Gwastraff a Llosgi—Sesiwn Tystiolaeth Lafar
Waste and Incineration—Oral Evidence Session

[127] **William Powell:** We now move to our consideration of P-04-341, the waste and incineration petition. I welcome our first panel of contributors this morning. We have Mr Rob Hepworth, Mr Haydn Cullen Jones and Mr Tim Maddison. Mr Hepworth, I believe that you are going to do a short presentation ahead of our scrutiny questions on this matter. Is that correct?

[128] **Mr Hepworth:** Yes, and perhaps another very short one from Haydn, as well, if you can accommodate it.

[129] **William Powell:** Absolutely. Apologies for the delayed start of this item. We had a packed early agenda but we are with you now. Apologies for your having to wait upon us.

[130] **Mr Hepworth:** Bore da. As petitioners, we very much applaud your decision to take further evidence on this, because, although our petition focused on south-east Wales, the issue of mass burn waste incinerators is of countrywide importance. Although there are constant protestations about being neutral on the technology, senior officials in the Welsh Government, agencies such as the Environment Agency Wales, and some local authorities—those who set the policy agenda and the financial playing field for waste disposal—are strongly predisposed towards incineration. Their intention and that of the multi-national waste companies who will win the contracts is that each region of Wales will have one or more mass burn incinerators. These will transform all the black bag waste in Wales, as we would see it, into airborne chemicals and ash for the next 25 years and beyond, while producing surprisingly small amounts of energy. Prosiect Gwyrdd is simply the first in the line.

[131] We are aware that the Petitions Committee has some, but obviously limited, powers, in this area. We would just like to venture two suggestions at the outset. The first suggestion is that you might want to encourage Ministers to consider commissioning further research on the implications of incinerators for health, recycling and greenhouse gas emissions. Secondly, you might want to consider whether mechanical and biological treatment, which has far lower upfront costs, should be supported as the right interim response to Wales's residual waste over the next 10 years until the results of further research and technical innovations, such as plasma gasification, are available.

[132] You will have seen our written submissions and we have set out our case that the evidence does not support incineration in at least five areas: health, cost, recycling, employment and climate change. We stick to our case, and we would point out that as new studies of research emerge they tend to cast more doubts, particularly on the words that come from rather anonymous officials in bodies such as the Health Protection Agency, behind which I think that many of the political decision-makers on this try to shelter.

[133] We would just re-emphasise two of the most recent studies today. The first is the new Italian research by Dr Candela, published in November last year, which is part of a series studying the impacts on the local population of six modern waste incinerators in Italy. Italy, of course, is subject to the same European legislation on air quality and incinerators as Wales. That particular study shows significant relationships between exposure to incinerator emissions and stomach, pancreas and other forms of cancer. There is a steady flow of such findings. The Health Protection Agency's own volte-face in January this year on area studies—in January it said it was going to commission new work on birth events around UK incinerators, having previously said that it did not think further studies of that type were worth conducting—tends to suggest that even bodies such as the HPA are beginning to wonder whether there are real risks to the public. One is reminded, perhaps, of the steady flow

of evidence on the damage, some years ago, of smoking on health, which were initially resisted officially, but eventually accepted in full.

[134] Secondly, and we might come back to this, we once more draw the committee's attention to the SNIFFER—Scotland and Northern Ireland Forum for Environmental Research—report on particle emissions, which was published by a partnership of the relevant agencies in the four UK countries in December 2010. I will not say more than that because we have emphasised it twice in our evidence.

9.45 a.m.

[135] However, we feel that it is important that that report is looked at properly, because of the evidence that it shows about millions of lives being shortened by particle emissions. These include particles from incinerators. We do not accept the argument that, because there are different sources of particles and other processes in incineration, we should somehow not worry about incinerators, especially when alternatives to incinerators exist, such as mechanical and biological treatment.

[136] Finally, before handing over to Haydn, I would just like to draw the committee's attention to one fact: the United States of America has not built a new incinerator since 1995, 17 years—

[137] **Russell George:** Sorry, but some of us cannot hear you. I think your microphone is not working. Could you just pause a moment?

[138] **Mr Hepworth:** Yes. Would you like me to go back?

[139] **William Powell:** Yes. The microphone just failed at the end there.

[140] **Mr Hepworth:** I would just like to draw the committee's attention to a final point, which is that the USA has not built a new incinerator since 1995. That is 17 years, and hundreds of incinerators in the US have closed in that period. That is a major statement from one of the world's biggest economies and waste producers. Very tough legislation in the USA has certainly improved the health of thousands of people and may indeed have saved their lives. I would now like to hand over to my colleague, Haydn Cullen Jones.

[141] **William Powell:** Mr Hepworth, could we come in with a couple of questions here?

[142] **Mr Hepworth:** Of course.

[143] **William Powell:** You have addressed what I wanted to ask you about regarding the concerns that you expressed in your written evidence about the Welsh Government's current approach. However, I know that Joyce wants to take up a couple of issues to do with the evidence base.

[144] **Joyce Watson:** Thank you, Chair. A lot of this has also been addressed.

[145] Mr Hepworth, what feasible alternative methods of waste disposal would you recommend to allow local authorities to dispose of non-recyclable municipal waste? That is my first question. I also want to address your statement about the USA closing incinerators. Does this refer to like-for-like incinerators? In other words, are the incinerators being proposed the same as the ones that are being closed?

[146] **Mr Hepworth:** Perhaps I can answer the second part first and then ask my colleague to answer the first part. On the question of US incinerators, my understanding is that they are

more or less like for like and that the companies that are tendering in Prosiect Gwyrdd and elsewhere will—if you press them—accept that the incinerators that they are proposing for Wales would not be acceptable under US legislation.

[147] **Mr Jones:** As regards an alternative, MBT is the preferred solution from our point of view, principally because it is not so long term. In the context of the precautionary principle as far as finance is concerned, we would be committing ourselves to what the former Minister, Jane Davidson, admitted was an interim solution to the landfill problem, for 25 years. That would effectively cap our recycling targets in Monmouthshire, in terms of how they are presented at the moment, at 76%. So, in the remaining seven years, from 2043 to 2050, if we are going to get to zero waste by 2050, we would have to make up the other 24%, which seems like an amazing way to proceed with what is an interim solution.

[148] **William Powell:** I know that Bethan is coming in with a question in a moment. Mr Maddison, would you like to add something?

[149] **Mr Maddison:** Yes. There is an additional thing that may be happening, although we see no evidence of it. I think that everyone would agree that landfill taxes have been hugely successful. So, why are you not introducing rapidly escalating taxes on residual waste, over a period of, say, five years? The problem would then be gone.

[150] **Bethan Jenkins:** My question is on Prosiect Gwyrdd. The evidence that you have given us shows clearly that the councils have all come together in a democratic way to put forward these ideas. You seem to disagree by stating that this is not a localised way forward for this type of development. We have had evidence from Terry Evans stating that 25-year contracts for incineration can be problematic because you are tied in for so many years when new concepts and technologies could be coming forward. What is your view on Prosiect Gwyrdd, and the fact that it has been a democratic process?

[151] **Mr Hepworth:** I have less experience of it than my colleagues, so they may want to add to what I say, because they have seen Prosiect Gwyrdd emerge. I am a community councillor and have been working on it for about a year, but my experience of it has not been very favourable. The difficulty with such partnerships is that the line of responsibility is difficult to pin down. That means that, to a large extent, the officers drive these partnerships forward. They seem to have been driving it forward with one agenda, namely the 25-year contract. On ending up with a 25-year contract for incineration—and I will leave this point hanging because Tim Maddison may want to say something on it—would you be willing to commission a commercial service like that for 25 years while technology is developing? There are clear doubts about a number of aspects, not just in relation to health, but also the effect on recycling and carbon emissions. The alternative technology, mechanical biological treatment, in particular, is cheaper and more flexible and does not involve 25-year contracts.

[152] **Mr Maddison:** I think that you have covered it.

[153] **Bethan Jenkins:** The other part of my question was about the fact that the Environment Agency and the Welsh Local Government Association have stated that no study has shown conclusively that there is a link between incinerator emissions and public health. You mentioned briefly that independent health assessments have so far not shown a clear link. What is your view on that? You have mentioned what is happening in Italy, but if they are saying that they already have enough robust evidence then what would you say in response?

[154] **Mr Maddison:** In the Scotland and Northern Ireland Forum for Environmental Research report in 2010, on, I think, pages 5 and 6, it is made clear that some people—it estimates 10% of the population—will lose between five and 10 years of their lives due to particulate matter less than 2.5 micrometres in diameter. That equates to six million people

and does not account for the years before they die, when they are ill. Therefore, there is a massive cost, which is one of the reasons why American incinerators have been closed down by the environmental protection agency in America. The SNIFFER report is independent and without bias. The Environment Agency was part of that committee and it is quite adamant. Is it not madness to add to the load of those particles? It may be only a small amount coming from the incinerators, but it is a deadly amount.

[155] **Bethan Jenkins:** So, you would say that the Government needs to commission research and that you would want it to be fully independent. Who would you want to carry out new and independent research in this area?

[156] **Mr Maddison:** None of us here is a medical specialist. You will want to take further advice on that. We are aware of people who are capable of conducting this kind of research, and people who are capable of doing so in Wales. There is quite an issue, because the Health Protection Agency, as I understand it, has just been abolished under Mr Lansley's Act. You might want to look at that. My understanding is that the HPA's responsibilities in England will be exercised by Mr Lansley's ministry. In Wales, there is a question mark. I am not sure what the position is in Wales. However, it all points to the fact that, within Wales, it is vital that research is done, particularly if, despite the evidence we are giving, the Government is intent on building energy-from-waste incinerators throughout the country. This is an opportunity to conduct research rather than relying on an agency that has been abolished and the future shape of which is uncertain.

[157] **William Powell:** Thank you very much. We have captured all of that. Russell, I believe you have a final quick question. Apologies again for the pressure on time.

[158] **Russell George:** I was going to touch on another area, but I will skip that as I know we are pressed for time. However, could you expand on your evidence paper with regard to your concerns about the disposal of ash from incineration? Perhaps you could also say what you see as the alternative to sending ash to landfill.

[159] **Mr Hepworth:** Ash is a very important issue that sometimes gets lost in the debate because people talk about incineration as though it is the ultimate solution and that is the end of it. Quite apart from the fact that there is stuff going into the air, 25% to 30% of it is still ash, either as incinerator bottom ash or as the much more dangerous flue ash or chimney ash. That very small proportion of the ash—about 3%—is toxic, and that will have to be disposed of elsewhere. There is an issue there again for Wales because there is not a suitable disposal site in Wales, so, as it stands, it will have to go to England. I think that there is one site in Cheshire, but it will have to be transported over substantial distances, and there are obviously concerns about that process. However, the vast majority of the ash is the bottom ash, which can be toxic and which must be subject to batch testing by the EPA to check what is in it. Allegedly, that is going to be reused for aggregate, but there seems to be a surplus of ash to meet demand. There is every prospect that, whatever companies may say when they are bidding for contracts, a substantial proportion of this ash is going to end up in landfill. I do not know whether either of my colleagues have anything to add on ash.

[160] **William Powell:** Mr Hepworth, I am extremely grateful for the focused way in which you have approached the questions today. Perhaps we can get back in touch if we have further questions. We have an additional three panels of witnesses this morning to address the issues you have raised in the petition. We have found the session extremely helpful. We also have an additional evidence session on this on 1 May, which will include Friends of the Earth and other health experts. I hope that you will feel that this matter is being dealt with thoroughly. I apologise again for the pressure on time this morning, but we have the opportunity to get back in touch with you. We are extremely grateful to you for coming here this morning to answer our questions so comprehensively.

[161] **Mr Hepworth:** Thank you. We are very pleased to have been here.

[162] **William Powell:** I welcome our next witnesses. Thanks very much for joining us this morning. Tim, may I ask you to introduce the rest of the panel please? We look forward to asking our specific questions on this important petition.

[163] **Mr Peppin:** Thank you very much. I am joined this morning by Rob Quick, who is the director of environmental and economic regeneration for the Vale of Glamorgan council and the senior reporting officer for Prosiect Gwyrdd, and Mike Williams, who is the project manager for Prosiect Gwyrdd.

[164] **William Powell:** Excellent. Thank you very much indeed. I will kick off straight away as I am conscious of the pressure on time this morning. How do you respond to the view expressed by the petitioners that Prosiect Gwyrdd and its preferred proposals for incineration are based on a faulty evidence base?

10.00 a.m.

[165] **Mr Peppin:** In what areas are they saying that the evidence is faulty?

[166] **William Powell:** They are disputing some of the data. We will clarify the detail of their assertions in a moment. In the meantime, we will turn to Joyce Watson's question on waste technology.

[167] **Joyce Watson:** Why do you say that the Welsh Government has limited your choice of waste technology?

[168] **Mr Peppin:** We have said that the Welsh Government has issued guidance and recommendations on its preferred way forward. What it has put forward is in line with European directives that govern the way that everyone has to operate on this issue. The position that the Welsh Government has taken is that in light of all available evidence it has come up with a blueprint, which it believes is the best way of dealing with this issue. It has told local authorities, 'We would like you to adopt these ways of working. If you think that there are better ways of doing it, we are happy to listen to those proposals, but we would need to be satisfied that what you are proposing is at least as good as what we have in our blueprint'.

[169] **William Powell:** Coming back to the issue that I sought to raise earlier, one of the key issues that I was alluding to was the petitioners' assertion that incinerators will exacerbate carbon issues rather than reduce them. Do you accept that criticism or do you seek to rebut it?

[170] **Mr Peppin:** This issue needs to be looked at in the round, alongside all of the proposals for dealing with waste. The position is that we are aiming to recycle 70% of waste. So, 70% of the waste stream will be taken out and recycled, which is obviously a much better way of dealing with waste materials than sending them to landfill or burning them. The 30% that is left is what cannot be recycled or composted. Under the proposals, the food waste will be taken out and sent to anaerobic digestion plants. Once you take 70% of the waste out, you have 30% left, which is what is proposed to be dealt with, in this case, via the energy-from-waste scheme, which has a high level of energy efficiency when the waste is burned. So, it will be a highly energy efficient solution. Analysis has shown that to be a carbon efficient method of dealing with waste. If you were taking all of the waste to be incinerated, it would be a different thing altogether. It is a question of looking at the entire solution, and not just at incineration, and asking how it stacks up.

[171] **William Powell:** Thank you for that clarification. Bethan, I think that you wanted to explore the situation in Caerphilly.

[172] **Bethan Jenkins:** Yes and, once again, I will make reference to the letter that we have received from Terry Evans on behalf of the United Valleys Action Group. He insinuates in his letter that Caerphilly County Borough Council was financially pressurised into joining Prosiect Gwyrdd, despite it being nine months into the procurement process for MBT technology. What is your opinion on that?

[173] **Mr Peppin:** It would be for Caerphilly council to detail why it decided to change course. My understanding is that, having investigated the MBT route that it was pursuing and having looked at the affordability of it, the council changed course. It had gone out early in search of a one-authority solution; we are now seeing authorities collaborating on their waste proposals. By working with other partners, there was a more affordable way forward that spread the risks. By working together, they achieve economies of scale and can share risks. In light of all the available evidence, rather than carrying on down the route it was on, Caerphilly identified that there was a more affordable solution working with other authorities.

[174] **Bethan Jenkins:** I am asking on a general basis because I thought that Prosiect Gwyrdd included other local authorities and that you would have had discussions with Caerphilly regarding this issue.

[175] **Mr Quick:** May I respond to that, Chair? You are right that Prosiect Gwyrdd comprises five authorities: Caerphilly, Vale of Glamorgan, Cardiff, Monmouth and Newport. Your quotation seemed to indicate that Caerphilly was forced into joining that consortium. The point that I would stress this morning is that all five authorities voluntarily entered the collaboration that is Prosiect Gwyrdd, and the progress of the project is reported back regularly to the parent authorities. So, all key decisions are not made by Prosiect Gwyrdd, but by the parent authorities. When we get to the stage of choosing a preferred tender for the project, it will go back to each council to consider individually. There is a joint committee of members on which there are two members from each authority and it has regular reports as the project goes through. So, any implication that, once this project gets going, it has no democratic control or proper governance is not true. Part of my job and part of the job of my colleagues on Prosiect Gwyrdd is to go back continually to the parent councils to ensure that they are fully aware of the risks and advantages of any decisions they are making.

[176] **William Powell:** Is there officer and member involvement in that governance?

[177] **Mr Quick:** In a sense, it is both. The primary governance is the joint committee, which is a member committee. There are two councillors from each authority on the joint committee, and they tend to represent the finance and the environment portfolios, so they are important members within the administrations and the executives of their councils. There is also an important parallel scrutiny system. We have a joint scrutiny committee, again with representatives from all five authorities. Only two weeks ago, it looked in detail at some of the issues that were raised by the petitioners today about energy from waste and other technologies. Again, it will be interesting to see what comes out of that process. I am mentioning this to Members because it is another indication of the transparency of the process that has been adopted in Prosiect Gwyrdd.

[178] **Bethan Jenkins:** For the record, the United Valleys Action Group says that Caerphilly council's process of choosing MBT was 'stopped by the Welsh Assembly'. So, that is not true; it was a voluntary process for it to park that to one side and progress by other means.

[179] **Mr Quick:** I cannot comment on that, because I do not know what the circumstances

were. They were well before my involvement and, to be honest, only Caerphilly could answer that directly. None of the representatives at the table are from Caerphilly council so, in all fairness, I do not think that we could answer that. The point I am trying to make to Members is that it is a voluntary set-up and there are clear governance and democratic controls as the project progresses.

[180] **Bethan Jenkins:** The other issue is that you have stated in evidence:

[181] 'It is misleading to suggest, however, that there are alternatives to landfilling that do not involve burning.'

[182] Can you expand on that?

[183] **Mr Peppin:** The survey asked for views on landfilling and on burning, and the petitioners suggested that we should have asked about more options there. There are ways of dealing with waste other than incineration, such as MBT, advanced heat treatment, pyrolysis or gasification and so on. However, in all those alternative treatments, an element of burning is involved. With MBT, for example, after you have done the churning around to take out the stuff that, in actual fact, we are already taking out in Wales, because the recyclate and the compost come out, you are left with a residual fuel source that then goes for burning. So it still involves an element of burning. To suggest that there was another question to be asked is misleading.

[184] **Russell George:** I want to ask about the modelling tools. There are some questions about the accuracy of the modelling tools used. The petitioners believe that the waste and resources assessment tool for the environment modelling that you have used is only 30% accurate when predicting pollutant levels. How do you respond to that?

[185] **Mr Williams:** Any model deals only with the inputs. It has some embedded assumptions, and it will deal with inputs that you feed in at one end; it processes them and gives you the outputs. So, all models have an element of assumption and an element of error embedded. The tool that you refer to is WRATE; it was developed by the Environment Agency and it is regularly updated. Its use in the UK waste sector is regarded as best practice. So, there will be others who would want to put forward other models, but, generally, WRATE is seen as the best in class.

[186] **William Powell:** Moving to the wider issue of public understanding, the Welsh Local Government Association in its evidence paper suggests that, despite the overall instincts that the public has in relation to this, there is still a quite big information gap in this area. What could usefully be done to address this and to improve the public's overall understanding of the options available?

[187] **Mr Peppin:** Going back to what I said earlier, when we look at information for the public, we need to look in the round at the whole waste issue we are dealing with. First and foremost, there is information that needs to be conveyed to the general public about waste prevention. The top of the hierarchy is stopping waste being created in the first place. There is then the encouragement of recycling. There is excellent performance in terms of residents taking part in recycling schemes, and we want to see as high a level of recycling as possible. Then there is the issue of public understanding of why waste treatment facilities are needed. If there are concerns about health issues, it is important that the messages are conveyed and that people's minds are put at rest on why these facilities are needed and why the particular sets of solutions that we are going forward with have been chosen. There is a range of messages that we must get across, which are about the whole treatment of the waste process. As I say, the really important message is about changing behaviour. It is about encouraging people to recognise that high consumerism is the root cause of much of the high levels of waste created.

We need to start looking at that in a different way. There is short-term purchasing, with people throwing stuff out and expecting councils to take it away and deal with it. Part of this is about stopping that waste being created in the first place. If we can tackle that end of things—

[188] **William Powell:** We need a culture change.

[189] **Mr Peppin:** Yes.

[190] **Joyce Watson:** You are the second set of witnesses, and I want to explore some of the things that were said by the first set of witnesses. There were two things that I feel everyone would gain from an understanding of. It was claimed, by evidence apparently, that the USA is closing down its incinerator plants because of the high health risks. I asked the previous witnesses whether we were talking about like for like, and they said that we were, so I would like you to answer that criticism, because it is hugely important. The other point that was made was about the residual ash from the incinerator process, and the fact that it is toxic, it would have to be shipped out to be dealt with in England and all that goes with the shipping of allegedly unsafe toxic ash. We really to know the answers to those two critical questions.

[191] **Mr Williams:** On what is happening in the US, we are not aware that incinerators are being closed down in the US, and we understand that that is not the case. I cannot give any specifics about whether it is a like-for-like basis or whether it is a case of old ones that do not meet newer standards being closed down.

10.15 a.m.

[192] During the process, we had a US company working on this, and it referred to all its plants in the States that were active and not being shut down. Apart from that, I cannot give you any more information. I do not know whether colleagues can.

[193] On the residual ash, there are two elements. One is the bottom ash, and our aim with that is to ensure that we have 100% recycling, meeting the appropriate standards. That will meet civil engineering standards and be utilised in road construction as a substitute secondary aggregate. We are confident that that will be achieved safely and in an environmentally friendly way. The other element is fly ash, which is about 3% or so. That is hazardous due to its alkalinity. Lime is added as part of the process to neutralise some of the acid gases, and then it goes through a filter so that the majority of the material that comes out is lime, but it also contains the majority of the particulates that would otherwise go into the environment. That is classed as hazardous; not by nature of its toxicity, but by nature of its residual alkalinity. So, it would be labelled as caustic material.

[194] We want to see all materials recycled, so we are pushing hard for recycling and have just put a recycling clause in for this material. The current proposals are that it is likely that this material will be packaged and taken to a Cheshire salt mine to be stored. What we are looking to put into the process is this: if it is stored, it will be stored in such a way that, when recycling technologies become available, we might be able to recycle it. The idea is that it will be subject to transport and all those issues, but it is a small amount of material and we are pushing to ensure that it is recycled for maximum environmental benefit.

[195] **Joyce Watson:** You say that it is a small amount, but we have to seek as much information as we can about what a ‘small amount’ is. What are we talking about? These are the issues that are really worrying people out there, and it is our job to address those concerns.

[196] **Mr Williams:** It is 3% of the material. I could do a fag-packet calculation, but I would probably get it wrong. I can get back to you on that with the actual tonnage figures.

[197] **Joyce Watson:** That would be useful. If you can get back to us with the information on the US incinerators that are operating, that would be useful, too.

[198] **William Powell:** We have a final question from Bethan.

[199] **Bethan Jenkins:** Yes, and it is a very short question. We heard in earlier evidence of a call for new independent research into the health impact. You have said that the health impact assessments show that it did not have a significant impact on health, but you also say that the risk to health cannot be ruled out totally. Do you think that there would be a benefit in having further studies into this?

[200] **Mr Peppin:** A number of studies have been done, and they all say that it is virtually impossible to make that link, because of the nature of other risks present in the environment. You cannot categorically show what is causing what. Equally, you cannot categorically rule out a health risk. So, the studies have been unable to come to a definitive conclusion as to the impact. What they have said, however, is that because it is so difficult to make that link, they cannot see any—what is the term?

[201] **Mr Williams:** The term that we got from the Health Protection Agency was that there is no detectable impact on local health. They cannot detect it, but just because they cannot detect it, it does not necessarily mean that it is not there, which is where the science confuses the language.

[202] **William Powell:** I thank you for keeping your answers so succinct this morning and for agreeing to follow up a number of the issues raised—there may be others that we have cause to reflect on and come back to you on in light of sessions still to come. Thank you very much indeed for your time this morning; we will be back in touch.

[203] I now welcome Julie Barratt, the director of the Chartered Institute of Environmental Health, and Matthew Farrow, the director of policy for the Environmental Services Association. Good morning, both. Would you like to make an opening statement or shall we proceed straight to our questions? How would you like to proceed?

[204] **Ms Barratt:** I am more than happy, subject to the document that we have written being available, to proceed straight to the questions.

[205] **William Powell:** Excellent. That is what we will do.

[206] In your view, is there any validated scientific evidence that an incinerator plant operating within the UK's established regulatory framework can cause harm to human health? This question just pursues the issue that we were addressing at the end of our previous session.

[207] **Ms Barratt:** The Chartered Institute of Environmental Health has no evidence of its own—I should make that clear. We rely on the evidence of the Health Protection Agency, provided in a paper that I think I have forwarded to you on the impact on health of emissions into the air from municipal waste incinerators. That paper was dated September 2009 and was reviewed in 2011. We share the view of the Health Protection Agency that a modern incinerator, properly run, and subject to the statutory regulation regime of the environmental protection regulations on emissions, poses no detectable risk to health. As Tim said earlier, the absence of evidence is not evidence of absence, but it is as close as we can get. The current state of science and technology would suggest that there is no detectable risk to health.

[208] **William Powell:** Are there any international comparisons? Is there any evidence available from the United States of America, where there has been quite a lot of use of this technology?

[209] **Mr Farrow:** The short answer to your opening question is that we are not aware of any evidence that shows any health impacts. It is important that the debate about health—and I can understand why you are keen to explore it—is based on science. I should make it clear that the ESA, my organisation, is not a scientific organisation. We represent the waste management sector. I am conscious that people might be dubious about assertions made by a trade body. So, we thought that the best contribution we could make to the debate, particularly bearing in mind that the project scrutiny panel is undertaking a specific inquiry into health impacts, was to commission an independent consultancy, AEA Technology, to review all the latest evidence it could find in terms of any association. I think that, in my letter to the clerk, I referred to our report, which was submitted to the scrutiny panel. If you do not have a copy, I am very happy to submit one.

[210] If you are receiving further evidence, I am very happy for the author of that study to give oral evidence, as he did to the project scrutiny panel. In the study, he looked at evidence from the UK and across the world, from countries such as Brazil, Italy and Japan. He found that, first of all, emissions from modern energy-from-waste plants make up only a tiny proportion of background emissions. So, for particulates, the studies that are out there seem to show that EfW plants contribute around 0.04% of particulates in the atmosphere. I think that, for dioxins, it is about 2%. He also found studies showing that, in modern EfW plants, the filters on the flue gases capture 99.99% of all particulates. In terms of any link with health impacts, he could not find any robust, peer-reviewed studies that showed an identifiable link between an EfW plant and health impacts nearby.

[211] He found one study in Japan from around 10 years ago that showed an association, but that was for an incinerator emitting dioxins at a level that was 800 times higher than the permitted levels under the European regulatory system. So, certainly, we could not find any evidence that suggested a link. I am very happy to send you a copy of that report and to ask the author to come to give evidence to you if you felt that that was appropriate.

[212] **William Powell:** Thank you very much for that. To what extent have there been advances in recent years in terms of the safety record? You referred to a study from 10 years ago; do the changes relate to advances in technology or other issues?

[213] **Mr Farrow:** That particular study was a study of a plant in Japan, where they have a different regulatory system, and, quite clearly, although I do not know whether it was an old incinerator, the emission levels were 800 times higher than would be allowed in the UK. It is important to distinguish between current and historical evidence. If you go back to the 1960s, for example, there was very little regulation of incineration in the UK and so it is reasonable to assume that emission levels were much higher in those days, whereas today, there is very tight European regulation. Again, the evidence that was scrutinised by AEA Technology—the consultancy firm we used—found, for example, that modern EfW plants are emitting about one tenth of the particulates allowed under European law. The limit is set in European law and modern incinerators and EfW plants emit 10% to 20% of that limit, so well below what the European Union sees as a safe limit.

[214] **Joyce Watson:** Following on from previous evidence this morning, I will ask the same questions in the name of fairness. You have talked about particulates and we have evidence that supports everything that you have said, which is fine. The other issue that was raised this morning that I cannot see mentioned in anybody's report is the issue of residual ash and its transportation and safe removal and everything else that goes with it. We now know it exists. People want us to ask you whether it is going to be removed safely, if that can

be done, and if it is going to be safe in transit to wherever it is going.

[215] **Mr Farrow:** There are two types of ash, as some of your previous witnesses were saying. First, there is the ash from the filters that filter out contaminates from the flue gasses and that is hazardous and would be transported to a hazardous landfill site. I am not involved in the project myself or the bids, so I cannot give you the data on that. I think the previous witnesses said that they might come back to you with data, but I would certainly assume that any local authority procuring an energy-from-waste plant would require assurances that that hazardous ash would be dealt with under Environment Agency permits and taken to a hazardous waste landfill site. That ash is only 1% perhaps of the material that goes into the plant. The bulk of the ash is what is called bottom ash—what is left over at the bottom of the furnace—and that has to be tested to ensure it does not contain any toxic contaminants. Again, there are European and Environment Agency guidelines and methods for testing that. As a trade association, we have worked with our members to ensure that they test that in a robust way. Provided it can be demonstrated through the testing that the ash is not hazardous, it is often used as an aggregate substitute. So, in London, for example, bottom ash from an EfW plant called the Riverside plant is being used as a foundation for the M25 road-widening project. Again, that is a fully licensed, permitted process, and that is displacing virgin aggregate, so it means that you have to dig up less aggregate out of the ground somewhere else and transport it because you can use the bottom ash.

[216] I noticed that one of your witnesses said that they felt that the market for this ash was saturated and that there was no demand for it. That is not our understanding. When talking to some of our member companies who are involved in processing that ash so that it can be used as aggregate, they say that they see quite a large market for that. As I say, that is, in a sense, recovery reuse because you are using the ash instead of digging up virgin aggregate from the ground.

[217] **Ms Barratt:** I would like to supplement that by commenting on the way in which hazardous material generally is transported around the country. Obviously, you want to restrict the amount of hazardous material that is transported, if you can; we would like to keep it off the roads. Having said that, it is subject to a fairly strict regime, with transfer notes recording the volume that has been moved, so that you know how much left a site, where it is going, in whose hands it is and how much arrives at the site, so you can be quite certain how much left and how much arrived and that you have the same volume. There is no leakage or loss in transportation. The carriers also have to be registered so that the Environment Agency is sure of who is dealing with what and how it is being dealt with, because there are obviously risks to individuals as well as risks from the material. The regime around hazardous waste transport is quite rigid. A lot of hazardous waste is moved, but it is generally done safely.

10.30 a.m.

[218] **Bethan Jenkins:** You stated that you have already carried out research. I am sure that will inform decisions, but we received information from the first group of witnesses that there is new evidence from Italy that there are relationships between exposure to incinerator emissions and stomach, pancreatic and other forms of cancer. Have you had a chance to look at that research? Do you have any comments to make on that?

[219] **Mr Farrow:** I am not a scientist, so I have not gone through all the data myself. The research we commissioned, which was a literature review of all the latest research, was carried out in November and December last year, specifically to submit to the project scrutiny panel. Therefore, I would have thought that it would have looked at that. Certainly, the report contains two and a half pages of academic footnotes, which include a great deal of evidence from Italy. The consultant who did the work could not find any robust evidence showing any association. However, I am very happy to speak to the consultant to check whether he has a

view on that piece of research.

[220] **Bethan Jenkins:** In its response, Friends of the Earth stated that, because these contracts will last between 25 and 30 years, this may go against any efforts to recycle or reduce waste, given the heavy financial penalties for contractors that do not provide the incinerator with enough waste to burn. Do you concur with that evidence? Do you disagree?

[221] **Ms Barratt:** It is not really something we can comment on. We are not party to the contract between the parties. Obviously, as we say in our evidence, we would far rather start from the point of reducing waste at source so that you do not generate waste. That being the case, we are where we are, and it is speculation to say that, in 30 years, we will not have enough waste to keep an incinerator going. I would suggest that what we will have is enough waste to keep efficient incinerators going.

[222] **Mr Farrow:** Recycling should be the priority. As an industry, we support the Welsh Government's statutory targets, and we are on record as saying that the Department for Environment, Food and Rural Affairs in England should have had similar targets in its waste review. Being quite honest about it, my members, including the companies involved in this project bid, make good money out of recycling, so it is very important for the industry. Clearly, in theory, there could be a conflict. If you had a contract that said that half of all the waste had to go to an EfW plant, you would never get beyond 50% recycling. However, in Wales, there are statutory recycling targets, and it should not be too difficult to ensure—and I assume that this has been done, although I have not seen any of the contracts—that the bidders would be required to agree to the amount of waste going into the EfW plants, only to levels that should not threaten those statutory targets.

[223] **Bethan Jenkins:** That is something I would appreciate knowing. I would like the researchers to find out whether information is available on whether, if recycling targets are met, the need for incineration would decrease and what, therefore, the impact would be on those contracts. I appreciate that you are saying you do not want to comment on that, but the contracts are long term and perhaps incineration will not be as necessary in future. I would appreciate it if some research were undertaken on that.

[224] **Russell George:** I want to ask a question about public perception. In other parts of Europe, energy-from-waste plants seem to be far more accepted. Why do you think that is the case? What are your views on that?

[225] **Mr Farrow:** That is a good question. When I am talking to my industry counterparts in other parts of Europe, I often find that they are quite surprised when I explain to them the level of concern you sometimes find here when EfW plants are proposed. I think that it is because we have traditionally had a landfill culture in the UK. Almost all of our waste has gone to landfill. Only 10 years ago, 80% of our waste was going to landfill. In many northern European countries, landfill was not used very much, partly for geological reasons—there were not available sites. On the continent, particularly in northern Europe—we are talking about countries such as Denmark and Germany, which we in Britain tend to see as examples of good environmental practice—they have long used energy-from-waste plants and it is perfectly accepted. In the UK, until the 1960s, incineration was not used very much in the UK. As we were saying earlier, there was no real regulation of those plants in the 1960s. Perhaps that is why people tend to be sceptical about it. I have been told by the Environment Agency that when an energy-from-waste plant is being proposed, it often gets high levels of concerns and objections from the community. When a plant is running, it gets very few complaints, as compared with landfill sites. When they are operational, people seem to get used to them and seem to be fairly comfortable with them being in their communities, again compared with landfill sites.

[226] **Russell George:** Given what you have said, what is your view on changing public perception, if that is the case?

[227] **Mr Farrow:** I think that it is probably a long-term process. There is an onus on my industry to be as open as it can be. Many large members of the ESA have open days and arrange school visits to plants. The large companies in my membership, including the two bidders for the project, operate all types of waste treatment plants, including mechanical biological treatment plants—which I would like to say a bit about, if I may—and landfill and energy-from-waste plants. So, there is an onus on them to explain how the plants work. I would then hope that sessions such as this one, where we can debate the evidence in an open way, will reassure people.

[228] **Ms Barratt:** I would add to that by saying that there is great value to local authorities publishing the results of their ongoing air monitoring and so on, so that people can see the sort of results they are getting there and take some comfort from them. They point to the Rechem plant in Torfaen, where there was an open policy of publishing all the results of air, water and soil sampling, which tended to allay the majority of the fears, because there was no evidence to support the fears that had originally been there. You have to look back and say that, historically, particularly in Wales, industry has been a bad neighbour development. The fear that industry will be a bad neighbour persists, although industry has got progressively cleaner. Take Anglesey as an example, where you had a nuclear power plant and Anglesey Aluminium. Both were traditionally very bad neighbours, but they co-existed well on the island because of the way in which they were run and people understanding that they were clean industries. People get used to stuff quite quickly, and, as Matthew says, there are ongoing problems with landfill, such as bird or pet problems, vehicle movement, dust and smell problems and all the rest, which are not there with a closed industry.

[229] **William Powell:** Mr Farrow, you said that you would value the opportunity to speak a little more about mechanical biological treatment.

[230] **Mr Farrow:** Yes, if I may, because I am conscious that other witnesses have talked about MBT as an alternative. To make it clear, MBT is an important technology, say my members, including the two companies involved, who run MBT plants. The point I wanted to make is that there is no perfect solution to dealing with black bag waste. All technologies have their pros and cons. What we tend to find with MBT is that it is not a full solution. With an MBT plant, you can normally get out around 10% recyclates from the waste that goes in. You are left with a number of residues, one of which is an organic residue known in the trade as compost-like output, or CLO. It is called that because it does not meet the quality standards of normal compost; it has some contaminants in it. There is a debate about the best use for that residue. In England, it is often spread to land, but is not allowed to go on food-producing land, and the Environment Agency takes it on a case-by-case basis. So, there is a debate about what is the best thing to do with that residue.

[231] The other residue is often either landfilled itself—so, you are still using landfill—or, in some cases, turned into fuel for other EfW plants. In Essex, for example, which has recently gone for an MBT strategy, the plan is that the residue will be turned into what is called refuse-derived fuel, or RDF, and preferably sold to other parts of the country that have EfW plants. So, it does not fully solve the problem. The other issue with MBT that needs to be factored in is that it is quite an energy-intensive process. Energy-from-waste plants produce energy to heat homes or to produce electricity. For an MBT plant, you require electricity to run the processes. So, if you are interested in the carbon impact, you have to factor that in. Also, you often get similar levels of public opposition. In north London, the North London Waste Authority is commissioning a mechanical biological treatment plant, to which there is huge public opposition, with people saying, 'We do not want this plant in our community—it is not the right plant at all, and we do not like this technology'. Again, there

are some debates about the health impacts of MBT. It is an alternative up to a point—you are still left with those residues, and you have to either burn them or landfill somewhere else. Like all technologies, landfill, energy from waste, and MBT have their strengths, but also have challenges.

[232] **William Powell:** I thank you both for giving us such full and authoritative answers. If there are issues that we need to come back to you on, we would appreciate being able to do that. Thank you for joining us this morning and for answering so fully.

[233] We will now invite our next witnesses into the room. Good morning, Minister. Would you be kind enough to introduce your team?

[234] **The Minister for Environment and Sustainable Development (John Griffiths):** Certainly. On my left is Jasper Roberts, who is head of waste for the Welsh Government, and Andy Rees works with Jasper in that department.

[235] **William Powell:** I will kick off with the initial question. We have had a number of different panels this morning, the second of which was led by the WLGA and Tim Peppin. In its paper to us, the WLGA states that it holds the view that

[236] 'the Welsh Government has limited the choice of local authorities in terms of waste technology'

[237] for dealing with residual waste. How do you respond to that assertion?

[238] **John Griffiths:** I would say that we have been technology-neutral in our approach, and we have made that clear in a number of documents, such as our collections blueprint, which is part of our waste strategy and our waste policy. Of course, the WLGA is part of our programme board and steering group, so it has been integrally involved in the development of this policy, and we work in close partnership. I think that we have been quite clear, actually, that we are technology-neutral in these matters.

[239] **William Powell:** One other issue that was quite prominent in our discussion with the WLGA was around public understanding of waste-related issues. Do you feel that we should be doing more work in this area so as to gain the trust and understanding of the public in taking forward new solutions?

[240] **John Griffiths:** We fund Waste Awareness Wales to engage with the public and communicate effectively around our waste policy, which would include these matters of energy from waste. I guess that there is always more that can be done, but we do provide funding and sponsor that body to do just that job of work. We always need to look at these matters, because it is vital that communities are effectively informed, understand the issues and feel that they can have their say. Those are matters that we need to continue working on.

[241] **William Powell:** One theme that came through in the most recent evidence session was the value of openness and transparency in the monitoring that is going on. That is a message that we as a committee would accept also. Bethan, you have indicated that you wanted to lead on some of the health issues.

[242] **Bethan Jenkins:** Yes. One of the big themes of the session so far has been the health impacts, and it would be useful for us to understand whether you have any validated scientific evidence that an incinerator plant operating within the UK regulatory framework could cause harm to human health.

10.45 a.m.

[243] **John Griffiths:** There are bodies that are tasked with providing advice on public health, and Government has to respect their opinions and statements. So, the Health Protection Agency has a position statement on energy from waste, which states that there are no significant adverse health impacts. We have to take the advice of bodies with the expert opinion and scientific knowledge that are tasked with protecting public health. We considered the Health Protection Agency to have stated the position.

[244] **Bethan Jenkins:** We have heard in evidence that the results of a study published in Italy recently show a significant relationship between exposure to incinerator emissions and stomach, pancreatic and other forms of cancer. Have you or your officials had the time to look at this research or have you seen any other European research that indicates that there are health risks?

[245] **John Griffiths:** Again, agencies such as the Health Protection Agency make sure that they are up to date with all the latest research and evidence. If they consider that anything that is published or any new evidence warrants them to re-evaluate their position, then they would do that. So, again we are guided by the Health Protection Agency in line with its statutory role.

[246] **Bethan Jenkins:** We were told earlier that the Health Protection Agency could be abolished under the current system. Do you know what will happen when that takes place? In terms of people having faith in the system, a lot of the evidence we have received suggests that people have been unhappy with some of the work that the agency has done. Who would take over that work in Wales?

[247] **John Griffiths:** I am not aware of the Health Protection Agency's imminent demise, as it were, but there is a role and function that has to be fulfilled. If the Health Protection Agency was to go out of existence, then whatever successive body fulfilled that role would provide us with its advice and opinion in a way that the Health Protection Agency currently does. However, given that it is the HPA that has that role at the moment, then we take its advice and abide by it.

[248] **William Powell:** Joyce, I think you wanted to ask the next question.

[249] **Joyce Watson:** Good morning, Minister. I am going to ask about energy from waste versus recycling. How do you respond to the claim that building major incinerators will discourage further improvement in waste reduction and recycling?

[250] **John Griffiths:** We have a very good record on recycling. We are ahead of the other countries in the UK and that is where I think all of us would want to be. We are driving forward towards the 70% figure for recycling of municipal waste in accordance with our zero waste policy 'Towards Zero Waste'. We are on track for that. So, in setting that very ambitious target of 70%, we have limited the feed stock, as it were, for energy from waste to the 30% figure.

[251] If we look at the best performance in the European Union, the figures for Flanders for example—I visited Flanders—are around 70% recycling and 30% energy from waste. We are setting our performance at the top level of performance in the European Union. If we do that and drive towards that 70% recycling of municipal waste, then effectively we will limit the feed stock for energy from waste.

[252] **Joyce Watson:** In the name of fairness and equality, we have been made aware this morning—

[253] **Bethan Jenkins:** May I ask about this issue, before you carry on to another issue—

[254] **Joyce Watson:** It is connected.

[255] **Bethan Jenkins:** I just wanted to ask about the contract.

[256] **Joyce Watson:** Yes, okay.

[257] **Bethan Jenkins:** My question feeds directly into this. I appreciate what you are saying about the 30% and the 70% targets, but if you have 25 or 30-year contracts, they could limit your flexibility in terms of switching from energy from waste. What would you say to that?

[258] **John Griffiths:** Well, that is an issue. Whichever way you deal with residual waste will in part be determined by the market that is there, by the commercial operators and by their requirements in terms of their own operations. So, there are many factors that come into play. That is the nature of the market with which we have to contend, no matter what policy we have for residual waste.