



**Cynulliad Cenedlaethol Cymru
Y Pwyllgor Archwilio**

**The National Assembly for Wales
The Audit Committee**

**Dydd Iau, 21 Ebrill 2005
Thursday, 21 April 2005**

Cynnwys
Contents

Cyflwyniad, Ymddiheuriadau, Dirprwyon a Datgan Buddiannau Introduction, Apologies, Substitutions and Declarations of Interest.....	3
Rheoli Ynni a Dŵr yn y Sector Addysg Uwch yng Nghymru Energy and Water Management in the Higher Education Sector in Wales.....	4
Y Rhaglen Archwiliadau Gwerth am Arian Derfynol 2005-06 Final Programme of Value-for-money Examinations 2005-06	32
Y Cod Ymarfer Archwilio ac Arolygu The Code of Audit and Inspection Practice.....	33
Cofnodion y Cyfarfod Diwethaf Minutes of the Previous Meeting	33
Cynnig Trefniadol Procedural Motion.....	33

Cofnodir y trafodion hyn yn yr iaith y llefarwyd hwy ynndi yn y pwyllgor. Yn ogystal,
cynhwysir cyfieithiad Saesneg o gyfraniadau yn y Gymraeg.

These proceedings are reported in the language in which they were spoken in the committee.
In addition, an English translation of Welsh speeches is included.

Aelodau o'r Cynulliad yn bresennol: Janet Davies (Cadeirydd), Leighton Andrews, Mick Bates, Jocelyn Davies, Denise Idris Jones, Mark Isherwood, Irene James, Carl Sargeant, Catherine Thomas.

Swyddogion yn bresennol: Jeremy Colman, Archwilydd Cyffredinol Cymru; Matthew Mortlock, Swyddfa Archwilio Cymru; David Powell, Swyddog Cydymffurfio, Cynulliad Cenedlaethol Cymru.

Eraill yn bresennol: yr Athro Philip Gummett, Prif Weithredwr, Cyngor Cyllido Addysg Uwch Cymru; Richard Hirst, Cyfarwyddwr Cyllid a Risg, Cyngor Cyllido Addysg Uwch Cymru; Chris Cowburn, Pennaeth Ystadau, Cyngor Cyllido Addysg Uwch Cymru; Dr David Grant, Is-ganghellor, Prifysgol Caerdydd; Scott Allin, Is-gyfarwyddwr Adnoddau Ffisegol ac Ariannol, Prifysgol Caerdydd.

Gwasanaeth Pwyllgor: Kathryn Jenkins, Clerc y Pwyllgor Archwilio; Liz Wilkinson, Dirprwy Glerc y Pwyllgor Archwilio.

Assembly Members in attendance: Janet Davies (Chair), Leighton Andrews, Mick Bates, Jocelyn Davies, Denise Idris Jones, Mark Isherwood, Irene James, Carl Sargeant, Catherine Thomas.

Officials in attendance: Jeremy Colman, Auditor General for Wales; Matthew Mortlock, Wales Audit Office; David Powell, Compliance Officer, National Assembly for Wales.

Others in attendance: Professor Philip Gummett, Chief Executive, Higher Education Funding Council for Wales; Richard Hirst, Director of Finance and Risk, Higher Education Funding Council for Wales; Chris Cowburn, Head of Estates, Higher Education Funding Council for Wales; Dr David Grant, Vice-chancellor, Cardiff University; Scott Allin, Deputy Director of Physical and Financial Resources, Cardiff University.

Committee Service: Kathryn Jenkins, Clerk to the Audit Committee; Liz Wilkinson, Deputy Clerk to the Audit Committee.

*Dechreuodd y cyfarfod am 9.31 a.m.
The meeting began at 9.31 a.m.*

Cyflwyniad, Ymddiheuriadau, Dirprwyon a Datgan Buddiannau Introduction, Apologies, Substitutions and Declarations of Interest

Janet Davies: Good morning. I would like to welcome committee members, witnesses and members of the public. I will ask witnesses to introduce themselves in a couple of minutes.

This is the first meeting for Jeremy Colman, the new Auditor General for Wales, who took up post on 1 April—I hope that that was not too significant a date. [*Laughter.*] I would like to congratulate Jeremy on behalf of the committee, and say how much we look forward to working with him, and with the newly established Wales Audit Office, in so far as the committee works with that office. Would you like to say a few words?

Mr Colman: Thank you very much indeed, Chair, and thank you for your generous words. It is an enormous privilege for me to be Auditor General for Wales. It is slightly frightening, this being my first meeting. I have just about recovered from the typical civil service joke—if I may call it that—of setting up my new office and appointment on April Fool's Day, and on a Friday.

Janet Davies: I am sorry that I continued with that.

I remind everyone that the committee can operate bilingually and that headsets are available to hear the translation of any Welsh contributions into English. If anyone would like to speak in Welsh, please do so. Even though I am an English speaker and began the meeting by speaking in English, please do not feel obliged to do the same. It is also easier to hear through the headsets if you have any hearing problems.

I remind everyone to switch off their mobile telephones and pagers, as they interfere with the broadcasting and translation equipment; it can be unpleasant to have a nasty buzzing in your ear when listening through the headphones.

If we have to leave the room in an emergency, please leave by the nearest exit and follow the ushers' instructions.

In the past, a verbatim record has been taken of the evidence sessions but, as of this meeting, all proceedings will be reported. The draft transcript will be circulated to Members and WAO officials on the Tuesday following each meeting. Amendments need to be sent to the secretariat by the following Monday. The witnesses will also receive it, so, if you believe that something has been mis-scribed, please let the secretariat know.

We have not received any apologies for absence. Do members have any declarations of interest? I see that there are none.

9.34 a.m.

Rheoli Ynni a Dŵr yn y Sector Addysg Uwch yng Nghymru
Energy and Water Management in the Higher Education Sector in Wales

Janet Davies: Would the witnesses please introduce themselves?

Professor Gummatt: I am Phil Gummatt, the chief executive of the Higher Education Funding Council for Wales.

Dr Grant: I am Dr David Grant, vice-chancellor of Cardiff University.

Mr Allin: I am Scott Allin, deputy director of finance at Cardiff University.

Mr Hirst: I am Richard Hirst, director of finance for the Higher Education Funding Council for Wales.

Mr Cowburn: I am Chris Cowburn, head of estates for the Higher Education Funding Council for Wales.

Janet Davies: Thank you very much. We all realise the importance of effective energy and water management in the higher education sector, to minimise the costs. There is increasing demand and rising costs for energy, and we expect those costs to be even higher in the future, but we must also think about helping achieve environmental objectives. The Auditor General's report identifies examples of good and poor practice across the sector, and sets out the scope for improvement within institutions and in the oversight provided by the funding council. I will ask the first question, which, as always in these sessions, will be a general one. Referring largely to paragraph 1.2, we will discuss the involvement of the funding council in more detail later. However, Professor Gummatt, can you outline your view of the role and responsibilities of the funding council with regards to this issue?

Professor Gummatt: Our role is to ensure good stewardship of public funds. We do that through the legal framework, as it were, of the financial memorandum that we have with higher education institutions and we follow that up through various forms of guidance and monitoring. We do that across a whole range of policy areas, of which this is clearly one. We look more particularly at energy and water management through a particular frame of reference, which is the management of estates. At least, that is the primary frame of reference; there are one or two other ways in which we also engage with this question, for example, in terms of issues to do with sustainability in a broader sense. However, the principal way that we ensure good stewardship is through estate management, and the activity that we take to promote good practice in estate management, and the monitoring of estate management. That would be the main way in which we would address the questions that the report is considering.

Janet Davies: Dr Grant, would you and Mr Allin outline your responsibilities and those of your institution with regard to energy and water management?

Dr Grant: Our mission is in education, whether it is through the work that we carry out in tuition, or research that underpins that mission, so it is important for the vice-chancellor to ensure that not only do we have academics of quality within the institution, but that they are housed, as with the students, with appropriate facilities. Cardiff University has had an expanding number of students and a growing research base. We must make sure that our overarching mission, which is to do all of this in a long-term sustainable way, is achieved cost-effectively.

Janet Davies: Do you have anything to add, Mr Allin? If not, do not worry.

Mr Allin: All that I would add is that part of the finance role within Cardiff University is to ensure value for money from resources. In light of what the vice-chancellor said, we will also take on that role.

Irene James: I would like to focus on page 7. Professor Gummatt, how much of a priority do you believe is accorded to energy and water management by the higher education sector in Wales? Is this a neglected area, as institutions focus mainly on their core business?

Professor Gummatt: It is difficult to give a general answer to that, because I think that the reality is that the situation varies from institution to institution, and also from moment to moment. If we take a very macro view, we would say that energy and water management costs are a little over 1 per cent of the turnover of the higher education sector. Reflecting on that fact, we could say that those who are managing higher education institutions are responsible for maintaining a whole variety of different activities—with respect to the vice-chancellor, I tend to think that vice-chancellors are sometimes like performers in a circus, trying to keep 100 plates spinning, and if one focuses too much on any plate, the others start to fall. There is an issue here about balance and priorities, and that will shift. To put it more directly and plainly, this is a small part—that is not to say that it is unimportant; I do not want to give that impression—of the sector's total turnover.

9.40 a.m.

In terms of the kinds of savings that the report addresses, the figures suggest that we are talking about somewhere between 4 per cent and 20 per cent of that 1-and-a-bit per cent. So I would expect sensible higher education managers to focus on this more at certain times, and less at other times, according to what else it is that they are trying to balance. There is plenty of evidence in the report that they take it seriously, but it is taken seriously within that frame of reference, with many other things to be balanced, in terms of competition for resources and

management time.

Irene James: Dr Grant, what level of priority does Cardiff University accord to energy and water management in general terms and specifically within estates management?

Dr Grant: First, although it is a small percentage, as has been pointed out, it represents an opportunity for continuous improvement. Before I became vice-chancellor in 2001, I spent 35 years in the energy industry. Therefore, I have a great personal desire to ensure that our university is sustainable, that we have effective management of the estate, and that we take care of the environment, and energy and water are a crucial part of that. So I take this very seriously. Even though it is a small percentage in financial terms, it represents an opportunity to make improvements year on year. I was therefore delighted when I came to Cardiff University to realise that we have best practice in a number of ways of managing energy across the estate. The building energy management system is used across the whole UK sector as one of the best case studies for savings that have been made. As is pointed out in this report, Cardiff annually saves in the order of £300,000. So it is a crucial part of managing the university. Perhaps I pay more attention to this than other vice-chancellors, largely because of my background and expert knowledge of the subject.

Janet Davies: May I interrupt you for a minute before you ask your next question, Irene? We are trying to get the drilling outside stopped—I do not know whether we will be successful.

Irene James: My next question is again to Professor Gummatt and Dr Grant, I am sorry. Could you comment on the trends in energy and water consumption in the sector over time, and the extent to which the sector has been able to exert control over such increases in consumption?

Professor Gummatt: At least until relatively recently, the trend was downwards, but we are now turning a corner. That is not just in terms of consumption, but in terms of price, as world prices for energy are moving as they are—you only have to fill up your car to see that instantly. In higher education institutions over the last decade, there has been a very substantial increase in student numbers—there are very much larger numbers of students—and the report gives figures on that. In addition, there have been substantial increases in the use of equipment such as computers. When I was a lad going to university, all my possessions went in two suitcases. Now you see the Volvos queuing up outside halls of residence, and you see the electronic equipment that is coming out—it is palpable, it is visible. So there is a much more intensive use of energy. Therefore, regardless of the particulars of the shape of the curve in terms of energy use at any one time, we clearly face a position where the expectation must be that there will be an increasing demand for the use of energy in higher education, because of the growth in the number of students, as well as things such as increased research activity, which is itself, in many fields, extremely energy intensive. So the timeliness of this report could not be greater in the sense that it will help us to draw attention to the need to be ever-more vigilant about trying to control the costs.

Dr Grant: Perhaps I could add to that that Cardiff University's research income has doubled within four years, and we would anticipate it to double in a similar period when we look ahead. This year, we will have contracts, competitively awarded against the best universities across the UK, worth in excess of £70 million. Much of this involves the use of science and engineering laboratories, and there has been substantial growth in that in order to ensure that we deliver our mission in research as well as in teaching. As an example of the growth that Professor Gummatt referred to, we also have seen the use of computers double, probably within five years.

Against that background of considerable growth, I see many opportunities, and that is why, like Professor Gummatt, I welcome this report. It shows examples of where you can, despite

the growth in the use of facilities, make substantial savings. One example that is of particular interest to me is that, in the world of computing, while the number of computing facilities is increasing, it is possible to make substantial energy savings. The use of flat panel displays rather than the older forms of cathode-ray-tube monitors halves energy consumption. Also, energy can be saved by having computers with standby facilities and the ability to switch off rapidly after someone has stopped using them. Part of that saving is reached technologically, but another part of it requires management intervention to ensure that people set up their computers to make the savings, so that they do not leave them with the screen on overnight, wasting energy. There is, therefore, a need for intervention, and I strongly support this report on the basis that, throughout the institutions and the university, it is important constantly to check that people are using the technology that is now available to save energy. That is one example.

Another example is that, because of Cardiff's unique position in the science and engineering sphere, many of our laboratories have equipment that means, again, one can see opportunities for saving energy. Water recirculation is a classic opportunity. Instead of cooling equipment dumping the water down the drain, the opportunities for recirculation exist. It may cost more for the equipment in the first place, but that is something that we as institutions must do to constantly use water wisely.

In Cardiff University, we have 500 fume cupboards in our schools of chemistry, biosciences, and some of the medical topics, including pharmacy. Those 500 fume cupboards exist to extract air from the building to the outside. That is a health and safety requirement, but it is taking heated air outside, so this represents a further opportunity. We must comply with health and safety legislation by having fume cupboards, but we must also, where we can, minimise airflow and minimise the loss of energy to the outside. There are opportunities to do that, and our latest buildings—for example, the school of optometry will have a new building next year—will use lower velocity fume cupboards, and we will try, wherever we can, to get recirculation. So, there are many technological opportunities, and it is important not only to focus people in our estates department on finding these technological solutions, but to make sure that people in the buildings, staff and students, ensure that they are using the equipment that is provided wisely.

Irene James: Thank you, Dr Grant, for pre-empting my next question, which was going to be about whether there are any factors that have an impact, other than those already mentioned in the report.

Carl Sargeant: To follow on from that, Dr Grant, you talked about equipment changes and technology changes. What impact does the age and condition of Cardiff university's estate have on the ability to invest in improved energy and water efficiency?

9.50 a.m.

Dr Grant: Yes, the age of our estate is both a joy and a challenge. We had open day yesterday, when many potential students were around, looking at the joys of Cathays park, which is one of our main opportunities to sell the university. It is a delightful environment and there are delightful buildings; it is absolutely marvellous. However, we are putting modern equipment into these grand old buildings. Much to my regret, the School of Chemistry is in a building that was built in 1909. So, although it is a nice surrounding, it is not the easiest building in which to apply energy-saving measures. I think that the report refers to a 5:1 ratio of energy consumption, according to the age of buildings—clearly, the report also shows the profile of the age of buildings. From one viewpoint, I would love to move some of the more energy-intensive activities into new, purpose-built surroundings. We have this opportunity with the School of Optometry—it is currently in the Redwood building, which dates from many decades ago, and it is therefore rather difficult to put fume cupboards and other modern

equipment into it. So, in the new building for optometry, we will have far better ability to make use of energy. In that particular building, we are putting a heat pump in the basement so that we will draw energy from the ground beneath it. That is a real opportunity to save energy. We are still left with the original Redwood building, but perhaps less energy-intensive activities can be carried out there.

Carl Sargeant: Would you consider that to be a constant battle or a constant achievement in terms of all your capital renewal projects, to ensure that you go beyond the measures of the new building regulations, particularly in terms of water and energy issues, because that is what we are talking about today?

Dr Grant: Yes, it is a key part of having sustainability within the university. I am pleased to say that we have highlighted sustainability as one of the core values of our university, and we must look, not only to the near-term requirements for teaching and research provision, but we must ensure that this will stand the test of time. Universities have been around for a long time; Cardiff University has been around since 1883, and I would like to hope that we can continue to be around for many decades to come. There is no doubt that the kind of science that we perform, the methods of tuition, the technologies, the introduction of computer-based learning and so on, will constantly change. So, we must ensure, when we build new buildings that are going to be there for decades to come in a changing environment, that we have an infrastructure that is flexible and capable of giving us new opportunities for reducing energy and water consumption. So, sustainable university policy is vital to us, and we have to think through, not only the near term, but into the decades ahead.

Carl Sargeant: I will move on to figures 5 and 6 on page 15 and 16. Professor Gummatt, you mentioned earlier that it is a bit like spinning plates, and I accept that this is just over 1 per cent of the sector, but I think that Dr Grant mentioned a figure of £300,000, which could be used to employ around six lecturers. So, it is a plate that we certainly should not take our eyes off, as it is an important issue. How satisfied are you with energy and water consumption in Welsh institutions in relation to the benchmarks shown in figures 5 and 6, and how far do you consider that local factors explain the differences between the institutions?

Professor Gummatt: I think that the first question has to be about the benchmark itself and whether it is a valid tool for the job that we are trying to do. We have to mention, as the report does, that it is now quite old as it was developed in 1996 in quite different circumstances, as we have been describing, in terms of the state of the higher education sector. It is interesting that there is work going on now on a UK-wide basis, with experts across the whole of the higher education sector, to try to develop a better benchmark. They are finding it difficult. The work is going slowly, not because they are being dilatory about it, but because it is actually proving to be technically quite complex to develop a benchmark that can reduce, as it were, to a single figure, the range of activity that is going on in the higher education sector.

Within the sector in Wales, for example, we have universities such as Cardiff, which is a very research-intensive institution with a large number of research laboratories, with not only the sort of things that Dr Grant has been talking about—fume cupboards, computers and so forth—but engineering laboratories with combustion work going on and aero engines being tested. They are very energy-intensive activities and presumably there is also a lot of cooling going on, I would imagine, so presumably a lot of water is involved. At the other extreme, let us take Trinity College, Carmarthen, from this list, there would be very little of that sort of activity. There would be a much higher weight in the pattern of energy use on things such as student residences. The pattern of use in a student residence is completely different to the pattern of use in a research laboratory, and completely different to the pattern of use in non-laboratory teaching situations. There is quite a variety, and trying to capture that variety in a single measure is proving to be difficult for the technical specialists who are trying to do a better job.

That said, what we see against the quite old, 1996 benchmark is a situation where we have seven of the institutions coming in below the benchmark. I do not think that it is surprising, given what one knows about the kinds of activities that are going on in the research sense that I was referring to a moment ago, to see Bangor, Cardiff and Swansea as just marginally above the benchmark. The mix of activities would probably go a long way to explaining that. I would say that variety within the sector, which you identified, does explain quite a lot, but there has to be a question mark, too, as the report recognises, over how useful this benchmark is. To repeat the point again, it is a complex problem as the current work to try to develop a better benchmark is finding.

Carl Sargeant: Can I assume from that, although I do not like to make assumptions, that your confidence in the benchmarking is pretty low?

Professor Gummett: ‘I do not know’ would be the more straightforward answer, I think. I really do not know what weight to put on it. There are clearly issues about it that are difficult to judge.

Carl Sargeant: On that basis, how assured can we be that the figures provided are reliable, given that the Auditor General’s report notes the difficulties that some institutions had in providing some of the data? Trinity College, Carmarthen, for example, has the highest energy consumption, but the lowest water consumption per square metre. Could you elaborate on that?

Professor Gummett: The general answer would have to be to say that the confidence we can place in figures from individual institutions, particularly on water, is variable. A lot will depend on the extent to which extensive sub-metering activity is already in place; in other words, whether one can isolate individual buildings and understand what is happening in individual buildings, as distinct from understanding what is happening on a site as a whole. With water, a lot will also depend on the ways in which water is being paid for: is it being paid on a metered basis? I think that there is variability. One of the conclusions that we take from the report is that more attention needs to be given to the question of metering and sub-metering, and making sure that institutions understand better than they understand at present, in some cases, the reality concerning energy and water use in individual buildings. That is a clear issue to be taken forward, making sure that there are good and uniformly high standards of practice across the sector as a whole.

Carl Sargeant: How are you ensuring that higher education estates management statistics are going to be robust and consistent in the future? What is the funding council doing to ensure this?

Professor Gummett: We are working with the rest of the UK sector—other colleagues may, hopefully, add to this in a moment—to try to ensure that we bring the best expert opinion to bear on developing those statistics, so that we are confident that the measures that we are using are meaningful and that institutions are doing what they need to do to be in a position to use them sensibly and intelligently. I do not know, Chair, if others may be allowed to add to that.

10.00 a.m.

Mr Cowburn: If I could just come in there, the process under which the statistics are collected is robust. Although institutions provide these statistics on a voluntary basis, we employ an organisation to check and verify the information that comes in. There is also an opportunity for institutions to note where statistics are estimated, rather than actual. So, there is a robust structure there, which, hopefully, ensures that they are as accurate as they can be.

Carl Sargeant: I will move on, Professor Gummatt, to paragraphs 2.4 and 2.5. What is the stage of development of the revised environmental performance indicators for the higher education sector, as referred to in paragraph 2.5, and when will they be available for use?

Professor Gummatt: I am not sure whether we know, because the work is taking longer than we thought. Chris may be able to give us the most up-to-date information on this, but it is proving harder than we had hoped, and that is not just for Wales—this is UK-wide.

Mr Cowburn: The original deadline for providing the revised benchmarks was January this year. There has been a request from the organisation responsible for these benchmarks, to take up the information from estate management statistics. Those have been passed to the organisation concerned. It has not, as yet, come back with a definite date for producing the benchmarks, but that is where we are now with this.

Carl Sargeant: On the assumption that we may get the figures soon or, hopefully, sooner rather than later, how does the funding council intend to use the new indicators to monitor trends across the sector?

Professor Gummatt: We would play it into the processes that we use to give guidance on, and monitor, estate strategies generally. If I may, I would like to go back to that broader frame of reference, because this point does seem to us to be very important—that decisions made about energy use, and water use, sit within a wider frame of reference. It is that wider frame which is the key focus for decision-making in reality within institutions. Dr Grant answered an earlier question about factors affecting energy use, and I would add to what he said; the single fastest way of reducing energy consumption in a higher education institution is by closing buildings. Actually reducing the size of the estate is the fastest way of doing it. The next best thing to do—and it may be the same thing in reality—would be to close old buildings, which tend to be the most difficult.

The estates strategy is the key framework for much of this debate: looking at the estate, and asking if we need it all and are there bits that we can get rid of. It is nothing to do with energy-conservation policies directly; it is just getting rid of buildings that are not needed, packing more people into other buildings, and making more intensive use of them. Some of the estates statistics that we are helping to develop and improve on a UK-wide basis, are aimed at providing information to enable managers within institutions to know more about the use of their buildings, and to be able to make a better judgment about whether they are using them as effectively as possible.

The third aspect affecting energy use, I would say, is new building. Dr Grant talked about the optometry building in Cardiff; one could look at buildings in Bangor, and there is a new building going to go up in Aberystwyth which will also have a ground-source heat pump. So, when a new building goes up, one can do things which would transform the situation, at least for the lifetime of that building, and the major capital equipment in it. So, the estate management framework seems to us to be the place within which to locate this whole debate.

To come more directly to the question about the improved statistics on energy management, we would see them within that framework. We give guidance to institutions about what we would expect to see in an estates strategy. It will include reference to things such as we are talking about today, but we would want to see it within that framework. We would want to see what is being done about energy matters, or about sustainability matters, within the framework of an overall estates strategy. We give guidance on that, and we assist with the development of the UK-wide benchmarks and indicators. It is very important for us to have UK-wide indicators, rather than just indicators which allow us to compare—as, naturally and inevitably, these tables do—institutions within Wales. It is, however, more meaningful to

compare Cardiff with Birmingham or Liverpool, than it is with some of the other institutions on this list, because the mix of activities is closer.

So, we need the UK-wide picture to make proper sense of what is going on. Again, it is not worth trying to develop these indicators just on the scale of Wales, because the examples that we have are too few in number for the results to be significant and robust. So, it is UK-wide work in terms of developing indicators, ensuring that those are being used actively within institutions, and setting up and improving the guidance that we give on energy strategies.

I will just take a second more, if I may. We also have other ways of working that reinforce all of that. For example, when we allocate major capital sums, which we do on an annual basis—broadly speaking, for learning and teaching activities, but also, in quite large measure, for research activity—we put out guidance about the general terms and conditions under which that money may be used. We make reference, in those terms and conditions, to wanting to know how the new developments, which would be taken forward with that money, satisfy energy and sustainability requirements and how, for example, they satisfy the Assembly's commitment to sustainability. You will find that kind of wording in the guidance that we give. When we receive the proposals, that is one of the things that we want to be satisfied about before we approve the drawing-down of the funding.

Janet Davies: Could I clarify that EMS stands for estate management systems?

Professor Gummatt: It is estate management statistics.

Janet Davies: Thank you. On closing buildings, could you give an example of a building closure that has been productive in terms of saving energy?

Professor Gummatt: I was thinking in the abstract rather than of any particular building when I said that. You have put me to the test. I will think about that, if I may, and I will come back to you with examples, unless Chris can do it immediately.

Mr Cowburn: An immediate example of that is University of Wales, Bangor, which is engaging in a project to redevelop its science site and is starting construction on a new environment building. That required it to demolish a substantial element of the site and it is now building a state-of-the-art building, which will be very energy efficient and technologically advanced and will hopefully act as a showpiece to the sector as to what can be done.

Professor Gummatt: I can think of some other examples. There is an area in the middle of Swansea university. For those who know that area, right next to the Taliesin Arts Centre, where there used to be all sort of prefabs and things, including one which was the university mosque—I am not quite sure where that has gone—there is now a technium building. That is clearly a totally different kettle of fish in terms of energy consumption.

Janet Davies: Dr Grant, on the financial aspects of energy conservation, to what extent have you in Cardiff felt the impact of the recent increases in wholesale electricity and gas prices? Has it come through yet?

Dr Grant: They are not yet very apparent. However, we anticipate that, in the next year and beyond, that will have a much more serious impact upon us, which is one of the reasons why we must take further measures internally, in our management activities, in the next year, to make even further savings than we are making today. In terms of our growth, there have been substantial increases in activities, equipment and so on in the last four or five years, as I have already pointed out, and the energy prices have not been particularly bad for us during that period. However, as our use of energy grows, it will be imperative that we put this at the top

of the agenda for future savings.

I have referred to some of the new building activities, and to the fact that we have 500 fume cupboards. I mentioned that simply because it represents an opportunity, and we are constantly seeking opportunities to save energy and water because the cost increase that we anticipate next year is quite substantial.

10.10 a.m.

Janet Davies: Are you incorporating these predicted costs into your future budgets?

Dr Grant: Yes.

Janet Davies: I think it was Professor Gummatt who mentioned some of the activities that are increasing costs, such as aero-engine research. I do not believe that you do that in Cardiff, as far as I know.

Dr Grant: We do combustion engineering.

Janet Davies: Something similar, yes. Are you doing some of this work for the private sector, and would the payments they would be making to you therefore take on board the extra energy costs?

Dr Grant: Indeed. We would treat it as a consumable item. When we are carrying out combustion research, we would see that the energy that would be used—the fuels—should of course be charged to the people who are sponsoring the research. However, it does open up this whole opportunity with full economic costing. As I am sure you are well aware, the research councils, who sponsor much of our research, are, at long last, introducing a very good regime under which we are properly paid for all of the costs associated with research. So, full economic costing requires a university to understand its cost base more exactly than it might have done in the past, so we that we can get proper recompense, not just from private industries who are sponsoring us, but also from the Office of Science and Technology and the research councils. So, we are in a far better position in Cardiff University, because of our extensive metering, to be able to identify the precise costs of energy associated with every research project that we have under way, and we will be able to recover that money from the research councils and, indeed, private industry.

Janet Davies: Thank you. Catherine Thomas would like to pick up on policy development.

Catherine Thomas: My first question is to Professor Gummatt. Page 18, figure 7, shows that, at the time of the survey, three of the 12 institutions in Wales were still to start developing an energy and water management policy. I was wondering whether Professor Gummatt was surprised to discover that, especially as I understand that there has been quite a range of guidance available to institutions in recent years.

Professor Gummatt: Our focus is always on whether the activity is being undertaken and whether it is being undertaken well. Whether it is called by a particular title or not, and whether there is a box into which it sits neatly and tidily, is another question. I think that one has to bear that thought in mind when looking at a table like this. It is interesting—and there are others who can speak more fully to this than I can—that in the annex, for example, that develops and outlines the Cardiff University case study, as you will see, the analyst who went to look at four institutions was asked to look for quick, easy savings, and the conclusion was, ‘I cannot find any’. The words used in the report are:

‘reflecting the robust approach to energy management already taken by the University’.

So, the fact that something is not identified under the heading of a policy does not necessarily imply, on the evidence of the report itself it seems, that the activity is not being pursued, but that it is being pursued by other means. I think that that is our focus, and there is also evidence in the report of those who have policies where the performance is not as good as one might have hoped it to be. Having a policy in itself does not necessarily deliver, and not having a policy does not mean that delivery is not taking place. My sense of this would be that I would want to get behind it and look at the overall approach taken to energy and water management within a robust estates strategy. That is the way in which I would try to drive the process forward.

Catherine Thomas: Thank you for that response. Following on from that, I would like to ask Dr Grant, following the recent merger with the University of Wales College of Medicine, what plans does Cardiff University have to develop an energy and water management policy?

Dr Grant: This is a very important point. The fact is that we have had a policy pre-merger. Cardiff University had a policy in place throughout the 1990s. The University of Wales College of Medicine, as it was, is part of, or its site is part of, the Cardiff and Vale NHS Trust. I am pleased to say that the trust is an ISO 14001 accredited site. It has, within it, a robust energy and water management policy, the latest version of which was created in June 2003. So, as a result of the merger, we have taken the best practice from the trusts' energy and water management policy, and the former policy that existed in Cardiff University, to create a new one. So what is reflected here is correct. Today, there is not one, but we have the prior policy of Cardiff University and the existing policy of the trust, which will be melded together in a new policy. However, I also share Professor Gummert's views that what matters is how you put it into practice. We set ourselves tough targets in terms of annual savings that we would anticipate in the university. That is where the focus is, but it is important to have that with an overarching framework of policy, if you will. So, that will exist as a result of the work that we are carrying out post merger.

Catherine Thomas: Professor Gummert, paragraph 2.11 notes that even where energy and water management policies have been developed, and bearing in mind your comments on policies, they often seem to have fallen short of good practice. What will the funding council do to work with institutions in the future to help them develop policies that are fit for purpose?

Professor Gummert: Notwithstanding what I said a moment ago, having a clearly identified policy is a good idea, but it is important that it means something and is delivered and so forth. We have issued recent guidance on estates strategies, and we are calling for another round of estates strategies from institutions. There is a strong emphasis there on energy and water and sustainability more broadly.

We are in a position now to raise the degree of attention that we give this matter, and we were not in such a position until last July. This is essentially about our own staffing. Until we appointed Chris Cowburn last July, we were working closely with the National Council for Education and Training for Wales, and were sharing an estates manager, who had this responsibility as part of their portfolio. We took the view that, as part of this process of separation from the national council—but also on the broader grounds of the rising significance of this as a policy area—we needed to have a full-time senior estates manager on our staff, to look more actively at what was going on in the higher education sector, to try to ensure that the good practice that, as the report shows, exists and is widely known among all the institutions, and to try to bring together all the necessary people and ensure that all who needed help, to get up to speed, got that help. So, we are now in a position to be more active than we were in the past in taking some of these messages through and monitoring more closely, and in assisting in improving practice. I could elaborate, but, in general terms, that is

how I would answer your question.

Catherine Thomas: I would think that taking these messages through would require support and commitment from senior management in the institutions. Are you satisfied that you are getting that commitment and support?

Professor Gummatt: As the report indicates, there may have been some doubt on that score in one or two cases, but I do not think that it is as evident now as it was. We have meetings, which Dr Grant can confirm, twice a year with the heads of institutions and the chairs of governing bodies. It is quite important to have both—with the vice-chancellors and principals, and with the chairs of the governing bodies. One of these meetings was held last month. I drew this report to the attention of the meeting, and there was a lively discussion about it. I do not think that there is any head of institution or chair of governing body in Wales who is not aware of this and is not aware of the passage to which you were referring in particular. It was drawn quite explicitly to their attention.

10.20 a.m.

Catherine Thomas: Referring to paragraphs 2.13 to 2.16, we see that only five institutions have a dedicated member of staff responsible for energy and water management. Figure 9 on page 21 shows that Cardiff University does not employ a dedicated energy and water manager. Can Dr Grant respond to that, and give reasons as to why this is the case?

Dr Grant: We have a team of people working full time on this task. Employing yet another manager is not, on the basis of what you have seen in front of you, as far as I can tell, economically justified. This responsibility falls into a group of people who are fully employed to manage energy and water within the university; that is why we are making an annual saving of £300,000. It is true that we do not have anyone with the label of ‘manager’, but we have people with other titles in charge of that activity. So, frankly, I do not think that labelling is the solution. However, I am pleased to say that others without the label of ‘manager’ are making the savings that we are very pleased about.

Catherine Thomas: Are you satisfied with the staffing resources that you have dedicated to this?

Dr Grant: I am very satisfied with them. Unless people can point it out, I cannot see that appointing another person with that label would make a difference. We already have Dr Ian Knight in our school of architecture, who is an expert on the subject. He provides monthly reports in huge detail about opportunities for energy and water saving within the institution. The team dedicated to this task takes his advice and findings, and the information which comes out of the building energy management system, and carries out changes and modifications with recommendations for action. All of that is very well managed.

Catherine Thomas: You have probably also answered my next question. Thank you.

Jocelyn Davies: Ian Knight is obviously very enthusiastic about this issue, but what if you were to lose Ian Knight to another university? Who would then take over that role?

Dr Grant: Ian Knight is a member of a team in the school of architecture dedicated to this activity. So, the loss of one individual, however sad that would be, does not make us hugely vulnerable, because we have a team. The team is involved, not just in advising us or other people, but also in educating future generations of students about the importance of this subject. So, our contribution is not just for saving energy within the university; it is also to ensure that the professionals who leave our university are able to go into their lifetime of employment with the care for energy and the environment which we practise ourselves.

Janet Davies: The message coming out to me is that you have very good teams, and that shows in some of the results you have. However, do you not feel that it is necessary to have someone who is the driving force? I feel that it is rather diffuse and that you could perhaps run into problems over that.

Dr Grant: Maybe we could, but I feel that I am the driving force on this particular issue. I have a passion about sustainability, the environment and energy. If the vice-chancellor has a passion about it, it will ensure that the issue is constantly on the agenda, and that people throughout the university carry out actions to save energy wastage to the best of their ability, and instil best practice. I understand the point that you make, and it is a good point. How can we keep drawing people's attention to this important subject?

One recommendation in the report that I welcome and endorse is the importance of drawing to the attention of students and staff the fact that they must switch off lights or carry out, as individuals, actions that will be consistent with the university's policy and desire. I do not think that having someone called an 'energy and water manager' makes that happen; the vice-chancellor needs to ensure that all staff in the institution, including new members of staff and students, are informed that they are responsible for switching off lights and minimising the use of energy in the institution. There may be a role for someone to do that full time, but I am not sure that I would call them an 'energy and water manager'. The communication exercise may be worthy of dedicated effort, but I feel comfortable that the day-to-day process is well managed.

Janet Davies: Thank you. We will probably come back to the education issue later in the session. Can I ask Denise Idris Jones to pick up on that?

Denise Idris Jones: Figure 9 on page 21 suggests that collaborative working between institutions or other local bodies might be an alternative to the cost of employing a dedicated member or staff, where one is needed, or, as we have just heard, where it may not be possible to justify the cost. How might the funding council help to promote such collaboration?

Professor Gummatt: That is a very important question, and the table is quite revealing in that regard. The four institutions at the foot of that table—none of which has a dedicated energy manager—are all very small. However, it is worth noting that, as the report shows, despite the fact that it does not have a dedicated energy manager, the North East Wales Institute of Higher Education draws on academic expertise. The case study on the following page also points out how it works with the local authority.

Therefore, the issue of working locally with other partners is important, and is one in which institutions are already showing a degree of liveliness. The NEWI case shows a successful partnership with the local authority and, in Swansea—and, again, this is referred to in the report—there is activity in partnership with Singleton Hospital on a combined heat and power plant serving the two adjacent sites. So, institutions are alive to the possibilities.

In terms of how the funding council could help, particularly with smaller institutions, we need to consider what can be reasonably expected of them, and what they can afford. We look for ways of encouraging institutions to work together. We have a strong policy drive in that direction through the 'Reaching Higher' strategy for higher education. We have specific funding available to support reconfiguration and collaboration. We saw an example earlier of the way in which that process is interacting with the debate about energy policy through the merger of the University of Wales College of Medicine and Cardiff University. There is a slight confusion regarding whether or not there is currently a policy, as two policies are coming together. We have just hit a moment when there is not one sitting on top of it all.

I recently had an interesting discussion with three institutions, which are not yet at the stage where they want to talk publicly about what I am about to discuss, so forgive me if I am a little cryptic. These institutions are talking earnestly about integrating major aspects of their administration and running them as one operation. That is the sort of possibility that we would like to seize upon, encourage, and assist in terms of funding; it is exactly the sort of thing that will help them to build up the expertise that they need, which they may not be able to, or afford to, acquire individually. So, there is a channel there, and active engagement with it.

Denise Idris Jones: We know that Cardiff University, for example, has an excellent vice-chancellor, who is very interested in and dedicated to this field. Would you say that the information gathered there could be cascaded to other institutions?

Dr Grant: Is that a question for me?

Denise Idris Jones: I am dedicating this to you, Professor Gummatt.

10.30 a.m.

Professor Gummatt: I agree. [*Laughter.*] Seriously, I agree with both parts. Indeed, that is exactly what is going on.

In some of the UK-wide schemes that we have been engaged with, where we have been putting funding into the development of UK-wide activities on behalf of the whole sector, Cardiff University has been the Welsh representative. For some of the schemes referred to in this report, Cardiff is the Welsh player, as it were, in a UK-wide partnership to develop good practice, and it is actively diffusing that work. We are working with Cardiff to ensure that that work is diffused. That is true of some of the references to Carbon Trust activity, for example.

However it is not only Cardiff. For example, there is another UK-wide activity taking place with the Carbon Trust, and Aberystwyth and Bangor will be the Welsh partners in that scheme. Again, that will be in the spirit of their being the immediate players, but their responsibility is to diffuse what they learn across the sector.

Jocelyn Davies: Can I just interrupt and ask a quick question? You gave Denise some examples then of how it is possible for institutions to collaborate; is there any movement on this particular point, or among these particular institutions?

Professor Gummatt: There are two cases, where it is almost inevitable that there will be collaborative action if things go ahead, depending on a larger frame of collaborative activity. I hesitate to talk about the ongoing discussions between Cardiff University and the Royal Welsh College of Music and Drama, but if those discussions move forward fruitfully, one would imagine that energy management in the college of music and drama will be within the framework of Cardiff University. The other case, of which I was speaking, where there are three institutions talking earnestly, would be exactly the sort of thing that would fall within that frame.

Denise Idris Jones: If you turn over the page and look at paragraph 2.18, you will see that this figure identifies Cardiff University as one of three institutions with an energy and water-saving budget. Could you comment on the use that has been made of this budget, giving examples of specific projects that have been funded in this way, and of the criteria of that investment?

Dr Grant: I must say that this refers just to part of the budget, because we have £4 million additionally within the estates maintenance activities that funds many of these developments.

We are looking here at just a small part of that, but I can give you some specific examples.

One rather surprising statistic about Cardiff University is that there are 52,000 light fittings in the institution. That represents a huge opportunity for energy saving in terms of the types of tubes that are fitted in there. It is a constant effort within the university to go around replacing existing tubes with the most energy-efficient forms of lighting possible; the scale of the university gives us that opportunity. This comes out of the maintenance budget, not out of this specific budget.

I have already mentioned this, but one advantage of having the Welsh School of Architecture as part of the university and of energy being part of its remit, is that it gives us advice on how new buildings, such as our new optometry building, can be designed to incorporate energy-saving measures. We mentioned the heat pump, for instance.

Another current building project is student accommodation; we are building another 500 rooms at present. In the particular building at Talybont halls of residence, we are putting heat recovery systems—heat panels—on the roof, so that we can preheat water. Of course, in student accommodation, you will have high utilisation throughout the day and night, and so this is a wonderful opportunity to save money. We could probably retrofit some of that onto other student accommodations; it would not necessarily make sense to do so in laboratories or teaching areas, but it does make good sense for new accommodation.

We are able to model all of this. In our school of architecture, we have people who can do these ‘what-if’ scenarios—suppose we put in this sort of heat pump, what is the benefit to us in energy savings, and does it make sense? So this is a fairly constant effort. This year we are about to put in some new boilers, because there are new generations of boilers that are more efficient than the present generation. So, I suppose that it is down to our scale that we are able to do this as just part of the normal business of maintenance, and, at every opportunity, are reducing energy use when we put in new equipment. I could quote more examples, if you want—there are many.

Denise Idris Jones: That is fine, Dr Grant, thank you. Has the energy and water saving budget now been increased to take into account the greater expenditure resulting from the merger with the University of Wales College of Medicine? Having heard everything that you have said, I am sure that it has.

Dr Grant: This is where we have shared facilities, as I have mentioned, with the Cardiff and Vale NHS Trust. I am aware of activities on the Heath park site, for example, where there are new buildings and new measures as part of its dedication to ISO 14001. It is a very comfortable partner, if I could put it that way, because we are using a site where energy management is also a core part of its business.

Denise Idris Jones: Staying with Dr Grant, and I am doing that deliberately as a member of the council of the University of Wales, Bangor—I am taking in the information so that I can transfer it; I will be the cascader. How easy do you believe it will be for Cardiff University to work towards the target of establishing an energy and water saving budget equivalent to 10 per cent of its annual energy and water expenditure, possibly taking account of measures already funded through other means, such as your maintenance budget, which you have mentioned?

Dr Grant: We are exceeding it, I believe, although I have not done the sums. When we look at the investment, some of which I have already referred to, the heat pump, I seem to recall, is about £200,000. The heat panels on the roof of the new student accommodation block, I think are again about £200,000. So when you add it up across this maintenance budget, which, as I have said, is nearly £4 million, it is a substantial amount of that. Therefore, in terms of the

savings, which today we can identify as perhaps £300,000 per annum, we are probably exceeding 10 per cent. We are not driven by a particular percentage point. I work according to the simple philosophy that, however well we do something today, there has to be a better way of doing it.

Denise Idris Jones: My final question is again to you, Dr Grant. Has Cardiff University accessed any external sources of funding that may be available for energy and water efficiency measures to supplement its own investment?

Dr Grant: Indeed it has. One interesting example that I came across in our requirements for lighting was that the Higher Education Funding Council for Wales gave us a substantial grant back in the late 1990s, which enabled us to make 50 per cent savings on energy utilisation on lighting. That is one example of where we have had funding in the past. However, we get moneys from other sources as well, wherever it is available to us.

Janet Davies: Mark, I know that you have quite a heavy load of questions to ask, so I will probably call for a coffee break in the middle of them, if that is all right with you.

Mark Isherwood: I would appreciate that.

Professor Gummatt, with reference to paragraph 2.32, what scope could there be for the funding council to ring-fence the budgets of institutions for energy and water efficiency measures linked to performance?

Professor Gummatt: There is always scope to do it; the question is whether it is the most effective way to achieve the objective. If we go back to the proposition that the way to drive good use of energy and water is through good estate strategies, then it may be argued—and I would want to start from that position—that it is better that we ensure that institutions manage their estates well. Within that, they can demonstrate that they are actively managing energy and water, rather than our setting aside budgets within institutions, or setting aside funding from the funding council that drives in that particular direction. There is always an opportunity cost.

10.40 a.m.

For example, if you look at what we have done with capital allocations recently—the example just referred to was before my time, so I am pleased to hear about that—just to illustrate the dilemma that this proposition raises, we have tended to steer in the direction of meeting statutory requirements under disability legislation. In putting out capital allocations recently, we have tended to say to institutions that if they are not yet compliant with statutory disability responsibilities, they should give that a high priority in using this capital funding. Now, it is perfectly possible for us to say something different, and to tell them that we want them to pay more attention to energy, but it is always a judgment and a choice about which is the most appropriate thing to steer, or, indeed, to what extent one should say to institutions that they have good plans and, if they can demonstrate that they are managing things well, we will not give them a steer at all. There is a dilemma there, and I am not surprised to find, with all respect to estates managers, that they would like to see funding earmarked, which they may more directly control, and separated out, as it were, from the generality of funding. However, it is not necessarily the most efficient way to run the business.

Mark Isherwood: Could not the opportunity for institutions to retain any surplus in the ring-fenced budget act as a powerful incentive?

Professor Gummatt: But the institution can retain any surplus from a budget that is not ring-fenced, and possibly make more flexible use of it. The money will be with the institution,

whether it has been ring-fenced or not.

Mark Isherwood: Fair enough. Paragraph 2.33 refers to discussions between the funding council and the Carbon Trust on a possible carbon management project. If this were to come into effect, could that generate increased funding for the sector from the Carbon Trust?

Professor Gummett: The Carbon Trust? I am not sure that the Carbon Trust—I will ask Chris to help.

Mr Cowburn: The engagement with the Carbon Trust that we hope to have will cover several bases. Principally, we aim to develop and disseminate best practice and provide expert guidance to the sector. Equally important within that, however, is the investigation of whether funds can be made available via the Carbon Trust or other sources to help with investment in energy management. It is worth remembering that many of the projects that universities undertake are funded by very diverse means, with funding even coming from Objective 1 or the WDA town improvement grant. So, there are many ways in which money can be brought to the table to improve energy management. However, it is certainly a point that we will discuss in detail with the Carbon Trust.

Mark Isherwood: Paragraphs 2.20 and 2.22 indicate that apparently only five institutions routinely monitor and target energy and water consumption, and that only four more are in the process of developing such processes. Professor Gummett, do you feel that the reliable monitoring and targeting of performance is an important ingredient in any strategy to improve efficiency, and how can the funding council help to drive that agenda forward?

Professor Gummett: We do think that it is important, and the increased intrusiveness—if I can put it that way—of the questions that we are asking about how these matters are managed will drive in this direction. The other important driver in this, which Dr Grant referred to earlier, is a big-picture issue that affects the way in which costs are thought about, and therefore how managing and saving costs are thought about, in the higher education sector across the board. It is the process of full economic costing. It is driving quite profound change in how institutional managers need to think about costing and accounting. It comes out of research funding, and it comes, as was said earlier, out of Treasury acceptance that research in the UK has been underfunded. It is beginning to address that by putting increased money through the research councils so that it will meet the full economic cost of the grants that it gives to universities. Part of the monitoring process that is being set up, and in which we sit alongside our English, Scottish and Northern Ireland counterparts as part of a UK-wide approach to this issue, is one under which we will ask the institutions in Wales to provide periodic reports about the overall sustainability of major investments. We will want them to demonstrate that, for example, if they receive significant funding for research, they do not just spend that on recurrent costs, and do not just buy staff and neglect the buildings and the estate more broadly.

So, where institutions are not already at this stage—some are, but some are not—they will have to become more aware of where their costs are falling and what this activity is costing them. Therefore, to come down more specifically to energy and water management, it will become much more important to be aware, in costing proposals for research funding, for example, but also for other areas as time passes, of what the real and full costs of those activities are. So, I think that there is a driver coming through there that, without us in any way needing to be particularly heavy-handed, will drive institution managers to say, ‘We have to understand this much better, otherwise we are going to fall foul of this general process, and we will be failing, among other things, to attract the money that we could be attracting’.

Mark Isherwood: Dr Grant, I am afraid that I will have to heap further praise on you by referring to case study B on page 24, which praises Cardiff’s monitoring and targeting system

as being one of the most sophisticated in the UK. How does this system strengthen your confidence in your own data and allow you to make informed decisions about energy consumption within the university?

Dr Grant: It gives us constant monitoring, as you have seen from this report, of all energy utilisation in the university. If there is a faulty piece of equipment, or if someone has inadvertently left a tap on and there is wastage, we know that instantly, and people will react instantly to that. So, there will be very few instances where waste could continue beyond hours, let us say, rather than days or weeks. That is the sort of thing that it does. It is also constantly controlling against the outside environment so that you are not needlessly heating buildings. These systems measure the external environment and if there is adequate heating from outside, then you shut down your internal systems; it is all automatic and built-in. Within the university, we have had many years of experience of this, so, whenever we carry out refurbishments or put in new buildings, we add on to a proven system, and we are proud of our track record.

We are used as a case study, and as one of the best in the UK, as you see, for applying building energy management systems. As I mentioned earlier, having come out of the energy industry, I have seen many applications outside in different sorts of buildings, but I know that Cardiff is among the best. It is a superb example of using this technology to best effect. Wherever possible, we invite people in to see it because we are so proud of it. As has already been mentioned, we are in discussions with the Royal Welsh College of Music and Drama, which is only metres away from us. There is a natural opportunity to add it to the network, whatever the form of the relationship between us takes in the future. It makes good sense to add it to the network. Not only do we have best practice, we have practice that will evolve over time when we are able to take further measurements. There are huge shifts in the load requirements in the university, or there have been over recent times. We might be able to do even more in terms of energy monitoring with regard to computers in the future, in terms of checking whether individual computers have been shut off at night. We started out by looking at individual buildings and rooms within buildings; I think that we now have to focus more and more on individual pieces of equipment, and the technology allows us to do this. Wireless networking technology enables you to see that computers have been shut off or are in their lowest energy mode. So, I think that we can continue to build upon this and ensure that further savings are made in the future.

Janet Davies: We will take a break now.

*Gohiriwyd y cyfarfod rhwng 10.49 a.m. and 11.07 a.m.
The meeting adjourned between 10.49 a.m. and 11.07 a.m.*

Janet Davies: Welcome back. Mark Isherwood will continue with the questions that he wishes to ask. If you think that it might be better, fairly brief answers are fine as long they give us the information that we need.

Mark Isherwood: Paragraph 2.25 makes reference to four institutions that could not provide any examples of initiatives to try to raise awareness among students or staff about these issues. Is there, therefore, a need for a more consistent approach across the sector in terms of raising awareness and sharing ownership of the issues, and what role could the funding council play in this?

Professor Gummatt: This is a kind of Forth-bridge-painting job because of the turnover of students and, to some degree, the turnover of staff; the turnover of students is quite rapid. It is an issue that institutions have to keep returning to and doing over and over again. It is obvious, from the evidence of the report, that practice varies on that. There are some things that we can do, and others where I think that we need to respect the issue here, essentially that

of academic freedom, and the proper relationship between a funding council and institutions, as it were. Intruding into the curriculum would be a step too far for us, but we could encourage institutions to give serious attention to this issue.

Again, I think that I would go back broadly to the point that I made earlier, that the driver for this, in our sense, needs to be the estates strategies and the question of how they are raising the attention levels that are given to energy management within estates strategies, and what are the consequences of that. If the conclusion is that we need to be seeing more lights turned off—David Grant was talking earlier about getting people to use the energy-saving technologies in their computers—we will have to get to that level of intervention and it is a question of the imperative to do that becoming so strong that institutions will do what are then relatively obvious things in terms of driving those messages forward. Also, I think that the work that we are doing on a wider scale, UK-wide, with other partners, for example with the Carbon Trust and the Higher Education Environmental Performance Improvement initiative and so on, is identifying good practice. Diffusing that good practice and making institutions aware of what other people do is helpful in that regard.

11.10 a.m.

So, we can, and will do, those things, and will continue to do them. We will be focusing, more specifically, as I have already indicated, on the way that we review estates strategies and the submissions that come to us in respect of capital allocations. We will be focusing more sharply on questions related to energy and water. That means raising its significance, raising the attention the institutions are giving to it, and then trying to diffuse good practice in relation to the kinds of things that are in this paragraph. I think that we need to be a little bit careful not to get to the point of telling them what they must say to their students, or telling them what they must teach their students. That is a step too far.

Mark Isherwood: Clearly, showing good practice is vital. In establishing good practice, Dr Grant, what measures, if any, have you taken in Cardiff to raise awareness across the student body and among all the staff, rather than simply those identified in, or involved with, the projects referred to earlier?

Dr Grant: I do not think that we have done enough. This report makes excellent points in this matter, because it is my belief that we should have more regular dialogue with members of staff, and students, on this matter. From my period of office, I am aware that students take this whole agenda seriously, and I have had an approach from the students' union in the past regarding green energy in the institution. Although I cannot claim that that was the reason why we took a particular route, it has satisfied the student body that we care about it. So, I think that we have—and I will again, as a result of this report—put in place actions to ensure that, each year, it is drawn to our students' attention, and to the attention of our staff, that they must be more careful in their use of energy. It may be that we can learn from other institutions that already do this.

There is another factor in this regard. For some people, economic issues drive practice. We have considered energy charging, which, at present, is done centrally at the university. It may well be that an incentive such as energy-charging individual academic schools or halls of residence would sometimes reinforce the message. So, I think that you have got to use the stick-and-carrot approach here. I think that, in student residences, we may be able to encourage students a bit more. I was interested in this report, and I will certainly talk to other institutions, where measures have been introduced, so that people are not needlessly leaving lights on, and wasting energy. If it, apparently, costs the individual no more, then what incentive is there? I think that we could do more.

At the start of each year, we have a large number of people who talk to our students on a

range of issues, such as health, safety and security issues. I am not aware that we do that on energy-related matters and, as a result of this, I will certainly ensure that, in future years, we educate students on this issue, and build that into the process. For members of staff, it is a slightly different matter, and I think incentivisation might have to be done in a different way. I thoroughly endorse this, and will take action as a result.

Mark Isherwood: You have, in referring to direct charging, answered my next question. Are there any other incentives that could be considered, or focused on, by departments or students? Perhaps rewards as well as potential penalties.

Dr Grant: I think that rewards, potentially, should be on savings. Given that we have excellent metering, it may be that we can incentivise academic schools in a particular building if, annually, they can reduce that. It is a possibility that I would like to examine. This is where you start looking at managing budgets. There is a cost to it; you need people to work out, from that energy utilisation, the cost impact on a particular academic school. Then you have to administer all of this. So, it is not simple, but I think that it is worth investigating, and, as a result of this report, we are setting up a working group within the university to address all of its recommendations. I would certainly put that item into the list of topics to look at. Can we incentivise individual schools by financial means? I am not sure that we could do that for an individual academic but there may be an opportunity there in terms of individual schools within the university.

Mark Isherwood: Could you perhaps share this with the National Union of Students or student councils in the halls of residence?

Dr Grant: As I have already said, we have had discussions on energy with our student body and I know that it is very keen to make better use of it. Our students' union, which, as you may know, is huge, and although it is part of our building energy management system, there may be further opportunities to work with it. There are student societies whose interest is in energy, environment and sustainability, and it could well be that, by working more with the student societies, as well as with the union and other groups, there may be opportunities to also use some of the staff representation unions on this. This is the sort of topic where it might be possible to do more on it at a national level. As I said, perhaps I am bit unusual because I have a strong passion for it, but I would like to engage with as many of these bodies as possible to see what more we can do, because this has drawn attention to a problem and an opportunity.

Mark Isherwood: Do you share your water and energy monitoring data with the individual departments once it has been gathered?

Dr Grant: No, not adequately, although we do with some. The high-energy users see it because of particular reasons, and I have mentioned fume cupboards and one or two other high-energy areas. The School of Engineering has high energy utilisation, so we do so with that school, but we do not routinely do it for all heads of academic schools. In some cases, if they cannot make any changes themselves, it may not be valuable information. However, overall in the university, raising the attention on a regular basis would be a good idea and we have very recently made more of the accounting information available to all heads of schools. I am very keen to do that. I think that we should be more open so that people in our academic schools and in our administrative divisions fully understand the overall picture in the university and, because we are now looking at at least a 3 per cent saving year on year, as you are well aware, I will be setting targets internally that are in excess of that. Therefore, where there is an opportunity to make savings, all cost elements should be drawn to the attention of those who can do that—the heads of schools being a good example.

Mark Isherwood: Professor Gummett, your corporate strategy includes the following

performance indicator:

‘evidence of increased attention to sustainability in institutions’ behaviour’.

How do you measure that, both in general and specifically relating to energy and water costs?

Professor Gummatt: We measure it through the reviews of corporate strategies as a whole. One of the things that we are doing in guidance to institutions this year, in terms of their submission of strategic plans to us, is to ask them to show us how they are addressing the Assembly’s concerns about sustainability. So, it is broader than energy; it is about sustainability more broadly. We are asking to be shown, as it were, where, within the overall corporate planning, that issue is being addressed. So, at the highest level, it is through the institutional corporate strategies, or strategic plans, and it is then through the estates strategies more specifically. We do not prescribe a rigid format for these things because we believe that they should be management tools for institutions and that they should serve their purposes. However, we do say that there are things that we expect to see in them and that there are questions that we expect to be answered, and we will be looking for that. Thirdly, in more specific areas of allocation, such as major capital investments, for example, the major investments in research capital that we are making, which I mentioned earlier, again, we ask questions—and in the next round of this we will ask sharper questions than we have asked in the past—about energy use and sustainability and how these issues are being addressed within the overall planning of these major capital projects to ensure that the kind of issues being discussed are embedded in the planning process.

11.20 a.m.

Mark Isherwood: I think that you have partially answered this question, but do you have any more detailed objectives or targets for sustainability performance?

Professor Gummatt: Not in the sense of saying that each institution should be saving x per cent or something of that kind. Just to add to what I said a moment ago, part of the process of reviewing those plans will also be looking at the data that is emerging through the sorts of exercises that we were discussing earlier—the HEEMS exercise, and so on. So, that data will be reviewed, and we will be in dialogue with institutions about the trends that we see in those returns. However, this is not in the sense of saying that there should be an energy-saving target or something of that kind, and the reason for that—to go back to the point I have made a number of times—is that we think the focus of attention needs to be on the estate management issue primarily. That is the core to all of this—managing the estate effectively. Knowing what is going on in energy and water use terms is extremely important, and it is obvious that things can be done, certainly in some institutions, perhaps even in all, to improve upon that. However, the question of what happens year by year, in terms of the actual levels of energy consumption and how one might measure savings against movements, is tricky. If one is seeing a major new investment in a research area that involves new equipment that is energy intensive, that will drive up energy use. We would then be measuring savings against things that are, in other senses, thought to be good because they are bringing in more activity and are raising the research profile and the income coming into the institution and into Wales, but are costing more in energy terms. Obviously, one would want to see evidence that that is being managed as efficiently as possible, but whether it lends itself to a target for reducing energy consumption year-on-year is a more difficult question.

Mark Isherwood: To what extent do you feel the institutions themselves are engaging in the wider environmental sustainability agenda, as set out in documents such as the Welsh Assembly Government’s ‘Energy Saving Wales’?

Professor Gummatt: I think that they are doing that in all sorts of ways. Dr Grant has

already mentioned some of the things going on in Cardiff University through engagement with students and so forth. In academic terms, there are programmes of activity going on in a number of universities and institutions, which are teaching about these matters and developing research thinking about them. There are also major programmes of energy research and environmental research, with an emphasis upon sustainability in Wales. On the earlier question about collaboration between institutions, this again is a prime area where we are seeing interesting developments, with institutions coming together to say, ‘Actually, we could make Wales one of the key movers in the UK and, indeed, globally, in terms of our expertise in energy research and energy management’. There are some very interesting ideas coming forward at the moment on precisely that score.

I think, in those terms, we are working, from the funding council perspective, with Forum for the Future—with Sara Parkin, Jonathon Porritt and others—to develop good practice guides and promote those ideas and propagate them through the sector. A great deal of that is percolating through. Work is also ongoing between some of the institutions and the Assembly over the Assembly’s activities to develop sustainability and good citizenship. I have forgotten the exact title of that work. There may be others around the table engaged in that. Some of the universities are plugged into that in terms of providing advice and underpinning that kind of work, and we are equally involved in that, in the sense that we will want to ensure that there is good articulation between what emerges from that developing Assembly agenda and what happens in the higher education sector. There is a whole range of things going on, and it is quite diffuse. It would be quite an interesting exercise to try to put all of that together. There are many things going on.

Mark Isherwood: So, there are also potentially huge commercial and research gains?

Professor Gummatt: Absolutely. Given all that we were saying earlier about the energy cost trends, if we can get to the point where we have second-to-none expertise in Wales on energy management and energy-related technologies—maybe not across the board, but in certain significant niches—that would be a very powerful economic driver, and it is one that seems to be within reach.

Mark Isherwood: Finally, Professor Gummatt, what guidance have you issued on the European Union’s energy performance of buildings directive to the institution?

Professor Gummatt: I am not sure that we have issued that yet, but it will be a legal requirement and we will be monitoring to ensure that institutions conform to it. In response to an earlier question about the extent to which I was satisfied that institutions were engaged in metering and monitoring adequately, one could also add that, on that score, that directive will be quite important. It is a legal requirement—institutions will have to do it and we will ensure that they do. It requires a more extensive metering approach to new building and consideration of the introduction of metering when there is major capital development in an existing building, so it is another important driver in this whole process.

Janet Davies: Thank you, Mark. Jocelyn, I think you wanted to continue with this section.

Jocelyn Davies: Yes. Professor Gummatt, this report is critical of the impact of the council’s audit review service on energy and water management practices in recent years. I get the impression that you have had a very light touch in this respect. Do you accept that, and how will you ensure that you have more robust performance management arrangements in the future?

Professor Gummatt: I would accept that it has been a light touch. I suppose it is a matter of opinion as to whether or not it has had sufficient impact. However, I absolutely accept that it has been a light touch.

I am going to be boringly repetitive now, but it has been our view that we should approach the issue of energy and water management through this broader frame of reference on estates management. I know that I do not need to repeat all that, but that is where we are focused and where we put our attention. It is a perfectly fair comment to say, as the report does, that it is clear that in some institutions and in some respects, that has not had as much of an effect as we might have wished. I think that, in the course of discussion this morning, we have also identified areas where, perhaps, there is more going on than has been captured in the precise formulation put into the report. So, perhaps there is more of an impact than may have appeared at first glance.

Looking to the future, appointing a head of estates was something that we wanted to do and we got to the point where we finally had the capacity to do it, as part of this process of separation from the national council. Instead of having a person one-third devoted to estates, we now have a person devoted full time to the higher education estate. So, that immediately trebles the degree to which we can examine what is going on, provide advice and bring people together. The sort of practical thing going on, on one level, will be just that: bringing people together. Given the discussions that we have had on good practice and ensuring that people are aware, a good way of doing that is to bring together directors of estates, or those more directly concerned with energy management within institutions. We can get them all together, bring in those from outside as well, and get them talking about what they are doing.

So, we are doing a range of things like that and, through increased staffing, there is now the capacity to do more thoroughly the type of things to which I referred a moment ago in response to a previous question about how we will monitor. Through that range of strategies and submission, we can now more actively examine what is going on and have a more intensive dialogue with institutions on what we see, when we look at those documents.

Jocelyn Davies: Are you sending out the right signals? When you came here today, one of the first things that you said was that this is a tiny part of the overall budget. However, we know that it is a massive budget, so it is quite a lot of money. So, is the council sending out the right signals, when, obviously, we can see that institutions like Cardiff University have made significant savings by addressing this tiny part of the overall budget?

Professor Gummatt: I hope that I am sending out the right signal. We can ask Dr Grant what signal I gave when I spoke to the heads of institutions and the chairs of their governing bodies a little over a month ago. We can ask one of those present what the signal was, or how it appeared. The point that I was trying to make—and perhaps I made it more clumsily than I would have wished—when I was asked whether institutions were doing enough, was that the degree to which they will focus on this will vary from time to time because they are spinning so many plates, to return to that analogy. So, it will not be uniform; there will be times when institutions need to focus more actively on energy and water management. There will be times when there are other things, important though that issue remains, which are more important, and, with only limited management time and capital funding available, choices will have to be made to do other things instead. That was the point that I was trying to make, and I apologise if I gave the sense that I thought it was unimportant, because I do not; it is extremely important.

11.30 a.m.

Jocelyn Davies: Some of us remember last year's report on procurement in this sector, which made very depressing reading. There is capacity and potential for saving money from the public purse, which could be spent on the higher priorities that people have, so it is important that you make savings where you can, which can then be spent on priorities.

On the good practice report that you mentioned, it recommends that the funding council agrees a timetable with institutions for progress towards best practice in terms of energy and water management. We have already heard that some excellent policies have been written but not put into practice. You could argue that that is wasting paper as well as the energy that went into producing it. You have already said that you do not think that that is good enough. What is a reasonable timescale for these things to happen? When we look at this issue in the future, how confident are you that you will have made significant progress?

Professor Gummett: We are already on the case. The guidance that we have already issued on estate strategies sharpens the questions that we are asking about energy management. Given that institutions are at different stages in developing their estate strategies, we should be receiving a sharper picture of the way in which they are dealing with energy matters, as part of their estate strategies, within the next 12 months.

Directly from that, we are also taking forward work with the Carbon Trust, and Aberystwyth and Bangor will be the Welsh participants in that work. We still have work from the benchmarking exercises, and so on. As we said earlier, it is difficult for us to give a precise answer to the question of when that work will be available. It will be ready when it has been done, and it is being done as fast as possible by people who are experts in the field. I cannot ask more than that, in a way.

We are raising considerably the degree of attention that we are giving to this question. It is already embedded in a number of our processes. We are asking more pointed questions about energy, and we are in a position to scrutinise the responses more closely. So, I would expect the impact to go up, but, as regards precise times and by how much, time will tell. As I indicated earlier, I am loath to get into the issue of setting targets for energy saving, because it is such a dynamic situation, and there are so many different things going on that are acting in different directions.

Jocelyn Davies: There is no doubt that we will return to this issue in the future, because we cannot have a David Grant and an Ian Knight in all of these institutions to drive it forward, so it is partly your job and responsibility to ensure that savings will be made in institutions that perhaps do not have this issue as their highest priority.

Professor Gummett: Yes.

Janet Davies: Mick Bates, you have some questions to ask on the potential financial and environmental savings.

Mick Bates: To continue on that theme, this all sounds very cosy, but, in 1996, a report produced software for performance management in respect of energy. What were the outcomes of that report for you, Professor Gummett?

Professor Gummett: Are you talking about the value for money report?

Mick Bates: Yes.

Professor Gummett: I may ask others to help me a little with this. That report has gone through the sector, and it has been adopted to a greater or lesser extent. It has been subsumed in some of the subsequent developments, and it is quite dated now. Can anyone else help by giving a bit more detail?

Mr Cowburn: The 1996 report has been overtaken by the 2003 VFM report, which was produced jointly by the funding councils. That kick-started the HEEPI project to develop the new benchmarks, and it incorporated some advice from the previous report. It also developed

a new level of sophistication in terms of what the institutions should and could be doing to improve energy performance.

Mick Bates: By how much did energy performance improve as a result of the 1996 report?

Professor Gummatt: It is difficult to tell, because so many different things are going on at the same time, such as the things we spoke about earlier. For example, there are vastly more students in the higher education sector than there were, and equipment use is vastly different from what it was. Knowing what the world would have looked like had all of those things not happened and being able to say that a certain amount had been saved would be a 'how long is a piece of string' question. It is very difficult to provide that analysis.

Mick Bates: To conclude on this issue, this report gave you the ability to look at performance, and I would have thought that, as a result of the 1996 report—no matter that it has been subsumed by other reports—you would have had a figure showing the energy-efficiency savings and the value for money. However, you do not have one.

Professor Gummatt: We do not have one at the funding council. Individual institutions may have some sense, against their own internal plans, of the level of energy saved, but it is not something that we have monitored at that level of detail in the funding council.

Mick Bates: You have not?

Professor Gummatt: No.

Mick Bates: Okay, fine. Dr Grant, do you wish to come in?

Dr Grant: I will not copy this to everyone, but this report covers the period since 1992. Because of our monitoring systems, we have that trend information available. It is important, as there is energy price variation in that period, new measures were introduced, as Professor Gummatt said, there is a different student population and different research, and so on. However, we have information to hand that covers a long period of time. It can be made available to you if you wish; it is available to the funding council. It is an important internal management tool to look at trends. We see the trends on a monthly basis, and those operating the plant have the information on a daily, if not hourly, basis. We have information that goes back to 1995 regarding our trends in water, electricity and gas use, and so on. This is all instructive information. It is the practice that I would anticipate in any organisation, whether a university or otherwise.

Mick Bates: That was very helpful, thank you very much. The only disappointment is that HEFCW has not collated that information to present a cohesive view on the basis of the 1996 report. I am not confident that what we have heard this morning will lead to real energy efficiency and savings. If I may move on to—*[Interruption.]*

Professor Gummatt: I accept that. However, going back to the point that I made earlier about staffing issues and relative priorities in the use of staff, we are in a much better position to do these things now than we were. So, expect to see things working differently in future.

Mick Bates: I am sure that we all share that aspiration. However, the Carbon Trust has been around for many years, yet only four institutions have used its free advisory service. Why have you not encouraged more institutions to do that?

Professor Gummatt: For the same reason. There has been a lack of specialist expertise to devote to driving this agenda forward as rigorously as we have driven forward other areas of estates activity.

Mick Bates: I partly accept your answer. However, in the field of higher education, one would anticipate a greater awareness of the sustainability agenda, and that you, as the focus for this, would have led—even on the basis of the 1996 report—on further energy savings. It does not seem that you have collated that information or advised people that the Carbon Trust is there specifically to offer free advice and drive down energy use. Were you aware of the Carbon Trust before this report?

Professor Gummatt: Yes, we were, and I am sure that we have advised institutions of its existence. However, we did not have the capacity to follow through on that. Just as I said earlier, and I have hopefully clarified any confusion, institutions have to make priority choices about how they develop their management effort and their capital, and so do we. We have, for example, chosen to focus more attention on providing advice and guidance about estates on disability requirements rather than on energy efficiency. You may say that it was the wrong choice, and that we should have done it the other way around, but that becomes a matter of judgment and I accept that. Given our own limited staffing resources, we have made choices about what we considered to be the most pressing areas at any given time.

So, that is the history, and that is why we are where we are. In terms of the future, we have now trebled our capacity, and gone from one-third of a person to a whole person being able to address this agenda. That puts us in a much better position for the future.

Mick Bates: Can you tell me what your current year-on-year increase is in energy usage?

Professor Gummatt: In the higher education sector?

Mick Bates: Yes.

Professor Gummatt: No, because, as has already been explained, we do not have that monitoring in place.

11.40 a.m.

Mr Cowburn: We now have the estate management statistics system developed, so, from now on, we will be able to provide information on the performance of the sector. That has been put in place now and, hence forth, we will have that information and we will be able to break it down between residential and non-residential buildings, and calculate the carbon emissions. So, there is going to be a far higher level of data available to us and the national sector, which will facilitate comparison and help to develop best practice.

Mick Bates: Do you have an estimate then of your annual increase in energy consumption?

Mr Cowburn: At present, we do not.

Mick Bates: In the report, up to £0.5 million-worth of savings was identified. Will you comment on the achievability of that level of saving, Professor Gummatt, given the lack of robust information?

Professor Gummatt: I think that it probably is achievable; the sorts of measures identified in the report seem, by and large, to be perfectly plausible and reasonable. It is a matter of the necessary attention being drawn to these measures.

Mick Bates: I certainly share that opinion. I move finally to Dr Grant. The suggestion has been made of replacing cathode ray tubes with infinitely flat tubes. Is looking at the energy rating of the appliance part of your procurement policy?

Dr Grant: Yes, wherever possible. You mention our procurement policy, but it depends on the kind of item. Clearly, in purchasing energy, as you must know, that is very important. We could probably do more in this regard. The examples that I have looked at include the procurement of large pieces of equipment, and I have mentioned the example of water cooling already, where, by putting in additional recirculating equipment, we can minimise the loss of water to waste. It may well be that we could do more on energy use when buying in equipment, by ensuring that this is one of the criteria against which we assess one piece of equipment against another. I am not aware that we do that consistently across the university, and you make an interesting point. Maybe we should ensure that there are explicit statements asking whether energy, water or other factors have been taken into account in deciding whether to procure. I am not aware of that explicit requirement in our procurement process.

Mr Allin: I think it is worth adding that the procurement process that Cardiff University uses includes whole-life costing, so it looks at every part of the cost of whatever activity is being undertaken. That is within our policy, although I am sure that we could do more.

Mick Bates: There seems to be some confusion as to whether or not it is in your procurement policy. Is there a central procurement policy?

Professor Gummatt: No, there is not, but the process that I mentioned earlier of moving towards full economic costing will raise the visibility and the salience of full-life costing for institutions. It will become a central part of that process, and will draw these matters to the front of people's minds rather than leaving them at the back.

Mick Bates: I look forward to that.

Janet Davies: Leighton, you wanted to look ahead to some possibilities and savings, did you not?

Leighton Andrews: Yes, I apologise for coming in late this morning. I declare two interests: my wife is a member of the council of the University of Wales, Bangor and I am an honorary professor at Cardiff University. It is in the nature of honorary post holders not to consume much energy or water.

I turn to paragraphs 3.21 and 3.23, which discuss combined heat and power systems. I ask Professor Gummatt what role he sees for using combined heat and power across the sector to deliver future financial and environmental savings.

Professor Gummatt: I am not an energy expert; others can speak more knowledgeably than I can about this. I read what it said in the report with interest. I note that there are some issues here about the scale and volume of use. There are statements to the effect that what would be appropriate for some institutions may not be for others. This is the sort of thing that should be looked at, and is being looked at, as I already mentioned, in Swansea. Swansea University and Singleton Hospital are doing precisely this, in looking at such an issue.

What the report says about Lampeter is also interesting. Lampeter already has such a scheme, and the fact that, among other things, it has succeeded in driving down electricity prices through good procurement practice, leaves it in a situation now where it is undercutting its combined heat and power plant. There is a certain sort of irony there. However, the serious point that one draws from that is that there is a shifting picture. One has to be careful about what is appropriate for a given institutional context or set of institutions; what may fit one may not be appropriate for another. That is something to consider, but with due and expert care.

Leighton Andrews: Dr Grant, has Cardiff University looked at the feasibility of combined heat and power, either independently or in partnership with others?

Dr Grant: There are two parts to your question. Independently, I have had discussions on that. As I am sure you are aware, combined heat and power solutions typically look for high, constant load requirements to gain the benefits of efficiency, because, typically, it is 78 per cent efficiency, compared with, let us say, 35 per cent from fossil fuel. So, there are great benefits. However, you have to look at the load utilisation on this sort of thing. One of my concerns in a university environment is that you have high utilisation during daylight hours, and low utilisation at night. From my knowledge of combined heat and power, that is frankly not a particularly good situation. There is another rather interesting practical consideration: as you well know, the Cardiff University estate exists a mile and a half alongside a railway track, and is not the ideal site for a single solution on energy distribution and supply.

You referred to the opportunity to work with partners, and that is a good point. It may be that our being adjacent to the Assembly building in Cathays park, where there are other large energy users, is a sort of opportunity. We have heard reference to Singleton Hospital and the University of Wales Swansea. So, in partnership, that sort of solution may make sense. However, on Cardiff's load at present, I am not convinced that it would be a good economic case. However, if there are means by which partnerships can be addressed, there may be something there, although I suspect that your Assembly colleagues there have a similar load utilisation to our own—it is during the day, and then you have the challenge of running this sort of equipment on part load, which is highly inefficient, overnight.

Leighton Andrews: Professor Gummett, in addition to combined heat and power, are you aware of any other developments in relation to on-site electrical generation on a renewable basis across the sector?

Professor Gummett: I will turn to Chris to see whether he can help me more in a moment. However, some—and I believe that we had an example earlier—are looking at the possibilities for photovoltaic activity. I believe that there is a case in Cardiff; there certainly is in Bangor, with the new building that is being put up jointly with the Natural Environment Research Council. However, I do not know of others directly.

Leighton Andrews: Dr Grant, are any of the university's scientific and engineering departments engaged in research into renewable energy or energy-efficient technologies?

Dr Grant: Yes, indeed. Reference has already been made to combustion research in our school of engineering. This is particularly to drive efficiency as well as low nitrogen oxides—'low-NOx combustion' is important, as is efficiency. We have work on thermal generation on a variety of methods. One interesting area that does not get enough national attention is the supply and distribution network of electricity in the UK. It is about 92 per cent efficient, so you start with a thermal power station that might be 35 or 36 per cent efficient, and then you have a distribution system that is about 92 per cent efficient. Transformer core technology goes back a century or more and most of this power is lost in the core of a transformer.

11.50 a.m.

In Cardiff University, we have the Wolfson Centre for Magnetics Technology, which works on what seems like the very boring technology of transformer core materials. Yet, if you look at transformer core materials on a national basis, by improving the efficiency by a few percentage points, you make a huge difference nationally in the use of energy. Solutions like that should be addressed for the future. So, magnetics is one example, but there are many other opportunities—it is a big agenda. Cardiff University has an opportunity to work through the Office of Science and Technology or the Engineering and Physical Sciences Research

Council on its new energy agenda, because we have a lot of contributions to make. On behalf of colleagues up the road in the University of Glamorgan, I will just say that the hydrogen work that is going on there is also very important. The hydrogen economy has to come in some way.

Leighton Andrews: Do you see any of those applications being relevant or useful to your own consumption demand in future? Do they have practical applications for your institution?

Dr Grant: Other than for experimental purposes, I do not see it as something that we would do independently of others. The economic situation with regard to the provision of power is a complex issue. We are not big enough, frankly, as an institution to gain some of the benefits. This is where your earlier statement on working in partnership with others is so important. Let us say that the public sector came together in this sort of thing, then you can then consider genuinely different and sustainable solutions. You have to work in partnership to gain these benefits.

Janet Davies: We are reaching the end of this evidence-taking session. I will conclude by asking both Professor Gummatt and Dr Grant to give a very brief outline of what actions they will take in response to this report, Dr Grant in Cardiff University, and Professor Gummatt across the sector.

Dr Grant: I think that I have already referred to the fact that we will set up a working group to address the report's recommendations. I have referred to a number of them that draw to our attention not just the specific opportunities for Cardiff University, but examples of good practice, and, indeed, poorer practice, in other institutions in Wales. So, this working group will be set up immediately to address all of this report and to bring it to the attention of a wider group of people in the institution.

I also think that I might, through Higher Education Wales, be able to work with colleagues—other vice-chancellors—to see whether we can do something as a group. Just as we have groups looking at other areas, such as procurement, estates and related issues, maybe we can assemble a group of people on this issue. So, I will take action to do that. As Professor Gummatt said earlier, he has most solidly drawn the attention of the vice-chancellors and the chairs of governing bodies to how important this matter is, and I think that I will find enthusiasm among vice-chancellors to address it as a group and with our individual managers who have everyday responsibility for these matters, whether we call them managers or not. We can get these people together and see how we can share best practice. This report is a very good basis on which to hold these discussions.

Professor Gummatt: What happens in Cardiff University is extremely important for the higher education sector in Wales as a whole, not just because of the kind of leadership that we have heard about in terms of good practice in this area and the capacity to diffuse that, but also because, while we may think of Cardiff, at one level, as being just one of a large number of institutions—there are 11 others—Cardiff is actually about 35 or 36 per cent of the higher education sector. So, getting things right in Cardiff gets a large part of the higher education sector in Wales right.

In terms of providing a more direct answer to your question, Chair, I will just refer to the recommendations to the funding council and say how we react to those in conclusion. I think that, on the issue of having a dedicated water and energy manager, we have heard discussion about whether having someone with precisely that title is necessarily the most effective way to move forward. However, we shall certainly be expecting and wanting to see evidence from all institutions on access to the necessary expertise to ensure effective management. So, we will be using our more active monitoring processes to ensure that that is the case, and we will be following that up with each institution to ensure that that is the case.

On the recommendation about developing an energy and water policy, we would accept that in general terms. We had a little bit of debate earlier about whether having a policy is necessarily the answer or whether it is delivery that is really the point. I think that it is there that we would rest. We would expect the estates' strategies, which we will again be looking at more actively, to be covering this area, and we will be looking explicitly for that evidence; it will not just be left there rather vaguely. We will be following that up again with those institutions that do not have any recognisable activity that we may call a policy, to agree a timetable for preparation or to ensure that they are fully covered in some way.

On the third recommendation on setting aside specific funds for investment and this notion of 10 per cent, I think that our feeling there would be that there is sometimes a danger in ring-fencing a sum with a label of this sort, because it can be set aside and someone will use it at the end of the financial year for something or other come what may. We think that it is much more important to have effective estate strategies with a clear emphasis on energy and water use within them, to be effective in terms of the controls and the planning that goes into new buildings and the disposal of old buildings, and to ensure that full economic costing is biting in terms of how these processes are taken through. We are not quite there yet, as I explained a moment ago, but we will be in a position to monitor consumption in a way that we have not been in the past through the higher education estate management statistics process, and then we will be able to have a dialogue with individual institutions about what that monitoring is showing us. So, we are not quite there, but we will soon be at the point where we will have that data and we will be able to do that work.

On the issue of the 10 per cent, I think that I would rather view it as saying that we would like to see institutions achieving investment of at least that order, not necessarily by setting aside a budget labelled as that, but by showing us how they are actually making investments of at least that order. They may not be labelling it energy saving, but it will be there within their building plans and so on, and it needs to be identifiable.

I agree with the recommendation to adopt management systems to monitor and target. We will be following that up with institutions in conjunction with the Carbon Trust in a more active way than hitherto.

Janet Davies: I thank you all for your helpful and courteous replies, which I hope will enable the committee to produce a good report in due course—it will take a little time, but it will eventually be produced. As I said at the beginning, you will receive a verbatim report quickly, so that you can check it for accuracy. If you have any problems, please get back to Kathryn, the committee clerk.

11.59 a.m.

**Rhaglen Archwiliadau Gwerth am Arian Derfynol 2005-06
Final Programme of Value-for-money Examinations 2005-06**

Janet Davies: Jeremy, can you come in on this, as you have taken over from Sir John Bourn? Naturally, there will be some alterations.

Mr Colman: You quite rightly say that I have inherited this programme from my distinguished predecessor. However, as I say in the note, that has not been a passive process for me; I have actively adopted this programme. It is slightly different from the draft that was discussed a few months ago, not as a consequence of my intervention, but for the reasons set out in the paper. It was either not convenient to take particular subjects at a particular time, or particular aspects of a subject have come to the fore, and therefore the programme is as set out here. Particular attention has been paid to the extent to which this programme is consistent

with the efficiency agenda in 'Making the Connections'. In one sense, it must automatically be so because the whole programme is directed at improving value for money in public services in Wales and that is precisely the aim of 'Making the Connections'. In the detailed description of each project, the paper sets out a little more clearly how each one is intended to lead to improved efficiency. So that is the programme.

12.00 p.m.

On my approach to a programme of value for money studies, I am emphatic that a programme of work of this kind should not simply be a list of projects, but a list of projects with a rationale, and that rationale should be related to a strategy. Over the coming months, Wales Audit Office colleagues will be developing strategies for the various sectors of our business. Therefore, on future occasions, you can expect to see, and I would welcome comments on, the strategy that we will be adopting for the selection of topics for inclusion in the work programme. I would be happy to take any questions on the paper.

Janet Davies: Are there are questions? I see that Members are content with the programme.

12.01 p.m.

Cod Ymarfer Archwilio ac Arolygu The Code of Audit and Inspection Practice

Janet Davies: I understand that this code is mandatory or statutory, whichever is the right word.

Mr Colman: 'Yes and no' is the answer to that. I have a statutory requirement to issue a code for the regulation of the activities of appointed auditors in the local government sector. It could have been left at that, but before I came on the scene, a decision was taken that if it was good enough for them, it ought to be good enough to guide my staff in carrying out audits across all public services. I think that it is true to say that this is the first time that such a code has been developed in the United Kingdom. I recognise that the title of this document is not one that is likely to excite huge enthusiasm, but among those who read these things, this is regarded as really rather a good code and I commend it to the committee. I am happy to take any comments and questions on it, but procedurally the committee need only note it. The code will be laid before a future Plenary meeting of the Assembly for formal adoption, but there it is for now.

Janet Davies: Does anyone have any comments to make on the code? I do not think that it is really for us to alter, but it will go before Plenary in the near future.

12.03 p.m.

Cofnodion y Cyfarfod Diwethaf Minutes of the Previous Meeting

Janet Davies: Do Members accept that the minutes of the last meeting are correct? Are there any comments? I see that you are happy with them.

*Derbyniodd y pwyllgor gofnodion cyfarfod 3 Mawrth.
The committee ratified the minutes of the meeting of 3 March.*

Cynnig Trefniadol Procedural Motion

Janet Davies: At this point we need to bring the public part of the meeting to an end. I ask a

Member to propose the appropriate motion.

Carl Sargeant: I propose that

the committee resolves to exclude the public from the remainder of the meeting in accordance with Standing Order No. 8.24 (vi).

Janet Davies: I see that the committee is in agreement.

Derbyniwyd y cynnig.

Motion carried.

Daeth rhan gyhoeddus y cyfarfod i ben am 12.04 p.m.

The public part of the meeting ended at 12.04 p.m.