



HOUSE OF LORDS

Environment and Climate Change Committee

Corrected oral evidence: Drought preparedness

Wednesday 12 November 2025

11 am

Watch the meeting

Members present: Baroness Sheehan (The Chair); Lord Ashcombe; Lord Duncan of Springbank; Lord Jay of Ewelme; Lord Krebs; Lord Layard; Lord Lennie; Lord Mancroft; Lord Rooker; Earl Russell; Lord Trees; Baroness Whitaker.

Evidence Session No. 2

Heard in Public

Questions 16 - 30

Witnesses

[I](#): Baroness Brown of Cambridge DBE FREng FRS, Chair, Adaptation Committee, Climate Change Committee; Richard Millar, Head of Adaptation, Climate Change Committee.

Examination of witnesses

Baroness Brown of Cambridge and Richard Millar.

Q16 **The Chair:** I welcome our next two panellists and start by giving a profuse apology for running over time and being late to start. There is a great deal of interest in this issue, as you can imagine. We are very pleased to have with us Baroness Brown, Chair of the Adaptation Committee, and Richard Millar, Head of Adaptation, Climate Change Committee. I wonder whether you would like to take a minute to introduce yourselves and your work.

Baroness Brown of Cambridge: I chair the Adaptation Committee of the Climate Change Committee, and Richard leads our secretariat team on adaptation in the Climate Change Committee. We are, of course, the Government's statutory adviser on the national adaptation plan. We give advice on the climate change risk assessment, which the Climate Change Act requires the Government to produce every five years.

For the last 10 years, we have also managed the production of the evidence base for the climate change risk assessment, which we call the technical report, as well as providing advice to the Government on what should be on their climate change risk assessment. That technical report draws on the expertise of hundreds of scientists across academia, as well as consultants. All the people you had in front of you just now have contributed to it in the past; indeed, Jason Lowe from the Met Office is co-ordinating it on our behalf this year.

The technical report for the climate change risk assessment and our advice on it will be published in May next year. This is the fourth climate change risk assessment. The third one was published five years ago. That will be followed by the Government, about a year later, producing its response to that in terms of the formal climate change risk assessment. The thing that will then follow that is the national adaptation plan, which the Government produce. Again, that happens every five years.

The Chair: Would that be NAP4?

Baroness Brown of Cambridge: That will be the fourth NAP, yes. At the moment, we are in the third NAP, which was produced, of course, by the previous Government, but that will roll on until there is a new one.

The Chair: What are the impacts of drought on infrastructure, both urban and rural? What is your assessment of the potential impact of drought on the economy, and the impact on jobs and businesses?

Baroness Brown of Cambridge: You have heard that with climate change we can typically expect drier summers and wetter winters, but also continuing weather variability. On average, things will probably get wetter. Of course, they will get hotter as well, especially in the east and the south-east of England. This year's spring may not have felt like a particularly hot spring to many people, but we should just remind ourselves that in the first three months of this year we beat the annual

record for the area burned in the UK. Drought has lots of consequences. Wildfires is becoming an increasingly important one for the UK.

The Chair: The fire service was busy.

Baroness Brown of Cambridge: Can I take you back to the summer of 2022? That was the worst drought since 1976, and it just illustrates really well the impacts that drought has. I am going to take you to France, because France does particularly good data collection. Its equivalent to the Climate Change Committee gave a very good presentation on this. In France in 2022—where they were experiencing obviously a slight variant but essentially very similar weather conditions—2,000 communities were under water restrictions and seven had total interruption to their supply. In the UK we had 20 million people under water restrictions in the UK, which was mainly hosepipe bans.

They saw 72,000 hectares of wildfires, which overwhelmed their emergency services. We saw extreme wildfire conditions, particularly affecting urban areas. In east London, the Wennington grassland fire destroyed 20 homes, and the London Fire Brigade had its busiest day since World War II. Drought has the ability to overwhelm our emergency service if we are not careful.

In France, three-quarters of metropolitan areas were affected by exceptionally dry soil conditions, leading to damage to buildings, underground pipes and other infrastructure. We also suffered damage to buildings and other things. We were talking to the insurance industry recently, and it has recognised that in terms of increased insurance claims for building damage. I live in a house built on clay, and you can see the progression of cracks that we experienced during and after that summer. In France there was a big spike in insurance claims; from our discussions with the insurance industry, that is something that was also characteristic in the UK.

Agricultural production in France saw a 10% to 30% drop in key areas, and in the UK we saw low crop and milk yields associated with that summer. France has more hydroelectric power than we do. It saw a 20% drop in hydroelectric power because of low water levels, and it recorded severe consequences for biodiversity.

France gives you a really good picture of pretty much all the impacts that drought can have. We picked up many of those impacts. Our Met Office colleague on the adaptation committee says that the research now shows that a 2022-type drought will be twice as likely when we get to 2 degrees of warming, which on current progress we are likely to do by 2050. Recent research shows that the fire conditions we saw in 2022 were made at least six times more likely due to climate change.

The Chair: By 2050?

Baroness Brown of Cambridge: No, they are already six times more likely due to climate change. We are seeing impacts on people in their

homes. We are seeing impacts on agricultural production. We are seeing impacts on electricity generation. We are seeing impacts on damage caused by wildfires. We are seeing impacts on insurance claims. Of course, things such as wildfires have very significant impacts on air quality, particularly if they are in urban areas, and they can also impact water quality as well. There are a very wide range of impacts that flow on into economic impacts.

Richard Millar: The main thing I would add to what Baroness Brown has talked to you about are the impacts that we are already seeing from the drought effects. The 2022 drought was an example of a largely in-year drought from the dry and hot conditions through the year. The thing that might create even further risks, particularly on the water availability side, is this risk of multiyear drought, where we have dry conditions and then we do not have the wet winter that will help re-top up the aquifers, the reservoirs, et cetera. That is the risk we are facing right now.

As you were discussing a bit at the end of the previous session, we have had this dry period through the middle of this year. The outlook for the winter is that we will more than likely have a drier than typical winter, which really raises those risks for next year around significant shortages of water.

The Chair: Is this coming year forecast to be the first dry winter, or was last year also a dry winter?

Richard Millar: Last year was dry, yes.

The Chair: This is year 2. Is a multiyear drought possible?

Richard Millar: This coming year could be our second year. If we had a lack of rainfall this winter, that is where those risks will go up significantly, beyond the situation we are already in for next year.

Q17 **Lord Ashcombe:** I declare an interest, because one of your committee members, Ms Surminski, works for Marsh McLennan, as I do. The question I have is not really directly on insurance. What I am more concerned about is, when people are building, particularly industry, whether they consider the water consumption of that location, factory or whatever it might be. Is that a part of where it is positioned? You do not want to position it in the south-east, which is patently fairly short of water, and is going to have all sorts of potential insurance problems, as it happens, but that is slightly secondary.

Baroness Brown of Cambridge: That is taken into consideration in planning, but we are going to have some particular challenges with datacentres, for example, with the ambitions we have. While there are datacentres that are involved in training, which can be a long way from where the information is needed, there are things called edge datacentres, which ideally have to be quite close to where the demand is. With a centre such as London, there will be a need for edge datacentres that are somewhere in the south-east, not far from London, whereas the

training datacentres we can perhaps put up in Scotland, or somewhere where electricity and water are both in rather better supply.

Lord Ashcombe: That is something that is taken into account in planning.

Baroness Brown of Cambridge: It is taken into account in planning, but of course you cannot entirely take it into account; if you have to put something somewhere, you have to put it somewhere. We do need that holistic view. If we have small modular reactors, for example, we hear talk that we might be able to put them closer to where people live, or where there are factories. We need to be thinking about the consumption of the cooling water they will need, because that may not be the best decision.

Q18 **Earl Russell:** Thank you for your evidence. Is it fair to summarise that the new normal is more extreme and yet more extreme? I was really interested that you picked up on wildfires. Last year was the worst year for wildfires. Could I also ask you about harvests, as well? It is my understanding that five of the 10 worst harvests have been since the year 2000. Is food security another aspect?

Baroness Brown of Cambridge: Food security is another aspect. The challenge with things such as harvests is that the 2022 drought was followed by the wettest period on record, and that very wet period and the flooding actually had a big impact on harvests as well. We cannot put all of those down to drought, but climate change is definitely giving huge challenges to farmers.

Richard Millar: Agriculture as a sector is particularly sensitive to the timing of these things. If it happens at the planting time for certain crops or if it happens later in the season, that can make quite a big difference. With the combination of the dry conditions we have seen, flipping back to the 18-month wettest period on record for England, where in some bits of the south we saw about 150% of the typical rainfall between the end of 2023 and early last year, for instance, it was the second-worst arable harvest on record. Agriculture has certainly been hit by both dry and wet extremes over the last few years, which have had a noticeable effect on what farmers are able to produce.

Baroness Brown of Cambridge: It also reinforces the need to ensure we support farmers to get on-farm water storage in place, because we are getting more rain. We need to keep it. We need to keep the water when we have it, so that it is there when we need it.

The Chair: How are these potential impacts and the increasing severity of them currently being addressed by government?

Baroness Brown of Cambridge: In terms of how we assess England's current level of resilience, there has been continued progress in developing policies and particularly plans. They are getting better. They are not where we would like to see them. In the areas of interdependencies, we see that people are not yet looking hard enough at

understanding that. Where we are disappointed, and continue to be disappointed, is that the plans are getting better, but the implementation of them and the actual action is nowhere near fast enough. Action in almost every area has been insufficient, apart from perhaps the area of building reservoirs, where we are starting to see investment for the first time in 30 years. That is the one positive light we have seen in terms of progress.

The Chair: Before we move on to Baroness Whitaker's question, there is a last part of my question that I am going to leave until the end of the session, which is about the cost to the economy, and to jobs and businesses. We hear a lot about the cost of net zero. I wonder whether you can address the cost of net zero together with the cost, or cost savings, of adaptation towards the end of the session.

Q19 **Baroness Whitaker:** Thank you very much for coming in. Your role is very much appreciated. I should declare that I live in a national park, just over the great chalk aquifer. As the Chair said, she has led you into something of an answer to my question. Earlier, our scientists were very confident about the level of their data sources, so you would think that the adaptation response was also worthy of being confident about it, but England has been accused of not being resilient. Your own committee's report says that. Could you just describe the progress? I wonder whether you could go into a little more detail about what steps are recommended and taken about water usage, building reservoirs, reforestation catchments, soil health, water butts, and all those areas where people actually need to do something. Do you have any liaison with the national resilience committee? Does it have anything to do with all this? That was a bit of a basket.

Baroness Brown of Cambridge: In terms of the public water system, the two big levers are reducing demand and increasing supply. In terms of the measures for reducing demand, household demand is a key area. We are still at a high level of household demand, at about 140 litres per person, per day. Very little has happened to reduce that. It is still chugging along at about that level.

Baroness Whitaker: What do you want to ask people to do?

Baroness Brown of Cambridge: You can look at Mediterranean countries, where people are more used to droughts than we are. In general we think that the UK is a wet country. In Mediterranean countries, people are much better at being sparing with water. They have levels of more like 80 litres to 100 litres of water per person, per day. We need low water use, high-water-efficiency appliances, and we need to accelerate the legislation about water labelling on appliances. Actually, we need plumbing fixtures in our homes that are properly adjusted, such as lavatory flushes. We should discourage people from having power showers if they use masses of water.

Judging on what other countries can achieve, there is a lot to go for, but we are not on track for the target that we have for 2025 in terms of

reducing water consumption. We need to address leakage in the water system; again, although that has been slowly improving, we are not on track for the current targets that are in place.

Baroness Whitaker: Are the targets communicated to local authorities, which have the capacity to come into houses? In fact, I remember when I lived in Camden somebody came into my house, advised me not to use a power shower, and gave me a different head for my shower.

Baroness Brown of Cambridge: The leakage targets are targets that the water companies themselves have, so they are in the position to do something about them.

Richard Millar: A lot of this sits at the water company level. We know that is where some of the targets are. We also know that people's ability to understand what it means for them is still limited. This is a challenge in terms of using water more efficiently in the home. It is just fundamentally going to be easier for new-build houses, where you can put in these facilities to collect rainwater.

Basically, most of our homes at the moment are using drinking-quality water—the same quality as bottled water—to have showers and to flush the loos. It is that kind of thing where examples in other countries show you can get to these lower litres per person consumption levels that they have much more prevalence of. We know it can be done, because you can see it happening in other countries similar to the UK, but the challenge is getting from where we are now to there.

Water metering and smart metering is a part of that. We know that the rates of that have been up-ticking slowly in recent years, but it is still not that prevalent for people to really be able to understand how they are using water in their homes, what makes a difference, and therefore appropriately to modify their behaviour to both save themselves money off their bills and help with how we use water overall.

Baroness Brown of Cambridge: We should remember the win-win of getting people to reduce the amount of water they use in their homes. It may be a smallish saving on your water bill, but hot water is one of the largest costs for most people on their gas bill. If we can persuade them to use less hot water, they will save on both their gas bills and their water bills.

Baroness Whitaker: What do you want those who have the responsibility for catchment areas, forests and soil health to do?

Richard Millar: There are lots of different levels that this functions at. Some of it is the household level. Some of it is that wider catchment. Some of this is being increasingly reflected in water resource management plans, but it is about managing the water at the times of the year we need it. We know we have times of the year where we have too much water, in the winters, and there are challenges to slow down

the water, so it makes its way through the system slower to reduce the flood risk, but we also have times of drought.

Some of the activities in the uplands can be beneficial for both. We are increasingly starting to see water companies think about investing in those kinds of things, and working with landowners in catchments to do that. This is the hard stuff. It is the joined-up approaches to this that make sense in theory, but the challenges are practical in getting people to work together and getting all incentives to align to take those catchment-scale approaches.

Baroness Whitaker: Can you write to us with what more should be done in forestry and so on? Does the national resilience committee come into this?

Baroness Brown of Cambridge: I just wanted to make one other point. In the Environment Agency's national framework for water resources, it cites the very alarming figure that 60% of the water deficit facing England through to the mid-century needs to be addressed through demand and leakage reduction. Initially, until we get reservoirs built, 80% needs to come through demand and leakage reduction. That just emphasises why those are such important levers between now and 2055.

Baroness Whitaker: That is very helpful. I am just wondering about the national resilience committee, which we hear a lot about in the House. How do you liaise with it?

Baroness Brown of Cambridge: We do engage with it.

Richard Millar: It is an area where adaptation has sometimes been siloed within Defra, which has the overall responsibility for the entire Government for dealing with adaptation. It is increasingly working with resilience functions in the Cabinet Office, et cetera. For instance, it has the climate resilience board—which was set up under this latest national adaptation plan—which is co-chaired by Defra and the Cabinet Office, to think about climate resilience. In our committee's judgment, that kind of thing is, in theory, useful to help make this more of a cross-government priority and to integrate it better into the resilience activities of the centre of government, but we do not yet have the evidence around whether that is working well or not.

Baroness Whitaker: That is very helpful. Thank you very much.

Q20 **Lord Ashcombe:** You might have answered some of this already, but how much weight is given to drought impacts within the wider conversations about adaptation?

Baroness Brown of Cambridge: One always has to remember that, while climate change is happening globally, weather is local. If you are in different parts of the UK, your experience of drought, for example, is very different. If you are in Wales or Scotland, it is probably nowhere near the top of your worry list. In general, it comes in third place after heat and flooding, or flooding and heat, depending on which part of the country

you live in. It is one of the ones that do not get enough attention. Because there is this perception that we live in a wet country and we are surrounded by the sea, it is one that does not impact on the public consciousness enough. As we heard from the previous panel, we need much better engagement with the public on how we use water, because 60% to 80% of the deficit needs to be addressed by using less and sorting out leaks. It does need the public to be really engaged.

Richard Millar: There is a key difference here. The public water system and the water companies have this relatively long history of considering drought and planning for it. Historically, in our progress assessments it has been a sector where we have given relatively high scores for its planning. The challenge there, as we have just talked about, is driving delivery on the ground, but only about 85% of the consumptive water use is the public water sector; 15% is for farming, industry and power, for instance. That is where awareness of drought is particularly low, and it is an important sector. It is a part of the picture to bring into properly planning for drought resilience in the future.

Baroness Brown of Cambridge: A comment came up in the previous panel around these being cross-government issues. Water companies do not control what gets fitted into your house. Building standards and the like, which control what we are putting into new-build homes, are part of MHCLG or whatever it is now called, which I am afraid I have not kept up with. Building and planning is also a hugely important part of this.

The appliances people buy is also something your water company does not have any control over. They have a role to play in reducing consumption, but they are very much not the only people. As they will tell you, they really need all the help they can get in terms of making sure we are more efficient in our water consumption.

Lord Ashcombe: It seems that there is a lot of concentration on us as individuals and not on industry. Where can we persuade industry to stop using quite so much water? As you correctly said, my understanding is that they use an awful lot more than we do as a population.

Richard Millar: Yes, it is a really important bit. As I said, about 15% would sit outside the public water system of water use, but even within the public water system it is about 60% or two-thirds that comes direct to households. The other bit is being used by businesses in their properties. It is definitely much broader than just people in their own homes as part of the answers to this challenge.

Q21 **Lord Duncan of Springbank:** The change in culture about water has probably been the other way around. If you go back to the 1970s—and I can recall this—you would bath once a week and that was considered the norm, whereas now you would be laughed at if you said that out loud. We have pretty much moved in a completely different direction in terms of our water consumption. We are now asking people to reverse that. I am not suggesting we go back to one bath a week, but we are going to be asking them to change their behaviour in quite significant ways. People

are very reluctant to change their behaviour in those significant ways. If 80% of the demand is coming from that particular area, we are going to be in a bit of trouble, because that cultural demand will be the hardest thing to achieve.

Baroness Brown of Cambridge: As part of our advice to the Government, which we will publish next May on the next climate change risk assessment, we have been doing a small-scale public consultation exercise, rather based on the one that Parliament did many years ago now on mitigation. A very strong message has actually come through from people. They are very worried about climate change and its impacts, and they want to know what they can do personally. They are looking for advice on the action they can take, because it will relieve some of their stress to feel that they are starting to do something.

We are getting quite a strong message from that. There is real opportunity. People are not just thinking, "Somebody else is going to do this for me. It's government's fault. It's somebody else's fault". They want to be doing something, because that will make them feel that they are contributing and they feel less stressed about it. There is a real opportunity now for the kind of information and public engagement programmes that will help.

Q22 **Lord Jay of Ewelme:** Following up on that question, do you see a case for increasing the price of water, either for households or for businesses, not least as a means of making people value water more than they often do at the moment?

Baroness Brown of Cambridge: At one level, we always have this bizarre thing that, if things are really precious and you want people to value them, the first indicator to them that they are precious is that they cost a lot of money. On the other hand, this is so fundamental to people's existence, and people are under such financial pressure in so many places now, that the last thing I personally would want to do would be to charge them more for it.

There have been at times attempts to look, for example, at block pricing of electricity: the first electricity you use is cheap, but if you then use a lot it becomes more expensive in steps. That does not work, because the people who use a lot of electricity are quite often some of our really fuel-poor households.

As a personal view, I do wonder whether there is something that says that some kind of block pricing for water is needed, as long as you take out people with large water needs, such as people on kidney dialysis, people with children with special needs, or households that have particularly large water usage. As long as you can find a way of taking them out, it seems to me that people who choose to water particularly large gardens should be paying through the nose for it. There might be some approaches like that that could be looked at. That is not Committee on Climate Change policy; it is a personal view.

Lord Jay of Ewelme: It is a really important question, but I quite

understand the reasons why it might be difficult.

Baroness Brown of Cambridge: The implications of it need to be fully understood before you start bringing in things such as that.

Lord Jay of Ewelme: I suppose the Government could at least say they are considering that. That in itself, even if they do not actually do it, might cause people to value water more highly, because they would realise it is becoming seen by others as being a really valuable resource. Anyway, the question I was going to ask—I am still going to ask it, but you have covered it already—is about the impact of climate change on drought. You have talked a lot about it, but is there anything else you wanted to say about the extent that climate change affects the frequency, type or severity of future droughts?

Also, how certain are we of some of the projections that we have heard about, and you will be able to tell us more about? I ask that last question about how certain the projections are because we do not want to raise people's fears about something and then find that those fears are not realised, because that will lead them to be even less concerned than they are now about the risk of water.

Baroness Brown of Cambridge: Richard is our climate scientist.

Richard Millar: It is an area of the projections where we have quite strong confidence. It is something that we have been seeing from the best state-of-the-art projections for the UK from the Met Office for a while. We have the expectation of drier summers. We know that there is a lot of inter-year variability in the weather we see. We do not quite yet see that trend towards the drier summers overall in the observations, but we have strong expectation that that is coming. Prudent planning is therefore getting ahead of that.

It is also an area where we have a strong sense of what the solutions are. We have talked about the demand side, reducing leakage, and supply. We know all of those are going to be important. It is also an area, because the public water sector is regulated, where we have a regulator that has a resilience mandate from the Government, et cetera, and there is a sense of how that should flow through. It is a sector where we should be able to make a lot of progress compared to some of the other adaptation areas where we are still at a lower level in terms of our structures and facilities to drive the change through.

It is a sector where we do see things happening. It is important to say that. We do not think those are happening at the scale that is needed, but the challenge is to find ways to unlock the barriers to bringing forward the action on the ground that we know the plans and the goals set by the companies and the regulator require.

Baroness Brown of Cambridge: The information that we have from the climate scientists and the Met Office is that, averaged across England, the time spent under drought conditions due to low rainfall is expected to

double at 2 degrees of global warming levels—again, the conditions we expect by mid-century—compared to the climate between 1981 and 2010, so the climate we are more familiar with. That is potentially quite a significant increase in drought conditions.

Lord Jay of Ewelme: It is. Dr Millar, you talked about prudent planning, but prudent planning by whom? What prudent planning were you talking about? You said that there were strong expectations—as Baroness Brown has just said—of warming in the future. Who is doing this prudent planning?

Richard Millar: The way it is supposed to work—in the public water sector, at least—is that the Government provide guidance to Ofwat, as the regulator, on how it should be setting a planning assumption for climate change and for drought resilience through to the water companies in their regulated settlements. That exists. In this last round of plans, there is the requirement that they should be planning for a one-in-500-year drought resilience, which is a step up from what we have had historically around a one-in-200-year resilience. That is the ask of the regulator. It is supposed to see that reflected through in the company's plans, the price settlements and the water resource management plans.

Much of the infrastructure in terms of the policy side exists. The challenge is just making it work and solving the delivery barriers that, at the moment, are stopping the plans leading to the action to actually see that progress being rolled out on the ground.

So planning is relatively good. We want to see plans recognise this delivery shortfall. Reforms to the regulation for the sector that are being considered by the Government at the moment should probably think about how you can bring out more of this action and get it funded and on the ground, through what water companies are doing and delivering. It is an area where we know how this is supposed to work; we need to just find out how to solve the practical barriers to get it to work.

Baroness Brown of Cambridge: One of the concerns is that, as the insurance industry used to do, much of the water industry's planning is based on the future looking like the worst things that happened in the past. Unfortunately, worse things than that are happening. They are also probably not taking into account enough of the fact that you may get one drought immediately after another drought, so sequential droughts. A drought is not always followed by a period of rainfall where everything restocks. Our use of a wider range of potential future scenarios from the climate predictions and the different climate models that there are would be helpful in being more prudent about the things that we need to be prepared for.

Q23 **Lord Lennie:** How much do you think the public are aware what 150 litres of water is? How many baths full is that, compared to 80 litres? If you have to get them to cut from 150 litres to 80 litres, what is the concept of water usage that they have to have in their mind?

Baroness Brown of Cambridge: The public are not very aware of the amount of water they use. The initial rollout of water meters was something we could not see. The water meters were all part of the system, not sitting on the tabletop in the kitchen. That is what we need. We need visibility for people in their homes, just as we now have of how much gas and electricity they are using.

Lord Lennie: What percentage of households now have water meters?

Baroness Brown of Cambridge: Do we have those figures? Have any been rolled out that are actually in homes?

Richard Millar: We do. There are an increasing number of smart water meters. Yes, we do have the figure for that. We can get that back to you.

Q24 **Earl Russell:** This might be more of a comment, but Defra's own figures show that we will be short 5 billion litres of water per day by 2055. Listening to your answers, it is a lot about systems, processes, could and should. This is quite a defined and scary scenario that is not that far away. Do we need somebody in charge of adaption within government? What more can we do to link all these disjointed bits?

Baroness Brown of Cambridge: Ever since I have been Chair, which is almost seven years now, our message has very strongly been that we need more action. The planning is getting better, but we are not yet seeing the effect of that planning into action. We are now seeing a new reservoir being built, and lots of improved discussions about moving water between different areas, although I know those are hugely political. If you talk to colleagues in Wales, they are not at all keen on sending London their water.

It needs much better co-ordination across government. Almost every answer shows you that it is not just a Defra problem. The co-ordination across government is not strong enough.

Richard Millar: That is a general challenge. The committee has long spoken about the challenge of knowing what we are trying to achieve with adaptation, like we do on the net zero side, where we have some clear targets. On adaptation, we do not really have that. That is part of the problem, we believe, in getting this owned in all the different bits of government that need to engage with it, because there is a lack of accountability and clarity on what needs to be achieved, which means that bits of government can just kick this and see it as Defra's problem. They are waiting for this department to sort it for them, when actually they need to own their issues and drive their adaptation forward themselves.

Baroness Brown of Cambridge: We gave advice to government last month, because we were very pleased the Government asked us how they could strengthen their adaptation objective, which is at the moment that the UK should be well adapted to climate change. We said, "You need a really clear objective with very clear targets, and those targets

need to be owned. Every government department needs to own its very clear targets, and we need to be monitoring progress towards them”.

Q25 The Chair: Before we move on to Lord Trees’s question, can I just ask you a little bit about projected future increase in demand from population growth, new housing, datacentres, new sources of energy, et cetera? Are current plans to increase water supply, such as building reservoirs, sufficient to meet future demand?

Baroness Brown of Cambridge: The fact that the Environment Agency has pointed out that the biggest requirement until we get to mid-century is going to be reducing demand in order to meet the additional requirements tells you that that is what we have to do.

The Chair: Could we have some figures, if you have done this work, on how much the more efficient use of water can mitigate the requirements for the future and reduce the need to build more reservoirs?

Richard Millar: It is important to say there is quite a lot going on in this sector in terms of water demands. Climate change is a key bit of it, but it is not the only bit. We know that increasing demand is maybe about another 1,000 million litres per day of use connected to population growth.

The Chair: Is that the domestic use increase?

Richard Millar: Yes, from the public water system, largely from population growth. We also know that there are significant contributions from this push to have a greater level of drought resilience, which would require a shift in that demand balance, even if there was no climate change going on and we just wanted to be more resilient to the droughts we see today. In most cases that is probably bigger than the shift from how those droughts will change over time. It is quite a complicated picture, but it is clear that all those bits together have to add up. It also has to add up at the regional level.

It is clearly something that you can add up into the national picture, but the balance of those factors varies quite a lot regionally. There is some good data on this from the Environment Agency national framework, which was mentioned in the previous session, that gives our latest understanding of what those cuts look like in different parts of the country.

The Chair: We touched on planning earlier. The Government are planning quite a lot of new towns. Are you engaged with government in conversations about nature-based solutions, for example? That is something we have not yet touched on, but they will be key in terms of conserving water in the right places for ecosystems. New towns will obviously take up a lot of water. Are the Government alive to things such as rainwater harvesting, mitigating impact on wetlands, et cetera? Are those things being taken into consideration fully, in your view?

Earl Russell: Could working with development corporations be a good

way of doing that interlink as well?

The Chair: Sorry, this is not your question. We will move on to Lord Trees's question.

Q26 **Lord Trees:** Much of this has been answered, but I will try to pick out a few things that have not. The question was about what opportunities to improve drought resilience and preparedness England could make greater use of, and whether there are international examples we can learn from. You have touched on a lot of those. In terms of international examples, I would be interested if you had some that you could give us, because we have plenty of waterfalls in this country and it is disgraceful that we have things such as drought.

Clearly, the low-hanging fruit is reducing consumption. We have explored that a bit, but are there any other impediments? We are not still making much progress on reducing consumption, so are there impediments to that? Should we be improving the design of new buildings, so homes, factories and hospitals, to make better use of water? That is an area we have not mentioned so far.

What about industry? You mentioned that 15% of water use is in industry. What current incentives are there for industry to reduce water consumption?

Improving water transfer is mentioned in some of our notes. Is the use of canals an area that is being looked at, to shift water around? There are a few things there that we have not touched on.

Richard Millar: I can take some of that. For your first one on international examples, there is actually a lot we can learn in looking at other areas. Baroness Brown mentioned Mediterranean countries, where drought is more of a thing historically. It is wider in the consciousness. You can see some of the solutions there, and you can see the lower level of consumption.

You can also look at countries that have been on a journey in terms of reducing their consumption. Denmark is one that we have been looking at recently, around a trajectory from historically higher levels of water use down to lower levels than we are today. That story is around what happens in terms of new properties being so much more water efficient, and having that water recycling and harvesting infrastructure built into the houses, which is so much more doable if you put that in the design instead of trying to re-plumb the house to create those tanks to catch it and push it back to the toilets and the showers. There is a huge amount we can learn from those things.

There are some good examples at local levels, too, around this adaptive planning for drought risk and for water climate adaptation. There have been adaptive pathways used in London, for instance, that show a bit more of a sensitive approach around how you can consider the different uncertainties that go into this and try to find the robust solution.

Both internationally and locally there is a lot around good practice that can be learned. The challenge is to figure out what made those things work and how to scale them up into the wider planning from water companies and from other sectors.

Lord Trees: Baroness Brown has said we need action. How has Denmark done it?

Richard Millar: That is a good question. We are looking into that right now, actually, as part of the work we are doing and the advice we will give in May. We will be trying to draw lessons we can have from those international examples and what we think is relevant for the UK context. We also have to be careful, as there are lots of differences between countries, but we are trying to identify things we could really learn from.

Baroness Brown of Cambridge: It is also important, because of the different situations we have across the UK, that we give local government more powers over what gets built locally. Again, we do not necessarily need the same building regulations in Scotland that we need in the south-east. They will have much more focus on more insulation and dealing with cold weather, and we will have much more focus on how we deal with really hot weather and drought. It is really important that local authorities get the powers to have very strong influence into what gets built and how that impacts their local area.

Q27 **Lord Duncan of Springbank:** People talk of desalination plants, but presumably they are not really a solution because they are just simply too costly in terms of finance and energy. Would that be fair?

Baroness Brown of Cambridge: They are hugely energy intensive. There is research going on to look at different routes to desalination. I hope some of that will be successful, because plenty of places in the world need it, and it would be valuable to us as well. It would be much more expensive than some of the other things we can do. In CCRA3, where we did as much analysis as we could of the costs and benefits of adaptation actions—because it is an area where we do not have anything like enough evidence—the things that always come out as the most cost-effective are the demand reduction measures.

Q28 **Lord Krebs:** I wanted to ask two very quick questions. The first is picking up on the point that you made, Julia, about local authorities. In the Planning and Infrastructure Bill that is currently progressing through Parliament, the Government have been very resistant to giving local authorities a duty to take climate change into account. In fact, they have rejected amendments along those lines. It just seems to me, from what you have said, that they ought to be giving local authorities more responsibility.

Secondly, there seems to be a bit of an element of Groundhog Day, in the sense that when I was in your position we were making exactly the same recommendations in response to CCRA1, NAP1 and NAP2. Has the needle moved at all, or are you making reports and advice that repeats itself, while not much is changing?

Baroness Brown of Cambridge: The needle has moved in some areas. The needle has moved in planning. The planning is better, but we do not have specific targets for adaptation across government, so what you get is lots of process, as Earl Russell was saying, and no action. We have said to government that we need clear objectives, with very clear targets that departments are held accountable for, in order to get the progress on action.

Lord Krebs: We did say that in response to NAP1 as well.

Baroness Brown of Cambridge: The progress we have seen is that we were finally asked to give formal advice to government last month on how to strengthen the adaptation objective. That is the first time. We have always done it, but we have never been asked for it before. We hope that, having been asked for it, we are more likely to get a good response to it. We are hoping that that is something that we will see coming forward.

You are absolutely right. Weather is local. Drought is local. It does not happen equally all over the UK, even though the emissions into the atmosphere are roughly the same everywhere, in terms of levels of CO2 equivalent. There has to be local consideration. My view—and we have said it in our report—is that local government needs to have strong powers to act on what the local issues are.

Richard Millar: Yes, it is an area we consistently hear when we engage with local authorities. Everyone understands there are constraints on resource and lots of competing priorities. They say to us that, without that statutory duty to consider this, it is something that gets lost in that fight.

Q29 **Lord Rooker:** Most of my questions have been answered, but it always takes a while for Governments to realise that Whitehall does not believe in devolution. It has not done under either Government, going back 25 years. Whatever they might say, they do not believe it. Contrary to what you said, Julia, there are loads of targets. The Government are full of targets, but the lack of action is the point. They have the target. Take this 1.5 million houses; it is not going to be met, but it is a target that keeps being repeated, and yet the infrastructure is not dealt with.

I have a couple of points I want to raise. I declare an interest that my garden in Ludlow is less than the size of this room, but I operate a rainwater harvesting system, which is basically 800 gallons. It is about the minimum size it can work. It is used for flushing the loos. It is not used for anything else.

There was a time when, as a Minister, I came across some greywater projects around the country that local government was experimenting with. I just wondered whether any of those are bigger issues, because we never read about the effect of the greywater projects.

While the water companies are required to have drought plans, is there a case for making it a statutory requirement on other companies to have

drought plans? The retail sector has a huge number of buildings, and lots of roofs with the potential for harvesting water. Is there a case for requiring that, and leaving a permanent hosepipe ban on the country for the next five years as a message to get across to the public?

As you quite rightly say, they do not make that connection. A hosepipe ban is a connection. If you cannot use clean water, you use rainwater, but that message has to be put across. Can we try to tighten up with drought plans? Also, is there more potential for greywater schemes?

Baroness Brown of Cambridge: Richard, do you know about specific greywater schemes that we have come across?

Richard Millar: As you said, there is sometimes a lot of good stuff at local level, and you can find those projects that are innovating.

Lord Rooker: I can remember a project in Dudley, which is probably the Sandwell local authority. I remember specifically going to see this greywater project that was in operation. I do not know whether it is still operating or whether there are others, but we do not read about them.

Baroness Brown of Cambridge: We have certainly seen some innovative things from local authorities. In Kent, they had a number of schemes involving combining sustainable urban drainage schemes with providing water to the street trees in order both to provide shading and to support trees.

In Wales, they have some very innovative sustainable urban drainage schemes, where that water is being used for blue and green infrastructure in local areas. It is adding new areas of grass and trees for the neighbourhoods to enjoy, being fed by the water off roofs.

There have been some really imaginative projects. They tend to be pilot projects that have been funded by small pilot grants and therefore do not get spread more widely. We do not have an assessment of how effective they would be if you were able to do them on a very large scale, I am afraid.

Q30 **The Chair:** That is excellent. Please do feel free to write to the committee with any further evidence that you feel we would benefit from having sight of. I am particularly interested in datasets and whether you feel that you have enough support from the agencies you work with on the datasets you have. Are they on a par with datasets that other countries are able to collect? That would be really helpful.

Baroness Brown of Cambridge: I would immediately say no. Look at how well the French could characterise the impacts of the 2022 drought and compare it with us. We scabble for bits of data here and there. We do not consistently collect data. Indeed, we would like more data sharing with the insurance industry, to understand the impacts of things such as floods and drought, and what it is seeing.

Earl Russell: Is there a statutory obligation to provide you with data

from various sources?

Richard Millar: No, but we generally have good working relationships with the relevant agencies, so the Met Office, the Environment Agency, et cetera. Yes, we are normally able to make good use of the datasets, such as the stuff from the Environment Agency on the national framework.

Earl Russell: Outside of that, I guess it gets more complicated.

Baroness Brown of Cambridge: When it is private companies, yes.

The Chair: Do you have the platform that you need to be able to engage with the interested parties in this sector?

Earl Russell: What would help?

Baroness Brown of Cambridge: More resource. We engage with business and industry. In our discussions with individual companies, they are very helpful, but it is a very small team in the adaptation committee. We cannot spend all of our time going out and doing that, because they have to be doing the analysis.

The Chair: We look forward to any further written evidence from you. With that, I thank you profusely. Thank you very much for spending the extra few minutes with us.

Baroness Brown of Cambridge: We look forward to seeing your report. I am sure it will be very useful.

The Chair: Thank you. With that, I will bring the public session to an end.