies science thinking for the purposes of furthering science, but what we see here is an opportunity for the humanities to be used as a tool to explore the social sciences, and possibly sciences. Are we going to see opportunities for blue-skies humanities and arts research?

[42] **Ms Miller:** The first thing that I would like to say about that is that, under framework

programme 7, similar tensions exist as under Horizon 2020. Social sciences and humanities have an important role to play on the applied side, as you have already highlighted. With regard to frontier research, excellent research in the area of social sciences and humanities, we would like to encourage researchers in this area to carefully consider the opportunities available under the European Research Council and, indeed, the Marie Curie Actions. Both of these areas support blue-skies research within social sciences and humanities. If we were to look at the list of proposals that are funded—I would be very happy to send further information on this—it is possible to see a diverse range, even from the titles, of the types of research that have been funded. It is very hard to draw trends from this because, in fact, the biggest thing that I would note is the diversity of the various areas that have received support. This is something that should almost serve as an encouragement to others to apply.

[43] The same applies to the Marie Curie Actions, where it is down either to the individuals who applied for the individual fellowships or, indeed, the host organisations that apply for the initial training networks to set the research agenda. One important thing for the initial training networks is to explain why more researchers need to be trained in that area and, although there are more researchers being funded in the area of life sciences, this is due to the fact that, under the Marie Curie Actions, it is based proportionally, depending on how many researchers apply within a given thematic domain. So, in a way, we need more people to apply from social sciences and humanities so that they can have a larger stake in the funding share.

[44] **Eluned Parrott:** However, do you agree that, if the word ‘science’ is used all over the documentation, arts and humanities researchers will hardly see that as an encouragement to apply?

[45] **Ms Miller:** Personally, I agree with that very strongly, as I have explained.

[46] **Kenneth Skates:** With regard to excellence in research, going back to a point raised by my colleague David Rees, one of my concerns is about ensuring that information is proactively disseminated to research bodies—not just to universities but also to industry. Is there any way that can be ensured? I note that there are two posts that offer free advice or service, but to what extent are you proactive in going to universities, particularly those that are not involved at the moment, and industry that is currently not engaged?

[47] **Ms Miller:** Thank you for the question. Again, it is very important to make the point that there is a distinction between the UK Research Office, which operates on a subscriber basis, and the member-state-funded national contact points—so the UK national contact points—that are in place across the whole of the framework programme 7. As a national contact point, of which we have two—one is for the ERC and Marie Curie Actions—we try to disseminate information as widely as possible to as many different types of organisation as possible. We work very closely with the Department for Business, Innovation and Skills in doing so.

[48] I also point out that the department is carefully monitoring this area and wants to see greater participation across all sectors, not just from industry. It is currently undertaking a project to look at support under Horizon 2020. So, we are currently involved in that wider national contact point network and working with the Department for Business, Innovation and Skills on its work of analysing how this can best be addressed under Horizon 2020. However, unfortunately, given how UKRO is based on providing a service to its subscribers, wider dissemination of UKRO subscriber services would go beyond our remit.

[49] **Kenneth Skates:** Who would be responsible for that? To throw the issue out slightly more broadly, is anyone taking responsibility for co-ordinating and gathering intelligence information on the partnerships that are being forged and on participation in the schemes? Is

any organisation taking that responsibility?

[50] **Ms Miller:** Not cutting across the whole schemes with regard to collaborations. So, there is no individual body looking at who is working with whom and monitoring the networks that are in place. However, a number of the national contact points provide support by way of brokerage. For example, the health national contact point is involved in a wider project across Europe with small and medium-sized enterprises involved in health, which helps the brokerage between SMEs and the academic community. So, there are lots of different things going on, including at a pan-European level, but no single organisation is doing that. My personal view is that that might be down to the fact that a lot of researchers are mobilised in doing this themselves.

[51] **Kenneth Skates:** Eluned Parrott touched on one of the perceived threats of the proposed alterations or changes. Can you give us an indication of any other threats to universities or, indeed, any opportunities that might be presented by H2020?

[52] **Ms Miller:** On the opportunities, there are still a lot of possibilities to get engaged with the ongoing decision-making process. In particular, there are some things to do with the practical implementation of Horizon 2020 that have not yet been discussed and which will be the subject of further discussion, such as how work programmes are to be structured for societal challenges, because that has not yet been decided. One can assume that they might be on a similar basis to now, where researchers respond to priority-driven topics, but that has not yet been decided. So, this is an opportunity for them to be engaged in shaping the process and sharing their views.

[53] From a practical point of view, there is a diverse range of opportunities under Horizon 2020, but that diversity can also be perceived as a threat, in a way. There are all the opportunities presented here and then, on top, the additional possible opportunities through joint programming initiatives and European research area networks, to name just two examples. We can also include the joint technology initiatives for collaboration with industry. So, with those three on top of Horizon 2020, it is very complex. That sets a huge challenge for individuals within industry or smaller companies, which may not have taken part before, and it puts a lot of pressure on those who have a role in encouraging participation in European research among universities. So, it is a huge task.

[54] **Kenneth States:** I have one final query. Are you confident that universities and industry will be sufficiently aware of the opportunities, and are they aware of the opportunities early enough to participate from the outset?

[55] **Ms Miller:** From the point of view of the university research community, we do our utmost to ensure that the information is disseminated as soon as possible. We know that many of our university subscribers will work closely with their counterparts, probably on a regional basis, so, hopefully, through word of mouth, this will get passed on in any case. On top of that, the European Commission does an active drive, but that is at a higher level. So, we provide the specific details, but at a higher level, the European Commission is working increasingly hard to disseminate the information on funding as widely as possible, although that might not necessarily include as many details. A wide range of brokerage-type events and information events are run by the European Commission and they are free to attend, but the challenge is that the researchers wanting to attend may not be able to take the time out if they are working in an SME, or they might not have the funding, unfortunately, in the current financial climate to attend such important events to meet their counterparts in Brussels and across Europe.

[56] **David Rees:** Just as a quick point of clarification, if that is okay, you mentioned that the national contact points are BIS funded, but BIS does not have any impact on Welsh

universities obviously or, similarly, on Scottish universities. Can you clarify that the remit of those national contact points are UK-wide?

[57] **Ms Miller:** On the remit of the national contact points, they are, as I said, funded through BIS, but I should have clarified that they are to cover the whole of the UK and, in fact, one of our obligations as a national contact point is to ensure that we have as wide a coverage as possible across the whole of the UK.

[58] **Julie Morgan:** You have referred to the huge task and some of the complexities. Do you think that the reason not all Welsh universities are signed up is because they see it as a daunting area to go into?

[59] **Ms Miller:** It is hard to guess, without working with them closely on a personal, individual basis, the exact reasons why they might decide not to subscribe to UKRO. It could indeed be the fact that it is a daunting process—and there are a lot of opportunities—but it also might be that other European funding better fits their needs. For example, although we have not talked about this today, there is funding under the lifelong learning programme if a university has a stronger focus on teaching and learning. One thing we find at UKRO is that, while we are a body that is there to provide advice and guidance on the types of funding opportunities available, we have to spend a lot of time managing expectations and helping organisations to know enough about a programme to decide whether it is the right programme for them to apply for. So, it may be the case that there is a strategic reason behind it as well.

[60] **Nick Ramsay:** Eluned Parrott, have you finished with your line of questioning?

[61] **Eluned Parrott:** No, I want to look at future and emerging technologies, if I may. With regard to future and emerging technologies, you mentioned in your presentation that it has historically been focused on ICT and, more recently, energy. Can you clarify how broadly this area will be available under the Horizon 2020 proposals?

[62] **Ms Miller:** Thank you for the question. I can clarify on the basis of what is in the proposal, but I would add that this is one area in which we would very much welcome more information on how it will work in the future. So, the idea is that future and emerging technologies can be used across all areas, but there might be some that have a specific focus on that. We would encourage researchers to be engaged as much as possible in the discussions surrounding this and also to look at the types of things that are being funded at the moment, even though they are in ICT, to give them a flavour of many of these things, which are new and emerging areas. So, it should have a focus on new and emerging areas, but it should be across all disciplines.

[63] **Eluned Parrott:** Given the strength that we have in life sciences and so on in Wales, do you foresee that that will give more opportunities to Welsh and perhaps also other UK universities?

[64] **Ms Miller:** Without seeing the final way in which it will be structured, it is difficult to answer that question, but I hope, on the basis of what is in the proposal, that that will be the case and that more opportunities will be available. However, this is an area in which institutions will need to monitor the discussion process as it goes along to ensure that they are engaged with that, but also to be aware of being able to match their work, in a way, and look at areas where they need to build capacity to benefit properly from the schemes. They might also wish to consider that when looking at the synergies with other programmes, such as cohesion funding.

10.00 a.m.

[65] **Eluned Parrott:** How would higher education institutions individually represent their views and opinions while monitoring this? Would they represent them through you?

[66] **Ms Miller:** It would be possible for them to share their opinions with us, but for any organisation that has a particular opinion on an area, the UK Research Office is a little different from other organisations in that we do not provide official positions on the UK sector. What we do is help organisations that have views to come into contact with others, so we would advise them on where to take their views and which process to engage with. We would also disseminate information on any public consultations that will be taking place, so there will be a number of smaller consultations, we expect, as there were in the build-up to the first part of framework programme 7.

[67] **Eluned Parrott:** Thank you. That is very helpful.

[68] **Christine Chapman:** Thank you, Christina, for your presentation. I just want to delve a little more into the pillar of industrial leadership. Could you give me an assessment of how the Welsh HEIs are reacting to this objective? Are they accepting it? Are they warmly welcoming it? How would you assess the reaction and response to this objective?

[69] **Ms Miller:** Thank you for the question. To be honest, it is difficult to give an exact, detailed analysis based on the reactions that come directly to us. We would need to have feedback, and I do not have detailed feedback, but I do understand that the Welsh subscribers see all the areas of Horizon 2020 as opportunities, and are looking at how they can maximise their engagement with them. They work with our European adviser, who is responsible for the universities. Looking at Horizon 2020 and the individual areas both within industry and leadership and across the whole programme, the universities are asking for briefings from the European adviser, and monitoring the discussion process.

[70] On how well organisations are engaging, as I stressed in the brief overview, many of these key enabling and industrial technologies are based on existing framework programme 7 thematic areas in which they are engaging as best they can—so, as much as possible. That will continue, I imagine.

[71] **Christine Chapman:** I just want to press that because obviously David Rees has talked about the impression that Welsh HEIs may, disproportionately, not be accessing some of the research funds. If you are not able to monitor this at the moment, it will be too late once the process is finished, so I just wondered whether any work was being done to check that everybody is accessing this equitably. This is an opportunity, and we would not want to see Wales in a similar situation at the end of the process as it is in now. Are there any monitoring systems in place to look at it from a UK perspective, to see whether there are parts of the UK like Wales that really need a bit more support at this stage?

[72] **Ms Miller:** There is the possibility of getting statistics on the funding proposals that have been selected for award. Unfortunately, the difficult thing from my point of view is that the statistics do not publicly show who applied for the funding. So, it is difficult to monitor the gap between those who applied in a certain area and those who were funded.

[73] One of the unfortunate things about the way in which the European Commission funding is set up is that, unlike the UK research councils, there is not an active monitoring system of who submits a proposal. The proposer knows that they have submitted a proposal, as does the co-ordinator, but this information is not stored centrally or indeed provided centrally to the individual organisations. So, even if you were to ask an individual university, for example, unfortunately, it would not be in a position to be 100% sure of all the proposals submitted in a certain area, and this is one of the areas where I have the greatest sympathy for universities, because often, due to the way in which the process has been set up, those

working in central positions are not necessarily aware of proposals until they have been funded. That puts a huge amount of pressure on them. So, in many senses, the greatest thing we could do to improve this in the future would be to encourage the Commission to adapt its system, obviously. Also, although it may not be possible, we could encourage individual researchers to communicate strongly with their research office, which I know is a central role and something that they are already putting a lot of effort into. Additionally, the universities are supported by the Welsh Higher Education Brussels office, as you know, and that is probably also looking at this particular area, although with a more regional focus.

[74] **Christine Chapman:** For the Chair of the committee, I think that that is something that we should note as a concern. As I said, I am very concerned that we could find ourselves in a similar situation in however many years' time, that is, that there will still be this disproportionate effect.

[75] I would like to move on to a couple of more specific areas. I think that I have this right, Christina; I think that you did say that with the changes from FP7 to Horizon 2020, there would possibly be more innovation, collaboration and work with SMEs, which is great. What is your assessment of how Welsh HEIs are collaborating across Europe with the FP7 programme? Obviously, collaboration with other European HEIs, that is. As David has said, what is your assessment of FP7 now, so that we can see what the difference could be with Horizon 2020?

[76] **Ms Miller:** On FP7, unfortunately, I do not have the information on me, but I am able to provide statistical analysis, if that would be helpful. Anecdotally, however, the organisations here are engaged, from my understanding, as much as possible with the opportunities. I am not 100% sure that I have noted down the name correctly, but they have set up four European funding co-ordination research groups to look at how they can increase their participation both in framework programme 7 and working with industry. That will also lead on to Horizon 2020. So, a lot of work is under way to do this. Unfortunately, we do not provide analysis of the sector's participation. This is not something that we provide for any area of the sector. We do focus on engagement, but unfortunately we do not provide statistical analysis of that.

[77] **Nick Ramsay:** I just remind Members that we are heading into the last few minutes now. Please be brief in your question.

[78] **Christine Chapman:** You may not be able to answer these questions now, but it may be possible to provide written information. Finally, I want to look at the specific areas on your slide: ICT, nanotechnologies and so on. What is your assessment of where HEIs are weak or strong? Have you made an assessment of where they are coming forward in those specific areas? We would know then which areas Wales needs to move a little bit more quickly on.

[79] **Ms Miller:** I am afraid that I do not have a detailed assessment of that. I would like to emphasise, however, that each of these might look like small, contained areas on paper, but if we were to delve into the details of the specific programme for each area, even its very top headings are exceptionally broad, and this is the challenge for organisations. At this stage, the areas are so broad that we do not know what the calls for proposals will contain. So, it is very difficult to know what needs to be done in order to meet those objectives.

[80] **David Rees:** On that point, you mentioned the industrial leadership pillar, but also a look at perhaps a focus on downstream aspects of current projects. You also mentioned the second biggest recipient of FP7 funding, but Wales has quite a low percentage of that. Have you done any analysis as to whether that will have a detrimental impact on Wales? If we are going to go down stream and we are not taking a larger proportion of the funding, will that be an issue for bids under that pillar?

[81] **Ms Miller:** To clarify that point, under Horizon 2020—that was a very good question that you asked—we assume, as is the way under framework programme 7, that when applying for funding, the application for that particular funding programme is based upon new collaboration and new participation. Some organisations do not like that, because it does not provide very long-term funding, but the idea is that it is on a project basis, so that will not affect the chances of organisations participating for the first time. Other activities to do with commercialising research results, for example, can still be done at a regional level, and that is one of the things being looked at in terms of the synergies funding.

[82] **David Rees:** I would just like to make a quick point to clarify something. You mentioned the fact that universities might not know exactly what submissions are being made. Is there, therefore, a possibility that departments or researchers put in submissions and senior managers in universities do not know about them?

[83] **Ms Miller:** Unfortunately, that can be possible. My biggest sympathy goes out to those working in central positions within HEIs or, indeed, any organisation. Individuals can submit proposals, but senior managers will not necessarily know about them.

[84] **David Rees:** They do not have my sympathy as there should be systems in place to ensure that it does not happen.

[85] **Julie Morgan:** We finish at 10.15 a.m., do we?

[86] **Nick Ramsay:** Well—

[87] **Julie Morgan:** There is an emphasis on the multidisciplinary approach. How will that work in practice and what are the implications for the Welsh universities?

[88] **Ms Miller:** It is very difficult to assess exactly how it will work in practice without knowing how the work patterns are going to be structured. So, you raise a very important point. In terms of the Welsh universities, as I said, I understand that a number of initiatives are already in place to get the universities working more closely with each other, which will be beneficial when thinking about approaching collaborative funding, which needs a multidisciplinary approach—being able to share contacts, but also being able to share expertise and consider bidding together collaboratively with other European partners.

[89] **Julie Morgan:** So, you do not have any information about how that is developing at the moment.

[90] **Ms Miller:** At the moment, it is too early say what the work programmes will look like, because this has only just been discussed in Brussels.

[91] **Julie Morgan:** On the societal challenges and the areas that come under that, have any of the Welsh universities expressed any views about that list and whether they feel that there should be anything extra included or something taken out?

[92] **Ms Miller:** Once again, I would need to go back and have a look at the individual feedback that we have received. We do not have a formal record of feedback. Although we encourage individuals to contact us in areas where they have points to make, we are not officially responsible for bringing together a collective position. So, we have not done a consultation on this and we probably do not, therefore, have a fair analysis of the views. I am sorry that I cannot provide that.

[93] **Julie Morgan:** I just think that it is important to get that information because of the

historical lower level of funding in Wales.

[94] **Nick Ramsay:** David Rees, we have a couple more minutes if you want to ask another question.

[95] **David Rees:** Yes, just a quick question. On the European Institute of Innovation and Technology, do you have any input to that, or any connections or interactions with it?

[96] **Ms Miller:** It depends in which context you are asking about. It is an area that we have followed from its very first policy discussions, and we also provided information on the first calls for the Knowledge and Innovation Communities.

10.15 a.m.

[97] So, we follow it closely and we provide information on the development and the funding opportunities available under it. Unfortunately, it is an exceptionally complex initiative. It is not a funding programme as such, which is one of the complexities about it being included under Horizon 2020, because it gives the impression that it is a funding programme. It is an initiative that provides leverage for funding. Basically, the participants need to bring 75% of the funding to the table, and then they would be able to get up to a quarter of the funding from the EIT for specific KIC activities. So, it is complex, but it is something—

[98] **Nick Ramsay:** I am getting the feeling that there is nothing simple here at all. *[Laughter.]*

[99] **Ms Miller:** I am sorry.

[100] **Nick Ramsay:** That is all right; it is not your creation.

[101] **Ms Miller:** We will provide detailed briefing for individuals if you ask us for it.

[102] **David Rees:** It looks as if there is an increase in funding going to KIC activities.

[103] **Ms Miller:** In the proposal, you are quite right that there is a large increase in funding that is being put forward—in fact, it is a tenfold increase. However, this is something that is the subject of political debate, as is anything in the proposal—it is not the finished product—which is why we encourage researchers to focus on framework programme 7 at the moment, because a lot of political negotiation needs to take place on Horizon 2020. This is something that is being questioned by the European Parliament and is also the subject of discussions within the European Council. Just because a tenfold increase has been proposed does not mean that this will be the finished product.

[104] **Kenneth Skates:** So, the proposed KICs for 2014 and 2018 are still subject to approval.

[105] **Ms Miller:** Yes. Everything in the Horizon 2020 proposal is subject to approval and is also subject to a positive outcome of the budgetary discussions in the multi-annual financial framework.

[106] **Kenneth Skates:** However, it would be foolish for institutions not to be engaged at this moment in time, particularly in the 2014 round of KICs, would it not?

[107] **Ms Miller:** In terms of being engaged in the development, we would encourage all organisations to be engaged in the discussion, but to think very carefully before committing

financial resources to planning. So, there is a difference between engagement and committing financial resources to that. To seek as much advice as possible would be my main take-home message.

[108] **Nick Ramsay:** Do any other Members have urgent questions? I see that they do not. In relation to engagement, just to bring this part of the session to a close, how do you think that we as a committee can be most influential in advising the Government on what it needs to do? Is there anything in particular that you would pick up?

[109] **Ms Miller:** The inquiry that you are carrying out at the moment is a very good example of how to be engaged in the process, and I understand that there will be a number of recommendations at the end of the process that you will need to make. Listening to the views of the stakeholder community and taking those forward with your strong voice is another way that will help to support the opportunities for participation in future, because the very best way to understand what the problems are for the organisations is to talk to the researchers who are trying to apply. We can provide advice on what is coming out of Brussels, but we get our advice on participation from individuals working in organisations who have that experience.

[110] **Nick Ramsay:** That leads neatly to our next evidence session, where we will be engaging with stakeholders. Thank you, Christine Miller, for coming here to speak to us today; that has been most helpful. Thank you for the information that you provided and for the slide show as well. It helps to clarify some of the complexities that you spoke about in your answers to our questions. With that, I bring this particular evidence session to a close. We have around 10 minutes before our next witnesses are due to arrive.

[111] **Ms Miller:** If you have further questions, please get in touch with me. I am happy to receive them.

[112] **Nick Ramsay:** Thank you.

*Gohiriwyd y cyfarfod rhwng 10.20 a.m. a 10.29 a.m.
The meeting adjourned between 10.20 a.m. and 10.29 a.m.*

Ymchwiliad i Horizon 2020—Sesiwn Dystiolaeth Inquiry into Horizon 2020—Evidence Session

[113] **Nick Ramsay:** Welcome back to Members. We are continuing with our inquiry into Horizon 2020. I thank our witnesses for attending the committee today. Would you please introduce yourselves for the record?

[114] **Professor Gummert:** I am Phil Gummert, chief executive of the Higher Education Funding Council for Wales.

[115] **Professor Thomas:** I am Hywel Thomas, a pro vice-chancellor at Cardiff University and a member of the Welsh Higher Education Brussels board.

[116] **Professor Davies:** I am Richard Davies, vice-chancellor of Swansea University, leading the Higher Education Wales delegation.

[117] **Mr Davies:** I am Berwyn Davies, head of the Welsh Higher Education Brussels office.

10.30 a.m.

[118] **Nick Ramsay:** Thank you, again, for coming; it really is most helpful to us. We have a number of questions, so we will go straight into those, rather than having statements.

[119] **David Rees:** Good morning, everyone. The witnesses before you have explained the role of Horizon 2020, but before we talk about that and where we want to go with it, my first focus is on where we are now and why we should be able to benefit from Horizon 2020. I have seen some figures, and we have had them in our papers, which show Wales underperforming with FP7 projects in terms of the proportion of the institutions in Wales and the UK. We get 2.26% of the funding from FP7 that the UK has managed to achieve and we get about 3.3% of UK research council funding, when we should be getting more than that. So, why are we underperforming in achieving funding for such projects? I admit that you have some examples of projects in your paper, but figures also show that we are underperforming.

[120] **Professor Davies:** This is a vital question, because we hear a lot about that type of underperformance compared with UK averages. We need to step back a little bit here, because we accept—there is no doubt about it—that Welsh universities are not ideally positioned to rise to the challenge of creating a modern and vibrant knowledge economy. That is what Horizon 2020 is about. Horizon 2020 and structural funds are levers to create economic growth and create knowledge-led economies across Europe and universities have to be at the heart of that. The way that I put it is that universities have to be the beating heart in the physiology of a knowledge economy. We are not well placed. We are starting from a position that we are not comfortable with to deliver for Wales. In saying that, we have to unpack what that means. We know that we have had chronic underfunding for years. There has been a lack of joined-up thinking and implementation, compared with many countries, between the sector and Government agencies. The biggest issue is that all my detailed analyses—I am a statistician and have done the analysis—show that 50%, plus or minus 5%, of the underperformance is due to having less science, technology, engineering and mathematics per head of population than elsewhere in the UK. In the last research assessment exercise, we had 41% fewer world-leading STEM scientists than England and 58% fewer world-leading STEM scientists than Scotland. So, for every 10 world-leading scientists in Scotland, there are only four in Wales. You cannot build a knowledge economy on that basis. It is just the historic way in which higher education has evolved in Wales. We have some very high quality, but little of it.

[121] **Nick Ramsay:** Has that situation got worse, or has it always been like that?

[122] **Professor Davies:** It got worse through the 1990s and going back to the 1980s; it declined. Of course, underfunding accelerates that, because in running universities, the most expensive parts are the technology and science and you have to squeeze that in underfunding situations. However, we also have fewer large companies in Wales to collaborate with and this is a really big issue. We do collaborate with companies, but most of them are outside Wales, creating wealth and creating developments outside. We admit that there is some underperformance; about 30% of the discrepancies that David Rees pointed out are attributable, from my analysis, to underperformance. That is being addressed, but unless we address that alongside the other issues—the bigger structural issues of not having enough science and technology, getting more joined-up thinking and planning Horizon 2020 alongside structural funds and science strategy—we are not going to be able to make the huge strides that we have to make to catch up. However, we are up to it.

[123] **David Rees:** Have there also been problems with support for developing FP7 projects? Has the Welsh European Funding Office been behind the game in terms of providing support and advice to ensure that the HE world is able to take advantage of FP7?

[124] **Professor Davies:** I suggest that Berwyn talks about this, because he has seen the

situation across Europe, and how other countries operate.

[125] **Mr Davies:** Academic institutions make use of support structures that already exist, particularly UKRO, the body from which you heard evidence earlier this morning. I work quite closely with European liaison officers. Each university has at least one individual or department that assists academics in putting their bids together. They run courses for writing proposals. They have, in the past, brought UK national contact points into Wales on an occasional basis. Most recently, the national contact point for health came to Cardiff University and spent a day talking to academics who were interested in submitting applications for this year's call. A series of surgeries was held for them. There is support there, it is being used and there is potential for it to grow. At the moment, it is possibly a bit too piecemeal. To some extent, the onus is also on the academics to engage with the programmes and to build engagement with European programmes into their activities.

[126] **David Rees:** Have HEIs and academics been slow on the uptake? Also, did they lack the vision to look at the longer term a few years ago when these programmes were coming in, meaning that, as a consequence, we are behind again?

[127] **Professor Davies:** There is undoubtedly an element of that, but I do not think that that is the totality of the explanation. I have been working in universities most of my life. Academics will follow the opportunities to pursue their research. That is the nature of the work. I do not want to dwell on the past, but there were real difficulties. There was quite a lot of discouragement in the UK from applying for framework funding, because of the low level of overheads and that they cost money to deliver. Given the way that universities are funded in Britain, it really was a concern that a university in which academics were very successful in winning framework projects could have hit serious financial difficulties. However, that has largely evaporated now. We see Horizon 2020 as the main future source of research funding for universities. As the UK research councils cut back and spend less, Horizon 2020 will be increasing the funding that is available, so we have enthusiasm and commitment for it. There are many structural things that can be done, and we are very much aware of the help and support that universities receive in some other countries.

[128] **Nick Ramsay:** I think that Professor Gummatt wants to add something before David comes back in.

[129] **Professor Gummatt:** First of all, Higher Education Funding Council for Wales does not necessarily agree with Higher Education Wales on everything, but on these issues, we do agree. I would agree with Richard's diagnosis. The issue about performance levels is partly due to funding. Even though we put as much as we feel that we can of the HEFCW grant into research funding at universities, the fact remains that the amount that we put in per researcher is lower than the amount in every region of England, except for the east midlands. It is 50% lower than in the area around Cambridge, which is a real issue. I am not grumbling or complaining about it; we deal with what we have to deal with. It is a fact, however, that there is less investment going in, which has a consequence.

[130] Second, there is the issue of the subject mix, which is very important too. We are skewed in a way that does not make it easy to go for the big grants. The third thing is organisation. It is within the capacity of universities to do something about this, quite directly. I have to say that, lately, a lot of energy has gone into becoming more strategic—working in Brussels but also in Welsh and UK circles—by putting collaborative proposals together across the universities. I would like to offer a piece of good news, albeit only a little one. We have just received the very latest figures for research council grant capture across the UK. We were bumping along at 3.2% to 3.3% for a number of years, but went up to 3.4% in 2011-12. You may ask whether that signifies, and I would say that we should wait and see whether that is sustained. The most significant point to make about that is that it is a small increase in

Welsh university grant capture at a time when research councils are reducing what they spend. So, it is, in fact, an increase in a shrinking market and that combination of circumstances adds more weight to what otherwise looks like a small percentage increase. So, I think that is great and that it shows some sign of this more strategic approach. Our hope is that we are turning corners but I would not want to definitively say that that is the case yet.

[131] On the issue of support, the question was asked as to whether WEFO is doing all it can. This is a moving target territory, I think. We have to think about what other countries are doing, how they are positioning themselves in discussions in Brussels and elsewhere, and how they are enabling their university researchers to engage in those discussions. I am sure that more can be done for the future. An important challenge for the future will be to figure out ways in which to engage people better. There is a small unit that has done a certain amount of useful work, not directly in WEFO, but in the Department for Business, Enterprise, Technology and Science, which has provided support for university staff to visit and form collaborative partnerships, which is a key part of this. Again, there is probably scope for the profile and the volume of activity under that initiative to be raised so that people can form the international partnerships that are an essential part of successful framework bids.

[132] **Alun Ffred Jones:** Cwestiwn syml sydd gennyf. Beth yw'r prif wahaniaeth rhwng y FP7 sy'n bodoli ar hyn o bryd ac amcanion Horizon 2020? **Alun Ffred Jones:** I have a simple question. What is the main difference between the FP7 that currently exists and the objectives of Horizon 2020?

[133] **Professor Davies:** I can give an overview of that, although Berwyn is the details man. The overview is that EU policies as whole are becoming much more focused on the economic regeneration agenda. Therefore, this has been constructed so that the emphasis and the big challenges promulgated within it, which will be funded, look to transform Europe so that universities and research institutes, working with industry, are able to create wealth and jobs. It is a much stronger emphasis.

[134] **Yr Athro Thomas:** Os edrychwch ar y rhaglen, byddwch yn gweld y gair 'innovation' yn aml yn H2020. Nid yw i'w weld gymaint yn y rhaglenni cynt. Mae rhaglenni yn newid mewn sawl maes. Nid ydynt yn siarad cymaint am *research and innovation*, maent yn siarad am *innovation and research* y dyddiau hyn. *Innovation* yw'r gair. Fel y dywedodd Richard, mae hynny'n symud y rhaglenni at ddatblygu materion economaidd. **Professor Thomas:** If you look at the programme, you will see the word 'innovation' often in H2020. It is not to be seen as much in the previous programmes. The programmes are changing in several areas. They do not talk so much about research and innovation; they talk about innovation and research these days. Innovation is the word. As Richard said, that moves the programmes towards developing economic issues.

[135] **Mr Davies:** Mae'r pwyslais ar arloesedd ac effaith economaidd ymchwil ar yr economi. Rhywbeth sy'n parhau o fframwaith saith i'r rhaglen newydd yw'r pwyslais ar *excellence* mewn ymchwil. Bydd y rhan helaeth yn alwadau cystadleuol o hyd, felly bydd yn ariannu'r gorau yn Ewrop. Dyna fydd bwriad Horizon 2020 yn dilyn ymlaen o fframwaith saith. Mae dal llawer o barhad, felly, ond mae mwy o bwyslais ar yr elfen arloesedd. **Mr Davies:** The emphasis is on innovation and the economic impact of research on the economy. Something that does continue from framework seven to the new programme is the emphasis on excellence in research. The majority will still be competitive demands, so the best in Europe will be funded. That is the aim of Horizon 2020 following on from framework seven. There is still a lot of continuation, therefore, but there is more emphasis on the innovation element.

[136] **Eluned Parrott:** You have mentioned some of the practical barriers that have

prevented Welsh universities from successfully bidding for European funding. I am also interested in the disincentives, and the reputation for bureaucracy that goes with EU funds has been a disincentive for universities to apply. I ask Professor Thomas and Professor Davies, from your experience within your own universities, what are the significant disincentives—perceived or otherwise? Do the Horizon 2020 proposals adequately address those?

10.45 a.m.

[137] **Professor Thomas:** As you all know, Eluned is well aware of some of the disincentives within the universities, and Richard has already alluded to some of them. Certainly, in a time of plenty, when the Engineering and Physical Sciences Research Council's overheads were relatively generous, questions would have been raised about the overhead rates associated with framework programmes, and even with structural funds. From my perspective in working at Cardiff University in terms of our ability to apply, we are a very large organisation, as you know, and we are a well-resourced organisation in these areas. We have critical mass in certain groups—I can speak as one of those; I have had EU funding continuously since 1990 and I have been drawing down WEFO funding since 1996. The key to it is to have a research centre and a research group that is large enough so that you have the staff to take these things forward and have a critical mass and momentum. Engagement is extremely important, for example with European partners, which Phil has talked about. You have to know the people; you have to get involved and work with them and, once you are lucky enough to get into that area of work, you need to work hard to stay inside.

[138] A lot on the European front involves knowing the right people and having a heads up on where the programmes are coming from, particularly the new programmes. It is exactly like the British system: if you are engaged and you know what is coming down the road, then you can start to influence some of those programmes and you are not caught with having to respond in the sort of three or four month timescales that exist for the submissions. You are much better informed and prepared to do those things. The people who we have worked with who have significant issues are the SMEs. We do a lot of work with SMEs, and, in my experience, small SMEs simply do not have the resources to get involved in these programmes. I applaud the current commitment in Horizon 2020 to bring in SMEs, but in my experience—and, as you know, I do not work in an SME—we work hard to work with SMEs and pull them into our programmes. We can do that because we have the resources, whereas they do not.

[139] **Professor Davies:** Specifically on the minutiae that you are looking at—and I do not envy you in looking at the minutiae of the evolving regulations over Horizon 2020—the general feeling in universities is that many of the greatest concerns in the past have been largely addressed. They were around overheads and bureaucracy. There is no inhibition whatsoever in universities to working with colleagues in other universities in other countries; we do it all of the time. So, there is no inhibition to do that.

[140] In terms of what barriers can be usefully removed in Wales, it is very much to do with the extent of the support that is provided in other countries. The contact points in some other countries are far more proactive in terms of helping to develop projects, whereas we work at a tremendous distance. Indeed, it is difficult to get near the national contact points for the framework in the UK. Other countries often provide extra funding to support European-based projects, and there is a degree of flexibility in relation to match funding in the system as well. However, we are struggling with basic support in Wales. We kicked off over a year ago a major project trying to pull together expertise in universities across Wales with the next group of academics who have the ability and the interest, but who need help through all of the hurdles. There is a learning curve, and also we have to help some of those people work on their contacts elsewhere in Europe. It is very expensive to get people through that learning curve, and at a time when you are having to reduce expenditure on everything, that is almost

impossible to do within universities. In other parts of Europe, that is supported by Government agencies, and, indeed, even from structural funds, in a way that we do not seem to allow here.

[141] **Eluned Parrott:** Can you give us one or two examples of countries that are very effective in this regard?

[142] **Professor Davies:** I think that we could talk about Spain and the national contact points.

[143] **Mr Davies:** Yes, and Ireland. I think that we mentioned in the paper that Enterprise Ireland gives very extensive support to businesses and universities. The Science Foundation Ireland gives supplementary funding to universities hosting ERC grant-holders. Being in Brussels, we have been able to make use of the support of the Flemish national contact point. We had a session with the Flemish national contact point for the knowledge-based bio-economy call in the framework programme. We can see that, on a regional level, there are those support structures. At regional level, Spain has also developed its own support structures, and it has strong engagement with the Spanish Government in terms of lobbying for topics they wish to see funded in their programmes.

[144] **Christine Chapman:** I will be as brief as possible. You have said that Horizon 2020 is actually giving us more opportunities, but, of course, that will also mean more opportunities for other European regions that are doing better than us now. Therefore, there is a sense that we have to be quicker in this now if we are going to take up the full opportunities. I would not mind hearing your response to that and about how we can do that. Secondly, with regard to SMEs, an issue that was referred to earlier on, we are obviously not a country of big companies, and it could take a long time before we are in that situation. Therefore, how are we dealing with that situation now? Again, are there examples across Europe of other countries with mainly SMEs and, if so, how are they dealing with this? What lessons can we learn so that we will not be in this situation at the end of Horizon 2020, saying, 'Oh well, we should have done a bit better'?

[145] **Professor Davies:** If I may take the latter part of the question, perhaps Hywel can come in after. There are some myths about the importance of SMEs here. SMEs are critical, but, in most areas, they are critical working in supply chains with larger companies. The leadership is often coming from the larger companies. Without these anchor companies, we do not have that and we do not have the market pull—SMEs in Wales would not have people to sell to. There are structural issues in the Welsh economy. We can help to address that by attracting inward investment. I know that David and others around the table know the scale of what is going on here in terms of getting major companies into Wales to work, sharing facilities with universities, so that those companies are there and talking to SMEs as well with us. With those links, we can do wonderful things. Of course we whinge about the past, but I want to convey very clearly that we are up for the game of trying to address the fact that we are starting from behind and we are going to catch up with the pack. We are looking for ways, not to spend more money but to spend the money we can get more efficiently and effectively through joined-up thinking.

[146] **Professor Thomas:** I think that your point is well made about the competition and the increased competition. The size of 2020 has not escaped the attention of universities. I am not absolutely sure that I can say what is happening in other regions of Europe, but I can tell you what is happening in the UK, which is that the Russell Group now has 2020 firmly in its sights and has special groups working on targeting this money. Bear in mind that the volumes of sums coming into the research councils are likely to be decreasing slightly and the target areas will be the basic science areas, European Research Council areas and so on. Therefore, your point is well made. It is competitive at the moment. It is very competitive, and that will

continue. I suspect that it will become increasingly competitive.

[147] **Professor Gummatt:** I would like to add something on what we said earlier about why we find ourselves in this relatively behind position. However, just in parentheses, so to speak, let us not beat ourselves up too much because, as I may have said before here but have certainly said in other contexts, the UK is No. 2 in the world in terms of research, and in some areas it is No. 1. If we are saying that, in Wales, we are just a touch off the pace of the No. 2 in the world, I would urge that we have that perspective. We want to be with the average in the UK and not just behind it, but, nevertheless, we are in a strong position as a global player.

[148] On the question of how we can seize the opportunities in Horizon 2020, given the issues about funding and the history and suchlike, this is a point that, no doubt, we will want to come to more systematically. However, the point that we made in our submission and Higher Education Wales similarly made is that we have the opportunity to use the structural funds to build capacity. The issue about being strongly competitive in Horizon is that you have to have the numbers, the contacts and the capacity there already in order to be competitive. If we say that we are lacking a bit of that capacity, the question becomes one of how we can fill that gap. The proposition that we are offering is that we can fill that gap, to some degree at least, by shrewd use of structural funds in ways that link developments under structural funds with developments under Horizon 2020.

[149] **Christine Chapman:** On SMEs, I take Professor Davies's comments about the big anchor companies and the potential for SMEs in supply chains, but unless we address that, and unless higher education addresses that as well, we will write off communities like my own where all we have are SMEs. In my constituency, other than the council, which is probably the biggest employer, we are dependent on SMEs. If we say 'Oh well, we just need the anchor companies', we will continue to disproportionately have areas in Wales that will never catch up. So, I want to ask for your views on that, because we have to do more in some cases, instead of doing everything the same way. We have to do more and be much more innovative in certain areas.

[150] **Professor Davies:** Upping the game is immensely challenging. We have to do everything, and we have to do it better and in a more joined-up way. I did not mean to give the impression whatsoever that we did not want to work with and support SMEs—on the contrary, SMEs are absolutely vital to the economy. Many of them cannot function effectively without access to large companies. That is the point. I was looking at this in terms of the effect of a large company, a university and SMEs. That triumvirate is what we have to get to. We know, because we can see from around the world, what clusters look like. We know where we are trying to get. I think that we can help. To give an example, which is no secret, it is on the website of the European Investment Bank that it is processing a large loan to Swansea University for it to expand dramatically its contribution in technology, science and engineering with some multinational companies moving in alongside the investment and putting in money as well. We can do transformational things; that is not possible when we have a piecemeal approach with the funders and the bureaucracy that we engage with.

[151] **Julie Morgan:** Richard, you started off by commenting on the lack of connectivity between the sector and Government agencies, and we have heard some examples already about what Governments are doing in other countries to help. Are there any specific proposals or things that you think that the Welsh Government should do to move this forward?

[152] **Professor Davies:** Yes, definitely. We understand that WEFO is taking on a wider role. That is an important move towards joined-up thinking. We think that it needs to connect structural funds with Horizon 2020 and other opportunities for European funding in a way for the synergies to be fully exploited. That includes using structural funds and other sources of funding that are available to support the developmental work that is needed to help get us

from where we are now to where we want to go. As I was saying earlier, it costs money, but it is perfectly permissible within structural funds to use European money to help you get there. We are sometimes rather behind the pace in understanding how money can be used most effectively.

[153] **Julie Morgan:** Do you think that we are getting there?

[154] **Professor Davies:** I detect that, over the last two years, there has been a change of attitude in Wales. I detect a real enthusiasm for more joined-up thinking. I detect a real ability to think flexibly about transformational projects, which are multi-agency, which involve collaborative delivery and which involve bringing together different funding schemes in a way that, during my first six years back in Wales, I have to admit that I was struggling to find.

11.00 a.m.

[155] **Nick Ramsay:** Have you finished, Julie Morgan?

[156] **Julie Morgan:** Yes, unless Professor Gummatt wants to say something.

[157] **Professor Gummatt:** This issue of connectedness and what Government can do is partly to do with the level at which the funding is used in the way that you have just referred to. It is also to do with the level of connection between different aspects of Government policy—by that, I mean partly within Wales and partly across the UK. So, in terms of what we might look to WEFO and the Welsh Government more generally for in this, we have both a challenge and an opportunity at the moment with a sequence of policy developments, and if we can really be smart about it, they can all come together and reinforce each other. I am thinking in particular of the ‘Science for Wales’ strategy—I think that you will be hearing from John Harries, the chief scientific adviser, at some point. There are some really exciting possibilities in the investments being made under the ‘Science for Wales’ strategy that could connect with this agenda. We would want to bring to Wales research stars who have ready-made networks.

[158] **Nick Ramsay:** You have mentioned synergies, and we have some questions specifically on that, from Joyce Watson and Dave Rees. If you can be brief, that would be helpful for the timetable.

[159] **Joyce Watson:** I will be brief.

[160] You talked about your focus and the fact that you know where you are going. Could you therefore tell me what priority the Welsh HE sector is giving to participating in the final call of FP7?

[161] **Professor Davies:** We have a major initiative across Wales, and Berwyn is at the centre of it, setting up groups, as I was explaining earlier, to bring together experienced academics to bid for European money under the framework and academics who are interested. We are going through that learning curve with them. Berwyn is working hard to link them in to the discussions in Brussels about how the money is likely to be allocated and used and what the thinking is behind many of the calls. So, they are very well briefed. I think that we are already beginning to see in Swansea, in my own university, an upturn in success rates on European funding.

[162] **Nick Ramsay:** Professor Thomas, did you want to add to that?

[163] **Professor Thomas:** Just to say that we already have synergies that work in that area, because the groups that Richard just referred to are based on funding opportunities that have

emerged in Wales recently from things such as the Low Carbon Research Institute, which was put together by HEFCW funding and by WEFO funding. There is a big manufacturing engineering project—Advanced Sustainable Manufacturing Technologies—which is led from Swansea University, bringing in many universities in Wales. Those are platforms on which these discussions are now taking place.

[164] **Mr Davies:** We set up these four groups on the four research priorities set out in ‘For Our Future’. We have a group for health and biosciences, one for low carbon, one for the digital economy and one for advanced manufacturing. Our focus has very much been on this final and largest call in the framework programme, which will open from the middle of next month. We have been able to get our hands on draft copies of work programmes and have sat down with the academics to go through which topics will be of interest and where they see the potential to get consortia together to put bids in. We have benefited from the fact that the low carbon group is made up of academics who are involved in the LCRI, so they know each other already in that context of regional funding and can see that there is a connection to be made in getting the competitive framework programme funding to support the initial investment.

[165] We have also found examples where there has been the potential for collaboration in Wales. For example, in our health and biosciences group, we have found that a number of universities are interested in the topics to do with fisheries. There is clearly an economy of scale there that we should be exploring and exploiting in terms of getting European funding.

[166] It has also enabled our office in Brussels to identify the priorities. For example, I have been able to meet with representatives from other regions that have similar interests in the topics and with individuals in European technology platforms who are, to a large extent, drafting future calls. Having that information also enables us in Brussels to give much more targeted support. We are also members of what is called ERRIN—European Regions for Research Innovation Network—and we are working in different groups as part of that. For example, we are in the health working group, and we have an event in Brussels on Monday on the three cancer calls for 2013. We know that Bangor University and Cardiff University in particular are interested in these topics, and we are able to feed back from the information we get in the ERRIN working group. We will meet the desk officer responsible for that call in DG Research and Innovation, getting extra information that we can feed back and giving a bit of a heads-up on what exactly the Commission is looking for with that particular call, maybe helping them to strengthen their application in that way.

[167] **Nick Ramsay:** I want to move things on, but did you want to come back briefly, Dave Rees?

[168] **David Rees:** I have a couple of quick questions. On the issue that you raised about the ‘Science for Wales’ strategy, have you looked at using that to build upon the networks that have been mentioned so that we can move forward in that direction? That one is for HEW, rather than individual institutions, perhaps.

[169] **Professor Thomas:** Discussions are taking place among the St David’s Day group of universities, and there is co-ordination at that level. Each university also has bilateral discussions with the chief scientific adviser, so there are definitely efforts taking place across the board—not just the headline, star appointments, but also the network appointments. There is also ongoing work on research administration across Wales.

[170] **Professor Davies:** We recognise the importance of science and engineering research appointments, linking in in ways that add value to what is already here. If they are just bolted on as independent things, as soon as the money runs out, people will move on to where the next money is. They have to be fully embedded, and the way that we attract other sources of

funding, and the infrastructure that we put in place with large companies as well as our own university infrastructure, will be crucial in retaining these appointees.

[171] **David Rees:** I am pleased to hear that this is actually taking place. One question that came up in the previous session was the issue of talking to academics. Could you just confirm that Welsh institutions have systems in place to ensure that they know what applications are going in by individual academics, and that you are in charge of the process rather than being told at the last minute what is going in, effectively?

[172] **Professor Davies:** Everyone would reject the term 'in charge', because you cannot run a world-class university by being 'in charge' of the academics. In terms of encouragement, policing and knowing what happens, that situation has been transformed in recent years. I am a poacher turned gamekeeper. I tried to do everything without anyone in the university knowing what I was doing, for 30 years; now I am in a situation, running the university, where I want to know everything that is happening. Everyone knows now that the old days are no longer with us, partly because—and academics realise this—the demand now is for multidisciplinary teams. There are no calls for physicists or mathematicians, or structural engineers—these are great challenges, and you can only address them by bringing together teams of people. That has to be managed and supported within a university. Yes, we know what is going on, yes, we encourage it, and yes, every now and then, we get a rogue that we have to deal with.

[173] **David Rees:** I just wanted reassurance on that one.

[174] **Mr Davies:** I can attest to the fact that universities have invested in their European liaison officers, and they provide support and liaise with the academics and institutions on their application.

[175] **Alun Ffred Jones:** Mae gennyf ddau gwestiwn. Mae un ym ymwneud â'r berthynas rhwng Horizon 2020 a'r cronfeydd strwythurol. Rydych wedi cyfeirio at hyn yn barod, ac mae cryn dipyn o drafod yn y nodiadau sydd gennym ynglŷn â synergedd—sy'n air mawr, hyll. Ym mha ffordd yn ymarferol rydych yn credu y gall y gwaith ymchwil rydych yn ei wneud ac yn gobeithio ei wneud ddylanwadu'n uniongyrchol ar y gwariant drwy'r cronfeydd strwythurol?

Alun Ffred Jones: I have two questions. One is on the relationship between Horizon 2020 and the structural funds. You have referred to this already, and there has been a lot of discussion in the notes that we have about these synergies—which is a big, ugly word. In which way practically do you think that the research work that you do and are hoping to do influence directly the spending through the structural funds?

[176] **Yr Athro Thomas:** Siaradaf fel rhywun sydd wedi derbyn arian drwy'r cronfeydd strwythurol ac rwy'n gweithio gyda lleoedd eraill yn Ewrop o dan y rhaglen sydd gennyf yn barod. Os edrychwch ar bwynt 3.12 o'r papur, gwelwch sut yr ydym yn gweithio yn awr; mae'n gweithio'n dda ac yn gweithio'n hawdd. Yr ydym yn derbyn arian wrth WEFO i gydweithio gyda Silesia yng Ngwlad Pwyl ar brosiect o'r enw SEREN; rydym yn gweithio ar faterion yn ymwneud ag ynni o'r ddaear, ac rydym yn cydweithio'n dda iawn. Rydym yn mynd allan yn aml. Rydym yn gallu gwneud y gwaith drwy'r hyn sydd yn ei le yn barod,

Professor Thomas: I speak as someone who has received money through the structural funds and I work with other places in Europe under the programme that I have already. If you look at point 3.12 in the paper, you will see how we work now; it works well and it works easily. We receive funding from WEFO to co-operate with Silesia in Poland on a project called SEREN; we work on matters relating to harnessing energy from the ground, and we are co-operating very well. We go there frequently. We can do the work through the structures that are already in place, but, as we have already been discussing, there is a need to move forward.

ond, fel yr ydym wedi bod yn trafod heddiw, mae'n rhaid symud ymlaen.

[177] We think that the key words for today would link to the scale of the challenge that we face as we go forward. As was referred to at the beginning, we are doing very well, but we need to increase our catch in a competitive world. So, the scale of the challenge for us—and I speak not just as an individual, but for the HE sector—is not insignificant.

[178] **Alun Ffred Jones:** Derbyniaf eich pwynt eich bod yn gwneud hyn yn barod ac felly mae'r arian o'r cronfeydd strwythurol yn gallu cyplysu gydag ymchwil, ond rydym hefyd wedi clywed y bore yma bod y ddau beth wedi bod yn rhy bell oddi wrth ei gilydd yn y gorffennol. Beth sydd angen ei wneud, felly, i sicrhau bod gwell ffit, mewn gwirionedd, a pherthynas agosach?

Alun Ffred Jones: I accept your point that you are doing this already and therefore the money from the structural funds can be coupled with research, but we have also heard this morning that the two things have been too far apart from each other in the past. What needs to be done, therefore, to ensure that there is a better fit and a closer relationship?

[179] **Professor Davies:** We have thought about this and we are in discussions about this in Wales. The important thing is to ensure that all of the programmes and documents developed in Wales permit the synergies and do not, through accident rather than design, prevent us from exploiting some of the synergies. They are very anxious in Brussels to see them working seamlessly together and adding value. One very important example of where I think that there is currently some confusion, which could get in the way, is over what is termed in discussions on structural funds in Wales as 'blue sky research'. We hardly know what this is anymore, because there is research that is a bit further from markets and research that is very close to markets, but everything is linked. What we are doing here is raising capacity and getting that capacity used for all of the activities that can link through, particularly in wealth creation. If you exclude anything there, you are in difficulty. Within Horizon 2020, it is being said—and we have been told this in Brussels as well—that they would like a situation where highly rated projects for the framework of Horizon 2020 can be referred, if there is not enough funding in one category or other, back to the structural funds and a request made to fund these projects locally. We have to ensure that our documents and the way in which we are proposing to spend structural funds in the next round permit that sort of engagement. We must not think about structural funds being purely about developing capacity and Horizon 2020 being purely about projects. Both do both; they are completely intertwined activities through which we are building momentum that then has to be sustained into the future to make a difference.

[180] **Kenneth Skates:** I am content with much that has been said with regard to synergies. With regard to what Professor Richard Davies said earlier about STEM scientists, is there an even distribution of STEM scientists across Welsh higher education institutions? Might it be the case that, in future, we will see a greater concentration or specialisation of those universities in clusters? I am also thinking that there may be the potential for synergies between those institutions and enterprise zones where possible.

11.15 a.m.

[181] **Professor Davies:** There is certainly clustering and, in the UK, research council policy encourages the concentration of research in a limited number of institutions. In Wales, nearly 80% of the world-leading science and technology is in two universities; 20% is distributed around the others. It is very unlikely that that can change dramatically, because there is a scale effect and an infrastructure effect. The important thing is to make sure that there are good links between universities so that they can work smoothly together when it comes to bidding for funds for big projects which no single university is likely to achieve.

They may bid together within Wales or more across Europe in various ways; for example, we bid with universities in Texas and China. There are very creative ways in which we know we can build up critical mass through combining appropriate collaborators. In many of these big challenges, no single university, not even a large Russell Group university, can manage on its own.

[182] **Professor Gummert:** To add to that, this issue of concentration of research in fewer but larger units is not just UK-wide. If we are serious about building a knowledge economy in Wales, we have to build units of a capacity that can compete with those at least in the rest of the UK, and, indeed, beyond. To illustrate the disparities in scale that we are talking about, the amount of funding that HEFCW puts into universities for research is around £70 million to £75 million a year. Manchester University gets £80 million from the Higher Education Funding Council for England. That is £80 million for one university. So, more money is going into Manchester University than into all of the Welsh universities from funding council sources. That is what we are up against. So, when we talk about this being competitive, and it will become more and more competitive in the future, those are the people that set the pace. In some areas, we are with or even ahead of places such as that, but, in general, we are running to catch up. That is why getting our act together by integrating all the possible ways of addressing this challenge in order to be more innovative and to have a successful knowledge economy is so important.

[183] **Nick Ramsay:** Eluned Parrott, did you want to come in on science strategy?

[184] **Eluned Parrott:** Yes, Chair. Looking at the European Commission proposals, the research strand is called ‘Excellent Science’. Has the EU conflated the word ‘science’ with the word ‘research’, and do you believe that the Horizon 2020 programme provides any opportunities for academics engaged in subjects other than the main STEM subjects?

[185] **Professor Davies:** ‘No’ and ‘yes’. I think that it is very clear that Brussels sees research very much as addressing the grand challenges, and therefore, in any terms, as applied research. As I was saying, there is a lot of confusion here, and you have to do more theoretical work to support the applied research, but there is a strong emphasis on applied research. I do not think that any of us have any difficulty with that.

[186] The second issue—to go back to the multidisciplinary approaches—is that we have known for years that you cannot address any of the great challenges of society without involving all the disciplines in some way or another. I expect to see our social scientists and arts and humanities people working alongside the computer scientists and medics on big projects. That is what is happening, and it is one of the most exciting ways in which academia has changed over the past 20 years. When I was a junior academic at a university not more than a few miles from here, I remember being called in by my head of department and told I was disloyal because I had been seen having lunch with someone from another department. [*Laughter.*] That is genuine. Academia has been transformed. We work smoothly and comfortably together in multidisciplinary teams.

[187] **Nick Ramsay:** You now regularly have lunch with people from other departments.

[188] **Professor Davies:** Mind you, people get called in if they are seen having lunch with me. [*Laughter.*]

[189] **Professor Thomas:** To follow up on what Richard was saying, social scientists and psychologists are going to have a huge role to play in all these programmes. I cannot imagine any of the energy programmes going ahead without psychologists and social scientists being involved. I am sure that you are well aware of all these things—windfarms, shale gas, you name it; it is a huge component. It is already happening. I have worked on projects in Europe,

FP6 projects, to which there were huge social science components. I would say it is established, and that is in addition to the strand of social sciences there. That strand is very important. I would highlight social scientists and psychologists. There is Nick Pidgeon's group in the school of psychology. We have an excellent group here in Wales on communication and risk, which are key elements. With climate change, nanotechnology—you name it—you cannot do anything without them.

[190] **Eluned Parrott:** I certainly see the role of the social scientists, but looking more specifically at arts and humanities, do you think that Welsh academics in the pure arts and humanities subjects are frustrated that we have a science strategy and a science adviser rather than a research strategy and a research adviser?

[191] **Professor Davies:** We do hear that from some of our academics. For understandable reasons, I think that you are describing some areas of universities that have probably been rather slower to change than others. They have such a long intellectual tradition that you cannot expect people to change their very way of thinking and the way they do research in a few years. However, I can point to many examples now of people you just would not expect making major contributions within wider projects. For example, with heritage projects, there are historians working with computer scientists in ways that are phenomenally exciting with regard to what can be done in Wales—we have not mentioned the tourism industry—to really bring our heritage to life. I could give you a long list, but I am comfortable that we are moving in the right direction and that there are fewer and fewer people feeling alienated by this.

[192] **Mr Davies:** With regard to the four groups that I mentioned earlier, the digital economy group includes a wide range of different disciplines, including heritage. The group is chaired by an academic from the University of Wales, Newport, from the advanced broadcasting department. Even in our group, we have identified the topics in the ICT work programme on digital heritage, for example. We will be looking to put an application in for that in the next round.

[193] **Eluned Parrott:** To follow up briefly on something that Professor Davies said, could we be giving more support to arts and humanities subjects in particular, and to other subjects where they have not necessarily seen the opportunities of this form of collaborative work in order to help them see where their role lies in a changing funding environment?

[194] **Professor Davies:** Of course, you can always accelerate things with more effort, but there is funding coming in for just that. The Engineering and Physical Sciences Research Council funds a Bridging the Gaps project, for which we get very substantial sums, to stimulate cross-disciplinary collaboration between the arts and humanities and sciences. This is showing very significant outcomes in terms of enduring collaborations applying for much larger grants, following up from work on that. That could always be expanded, but things are under way.

[195] **Professor Thomas:** Berwyn's point is well made. The Arts and Humanities Research Council has initiatives in this area already. Cardiff University is heavily involved in that. We would draw your attention to the development just round the corner with the BBC here. There is huge integration already taking place with the school of journalism. There are lots of opportunities out there already. You know the staff in Cardiff University as well as I do. They will chase research opportunities very hard. They are doing it already, and there are schools in the arts and humanities areas that are active, strong and successful. It is also one of the key areas identified by the St David's Day group, because there are strengths in Glamorgan and Newport in this whole digital creative economy, which is a really strong and interesting area for us here in Wales.

[196] **Professor Gummett:** I just wish to add quickly that we should not neglect the area of languages. There is a great deal of work being done across Europe on what are referred to as 'minority languages' in European jargon. There is plenty of scope for scholars from Wales to engage in that, from positions of considerable expertise. However, with regard to the field of history, as part of the collaborative activity between Aberystwyth and Bangor, there is already a very strong modern history group between the two universities. It is a treat to talk to the researchers in those two groups. They used to work on the old single scholar or lone, isolated scholar model—sitting in the library. It is great to talk to them because they will say, 'We did not realise that you could do history in teams. You have kind of forced us to do this almost against our will. Now that we are doing it, it is actually rather good. We are discovering that we can play things off each other. It is much more exciting. We move much faster. We are winning bigger grants from research councils—the Arts and Humanities Research Council, in particular—than we would have been able to compete for before.' So, we can see it happening there.

[197] Hywel mentioned the St David's Day group. There is also now a grouping being assembled of historians in Wales, with the St David's Day group and us in HEFCW putting in very modest sums of money to enable this group to organise itself more effectively, precisely so that it will be better placed in order to operate in the modern way that scholars in the arts and humanities need to be working.

[198] **Nick Ramsay:** Briefly on the back of Eluned's question, how are humanities being built into the new Swansea campus?

[199] **Professor Davies:** The development in Swansea is total refurbishment of the estate across two campuses, one of which is new. The other will be renewed. In fact, we have already invested a considerable amount of money in improving the accommodation and the library and archive facilities for the humanities. So, they are fully built into the capital programme until 2020.

[200] **Nick Ramsay:** That is a notable date in terms of this inquiry. Do Members have any further questions? I call upon Dave Rees.

[201] **David Rees:** Going back to the European Institute of Innovation and Technology and the KIC side of things. We are seeing proposals for that dramatic increase in funding. How do you see the proposals and the implications to Welsh universities and Welsh participation in funding?

[202] **Professor Thomas:** I would say that it is a very good opportunity for us. The infrastructure across Europe is already established or currently being established. You can see, in the documentation submitted, that one of the KICs is led from the UK. It is a climate change KIC led by Imperial College and Aberystwyth. I think that even one of the other universities may be involved. I mentioned earlier some of the work that we do in Poland. We are connected into the energy KIC—into the clean coal technology there. As things currently stand, there are significant funds available in the KIC areas for us to take a look at and to move them forward. They are positive and related quite strongly to the economic development agenda.

[203] **Kenneth Skates:** Can you say where the university links—[*Inaudible.*]

[204] **Professor Davies:** I do not have a list here.

[205] **Mr Davies:** Yes. It is a bit of a moving target at present because it is now in the hands of the Parliament and the council. They have specific views on the EIIT, and particularly on the proposed tenfold increase in its budget in relation to other parts of Horizon

2020. So, I think that we will have to keep a close watching brief on the development of the KICs over the next six to 12 months. Potentially, it will not follow the way set out in the proposal. There might be some dramatic changes there.

[206] One of the KICs proposed for 2014 is Food for Future. I know that there is interest in a number of universities in that because we have such strengths in biotechnology, particularly in places like Aberystwyth. That might give us an opportunity to look at that. There is also the one on active ageing and health, which afford us opportunities in the future. However, they are moving targets at present and they are in the hands of the council, so we are not sure whether they will actually go ahead yet. We have to wait for the whole decision process to run its course.

[207] **Professor Thomas:** If we just take Food for Future as an example, food security is one of the themes identified by the St David's Day group as one of the themes that we will work on, which is being led by Aberystwyth, based on the strength that you all know exists in Aberystwyth in this particular area.

[208] **David Rees:** Obviously, we will be looking at our view on the proposals and then feed that back in, but would you put stronger arguments for the KICs and that aspect, or would you put stronger arguments for the Marie Curie Actions side of the proposals?

11.30 a.m.

[209] **Mr Davies:** Based on past evidence, we have clearly benefited more from Marie Curie Actions than we have from the KICs. If it comes down to the argument to be made, which we will come to when we look at the budget, that will be a discussion that institutions will have to have among themselves if there is to be a Wales-wide view on that. We know that Marie Curie Actions have a wide impact on all universities, and that is a great benefit that possibly the KICs will not have. However, that is something that institutions will have to discuss among themselves.

[210] **Professor Thomas:** For us, it is definitely not going to be an either/or; it will be both. The message that my colleagues have been trying to get across is that we have a certain amount of capacity building to do—that is the scale of the challenge that we face—and Marie Curie is extremely important in that. The advance fellowships from the EC offer a huge, nice opportunity, and there are nice potential synergies there with the 'Science for Wales' initiative. An established star in Europe could be brought in, for example, who could bring that nexus with him. However, KICs are equally important. Alun Ffred Jones asked earlier what is different about Horizon 2020 to previous frameworks, and my answer is the KICs; that is it, basically, and that is where the new money is. So, Cardiff University is already running for KICs already, as is Aberystwyth, because it is tied into the climate KIC.

[211] **Nick Ramsay:** So, it is the KICs. Ken has a question; a short question and a short answer would be helpful.

[212] **Kenneth Skates:** Given that the European Institute of Innovation and Technology will have its hands on something in the region of—I might be way out on this—€2.8 billion between 2014 and 2020, a large proportion of which will go to KICs, are you satisfied with the strength of relations between Welsh universities and EIT figures in Hungary, or do you believe that those relations and contacts need to improve further to best take advantage of that available funding?

[213] **Professor Davies:** The generic issue is that these more sophisticated funding arrangements for large consortia are more difficult for the incomers in the process. So, given that we are behind, it is more difficult for us to gear up quickly to that level than the simpler

response-mode applications, as I call them. However, we have learned that we have to be flexible and that we have to adjust, but I emphasise to everyone that it is about how we work politically. We have not covered that in any great detail.

[214] **Nick Ramsay:** My last question to you is how this committee can help you in what you are doing in Brussels.

[215] **Professor Davies:** It is difficult to express this, but we need a bit more of a level playing field in the way in which the projects that are submitted are evaluated. Although this is based on excellence, a very large number of excellent projects are not funded, while others are funded.

[216] **Nick Ramsay:** Professor Davies, in your evidence, you talk about the use of structural funds to support Horizon 2020 projects that have failed because the funding is not there. Would that be a good way of using structural funds to support Horizon 2020?

[217] **Professor Davies:** That is a very good way of doing that, and Brussels is very keen on that. This is appearing more strongly in each version of the documentation. However, we need to recognise that there are political elements involved when you prioritise excellent projects. If you do not have as many feet under the table, because you are less experienced in Europe, then that is more challenging. We have to up our engagement with the various committees and review groups that are taking place behind the scenes.

[218] **Professor Thomas:** I support that completely. As I mentioned earlier, I have been involved in European projects for more than 20 years. As you gradually get more involved, you get invited into where the decisions are taken. Consortia meetings take place, European Commission officers come along and, towards the end of those meetings, you will find that they will start to talk a little more about their thinking about the next phase, so then you have the heads-up—if you are on the inside, you have six months, or possibly more, to prepare the proposals than if you are trying to do it cold. So, engagement is absolutely everything.

[219] **Nick Ramsay:** That is a very good way to finish, I think: engagement is absolutely everything. I thank Professor Gummert, Professor Thomas, Professor Davies and Berwyn Davies for coming here today. That was a very useful session, and we had a good balance between optimism and looking at where we can do things better. Thanks for the way that you interacted with each other, as well; it made my job easier in managing a large panel. Thank you to the delegation.

[220] **Professor Davies:** Thank you very much for your reception.

[221] **Nick Ramsay:** If there is anything else that you would like to add or submit to our inquiry, please send it to us.

[222] **Professor Davies:** We will talk about that. Thank you.

11.35 a.m.

**Cynnig o dan Reol Sefydlog Rhif 17.42 i Benderfynu Gwahardd y Cyhoedd o'r
Cyfarfod
Motion under Standing Order No. 17.42 to Resolve to Exclude the Public from
the Meeting**

[223] **Nick Ramsay:** I ask a Member to move that we exclude the public from the remainder of the meeting.

[224] **Joyce Watson:** I move that

the committee resolves to exclude the public from the remainder of the meeting in accordance with Standing Order No. 17.42(vi).

[225] **Nick Ramsay:** I see that the committee is in agreement.

Derbyniwyd y cynnig.

Motion agreed.

Daeth rhan gyhoeddus y cyfarfod i ben am 11.36 a.m.

The public part of the meeting ended at 11.36 a.m.