



Environment, Food and Rural Affairs Committee

Oral evidence: [The Work of the Environment Agency](#), HC
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Tuesday 21 November 2017

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Members present: Neil Parish (Chair); Paul Flynn; John Grogan; Mrs Sheryll Murray; David Simpson; Angela Smith; Julian Sturdy.

Questions 1 – 106

Witnesses: **Emma Howard Boyd**, Chairman, Environment Agency; **Sir James Bevan**, Chief Executive, Environment Agency; **Dr Toby Willison**, Executive Director of Operations, Environment Agency, gave evidence.

Q1 **Chair:** Welcome to our inquiry. Starting with Emma first, would you like to introduce yourself, and then I will go to James and then over to Dr Toby?

Emma Howard Boyd: Good afternoon, everyone. I am Emma Howard Boyd, and I am chair of the Environment Agency.

Sir James Bevan: I am James Bevan. I am chief executive of the Environment Agency.

Dr Willison: I am Toby Willison. I am executive director of operations at the Environment Agency.

Q2 **Chair:** Welcome to you all this afternoon. We are first of all talking about leading on the delivery of EA priorities. First of all, to Emma, what have been the Environment Agency's main successes and perhaps some failures in the delivery of key objectives over the last year? What are the successes, and where do you think you could perhaps do a little better?

Emma Howard Boyd: Thank you very much. I would first like to say that in relation to our successes, one of the key ingredients to that is the vast array of fantastic staff we have, feeding into that whole process of the Environment Agency. Our two key main areas that we focus on are our flood risk management work—that is roughly half of our business—and then the other half of our business is the work that we do in relation to protecting the environment through our regulatory activity.

Q3 **Chair:** Could you target on the second part, because we will be dealing directly with flooding in a minute with some of the other questions? If you would like to concentrate on the environment and what you do regarding that, it would be useful,

please.

Emma Howard Boyd: Fantastic. So as far as our work goes on the environmental regulatory side, this is where we are working across a whole range of different industries, from waste to water, to oil and gas, across a vast array of different businesses, and where we have the key responsibility for environmental regulation. If we look at some of the headline indicators for that part of our work, if you take the waste sector, we are closing three illegal or abandoned waste sites every day. However, in terms of the challenges we face—and I think you would like to come on perhaps to talk about waste in greater detail—that is where—

Q4 **Chair:** When you say three every day, you are talking about over 1,000 a year, are you?

Emma Howard Boyd: That is the sort of level we have got to now, and again this is an area where our staff are now dealing with the real nasty end of the spectrum in terms of the worst waste companies. It is very important to recognise exactly how extreme some of those behaviours might be in terms of the nastiness of this. We are talking about people absolutely dealing at the criminal end of activity.

This is where we, both as a board and with our executives, have spent a lot of time focusing on how best to close that gap. It is about celebrating the successes, where we have been regulating well on the waste side of things, but equally discussing with our colleagues in Defra how best to close that gap in terms of some of the challenges that we have faced.

There is a whole vast array of other areas we work on, water being another one, where again we have seen successes in terms of the overall improvement to the environment that we have seen and the increase in money that is being spent by the water companies to improve the environment. However, equally we do periodically still see underperformance of the water sector, and this is where we have seen the fines that have been raised against the water companies increase.

Q5 **Chair:** One of the points that I would perhaps like to emphasise is I have had one or two cases in the constituency where various areas have been tipped, farmers have had people coming in and saying, “We will pay you so much to tip this. We can get the necessary licences.” Sometimes, whether naively or not, some of the farmers are very tied up into very expensive litigation. In some ways I am sure you are doing this, but we do need to perhaps re-explain to landowners and farmers the consequences if they have not got the correct licences. They could be liable for some very big fines. You probably have quite a lot of information out there, but the potential liabilities to landowners if you have not got the right licences almost needs to be re-emphasised. Of course, you cannot always be 100% sure, once people start tipping, what they are going to tip, either.

Emma Howard Boyd: One of the things we are focusing on, by working very closely with the waste operators, is the whole duty of care, and making sure that we are emphasising that whether you are a farmer or a householder, you are responsible for making sure that your waste ends up in the right place. A very strong campaign of ours is “Right Waste, Right Place”, but equally all the way through the supply chain we are making sure that that is far better understood. At the same time, we are working with the sector and others in terms of resource efficiency, because, again, if there is not a waste stream, then if we can change

waste into a resource, ideally we could stop some of the illegal dumping or inappropriate dumping of waste.

James, is there anything you want to add?

Sir James Bevan: If I could, Chair, just to answer your question about environmental performance, there are four other things that we are pleased about. The first, which our chair just referred to, is healthier waters. We had a target last year for enhancing the quality of water in rivers and lakes and coast, of just over 700 kilometres enhanced. We enhanced just over 1,200 kilometres. On serious pollution incidents, last year we got them down to the lowest levels ever and exceeded our target. On creating new habitats, last year we created over 400 hectares of new habitat. We also hit our target for rapidly responding to planning applications, which is obviously important to unlock sustainable growth. I am pleased to say that 98% of planning applications were decided in line with our advice.

Q6 **Chair:** Sir James, while you are speaking, I also raised with you recently the need to make sure with biodigesters, where leachate and others are being spread on land, that they are properly licensed. Most farmers do it properly. Some decide to cut a few corners and perhaps spread too much. It is very unusual for me to ask for tighter regulation, but on this occasion in some instances there should be. The trouble is that you have most people who behave, and you have one or two that do not. I do not know whether you have any thoughts on that.

Sir James Bevan: First of all, thank you, Chair, for drawing it to my attention. We have had a good correspondence about that. I think there is an issue, as you say, in terms of misuse and mis-spreading of digestate from anaerobic digesters, and we do need to address that issue. Part of the problem arises from the nature of the waste, some of which is more heavily regulated, as you know, than other waste. I think most of the answer is advice and guidance from the Environment Agency to farmers. We do not want to go in with a big stick, and most farmers will want that advice and guidance, but I do think there is a case for enhanced regulation and enforcement at the hard end, when people are not doing the right thing, and it is causing not just pollution but damage to local communities as well.

Chair: That is the problem in one particular local case I have, where people around this site are being affected quite badly, and I think it is just about making sure we have enough teeth to make sure we stop that. Biodigesters and digestate are very good for the land, and used properly can be very useful fertilisers. What you do not want is for them to be brought into disrepute because then you have a number of people who are not keen on biodigesters at all, which I think would be a great shame. We need to make sure it is properly regulated.

Q7 **Julian Sturdy:** Emma, you said something about the need to do more about turning waste into a resource. I just wonder where the Environment Agency is on the end-of-waste panel. It was closed, was it not? Is that going to be reopened? What is the future for the end-of-waste panel?

Sir James Bevan: We did have an end-of-waste panel, which helped define, for people who held waste, when waste was no longer to be considered as waste. Ultimately, it is for the holder of that waste to make that decision, but we provided that service. We have suspended answering new queries because we did not have the resources to adequately provide that, but

we are still continuing to work through the existing requests that we have had from the industry, because we understand it is important for industry.

Q8 Julian Sturdy: Was it a resource issue, then?

Sir James Bevan: It was primarily a resource issue, and the way we are trying to address that, because we know that industry is still interested in getting expert advice about whether waste is or is not over, is looking to see whether we can institute a charging mechanism, so that customers who actually have a business need to have a definition from the Environment Agency can get that service, but we will recoup the costs of delivering it.

Q9 Julian Sturdy: There are issues, are there not, with not having that? You are actually getting waste that is staying defined as waste that could actually be turned into another resource that is not being turned into another resource at the moment. From the Environment Agency's point of view, it is not that you do not want that to continue; it is just a physical resource issue.

Sir James Bevan: Yes.

Q10 Julian Sturdy: Will that be addressed going forward?

Sir James Bevan: I think we can address that best by a charging regime where customers who want that advice can pay the cost of us delivering it.

Q11 Julian Sturdy: When will that start? When will you bring that in?

Sir James Bevan: We are still working on it, but sooner rather than later.

Julian Sturdy: What is the timeframe?

Q12 Chair: What does "sooner rather than later" mean?

Sir James Bevan: It is partly contingent, Chair, on a broader process you may want to talk about, where we are reviewing the main suite of charging that we apply across the piece to water companies, waste companies and others. It is partly involved in that, and that is a process that is still going.

Q13 Chair: If you are going to put your finger in the air and choose a date, when would it be?

Sir James Bevan: I would say in the next few months. We are looking at targeting new arrangements from the start of the next financial year.

Q14 Julian Sturdy: Your financial year is April.

Sir James Bevan: Yes.

Q15 Chair: Emma, as far as making the Environment Agency a more inclusive place to work is concerned, how are you doing on background, the proportion of female executive managers, and also the number of staff that come from black, Asian and minority ethnic groups? I do not know if you have any details of that.

Emma Howard Boyd: Yes, this is something that we do disclose in our annual report, both the proportion of men and women and how women are progressing through the organisation, but also BAME staff as well. One of the things we have put a great amount of focus on is

targets, because it is by having targets to improve inclusivity that you can really start to drive change.

In terms of where we have got to on senior female progression throughout the organisation, our statistics are up at 38%. We are targeting 50%, and every time we go through a recruitment round we are seeing progress in terms of more women reaching ever higher into the organisation.

As a percentage, on BAME, our statistics are typically, and have stayed, around 3% to 4%, and again we have a target of wanting our staff to represent the communities we are working with. Because we are much lower than that particular target, it is something where each of our executives takes responsibility for a particular aspect of diversity. BAME is something we have a lot of attention focused at the moment.

Q16 Chair: Are we doing enough, through college and education, to attract black and Asian communities to work with the Environment Agency? It is not directly your responsibility, but is there more we can do there, do you think?

Emma Howard Boyd: Absolutely, and that is exactly one of the areas of focus we have, but more specifically around environmental and technical expertise, can we reach out to those colleges and universities where there is a greater population of those we are hoping to recruit? I do not know, Toby—you do a lot of work in this area—whether you want to bring in some more details.

Dr Willison: There are a couple of good examples, Chairman. There is Brunel University, where they have a high proportion of BAME students; we have a placement relationship with Brunel. I am just in the process of establishing a similar relationship with Leeds University. We have our civils programme through the University of the West of England, where again we look for a significant component of those from an ethnic background. As Emma has said, it is a work in progress, but it gets a great deal of focus from the executive team.

Q17 John Grogan: Continuing on the theme of staffing, I notice there has been almost a doubling of temporary and contract staff in the last year. Is there a particular reason for that? Is it a deliberate policy? What is the background?

Emma Howard Boyd: Part of that is to do with the way we have been allocating resources to additional resources that we have received for our flood work. That is one relatively large chunk of our temporary staff. James, would you like to give more of the details?

Sir James Bevan: Yes, sure. You are absolutely right, Mr Grogan. It is roughly double the number, over the previous year, of temporary staff. There are two main reasons. First, as the chair says, there has been an increase in demand on us, following injections of money from the Government, to repair and put back into order defences that were damaged in the December 2015 flooding, which has required us to recruit more specialists to help deliver that.

The second major element is that the Environment Agency is recruiting, on behalf of the Defra group, of which we are a part, a significant number of new IT specialists to deliver new IT functionality for the Defra group, including to deal with the EU exit IT-related matters. Those two factors pushed up our temporary numbers.

Our policy is to get those numbers down, because although we welcome and value those staff, they are more expensive than permanent staff. I would expect to see those numbers coming down over the next two to three years.

Q18 John Grogan: Can I follow that up, and just ask about how you see numbers generally, going forward? Will there be further reductions in numbers, particularly enforcement officers across the piece? Where are we with that, compared to a year or two ago, and how do you see it in a year or two's time?

Emma Howard Boyd: Again, this is something that we will continue to focus on. One big change that James has already touched on is taking out the regional layer. We are looking at some of our challenges. For example, we are addressing the fact that we have had our permitting charges frozen for roughly the last six years. We are going out with a strategic review of charges, so, if that is successful, that is one way of making sure that we have the right level of resources to make sure we may maintain the right level of enforcement staff.

Q19 John Grogan: Is the number of enforcement officers less than it was two years ago? Is it expected to go down? Is it about the same?

Dr Willison: The number of enforcement officers has gone down marginally in the last two years. What we have been focused on is getting a different skillset in our enforcement population, so that they are focused more on activities that are disruptive to criminal activities than necessarily being ex-policemen who go and undertake what you might call the harder end of enforcement. It is balancing numbers with having the right skillset to do the activities that we think have the biggest impact in reducing that criminal activity.

Q20 John Grogan: Finally, in the next two or three years, do you see the overall numbers of Environment Agency permanent staff remaining about the same as now, or going down? Does Brexit make any difference? Are staff being seconded across to the Department?

Emma Howard Boyd: Brexit does make a little bit of difference, in that we have worked and are working very carefully with Defra in terms of preparing to leave the EU. We have a small team that has been seconded over to Defra. In terms of the overall numbers, that is something that we have no ongoing plans to decrease. We will obviously look to make sure we have the right resourcing for each area that we are working on, going forward.

Q21 Chair: This question is perhaps for Sir James. It is always tempting as an organisation, when you have to keep the budget and staffing within certain levels, to keep the number of in-house staff, and then as soon as you need to do a major project you then bring in consultants and others. I am never quite convinced that this is a good use of money. Are you confident that you have enough people in place to do the schemes you need to do, and that you are actually using that to the best resource. I rather feel sometimes as soon as a scheme is done, money is allocated by Government and then quite a lot of that money goes to consultants. That might be necessary; it might not be. Do you feel you have enough in-house resource and are using it wisely? I am sure you are going to say yes, but it will be interesting to see what your answer is.

Sir James Bevan: I am not a fan of consultants either, Chair. I have met too many to be a fan. We do not employ the kind of consultants I think you are referring to to advise us. We do get most of our excellent advice from in-house expertise, and we have a lot of very highly

technically proficient people who are permanent employees of the Environment Agency, on whose advice we depend and rely.

We do, as we have just been saying, on a temporary basis employ contractors and other temporary staff when we need services that we cannot get from our permanent staff. It is always good to have a mix, but I also think the mix needs to be heavily preponderant in terms of favouring permanent staff, with the minimum number of temporary staff that you need and the minimum number of external contractors that you need, and we have a special arrangement for picking contractors for our big engineering projects that are designed to deliver value for money, and I think do, although we intend to improve those later. As I say, we do not go in for employing the kinds of consultants you are referring to.

Q22 Mrs Murray: Could I look at the post-Brexit period? The Secretary of State recently announced that he is setting up a new independent body to oversee environmental standards after the UK leaves the EU. Is there a need, in your opinion, for such a body, given that you, as the Environment Agency, and also Natural England already have regulatory roles?

Emma Howard Boyd: This is where the Secretary of State has proposed a scrutiny body to occupy what has been identified by a number working in the environmental field as a governance gap once we leave the EU. We have discussed this body with the Secretary of State and ultimately are very pleased with the announcement. It is going to be consulted on, but what it does do is, in our view, absolutely plug that gap for scrutinising the Government on environmental performance once we leave the EU.

One of the things that needs to happen as we go into the consultation and we understand what this body is being set up to do is that its role and remit is made very clear. We are very keen to see a scrutiny body to fill the governance gap that is being left. What we absolutely need to make sure is that the regulatory activity we do as the Environment Agency in relation to the businesses that we regulate is seen as very separate to the role of this scrutiny body.

These are the sorts of issues we have discussed with the Secretary of State—that it will be and should be distinct—but throughout the consultation process those boundaries of the different landscape that exists now within Defra and the broader Defra group will need to be made very clear.

One of the things we would encourage is around the size of this body. At the moment we have other bodies like the Committee on Climate Change, which is set up in statute in a very similar way to what I understand this body will be set up with. We are supplying, as are others, relevant evidence to that Committee to help them form their judgments, and having something like that as a model would be the sort of thing we would encourage as a new set up for this scrutiny body.

These are the sorts of things that we hope will be made very clear, and we hope that it will also be given a very clear and distinct form in terms of its name as well, so that there is no confusion in the landscape of these different bodies.

Q23 Mrs Murray: So you do not have the necessary powers and duties to fill the gap left, when we leave the EU, by the European Commission's jurisdiction at the moment?

Emma Howard Boyd: This is about holding Government to account; that is how I understand this body is being set up. Where we do have our independence is in terms of the regulatory framework that we are administering and making sure and enforcing, in terms of the bodies and organisations that we are regulating. This is a different role and, therefore, it is probably best done by the separate body, provided those distinctions are put in place.

Q24 Mrs Murray: Do you see any situation where you would need extra powers to fill the gap that the European Commission fills with its jurisdiction now in your work?

Emma Howard Boyd: We are always looking at whether the enforcement powers that we have are at the most appropriate level, and if we come on to talk about the waste agenda that is something where we are interested in and are seeking additional powers. That is not because of leaving the EU. One area that we need to look at quite carefully is our work around chemicals, and that is something where we are working quite closely with our Department, but also with the Health and Safety Executive, to make sure that we have the most appropriate framework for that part of our work, post leaving the EU.

I do not know if either of you want to give any further clarity.

Sir James Bevan: Just to add, Chair, the key gap that needs to be filled is the power to take legal action against the Government themselves. That is what the Commission currently has, and the European Court of Justice has, and that will not, obviously, be there once we have left the European Union. We, the Environment Agency, can and do take legal action against individuals or organisations that break environmental law, but we do not take action against the Government. We have discussed this amongst ourselves and with the Secretary of State, and we think that actually the Environment Agency would not be that credible holding the Government itself to account through the courts, because of our close relationship with the Government. You probably do need a genuinely independent body with the power to do that.

As our chair said, provided that body has powers and duties and functions that complement what we do, we think it is a huge benefit for the environment as a whole.

Q25 Mrs Murray: You have just gone on very nicely to my other point, which was about how the remit of this new body might mesh with the roles and responsibilities of the Environment Agency. You have very clearly identified one area. Are there any others?

Emma Howard Boyd: One area is around voice for the environment, and we as the Environment Agency publish a raft of reports that go into the detail of our regulatory work and the progress we are making there. We would still see that our role is very clear in terms of having an independent voice for the environment, but that is one area that is being seen for this body as well. However, I have already clarified the main areas of distinction in my previous comments.

Q26 Angela Smith: James actually raised the point I wanted to raise, about infraction proceedings. I just very quickly wanted to test further the model that appears to have developed. Are we really talking about a body that is completely independent of Government, which potentially holds not just the Government to account and potentially takes proceedings, but also the Environment Agency and any other agency you mentioned, or are we talking about a body that has a closer relationship to the Government? These issues need teasing out.



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Chair: Coupled to that, how do you hold yourself to account, because you are delivering quite a number of schemes as well?

Angela Smith: Which is what I was wondering—whether the independent body would do that.

Emma Howard Boyd: Again, all of this is going to be put out to consultation. I would argue that we are held to account by a range of different bodies, including coming to meet with you here today, and we value the questions and the scrutiny that you put us under. However, certainly in terms of getting this body to cover the right ground, that is something that the consultation will take account of to get the right format.

Q27 **Chair:** Can you influence that at all, or is it not your job to influence that? How do you see that?

Emma Howard Boyd: I am sure we will continue to have the sorts of conversations that we have been having with both Defra and the Secretary of State. Yes, we will be feeding in our ideas on this body and the nature of it.

Q28 **Angela Smith:** Do you accept, though, that this new body—whatever it is in the end—will have to be sufficiently robust and independent to be able to take on the Government potentially, in the courts? When you think of Thames Tideway, we only got Thames Tideway because both a Labour Government initially and then a Conservative Government recognised the infraction of the standards set by Europe itself. It has to be robust enough to be able to do that, surely.

Emma Howard Boyd: I think that is the governance gap that has been identified and that is being sought to be filled by creating this body.

Q29 **Chair:** I am the same, Angela, on air quality. We have had the ability to take the Government to court, and at the moment that will be somewhat lacking, will it not, if we are not careful? That is key, really: whether this independent body would be prepared, for instance, to take the Government to court. That is an interesting one, but I do not know whether you have given that any thought, or perhaps that is a bit dangerous for you to go into, is it? Am I leading you where you do not want to go? Sir James, go on; you have a shot at that.

Sir James Bevan: I have already uttered a career-limiting statement, Chair. No, as I have already said, everyone is clear that the main governance gap is the ability to take the Government to court. That is what we would see as the primary gap being filled by this body. We think that is a good thing. There is a question, as you say, Ms Smith, about whether it should also have a power, legal or otherwise, to hold other public bodies to account, and we would be open to that.

However, I do not think that the main problem is the holding to account of the Environment Agency. I think we are held to account not just by you, not just by Michael Gove, but also in the courts. We are regularly taken to court. We mostly win, but we are regularly taken to court. The main governance gap is in relation to the Government itself.

Q30 **Chair:** Yes, that is quite right. You take other people to court, so you need to also have that same scrutiny.

Emma Howard Boyd: But we are already, and that exists. Both of us have said in our opening responses to your question that that is where we see this scrutiny body being focused.

Q31 Angela Smith: The key issue in the establishment of this body will be the appointment of the decision-making members of the body. Would the panel agree—Emma and Sir James, in particular—that that process has to be independent of the Government?

Emma Howard Boyd: Again, I think these are all good points that should be made in terms of the consultation, to make sure that it is very much taken into account. In creating this body, there is a huge desire to make sure that it is robust and stands up to the sorts of challenge that you are rightly making now. All of these factors need to be taken into account.

Q32 Chair: We probably need to target some of these questions at the Secretary of State, naturally, as he will be the one that ultimately makes a decision. However, we like to put you slightly on the spot, you see.

Sir James Bevan: I was just going to actually quote the Secretary of State in response.

Chair: That is always dangerous, but carry on.

Sir James Bevan: He was very clear in the article that he wrote about this. He said that this new body will be “independent of government, able to speak its mind freely” and will “have real bite”. We welcome all of those things.

Chair: We look forward to how it actually materialises. Call me cynical, if you like.

Q33 Mrs Murray: If I could turn to budgets, and also your preparedness, how prepared are you for flooding in England this winter? I know it is hard to predict, because we do not know if floods are going to occur or where they are going to occur, but do you feel that you are in a reasonably prepared position?

Emma Howard Boyd: Yes, and a huge amount of time and effort has gone into, in particular, our winter preparedness since the 2015-16 floods, in terms of the new equipment that has been bought—whether that is command vehicles or additional temporary flood barriers—the number of our staff who have been trained to be able to help and get involved in incidents as and when they take place, and the amount of warning and informing we do, working on our joint venture, the Flood Forecasting Centre, with the Met Office, in terms of the sorts of information that we now receive and will pass on to others that we work with in incident mode.

A huge amount of time has been spent running exercises, but also having been through some real incidents over the last year. At the forefront of my mind is back in January, where we had an east coast tidal surge, and all three of us, with a large number of our staff, were at various places on the east coast, where we protected a large number of houses from flooding. There was a lot of visibility, with our staff getting out into communities and making sure that we were making people safe from the potential to flooding.

This summer we had flooding in Coverack, and, even more recently, in parts of Cornwall—I think in your constituency—we were able to trial new forms of temporary flood defences. It is something that is very much front of mind.

It is also about educating individuals. We ran a campaign around Halloween. We have upped the language we are using, particularly to target 18 to 35 year-olds, who are now typically living in rented accommodation, not necessarily aware of the flood risk that they are living with. The language we are now using in our warning and informing of flood campaigns is “prepare, act, survive”, because we have seen, from some of the events that have been taking place elsewhere in the world—quite extreme weather events—that people need to understand that flooding comes with extreme risk, not just to their property but also to their lives.

That is a quick summary of the vast range of work that we have been doing. We have also been making sure that we have repaired some of the flood defences that were damaged back in 2015-16, so again there has been a lot of emphasis there. This is Toby’s teams out visually checking and also using other more innovative forms of equipment, to make sure that we are repairing our flood defences if they have been damaged.

Q34 Mrs Murray: If I could just ask Toby, do you think budgets are sufficient for your team to cope with the sorts of extreme flooding that we did see in 2015—a Storm Desmond scenario?

Dr Willison: What Emma has just described is 40 kilometres more of temporary defences, 250 pumps, 6,500 trained staff but also a great deal of partnership working as well, so that is with local authorities, preparation with the military, and also using our supply chain to support our incident response as well. Do we have enough money? We have enough money to do the job that we have to do, and then we are supported by a range of other partners, and the effectiveness of that response is largely down to the planning and the exercises. We have an almost continuous programme of exercises with local authorities, with the fire and rescue service and with the military, to ensure that the response is absolutely as good as it can be, and that is our aspiration.

Sir James Bevan: We have more money for a longer, more settled period than ever before. It is £2.5 billion over a six-year period to invest in new—

Chair: I think we are moving on slightly to the next question now.

Q35 Mrs Murray: With climate change increasing the threat of flooding for more communities, how do you provide evidence to Defra to enable it to assess the level of funding that will be necessary for flood management in the future?

Emma Howard Boyd: This is where we have adopted some long-term investment scenarios, and we are in the process of updating those. Every time we have an event, we look at whether we should be recalibrating our models. Certainly as part of the National Flood Resilience Review that took place after the 2015-16 flooding, we found that the boundaries of our flood maps, in terms of being at extreme flood risk, were in the right places. However, it is something we are constantly aware of, with climate change: that we do need to factor that into our models. We are looking at updating our long-term investment scenarios.

James mentioned our six-year funding strategy, and one of the things that we are beginning to work on quite actively is what happens after that, because there is no doubt that having this record amount of funding that has been identified, and knowing what our investment profile will look like over a period of years, has allowed us to be more efficient and targeted in our programme, and has been hugely beneficial, both in terms of what we are delivering but also

what our partners, who are responsible for delivering some of that work, can do. That is something we are certainly keen to make sure is replicated in the future.

Q36 Mrs Murray: That would include mitigating against, say, a one-in-500-years occurrence, rather than a one-in-100-years occurrence, when you are looking at flood defences? Is it that sort of thing as well?

Sir James Bevan: A lot depends on the value-for-money calculation and the benefit-cost calculation. Obviously, the greater the standard of protection, the higher the cost. We are always trying to make sure we get the best possible cost-benefit ratio for whatever we do, and that it is most appropriate for individual locations, because some locations will be at greater risk than others.

We will be saying three things to the Government about the next period, as we start to discuss that: first, that investing in flood defence is a good investment, in terms of the benefits you get and the damages you avoid; secondly, that we need a holistic approach, so upstream catchment management to slow the flow, hard defences where people are, and more resilient houses and businesses, because flooding will sometimes happen; and thirdly, that we need to think about how we fund this and how we prioritise. Do we want the same balance between Government and private funding? Do we want to continue to prioritise protecting houses, which is the way the current formula works, or do we want to put more emphasis on farmland, businesses and other assets?

Q37 Paul Flynn: There has been a huge increase in the growing of maize, which has the effect of allowing a quick run-off of water, plus areas are being ploughed that were not ploughed, and there have been other changes in farming practice. Floods took place on the Somerset Levels. In my own constituency, the Gwent Levels has virtually identical characteristics to the Somerset Levels, yet we have not had a flood since 1607, but the catchment areas are still richly wooded. The Mendips have changed a great deal in recent years. What is the feeling about the contribution the changes in farming techniques have had on the floods?

Emma Howard Boyd: We have to look at flooding from a holistic perspective, and for every scheme that we are looking at we will look at a range of different things that are changing the modelling that is most appropriate. You have talked about the rural environment. There are just as many changes in our urban environment, in affecting the flow of water, run-off and different types of flooding. Being very much a place-based organisation, with our teams working in the catchment, it is really important that they understand the catchment in its entirety and the range of different factors that will have an impact on the way that flooding may take place. All of those different things have to be taken into account.

Q38 Paul Flynn: The effect of dredging, which was the main subject after the Somerset floods, was largely blamed. If you dredge a river, you make it easier for the water to go out but you also make it easier for the water to flow in, in the highly-tidal Severn estuary. In the 1920s, when the Thames was dredged here, the result was that the streets that used to exist on the opposite side of the road were flooded for the first time. The changes in farming techniques have been more profound than any other changes. Is George Monbiot right in saying we are paying farmers to flood our houses?

Emma Howard Boyd: Again, this is another area in which we have a huge opportunity to look at how we can work with the farming community to make sure we are having the best impact in terms of flooding. One area where we are absolutely seeing a change take place is where we are using natural flood management techniques in certain catchments, to really work with landowners and some farmers to have a very different way of working with water and its impact on flooding.

Q39 Paul Flynn: There is great concern from the food producers about the abstraction of water, and they are greatly concerned about new regulations that are coming in, which are likely to limit their activities. However, the abstraction of water has consequences other than for the food industry, particularly for the leisure industry, where rivers and lakes might well dry up. Certainly in Wales, the number of hydroelectric schemes, if you add them all together—Dinorwig and Ffestiniog and so on—are equivalent to a nuclear power station, and we will be more dependent on this renewable source of energy in future. Where do we put the objections that are coming in from the well-organised food lobby against the other repercussions of the abstraction, to the leisure industry and to the hydroelectric industry?

Emma Howard Boyd: Again, this is where we have to take a balanced approach to abstraction, and over recent years we have been working on the review of our abstraction licences. It is something we will continue to work with, but we have to balance the different priorities, not just of the businesses you are talking about on the farming activity, but also individuals as well. This is where we are working very closely with the water companies too, in terms of long-term planning around drought preparedness.

I know that this is something that James has been paying quite a bit of attention to, because although we are heading into winter, we have also found that in the south-east of the country we have had lower than usual amounts of rainfall, so we need to make sure that we are as prepared for that aspect of our work going into the next year, over the next few months. I know, James, you have been looking at this from a drought perspective but also from an abstraction perspective.

Paul Flynn: Could you tie your answer into the likelihood of global warming and the effect it is likely to have? We are going to have less rain in future, rather than more, are we not?

Sir James Bevan: Yes, the whole abstraction licensing system is 50 years out of date. It was designed for a world that had less environmental protection, where nobody knew about climate change and where there was less demand for water. All those things have changed, and so we do need to reform the abstraction system.

The way we want to do it is working with the abstractors to make sure that those people who need water get the water they need at the time they need it—that is one of our definitions of success—and to make sure that we do that in a way that enhances protection for the environment and conserves water. That will probably mean three things. We are working on a plan with Defra, which I think will be published reasonably soon, but the first thing is to stop unsustainable abstraction. There are still people who are able to abstract who do not have licences, who can basically take as much water as they want. We need to manage that. We need to make it more flexible, and the way to do that is a closer partnership with people at local levels, so that we manage water to ensure that all the people who need water get it

when they want it. The third thing we need to do is reform the way that the Environment Agency itself delivers abstraction licences, which is currently outdated and paper-based; we want to put that online and make it easier to use and more flexible for consumers.

Q40 Paul Flynn: Is it inevitable that the food producers will have less water abstraction?

Chair: Before you answer that, are you not encouraging farmers to have more on-farm reservoirs, to store as much water as possible? I think that, Paul, is the point in a way: that farmers will need to hold on to that water if they are able to use it in the future.

Emma Howard Boyd: That is where the flexibility comes in, so it is about working with our partners to identify those moments where there may be more water available to store it for the next year or the next period when we are running short of water.

Q41 Chair: Are you flexible with that idea?

Sir James Bevan: Yes, and, as I said, Chair, success is being able to work with all those people who need water to ensure that they get the supplies they need at the times they need them. Currently, the system does not really militate in favour of that. It is also about making sure that we do protect and conserve water supplies, which are going to be under greater stress, for the benefit of everybody else and for the environment.

Q42 Julian Sturdy: I will just come back on something. I would comment, to Paul's point, that farming has come full-circle now, and we are moving away from a plough-based system, so I think that there is probably less run-off now than there used to be in the 80s and 90s. Maybe if we ban glyphosate that might all change, and that might have a bigger impact on flooding, but I know that is not something within your remit.

I am a York-based MP, so that gives you an indication of where I am coming from on flooding. We have seen a lot of great work in York around building up flood defences and putting investment back into the Foss Barrier, but with anything when you build flood defences, you are only ultimately moving the water further downstream. I want to talk about what the Environment Agency is doing with those smaller communities that you might not see as a key priority—I am not being critical here—because of the size of those communities, and what you can do with smaller communities to work together to get a community-based solution, and what the Environment Agency can put in, maybe financially or actually with expertise, and what you are doing with those smaller communities?

Emma Howard Boyd: There is a range of different ways that we can work. One of our priorities is around households protected. That is the key driver at the moment, in terms of how we work with the current strategy from Defra. With smaller communities it can cover everything from the work we are doing with property-level resilience to some more natural things. Again, it just depends on where that community is.

Q43 Julian Sturdy: The point I was trying to get at is if you do some flood defence work in a town or a larger settlement, that might protect that town or larger settlement. However, that might then have knock-on consequences further downstream on those smaller communities that either were not getting flooded or were getting flooded



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very, very rarely, and are suddenly now at a much higher risk because of the work that has been done upstream. How do you collate that, and how do you work with those communities to offset it?

Chair: Is it not a numbers game? You protect a lot of homes, and perhaps you may endanger not quite so many homes. Do you play that game or not?

Emma Howard Boyd: It is about looking at the catchment as a whole, rather than taking one community in isolation. You have to do that whole work, because there is no point protecting one part of the—

Q44 **Julian Sturdy:** It is a natural consequence. You build a defence somewhere; all you are doing is moving that water further downstream, because you are stopping it flooding there, so it is going to come downstream faster and then it will flood somewhere else.

Sir James Bevan: It is a cardinal principle that we will not protect one community at the expense of another, so for every scheme we design, we test and model to make sure that it is not increasing anybody else's flood risk. You are right that there is an issue around funding for protection of small communities, because the way the current funding formula works pushes us towards funding for protection of towns and cities such as York. The way that we deal with that is partly by enlarging the problem. For example, I was up in Carlisle recently. There is a big flood scheme we are developing for Carlisle, but Carlisle has a series of smaller villages outlying, which we cannot fund on their own, but if we include those as part of the bigger scheme we can give them protection. That is a model that we would use.

As our chair has also said, we would look to softer measures such as natural flood management and property-level protection. One thing we are doing in a lot of communities that I have seen up and down the country is just helping communities own and manage their own flood risk. We are helping them establish flood wardens, helping them establish a flood action group that knows what to do if they are at risk, and even things like putting monitors into their local watercourse and connecting those online, so that people can sit at home and see the height of the stream. We find that is very helpful to give them confidence and help them, with us, manage their own flood risk.

Emma Howard Boyd: One of the things that we did after the 2015-16 floods was launch a whole series of flood action plans for different catchments, so there is one for York and there is one for Cumbria. Those look at the whole of an area that is liable for flooding, and set out the different measures that could be used and who has responsibility for implementing them. Again, that is a way of involving all of the relevant communities and protecting them, from the smaller part of the catchment and the smaller communities to the larger communities, and making sure that it is joined up. That is a model that is now being used in other parts of the country for whole rivers, and again it is with that express intent of making sure that we have understood the consequences of any scheme that we are designing with others, to make sure that it is not making things worse.

Chair: Julian, you are stealing virtually all of David's questions here.

Q45 **Julian Sturdy:** My very last point is specific to York, slightly. When you are looking at designing and you look at the whole catchment—and I understand that and agree entirely with what you are saying there—if you put money into upstream activity or softer measures upstream, do you then measure the impact? I am going to



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use York as an example. If, in the Ouse catchment area, you put a load of those measures in upstream, away from York, would you then model the impact that that would have on the river level in a large city like York—the river level of the Ouse or in the Foss catchment?

Chair: If you would not mind giving a short answer to that, because it is being dealt with by Angela in a minute.

Julian Sturdy: I do apologise.

Chair: Can we have just a quick answer, please, and then we can come back to it again?

Sir James Bevan: Yes.

Julian Sturdy: Yes, you model it. Great.

Chair: David, you have been patient and they have stolen most of it.

Q46 **David Simpson:** They have. I think it is time to go home. You are still very welcome. I have listened intently. You have talked about investment. Paul has raised a number of issues to do with the Somerset Levels, but the reason for this question of mine is that we have this problem in Northern Ireland. I want to hear your view as regards streamlined permitting and the process of that, where it is needed quickly. Have you improved the process so that people can dredge very quickly? We find in Northern Ireland that process is a disaster at times. From your point of view, have you speeded that process up? Have you improved it?

Emma Howard Boyd: I will start off by saying that dredging is certainly one of the things that we do in a targeted way, in the most appropriate circumstances. It is something we have had many a discussion with Neil over, but in terms of the permitting, I know that is something that James has specifically looked into.

Sir James Bevan: The answer is that, yes, we have significantly increased the flexibility that allows landowners to dredge without requiring a permit from the Environment Agency. The best and biggest example was the change we made last year, when we introduced new measures that allow a landowner to dredge his or her watercourse without a permit from the Environment Agency. You do have to register that with the Environment Agency, but that registration is free. There are conditions, but the conditions that are attached are designed essentially to protect other communities from having their flood risk increased and to protect the environment and the habitat of the river. Provided the landowner meets those conditions, she or he is free to dredge.

Q47 **David Simpson:** Just to touch on what Julian raised earlier in relation to there being a knock-on effect or domino effect if you help one area, if farmers are allowed to dredge, they have to register, but if they are allowed to dredge as and when they feel it appropriate, how do you deal with the knock-on effect then?

Sir James Bevan: The conditions are set to avoid a knock-on effect on communities further downstream. To give you an example, under this exemption from a permit, you cannot dredge in a location where there has been dredging within the last three years. You cannot dredge near locations that are likely to give rise to greater flood risk for other communities, and those are specified in the regulations. You cannot remove gravel or heavy material from the river, because that could increase significantly conveyance, and there are certain

conditions that also prevent you from doing that dredging during times that might affect wildlife or would otherwise hurt protected species.

David Simpson: When you take all that into consideration, when are they allowed to dredge?

Q48 Chair: How many licences have you issued for dredging? If you do not have the answer in your head, I am very happy to take it in writing.

Sir James Bevan: We will give you that answer, Chair. There are two things. The flexibility we have introduced means that you do not need a licence; you do not need a permit. You just need to register with the Environment Agency and, provided you meet the conditions—and we will check—then you are free to dredge.

Q49 Chair: How many people have registered?

Sir James Bevan: I will get you that information, Chair. It does not cost anything to register. It does cost something—£170—for a permit to dredge, and you can apply for that if you want to dredge in ways that are outwith the conditions that I have described, which may well have some consequence, which we need, I think fairly, as a regulator, to satisfy ourselves are properly managed, so that we do avoid flood risk to other people. That is why you have a two-tier system.

Q50 Chair: Have you any idea at all how many have registered?

Sir James Bevan: We will check.

Q51 Chair: Surely when you change a policy and you expect people to register, I am surprised that none of you know. I do not think it is very many. I do not think you have allowed very many. Am I being suspicious? Why have you no figure in your head? I am very suspicious. You know how suspicious the Chair is on this issue; I am very surprised you have not looked it up before you arrived here, dare I say it.

Sir James Bevan: We will get you the figures, Chair. This was a policy that was launched by the previous Secretary of State designed explicitly to deliver more flexibility to farmers and landowners. That is the intent behind it. It is not a fake policy. We do have in our heads the cost of registration, which is zero, and the cost of permit, which is £170. There will be someone in the Environment Agency who has the numbers and we will get those numbers for you.

Q52 Chair: Sir James, you said in a recent *Farmers Weekly* interview that the EA has spent £22 million this year on dredging. How did you get to that figure, because we cannot find it? Where has this happened? What combination of adding up of creative accounting has created £22 million?

Sir James Bevan: I said at a speech to the Association of Drainage Authorities and was quoted in *Farmers Weekly*, as our chair has just said, that we support dredging and we do it where it can make a difference to reducing flood risk, where it does not increase anybody else's flood risk and where it is value for money.

Q53 Chair: You have made those points. How did you get to the £22 million?

Sir James Bevan: That is the figure that we have calculated we have spent in terms of activity that we would describe as dredging as part of our overall maintenance programme. It

refers to dredging taking place at 545 locations up and down the country. It is nearly double what we spent on dredging in 2014-15, when we dredged in around 300 locations. We do dredging, as I have said, in every part of the country, wherever we think it makes value-for-money sense.

Q54 Chair: Therefore, this £22 million is real. This is where the 245 schemes across the country have been added up and if you showed me those 245 schemes you could make sure it added up to £22 million, could you?

Sir James Bevan: I could, and I could tell you, if you wanted, precisely where we have done it and what we have done, for example, in Somerset.

Emma Howard Boyd: Toby is our director of operations and runs the teams that are responsible for this work.

Dr Willison: The £22 million is not a pot, with us saying that we are going to spend £22 million on dredging. We spent about £216 million, I think, last year on maintenance activities and there is a range of interventions, of which dredging is one, and our teams locally will be assessing the best intervention to reduce flood risk and maintain assets in any particular location. It happens that in 545 locations, dredging is the most effective option and, therefore, £22 million has been spent in this last year.

Q55 Chair: What have you spent of the £217 million that is in the budget? There is no outturn figure at the moment, so have you any idea what you have spent?

Dr Willison: On dredging?

Chair: No, on the overall maintenance.

Sir James Bevan: We have spent all of it. We had 100% spend on the total Environment Agency budget last year, as Toby and you have said. The budget for maintenance was about £210 million—£217 million. We do not have that breakdown for you right now, but we are confident that all that money has gone on maintenance in the last year.

Q56 Chair: The fact that the Environment Agency spent up to its budget means precisely nothing. Was the £217 million spent on maintenance?

Sir James Bevan: I am telling you, Chair, that it was and the proof of that is if you look at our key performance indicators, which I think we have made available and are in our annual report. For last year, the state of our flood defence assets, which is what we spend most of that maintenance money on, met the standard that we wanted and we are green in terms of maintaining the assets that are important to us at the standard that we want. This would not have happened if we had not invested £217 million in that process.

Q57 Chair: My final question, on maintenance in particular, is that where there are drainage boards, where there are drainage authorities, sometimes giving them help to do some of the work is money much better spent, dare I say it, than with the Environment Agency, because of your knock-on costs. Their administration costs, very often, are lower. I am always asking you this question, but are you using the drainage authorities to their best use? Are you genuinely devolving powers and money down to them? Can you give me any examples rather than saying, “Yes, we are doing this”?

Emma Howard Boyd: This was a big theme of Friday's conference with the Association of Drainage Authorities, where we were talking very much about the approach towards partnership and devolving that responsibility to some of the IDBs. Derek Antrobus, who was until fairly recently one of our chairs of the regional flood and coastal committees, was also talking about the arrangements for that particular community. At a regional level, there are a number of different committees around the country who work at a local level with local authorities. There are many members of IDBs who are also members of these committees, in terms of both allocating from a capital expenditure and from a maintenance expenditure. All of this is how we set the tone for working in partnership at the local level, and there are many co-operation agreements between the agency and individual groups of IDBs to make sure that this work is taking place.

Q58 Chair: You do not have unlimited resources—I accept that—but would you accept that there is an argument that if we spent a little more on maintenance we would not necessarily have the same problems sometimes with flooding? Do you think there is adequate money going into maintaining our flood defences and our rivers and tributaries?

Emma Howard Boyd: Again, having a long-term settlement around our maintenance budget allows for that ongoing planning. Again, Toby, this is a big theme for the work that you carry out locally through your teams, and it is very clear that the more sight we have of our budgets going into the future, the more we can plan that regular and routine maintenance. We have talked with this Committee before about how a total expenditure that gives a little more flexibility between how we are spending capital or maintenance money will allow for that ongoing maintenance of flood defences. There is no doubt that we need to make sure they continue to be robust out into the future rather than just building new things.

Dr Willison: In our capital programme where we have that six-year settlement, the scope to deliver efficiencies through that programme is very significant. If we were to have a similar revenue settlement again the scope for driving efficiencies would be very significant and you can play the supply chain much more into design and delivery of those maintenance programmes. For example, IDBs could be more part of that supply chain.

Chair: A final thing I would say is perhaps we could have in writing the sorts of money and schemes that you might have devolved down to either local authorities or to drainage authorities. I would be quite interested in that, so if we could have that, it would be useful.

Emma Howard Boyd: How we work with the IDBs goes beyond maintenance. We see this as partnership working.

Chair: I am very happy to have that information as well. That will be fine.

Q59 Angela Smith: I have listened carefully to Sir James and Emma on flood management and, Sir James, you said that it is a “cardinal principle that we will not protect one community at the expense of another”. Emma, you said, “We look at the catchment in its entirety and want to take a holistic perspective”. That is absolutely the right thing to do, but I want to use, as a test case of that approach, the Sheffield flood scheme, because obviously that is the scheme that I know best. It is being developed at the moment and the council's website makes it clear that it is a partnership with the Environment Agency. However, the scheme, as it is developed



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so far, has been severely criticised for a number of very good reasons. One is that the scheme proposes significant numbers of flood storage areas that are controversial, in some cases involving ancient woodland and which, in many cases, have involved no consultation with the landowners, including farming areas.

The second part of it is that it is depending heavily on making use of the major reservoirs in my constituency. I have the entire Upper Don in my constituency. I have 14 or 15 reservoirs in my constituency and I suspect very strongly that the water companies may not be entirely happy with having their capacity used as a major plank of a flood prevention scheme.

The third point is that it relies heavily on hard engineering, so it is broadly flood storage, use of reservoirs and hard engineering. When the design consultants, who are effectively civil engineers, were asked about natural flood management they were incredibly dismissive about it. The worst part of it is, if we are going to look at catchment, there is no involvement of Barnsley, where the Upper Don has its catchment, its source. The Don comes into Sheffield from Barnsley, of course. There is no involvement of the two authorities down the river from Sheffield, which is Rotherham and Doncaster, before the Don flows into the Trent.

On that basis, where is the Environment Agency on this? This is a complete failure to take a catchment-level approach and to take into proper account the importance of natural flood management. It is an appalling scheme, as far as I can see. It looks like a chase for Government money. It looks like a bid for the money set up in response to the floods three or four years ago when Oliver Letwin set up the Cabinet Office inquiry. It does not look like a serious flood management scheme.

Sir James Bevan: I have been to Sheffield. I have talked to local parties. We do not do fake schemes. The Environment Agency is full of people who are absolutely committed to doing the best they can for the—

Q60 **Angela Smith:** But they have you as a partner on their website. They are using your name, Sir James.

Sir James Bevan: Our job is to best protect people from flooding, and we are very passionate about that and very serious about it. We will always try to design a flood scheme that meets local needs and local choices, and consultation is a core part of what we regard as a fundamental ingredient of a good flood scheme. If this scheme is not yet meeting the wishes of significant people in Sheffield, then we need to have further conversations and we will.

We always need design schemes that deliver and they will always have a mix of techniques; you have mentioned flood storage, reservoirs, hard engineering. We will always look to see if we can build a natural flood management element. We always ask that question when we are designing schemes. Sometimes it is possible; sometimes it is not. We always want to do any scheme in a way that is, as far as possible, consensual rather than anything else, so if there was a conclusion that we needed a flood storage area, for example, we would want to work with landowners to see whether they were up for doing that and adjust schemes if certain landowners were not. The same would apply in relation to reservoirs. We are always trying to achieve the best possible effect, but in a way that the local community and all those interested want to achieve it.

Q61 **Angela Smith:** What is the real role of the Environment Agency there? Are you



advisers? Are you really going to allow your name to be attached to schemes that do not come up to standard? You have not mentioned the failure to include the whole of the Upper Don or the whole of the River Don; it is a spine of South Yorkshire, and the failure to involve Barnsley, Rotherham and Doncaster in this scheme is a failure to look at catchment levels. Surely the Environment Agency is not happy to attach its name to a scheme that, effectively, may just protect one community at the expense of another, because Rotherham and Doncaster could well feel the impact of this scheme.

Chair: What we need to get clear is what your role in this particular scheme is.

Sir James Bevan: In some schemes we are the lead deliverer and we work with other partners, which might be local authorities or others. In other schemes—and we will need to check the Sheffield one and the one you are referring to—we will be supporting a lead local flood authority, like the local authority, in delivering the scheme. However, everything I have just said would apply whether we were leading or supporting. The point is to make a difference that protects people, to not increase anybody else's flood risk and to design a scheme that meets the wishes and requirements of the local community.

Q62 Angela Smith: It would be really good if you could let the Committee know whether the Environment Agency has advised Sheffield, as the local authority, to work with the other authorities affected by the River Don on this scheme and whether or not they have properly taken into account the natural flood management work—it has already taken place in the partnership; this is more for the future—up in the Peak District where the River Don has its source. I just would really like to know what role the Environment Agency, in concrete evidence terms, has taken in all of this.

Emma Howard Boyd: It is something that we will have to get back to you with, but I visited Sheffield too and the whole nature of that visit involved talking to our partners, which included civil society. We will have to have a look at why our visit, which did involve all the right ingredients, feels very different from what you are experiencing at the moment.

Q63 Angela Smith: Do not take my word for it. There are academics locally and the Sheffield Wildlife Trust has it on its website. If you look at Sheffield Council's updates on the scheme, it is not very far different from where it started; it really is not. They have taken one or two storage sites out, but that is all. Reservoirs are not the answer to the problem, because Yorkshire Water has a balancing system across Yorkshire, so I do not think the scheme is going to be able to use the reservoirs in quite the way, perhaps, the council is suggesting.

Chair: It is interesting what Angela raises because, in a way, this is very much what we found when we did our flood report. It is trying to make sure that it is all dealt with with a very wide catchment area and, of course, the problem is it does not fit into local council boundaries and the like. That is where perhaps there is still more work to be done. Perhaps the catchment area in this case is not big enough and that is not altogether your fault, but it is how we look in the round at that bigger catchment area. Therefore, it might be useful for you to go back and really look at this one to see if it does meet the new criteria.

Emma Howard Boyd: I will go back to the examples of where we have taken some of the models of these flood action plans, which are very detailed and take a full catchment area and

have been taken to other parts of the country, to see whether this is something that could be used in and around Sheffield and the broader environment.

Angela Smith: The Chair is absolutely right in his summing up of the questions I have asked. The point is that when we had that really bad flooding 10 years ago, the flooding started in Barnsley, it hit Sheffield, but it hit Rotherham and Doncaster a lot harder. That is why it needs to be at that catchment scale.

Mrs Murray: Very quickly on this same issue, I just want to make sure that you realise it is not all in the north of England. I have two schemes in my constituency. One is Environment Agency-led; it is the Upper Tamar. I attended the public consultation there and was very impressed with the way you were engaging with the community and with Natural England to make sure that the areas flooded were managed in an appropriate way afterwards. I have another one where you are engaging with the local authority, but do seem to be adopting a very heavy-handed approach, although since my intervention you are now consulting and engaging with my constituents, who stood to have the access to their house completely flooded. There is a lot of work for you to do and talking to people and making sure that, when you are working with local authorities, you do work in a joined up way. That is something that you should take on board.

Q64 Chair: We have made our point and it will be interesting for you to look at those particular schemes. If we can all work together—local authorities, Environment Agency, water companies, landowners—and take the catchment as a wider area, it will work better for all of us. I know whenever you have a scheme there are always one or two individuals also badly affected, which is not always so easy to sort, but it does need to be taken into consideration, which I am sure you try to do. Perhaps pleasing all the people all the time can be a trifle difficult, but I know you are more than capable, Sir James, Emma and Dr Toby.

Emma Howard Boyd: It is very much our intent to be working in partnership, and it is something that we all talk a huge amount about, not just to ourselves but when we are visiting. All three of us spend a huge amount of our time out in communities, meeting with our partners. What you may be identifying is where there is a patchiness to the range of different organisations that we are working with in that intent to work in partnership. We have very many examples of where things are working incredibly well, but it is really important that we hear where it is not working well so that we can reinforce that way of working in partnership. It is something that is absolutely key to us and a strong theme of our engagement across our teams up and down the country, but sometimes working in partnership is easier said than done, because the people, sometimes ourselves included, who are part of those partnerships are starting from quite entrenched positions. Sometimes you need a change to unlock the way that something can move in a different way to deliver on that partnership working. It is certainly our intent that that is the way we want to be seen and trusted.

Q65 Chair: The final point I would make to you on this is you do have a key role in as much as, because you do not have necessarily a geographical boundary, you are probably the ones who need to try to widen the catchment area. I know if you are working with all the locals it is not so easy always to do that, but somebody needs to have a co-ordinating role in widening the catchment area. That is what we have



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learned over the last few years, and if you want to present us with some evidence where we can help to support you through Government, we are very happy to do so. That is certainly what we found with our report. It is about trying to make sure you take the whole catchment area into consideration, so I am sure we could perhaps help there, if necessary.

Emma Howard Boyd: It would also certainly help us, because as soon as we understand that there is an issue, say, for example, with Sheffield, the sooner we can potentially do something about it. We put a lot of effort, through our area directors, into engagement with local MPs or parliamentarians, and we would hope that these issues get raised sooner rather than later, because then we can get active in resolving them and try to unlock some of the blockers.

Chair: We will definitely take you up on that offer, so thank you very much for that.

Q66 **John Grogan:** Moving the focus on to waste, one of the achievements of the Environment Agency in recent years has been reducing pollution from landfill sites. You have been very successful with prosecutions and so on of these, but I want to ask about waste-to-energy plants. There was a consultant's report over the summer, which suggested that we now have too many incinerators and waste-to-energy plants and there was a danger of a perverse incentive not to recycle, and that we would be putting what waste that could be recyclable into these plants. I do not know whether the Environment Agency has a view on that research.

Emma Howard Boyd: It is an area that we have looked at, not least in terms of how we regulate waste as a whole. Going back to the area that we discussed in terms of waste crime and some of the other waste issues, we need to make sure that waste is used as a resource. We have a very specific role in waste-to-energy plants, in that we are looking at the environmental aspects of this as opposed to planning, where that is also involved in terms of other issues. It is not just an issue of whether there are too many or too few waste-to-energy plants; it is also about the arrangements for supplying waste-to-energy plants, as to whether the contracts have been set up in a way that either locks people in for the long term or locks out people where there are supplies of waste that become available. For each of the areas that we are looking at in relation to waste pollution incidents, we are drilling down, whether it is landfill sites, waste to energy or other aspects where we are monitoring and regulating pollution incidents, on what the specific drivers are that we need to understand, so making sure that we have the technical and economical expertise so that we are regulating those in the way that is appropriate, to make sure that we have not set up unintended consequences.

Q67 **John Grogan:** As you say, you have a very specific role in waste-to-energy plants, in terms of the permits and so on that you grant and then there is also the planning permissions. I have noticed a slight difference between how the Scottish Environment Protection Agency works in these circumstances and how you work. Sometimes you basically say you cannot comment on the need for the plant or the sustainability of a particular piece of technology or waste disposal method. Sometimes, in Scotland, they not only comment but they object on grounds of the waste hierarchy and so on at the planning stage. Often, planning officers and local populations look to you, as the experts, at the planning stage and are surprised that you are not more involved. Is it a difference in law in Scotland or is it their Celtic temperament that means they are a little more aggressive in the planning process?

Emma Howard Boyd: I am going to ask James to answer this question, not least because last week he was involved in a meeting of the different chief executives of the different environmental agencies across the devolved Administrations.

Sir James Bevan: First, deriving energy from waste is a good thing to do. It is much better than burying it in landfill, as you say. Also, as the Chinese increasingly ban waste exports coming to China, we are probably going to need to do more getting of energy from waste in this and other countries. We are quite robust in the way that we regulate energy from waste incinerators, because they are potentially hazardous and, as you know, they need both planning permission from the local authority and, if they are of any size, they need a permit from the Environment Agency.

We are both robust and pretty open about how we get to those decisions. The process of acquiring a permit, if you want a permit for an energy-from-waste plant, is subject to public consultation twice. We always say, first, there will be a consultation and then, if we are minded to issue a permit, we will go out and have another consultation about that. We will only give you a permit if we are absolutely satisfied that the plant is designed and going to be operated according to the highest standards and based on the best available techniques. If we do give you a permit, we will come back and attach a lot of conditions and ensure that we monitor and inspect the plant to make sure that it is operating correctly. Ultimately, if it is not operating in the way we have said it has to be operated, we have enforcement capability, which we will use. I do not recognise that there is a difference between us and the Scots. We are pretty robust ourselves about this.

Q68 John Grogan: Without labouring the point, you do not comment extensively at the planning process. You have never objected, as they have in Scotland, to a particular application. Permitting is one thing and best available technique is one thing, but there are wider environmental considerations at the planning process stage that, in Scotland, they get stuck into and you do not. Maybe it is something to reflect on and write to us in answer to my question of whether it is because the law is different or because they adopt a very different stance, because they do. Local people obviously have a concern in these issues and they look to the Environment Agency or the Scottish Environment Protection Agency to have a view, not just to say, “We are going to give the best available technique when it comes to us”.

Sir James Bevan: We do have a view. I guess where we intervene most significantly in the process—we will be a statutory consultee on planning permission requests—is in relation to whether or not we issue a permit. We do not have to issue a permit and we will not issue a permit unless we are satisfied that that plant can be operated in ways that are safe for people and the environment. We are very explicit about our reasons for either issuing a permit or not issuing one.

Q69 John Grogan: To satisfy the general population, are you convinced that most waste-to-energy plants are safe, in health terms and so on, and that the technologies are safe? Public Health England are the experts on this and they have been doing reports on this since 2012. Would it be helpful if they published everything they have? I think they are doing it with Imperial College. It seems quite a while they have been doing this, since 2012. It would be a good idea to have it all in the open, would it not?

Sir James Bevan: Transparency is always better than the opposite. We are going to need energy-from-waste plants for as far ahead as we can foresee, and I am satisfied that the ones that we permit and allow to operate in England are safe.

Q70 Angela Smith: To go on from what John said, I do wonder whether the Environment Agency should take on a monitoring role. It is related to this point about the waste hierarchy. Yesterday, I met the wood panelling industry, who tell me that their very significant use of recycled wood to make their products is becoming much more difficult, because more and more of the waste that they use to make new wood products is now going into energy. Of course, energy use is lower on the hierarchy than recycling, so there is clearly an imbalance beginning to appear here in the recycling of wood versus the burning of that wood in energy plants. I wonder what the role is of the Environment Agency in monitoring that and making sure that, if necessary, the Government are able to act.

Chair: Also, very often, they are getting the Renewable Heat Incentive, albeit from the Department for Business, Energy and Industrial Strategy, not from Defra. I have a place in South Molton that recycles panelling for chipboard and the like, and they are finding it very difficult to get the waste wood because it is being sucked out lower down the hierarchy, but also being subsidised by the Renewable Heat Incentive.

Angela Smith: Exactly.

Emma Howard Boyd: This is where the waste resource strategy could put some attention and also joining up with different Departments, making sure that it is not just considered from a Defra perspective and Defra group perspective, but also with BEIS. That is certainly the intent of bringing together those producing waste and people who could be using that waste and making sure that it is something that is not just Defra-led but involving officials from BEIS as well.

Q71 Angela Smith: The Environment Agency will ensure that this issue is considered.

Emma Howard Boyd: We are taking part in that group.

Q72 Julian Sturdy: I just want to ask who does the air quality monitoring. We have talked a lot about air quality; it is a big issue across the country. Who does the monitoring around the incinerators? Is that within your responsibility, or is that within the environmental health responsibility of the local authorities?

Sir James Bevan: There will be some monitoring done by local authorities and some will be done by us, particularly if there is an area of concern. We have a monitoring vehicle and we will park it outside a location of concern if we think there is an issue, which could include putting it outside an energy-from-waste facility.

Q73 Chair: With a waste-to-power incinerator, are you directly responsible for monitoring emissions from that?

Sir James Bevan: My understanding is no.

Dr Willison: There will be permit conditions that require the operator to do monitoring of the stack and there will be limits on emissions that are hourly, 24-hour and annual, generally. We will audit the results from that monitoring on a periodic basis, depending on the size of

the installation. That is how we are involved in ensuring that the permit conditions are adhered to.

Q74 Chair: So you do police it, then. You need to be a bit clearer. It is slightly opaque. The incinerators are monitoring themselves, so they have test equipment in the stack—I get all that—and you just check it, but surely if there is a problem, it is for you then to put pressure back on them, is it not?

Dr Willison: As James said, we have the ability to do monitoring in any part of the country if there is a problem. Local authorities have a statutory role. For installations, whether energy-from-waste, power installations or concrete plants, where there is an emission to the atmosphere, we write permit conditions that require a frequency of monitoring by the operator and that the emissions come within certain—

Q75 Chair: If the emissions are not right, is it you that then says—

Dr Willison: Yes, if it is not right, we go in and enforce that, yes.

Q76 Julian Sturdy: I am still not 100% convinced how you know the emissions are not right. How do you know the emissions are not right?

Dr Willison: We go in and audit the results.

Chair: Do you put any of your own equipment in?

Q77 Julian Sturdy: Yes, I was going to say; you are just working on what they tell you, are you not?

Dr Willison: It is the operator who is doing the monitoring. This is common across many industries. The water sector, for example, do the majority of their own monitoring, then we go and audit the results of that monitoring.

Q78 Julian Sturdy: When you are looking at incineration towers, I am not an expert on this, but I am led to believe that the worst particles that are emitted are the very smallest particles, which then travel the furthest. Therefore, it might not be the communities that are next door to these incinerators that are affected to the highest level; it might be the communities that are perhaps six or seven miles away.

Chair: Yes, which way the wind is blowing, basically.

Julian Sturdy: Exactly. So how is that monitored?

Sir James Bevan: Before we even issue a permit we will model, case by case, wind direction, emissions, size of particle, to identify where those particles might end up and what appropriate limits and other measures you need to put in place to ensure there is no threat to people or environment. Those will be the conditions we will impose and they will be case by case, based on extensive scientific modelling and they will be monitored, as Toby has said, once they are in place.

Q79 John Grogan: In the last five years, have you had to take enforcement action against many incinerators—one or two, nine or 10?

Dr Willison: We undoubtedly have done. I do not know the precise number.

Q80 John Grogan: Could you write to us with some details?

Sir James Bevan: There is a whole range. At one end there is the friendly word, advice and guidance, at the other end there is prosecution, and in the middle there is a range of enforcement measures we can take.

Q81 John Grogan: It would be interesting to have a summary. Finally, is there a tension when you are regulating incinerators? We talked about the planning and your permits and so on. With the height of the stack, probably for the planning, the lower it is the better in terms of impact on neighbouring communities. From your point of view, though, it probably needs to be up into the clouds, does it not, in terms of best available technique? You are pretty robust in doing that, are you, in not compromising?

Sir James Bevan: Yes, and it is a dual key, essentially. You have to satisfy the planning requirements, which, as you say, may force you in one direction, but you also have to satisfy the Environment Agency that adequate protections are in place. Only if both of those conditions are satisfied will you get the ability to run your operation.

Q82 John Grogan: Do most people do the two processes together? Is it quite unusual to do one then the other?

Sir James Bevan: Well before there is a formal proposal put forward, either for planning permission or for a permit, we will almost certainly be in touch with the local authority, planning authorities and with the company, and will be discussing in advance the kind of proposal that they might want to put forward and seeking to influence that, to ensure that it is as environmentally friendly as it can be.

Q83 John Grogan: Finally, would you consider looking at the Scottish experience, where sometimes at the planning stage they say, “There are reasons why this is not very good in terms of the waste hierarchy”? Would it be something you could look at and perhaps write to us to say whether you are empowered to do that if you wanted to and that there is nothing to stop you doing that?

Sir James Bevan: Yes, absolutely. As our chair said, we regularly meet our Scottish colleagues; we have lots to learn from them and I would be very happy to talk to my Scottish colleague about what he does.

John Grogan: That would be very interesting, thank you.

Q84 Julian Sturdy: I wanted to touch on illegal waste sites, the high-risk sites. You have certain targets to meet on how you are controlling or reducing the number of illegal waste sites. Can you give the Committee an update on where you are with that?

Emma Howard Boyd: This has been something that has been absolutely front of mind for the board and the executive directors in relation to the stats that we gave earlier in terms of the number of waste sites that we are identifying—

Chair: You were saying over 1,000 a year, were you not?

Emma Howard Boyd: Exactly, and that has gone up over recent years. One of the things that we are concentrating on is a combination of factors. First, do we have the right powers? This is a very live conversation that we have with Defra in terms of making sure that we have the right actions to take when we know and have identified that we may be dealing with a waste site that is behaving not as it should. I should go back and say that we reckon that 95% or

96% of the waste operating industry is responsible. Where we have the sorts of activities that we are talking about, this is at the irresponsible to downright illegal end of the spectrum, with sometimes some quite dangerous activities that are taking place, certainly in terms of the behaviours that some of our staff are having to deal with. Therefore, there is a strong desire from particularly the large waste operators to work with us, because this is not only meaning that money is not going to the Treasury but also not going to responsible business. There is a huge group of people wanting to work with us to make sure that we have the right enforcement, the right focus and the right powers.

We also spend a lot of time working with other enforcers. For example, those at the illegal end of the waste spectrum are typically avoiding tax, so we work with HMRC. We work with DVSA to look at the standards of vehicles. We have worked with the police and stopped vehicles to check whether they have the right licence and we are looking at the right permits as well, because often the same trait of not doing things quite properly is something that you will see. This is a very strong focus, not least because these sites can be potentially hazardous to local communities because of fire risk as well. This is something that we, as a board, have put a lot of time and effort in, and we only recently visited Stoke, to go and see one of our sites where we are very keen to see that it is dealt with in an effective way.

Q85 Julian Sturdy: What is the success rate? I am pleased to hear what you have said, but what is the success rate at the moment?

Sir James Bevan: In 2016-17, we stopped 824 illegal waste sites, which, as Emma said, is between two and three a day. We reduced the overall number of high-risk illegal waste sites from 272 to 253. We did not reduce, as we said in our annual report, the numbers by as much as we wanted. We failed to achieve that and the fight continues this year. It is a difficult fight, because it is a very attractive business model if you are a criminal. You make all your money upfront from accepting this waste and then you have no incentive to treat it properly; you have every incentive to just dump it. We are dealing with some extremely nasty and extremely violent people, and I just want to pay tribute here, if I may, to our staff, who take risks for us and go up against some very unpleasant and threatening people every day of the year and are doing a fantastic job in very difficult circumstances.

The remedy, as the Chair has said, is a combination of greater powers—we have some and we are acquiring some more; greater collaboration—the Chair has identified that, and I was in Scotland talking to Scottish, Irish and Welsh colleagues about how we can collaborate across the UK on this; intervening further up the waste chain, so we stop these problems before they happen; and more resources. Part of the debate that we are having with the Government about our review of charging is about increased charges for waste permitting, which would give us more resources from the legitimate companies to go after the bad guys. This is one case where business is keen to pay a bit more, because legitimate waste businesses are being damaged by waste criminals and they are prepared to pay a bit more for their permit in order to resource us to go up against the bad guys.

Q86 Julian Sturdy: So far, I agree with most of what you have said and you are right to pay tribute to the staff within the Environment Agency; that is very important to do. If you are talking about increasing fees for waste permits, is there a potential knock-on consequence to things such as fly-tipping and things like that, which we are seeing increasing? We are seeing it increase in rural areas. Again, it is an illegal activity with criminality, to a certain degree, as well. It is a criminal offence, but

some of that is organised through criminality. To stop that increasing, is there a knock-on consequence of, if you increase fees, there is potentially more fly-tipping? How do we police that level?

Emma Howard Boyd: This is where we need to go back up the chain to the duty of care and remind everybody that you have responsibility for your waste—that if you, as an individual, are doing up your bathroom, it is not going to end up in a field. The waste generators—it could be the supermarkets; it is every business—need to be making sure that they are sending their waste to a legitimate waste operator. We need to be looking at all these things together to make sure that you do not end up with a loophole or a get-out clause so that something escapes. This is why it is very important to look at resource efficiency and productivity as well, to make sure that we are looking at where waste can become a resource rather than just waste. The whole spectrum needs to be part of the approach to dealing with this.

On the powers too, it is some of the things that we are talking about, and making sure that once we have identified that a site might be stockpiling waste, we can get in and shut it very quickly. These are things that we have looked at across the broad range of activities to make sure that it is appropriate.

Another thing that might be worth considering is whether operators put up some sort of financial settlement—a bond—so that we know that there is money set aside for clearing up the issue if it becomes something that is problematic. We are aware of some sites that started off legitimately, but because the bottom fell out of their particular market of waste product, it is then being stockpiled, hoping for the market to come back, and when that has not happened, it has been abandoned.

There is a plethora of ways to make sure that we are working together, so that we do not have these unintended consequences of putting in one measure here that then results in greater amounts of fly-tipping.

Q87 Chair: Going back to my original question, I have had one or two cases in the constituency where farmers believe they legitimately are having soil and rubble tipped into a hole in their field—and some of these can amount to 50,000 or 60,000 tonnes, so really big stuff—and then they find that the operator doing it does not have the correct licences. However, of course, it is very often the farmer who is liable. Somehow or other, we need to get through to the farming community that there is a real risk with allowing this tipping and you have to be absolutely certain. Reinforcing that to them would be useful, because then they will not necessarily be taken in by somebody who is coming along. This is not necessarily hazardous waste; this is soil and stone and stuff, but it still cannot necessarily go where it is being put, and they find they are liable for huge fines. Sometimes they may have understood what was going on, other times I am not quite sure they do, so I just think there needs to be a bit of reinforcement, on that side, of the information, so that farmers do not find themselves in something unforeseen.

Emma Howard Boyd: It is a big project of ours to look at what the solutions might be. A lot of time and effort is going into trying to think through the unintended consequences, but how you can also make sure that, as a legitimate supplier of waste, you are ending up absolutely with the right waste manager and that it is going to be dealt with correctly. All of these things are absolutely key.

In terms of our staff, we now have our staff trialling cameras so that they can record some of the activity that they are having to face, but it is a real problem for our teams that are dealing with this particular issue.

Q88 Angela Smith: I ought to declare an interest here, as co-chair of the All-Party Parliamentary Water Group with Baroness McIntosh. We are all aware that there is a growing concern around sewage spills into our rivers and seas. I do not like singling out water companies, but we know that Thames Water was fined earlier this year and we know there is a high level of incidents with South West Water, but they are not the only two. I would like to hear the Environment Agency's views on how to tackle that and what you are doing to tackle that growing problem. It should be going the other way, really.

Emma Howard Boyd: Again, through some of the reports that we have produced, we are seeing a large amount of investment from the water companies going into solving a vast range of water-related issues. However, it is absolutely clear that where we are seeing the wrong kind of activity we have been pleased to see that the size of the prosecution fines has increased. We know that it is really important for the boards of these companies to understand that, when the behaviour necessitates it, there is a hard stick and we have come a long way in recent years in terms of the size of fines that are now being seen.

However, we absolutely need to work and have strong relationships in terms of the ongoing monitoring of that work, so each water company is being met with very frequently in terms of going through the indicators that are key to our work. Only recently we published a report with Natural England to set out some of our expectations for how we should be working with the water industry ahead of the discussions setting out the terms for PR19, very much with the intent to look at a whole range of water pollution incidents, their role in flooding and in drought, to be captured in that next five-year framework for our relationship.

Q89 Angela Smith: The fact that you are meeting each water company to look at the indicators, the Natural England report and the use of the big stick, as you described it, quite rightly, is all very good, but surely there is a role for Ofwat in all this. I know that Ofwat is very keen to bear down on water companies in relation to customer services and making sure that water quality is improved. How do you work with Ofwat? They are a key player in all this. They are the regulator of the industry.

Emma Howard Boyd: Again, we meet with and discuss these issues with them incredibly regularly, and have one of our members of staff on secondment with them at the moment, particularly in the run up to PR19. Toby, do you want to talk about this, because this absolutely fits under your remit?

Dr Willison: Yes. As Emma said, we currently have a member of staff seconded into Ofwat in the run-up to PR19. As Emma also mentioned, we do the annual environmental performance appraisal of water companies, where we publish their performance across a range of environmental metrics. That publication is punctuated by a meeting that I have with all the chief executives and director teams of each of the major water companies. Ofwat is part of those annual meetings as well, so that they are seeing and hearing the conversations about the environmental performance of the water companies alongside the SIM type of measures that Ofwat is looking at. All of that is working together to drive down the number

of serious pollution incidents from the industry, which has halved in the last 10 years, so there is progress, but we can make more progress.

Q90 Angela Smith: From that, I take it that the Environment Agency will be feeding into the planning process for the next control period for Ofwat.

Dr Willison: Absolutely.

Q91 Angela Smith: On the Water Framework Directive, obviously the target is to have all watercourses at good ecological status, and I think it is surface water good chemical status as well. The dates seem to range between 2021 and 2027, but I think 2027 is the deadline. How do you think you are doing?

Emma Howard Boyd: It is something that we are focusing time and effort on. In terms of the way water is categorised, we are still moving up the scale in terms of the definitions of water. The whole framework means that if you fail on one particular issue you fail for a particular category. In my view, and I think in our view, that masks the work that is going on across the whole range of different indicators that show where water quality is improving.

As we go through the different factors that impact water and its quality, it is arguably much easier to work with a water company, notwithstanding what you just said in terms of some of the ongoing issues that still happen. We know that where a lot of our attention now needs to be focused is on the agriculture and farming community. That is much more difficult to deal with, and much more dispersed, in terms of the incidents that are taking place. Effort is going into this by a lot of our staff. We are seeing improvements, but the overall summary of that, because of the categorisation, probably does not show it as strongly as we would like.

Q92 Angela Smith: I understand that a significant part of the pollution of our watercourses is due to agricultural pollution. I also understand that water companies and the Environment Agency are working with farmers to try to find ways around that problem, so I appreciate that. The key question is: are we going to meet the target of all our watercourses achieving good ecological status by 2027? If we are not, that new body we were talking about earlier may be taking you to court, or may be taking the Government to court.

Sir James Bevan: My honest answer is that, no, we are not going to meet that target. That is partly the about definition, for the reasons that Emma has identified. The current definitions require you to meet a series of different criteria.

Angela Smith: I understand that, yes.

Sir James Bevan: There is a definition issue. Emma is right that, post exit from the European Union, there is a case for looking at whether those are the best definitions to ensure the right quality of water. I am not talking about reducing environmental standards. I am talking about definitions that drive behaviour and resources so that we get the best possible uplift in water. There is an issue there for after we have left. Because of the way it is set up, I do not think we are going to hit those targets. The UK is not alone in that. Most EU member states will not meet those targets. That does not make it satisfactory, but it is worth remembering.

What we should be pleased about is, first, the effort that is going into improving water quality. Underlying water quality overall is improving, even if those indicators are not being

ticked because of the definitions. We should also be pleased about where we are on coastal bathing waters. We now have much tighter standards than we had a few years ago. I think it was only six or seven bathing waters in England that failed in the latest stats. We are making progress but there is a lot more to do.

Angela Smith: Thanks to the European Union, yes. What you have just said about perhaps looking at the ways in which we arrive at those standards is fascinating. I do not think we have time, Chair, to dig into that particularly, because that is very complex. If there is any written evidence you could provide as to how we may better meet that target, we would be very interested to hear.

Q93 Chair: That would be very useful. Can I just ask you one last question, before Angela goes onto her next question? Naturally, if you are prosecuting a farmer, a factory or anybody else that has potentially polluted, that is absolutely right. In some ways, we feel they are easier to pick off sometimes than the water companies. We have to be assured that you are prepared to take on the big beasts, rather than just the small beasts. I know you will say yes to that, but I would like it clarified that you are prepared to take on the water companies. You can give them time to put it right—I accept all that—but there needs to be pressure brought to bear on those.

Sir James Bevan: Let me say yes and give you some numbers to back that up. From 2011 to September of this year, we have prosecuted South West Water 35 times, Thames 23 times, UU 22 times, and I can go down the list—we can write to you if you want—to demonstrate that we do go after the big water companies. As the chair has said, we are very pleased that the courts are now awarding much heavier fines against them.

Chair: That is good clarification.

Q94 Angela Smith: My question is about shale gas. I am not using the derogatory term, which I think is inaccurate. What plan does the Environment Agency have in place to ensure sufficient skilled staff are available to ensure air and water quality are protected at shale gas drilling sites across England? This is important if we are going to get that industry off the ground.

Emma Howard Boyd: This is a particular activity where a huge amount of time and effort has gone into making sure that we are prepared for the raft of environmental regulation that needs to be put in place. We are also hugely committed to putting the data that we will be monitoring into the public sphere through Citizen Space. As far as our role as the regulator, there is a huge emphasis in terms of community engagement. There has been a lot of time and effort working with the Health and Safety Executive. We have been meeting with communities and explaining our role, their role and what we are going to do to protect those communities where fracking is likely to take place, the remit of that and the precise things that we are looking at and putting in place to safeguard those measures.

There is then the transparency, so making sure that we are putting that information into the public domain. I think that has helped a number of communities feel more reassured because of that transparency that we are committed to. There will be ongoing monitoring, through both unannounced as well as standard visits. All three of us have been to prospective sites. We have seen the amount of equipment and monitoring that is taking place to make sure that our environmental permitting is done in a very responsible and open way. That is the

commitment we are giving. Also, there is ring-fenced money that has come from BEIS in terms of the resources allocated to staff working on fracking.

Sir James Bevan: To add to that, in terms of numbers—

Angela Smith: I was going to say it is about if you have sufficient skilled staff. I do not doubt for a minute you intend to do this properly.

Sir James Bevan: Yes, we have currently got about 100 members of staff who are fully trained and competent to regulate shale gas. That is more than double the number that we had in 2013. We will continue to increase those numbers if the industry develops. An important point to underline is that they live in the communities that they are there to protect. It has been striking to me and Emma when we have gone to visit those places that the local people do not trust the companies, but they do trust Environment Agency staff. They can tell that the Environment Agency staff are committed to protecting the environment and the communities that they live in. One area where we add value as an organisation is having staff who are based in the communities that they are there to protect.

Q95 Angela Smith: Do you do baseline monitoring?

Sir James Bevan: Yes. There is a whole process of monitoring, similar to the one we were talking about earlier in relation to energy from waste. In order to get various permits to do your hydraulic fracturing, we will design with the company what we consider to be appropriate levels of emissions. There will be a monitoring arrangement, which, as Toby was saying earlier, will normally be done by the company, or, in the case of the fracking companies that we visited, is subcontracted to a third company. We will audit and monitor those results.

Q96 Angela Smith: Just finally, could I confirm that a lot of the debate about this, if I can term it as such, has been around the risk of fracking chemicals leaking into the watercourses underground, the water table. Of course, there is the thickness of the concrete and the steel, and it goes well below the water table. As far as I understand it, the greatest risk is in relation to the management of chemicals at ground level, on the site itself. Can the agency confirm that will be monitored as rigorously as any other part of a drilling operation?

Dr Willison: To give you some reassurance, yes, because those activities are also part of the permit conditions. Also, with the very early fracking activities, where we know that there will be even greater scrutiny than usual, we will have people on site watching and monitoring in real time. Places like Kirby Misperton, the Third Energy site, will be the first place with fracking activity. We will have four members of staff on site. Two will be looking, exactly as you describe, at the operational activities, and two will be doing real-time monitoring of groundwater and hydraulic conditions. We take this incredibly seriously. As Emma said, the confidence of local communities is so vital.

Angela Smith: That is right.

Q97 Chair: Angela is quite right. We took evidence, I think, prior to 2015, or at that stage. The fracking industry maintains that the fracking and the water they use will be well below any groundwater, and there will not be any contamination of the groundwater. That is what residents need to be reassured of. We have been assured this afternoon that you do have the necessary staff available to monitor that. As you

quite rightly say, as we do these so-called pilot fracking areas we need to be particularly vigilant to make sure. Public confidence is something that is difficult to gain and very easy to lose. That is the issue. I am sure you are aware of that. You say you have 100 staff now. That is double what you had before. I take it the industry will probably have to pay for the monitoring anyway, will they?

Sir James Bevan: They will have to pay for the permit and the other licences that they need to operate.

Q98 **Chair:** Does that cover a lot of the staff costs?

Sir James Bevan: That will fund quite a lot of the staff costs. These are staff who are more or less full-time on onshore oil and gas, including fracking. There are many others of our staff who are spending a proportion of their time. Our area directors, for example, will be regular visitors to the local communities. I have been with them, as Emma has.

Q99 **Chair:** Yes, so that has a knock-on effect.

Sir James Bevan: There will be more than 100 people in total in the Environment Agency making it their business to make sure that fracking happens in a safe way.

Q100 **Chair:** I think we probably need to send the chief executive along, do you not, for most of the fracking sites? It is all right; I am being slightly facetious.

Emma Howard Boyd: We prioritise this as something to visit because we understand. Part of that is meeting the communities as well. We went on separate visits. We have done one visit together and one to different sites. We also made sure that we met with the community liaison group and were invited into a local resident's house, where they brought together a group of people. This made sure that they could have the same sort of discussion you are having right now with us, because we see this as being hugely important to get right.

Chair: We are reassured by that.

Q101 **Julian Sturdy:** Most of my questions have been answered, but I will just come back on one point. On the groundwater, I understand the process and that they are drilling much lower than the groundwater aquifers. At these test sites, will you be monitoring those aquifers or the surrounding water sites? You will be testing quality at all times, I am assuming. Maybe talk us through that process.

Dr Willison: We have a groundwater monitoring network across the country anyway. We will be looking at that monitoring to assess whether there are any impacts in the short and medium term to the main aquifers. Also, at the sites where hydraulic fracturing will be occurring, we will be monitoring what you might call the shallow level waters to see if there is any movement from the operation that might be heading towards those deeper aquifers. I do not want to describe it as belt and braces, but there are multiple approaches to the monitoring to give us the assurance that there is not any of this material getting out of the—

Q102 **Julian Sturdy:** Also, I suppose, levels of water that are flowing through them, so it is not changing the flow. Are you monitoring that?

Dr Willison: Absolutely, yes. It is qualitative and quantitative.

Q103 **Chair:** I think the argument is they take the water to use that they use through the fracking process well below groundwater levels, do they not? That is also key. The

point that Julian makes is if there was less water in those aquifers, then that water is probably being taken from them, or potentially could be.

Sir James Bevan: Yes, and they will need an abstraction licence from the Environment Agency to take that water, so we will monitor it that way as well.

Q104 **Angela Smith:** I just thought of one final question. Do you feel confident that the staff involved from the Environment Agency in this nascent industry are properly protected from intimidation?

Emma Howard Boyd: We feel we need to put a lot of time and effort into making sure that they are well respected in their community. It has got quite fraught recently, particularly at the sites. When I drove to the site in Preston Road, which is one of Cuadrilla's ones, it was at a particularly active time. We had to go through a police cordon. A lot of effort is taken at the local level to make sure that our staff feel adequately supported. It is an important question. Some of this activity is quite dangerous. It feels quite active and intimidating at the actual sites.

With the communities, it feels very different. We have had alerts where staff have been made aware that some sort of activity might be taking place. In those cases, we have alerted them to be very cautious. On the whole, the communities have been very respectful of our people, but you may have more direct reports.

Dr Willison: They have been. We take the welfare and the wellbeing of our staff incredibly seriously, not just at fracking sites but the illegal waste sites we have been talking about. Part of the reason for having the number of highly trained staff that James referred to is so that, where necessary, we can shift staff around so they are not being exposed to abuse or unpleasant behaviour in the long term. We do that across a range of the sites that we regulate where this might be happening. As Emma said, in the communities it has not been a problem at all.

Q105 **Chair:** Staff are not being targeted by social media or whatever.

Emma Howard Boyd: Periodically, yes. It is something that we have to take very seriously to make sure that they are feeling supported in this work. It seems to be something that more and more groups of people are subjected to.

Q106 **Chair:** It is something we need to face down if we can, and have those staff have some support as well, which I am sure you are looking at.

Emma Howard Boyd: It is a very key area of focus. A lot of time is spent reassuring our staff. It is not just on the environmental pollution side. It is equally when we have been through flooding. There can be periods of time where people are working tirelessly, around the clock, but can also face local issues.

Chair: Sometimes it can be genuinely emotional and emotive. Other times it can be more systematic abuse. It is making sure you identify the one from the other, which I am sure you do.

Thank you very much. That was a very good evidence session. We have put you through your paces. Thank you very much for your answers. We have asked for some written evidence, which you are going to furnish us with. We appreciate your



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time. It has been a good session. Thank you. You have been here two hours and 20 minutes, so well done. It probably feels like longer, does it?

Emma Howard Boyd: I completely lost track of time.

Chair: It feels like only five minutes, yes.

Emma Howard Boyd: Thank you very much for listening to us and giving us the opportunity to talk through our work.

Chair: Thank you very much.