

Business, Energy and Industrial Strategy Committee

Oral evidence: Clean Growth Strategy and International Climate Change Targets, HC 871

Tuesday 18 June 2019

Ordered by the House of Commons to be published on 18 June 2019.

[Watch the meeting](#)

Members present: Rachel Reeves (Chair); Vernon Coaker; Drew Hendry; Peter Kyle; Mark Pawsey; Antoinette Sandbach; Anna Turley.

Questions 270 - 351

Witnesses

I: Isabella O'Dowd, Climate and Energy Specialist, WWF; Gail Bradbrook, Extinction Rebellion; Baroness Worthington, Environmental Defense Fund.

Examination of Witnesses

Witnesses: Isabella O'Dowd, Gail Bradbrook and Baroness Worthington.

Q270 **Chair:** Thank you very much to the three of you for coming to give evidence to our Select Committee this morning on net zero. Can I start the questions by asking all three of you what you think of the net zero target set out by the Prime Minister last week?

Isabella O'Dowd: We were pleased to see the Prime Minister step up to the challenge of net zero and put it through legislation. We believe the UK can go faster. Our position has been net zero by 2045. We commissioned some analysis by Vivid Economics last year that showed our priority now is to see the short-term policy actions to get us on track, so we can achieve it as soon as possible.

Baroness Worthington: Thank you for inviting me to give evidence. We were very pleased with the CCC's report when it came out and recommended a 2050 net zero target. The Government's response is appropriate, but we do not think it goes far enough in the context of the caveats they have put around it. By that, I mean they are not committing to domestic action. It is important to note that the CCC's report was based on the concept of domestic action. If we are moving away from that, it turns it into a much bigger question about the morality and the political reality of what we do to tackle climate change and the emergency we find ourselves in. In that context, as the Government have presented it, net zero is not enough. We could go much further.

Q271 **Chair:** What do you mean by "not committed to domestic action"? Could you explain that in a bit more detail?

Baroness Worthington: We assume it was the Treasury that has insisted that we keep international carbon credits on the table, in terms of meeting that target in 2050.

Q272 **Chair:** In practice, we could pay somebody else for their carbon credits, so we could produce more carbon than otherwise. What about things like aviation and shipping?

Baroness Worthington: We think the Government should have included it in the SI. There is no reason why they could not have done. As we understand it, the CCC already takes account of the amount of emissions that come from aviation and shipping internationally, so just adjusting the budget should have been done.

Gail Bradbrook: It is a testament to the effectiveness of radical campaigning, so thanking the school strikers and people like that, who have put this agenda on the map. It is an example of dishonest, half-baked and institutionalised thinking holding us back, which we all have a responsibility for. There is some kind of bottleneck here that we need to



remove. This is an issue of national security and it needs to be treated as such. An appropriate response is a wartime effort. In that way, quoting Sir Winston Churchill, "It's no use saying, 'We are doing our best'. You have got to succeed in doing what is necessary".

It is not fair. It runs counter to Paris article 4.1, where we said that developing countries would have to reduce later, and so the onus is on us to move faster. Our understanding is that the target gives us a barely 50% chance of avoiding a 1.5 degree rise in temperatures, according to what it says in the paper. That is just not acceptable.

Q273 **Chair:** What do you recommend? What does Extinction Rebellion recommend?

Gail Bradbrook: We are recommending an emergency response. We are recommending that we aim for a target where the British public can see that it is being treated as an emergency. We have said 2025. We are asking for a citizens' assembly to look at how feasible that is and the policies that would be needed. Current political processes are failing us. We have to do something entirely different here.

Q274 **Chair:** What would be the benefits of adopting the more ambitious target that you would like to see?

Gail Bradbrook: There is a place here where it feels like a charade having this conversation. We know that we are killing life on earth. We know that our children are probably going to face a future where there is no food on the shelves. We have really credible commentators talking about the collapse of civilisation in our children's lifetime as a result of not taking immediate emergency action. I can quote lots of facts and figures at you but I feel heartbroken sitting here in this kind of conversation. There is this process that we are doing. You are here for your role, but we have to listen to the children who are begging for their lives and get real. British people can do a wartime effort and they will do if they are told the truth.

Q275 **Chair:** Isabella O'Dowd, you have argued for a 2045 target for getting to net zero, faster than the Government currently envisage. What are the benefits of having that target?

Isabella O'Dowd: Net zero is a great opportunity for the UK to show global leadership. We felt that 2045 was achievable. We commissioned Vivid Economics and looked at the previous Committee on Climate Change advice. Through interviews with experts and literature, we looked at the areas where sectors could go faster. We also looked at the IPCC report and what it said globally for carbon in 2050. The main benefit for the UK is what the Stern review highlights. The benefits of strong and early action far outweigh the economic costs of not acting. Since we have seen the UK commit to its target, we have seen 18 EU countries show they also support net zero. Leading up to COP 2020, we have a huge role to play in order to get us on track for 1.5 degrees as soon as possible.



Baroness Worthington: We are advocating going beyond zero in 2050, which means drawing down and repaying some of the carbon debt that the UK has contributed to the problem. The advantage of doing that is that we would start to set a framework for policy that actually steps up to the plate in terms of what is necessary. I completely agree with Gail that it is a moral question as to what we are going to do to step up to this. There is technical advice and economic advice, but, ultimately, the atmosphere does not care where you abate, and it does not care where you save abatement. We have to set up a world-leading system in the UK that shows we are going to take our own contribution to zero and go beyond that, so make the scale of the response commensurate with the scale of the science.

Q276 **Chair:** You have said, Baroness Worthington, that by 2050 we should be taking carbon out of the system, not just net zero but beyond that. Is that right and can you explain what that means?

Baroness Worthington: We could set a target for minus 120% in 2050, for example. That would be recognising the fact that we have lost the time window we had to do this by just reducing emissions in an incremental way. We are going to have to move into a different frame of reference, which says not only do we need to radically reduce emissions but we are going to have to do all we can to make the natural sinks and appropriate human actions to draw carbon out of the atmosphere a viable option. The UK is very well placed to do that, given that we are leading some of the research and we have all the tools in our policy toolkit that we need to do this.

Q277 **Chair:** What sort of things can you do to take carbon out of the atmosphere?

Baroness Worthington: The IPCC relies heavily on something called BECCS, which is biomass with carbon capture and storage, essentially using biomass, combusting it, capturing the CO₂ and drawing it down. Some of the best forms of capturing carbon from the atmosphere are natural systems, so priming the biological pumps that already exist, whether they are in the oceans or on land. Tree planting—it is an old idea—and rewilding of our natural environment are ways of helping move the carbon balance back in favour of nature and back in favour of humanity.

Q278 **Chair:** To what extent does it worry you that we are not on target to meet our fourth and fifth carbon budgets at the moment? Those are budgets set on a less ambitious goal. If we move towards net zero by 2050, those carbon budgets will need to be updated. If we cannot even meet the targets we have set for ourselves at the moment, are you confident that we can do this? How would we need to do things differently, compared with what we are doing today?

Baroness Worthington: The contribution we make to climate change is the area of emissions under the curve, which means the trajectory of



HOUSE OF COMMONS

emissions that you take towards your target matters. We have taken a slow start, which means we are going to have to rapidly speed up. Those last three budgets, seven, eight and nine, are where you would start to move into zero and negative territory, because you are going to have to describe a curve that looks something like this to get the lowest amount of volume under the curve. That means we have started slow and need to speed up. The technology teaches us we can speed up, because we are now setting a target of 100% at the same estimated cost as we thought 80% would cost us only 10 years ago. All the signs are that this can go faster towards the middle and the end of this process.

Q279 **Chair:** Gail Bradbrook, I guess you would say it was a lack of leadership and a lack of effort, and we are quite capable of meeting those carbon budgets. Does it concern you that we are off target against our current ambitions? How much do you worry that we are able to step up to what you want to achieve?

Gail Bradbrook: The premise of this meeting today is clean growth. To quote Greta Thunberg, she says we keep suggesting the same daft ideas that got us into this mess. We have to think out of the box. The first thing to do is talk to the British public about what is actually really going on here. British people have stepped up in times of war, when they have been asked to. We will miss targets when, even today, you have the announcement of the Heathrow consultation for the third runway. Even today, we could not put even 1p on fast fashion. It was rejected. There is a complete cognitive dissonance going on with the reality that we are killing ourselves.

Also, it is really important to think about agroecology and what it means that Britain is one of the most nature-depleted countries in the world. This is not an issue of physics and carbon atoms. It is an issue of our relationship with nature. I know I sound like a bit of a daft hippy saying this, but it comes down to how much we are willing to love people in other countries and look at what is happening to people when there is mass death and destruction happening already, and the fact that we have been unable to face and deal with that and our role in that. The UK was the fifth biggest emitter internationally over the lifetime of emissions. We have a moral responsibility there. If we are not going to love people in other countries, we are not loving our own children either. We are not loving our own nature. There is a disconnect with reality here.

Q280 **Mark Pawsey:** All our witnesses here have used the term “we”. I understand you have been using the term “we” in the context of the UK. Gail, you just said the UK was the world’s fifth biggest emitter, but in 2017 the UK was responsible for just 1.2% of world greenhouse gas emissions. This is clearly something that we cannot do on our own. Why should the UK move further and faster than other big emitters, those who can have a big impact on the world situation, like China and the USA?



Gail Bradbrook: We keep saying we are going to show leadership here. When I say we are the fifth in the world, I am talking about our history. I have 2% down as global emissions.

Q281 **Mark Pawsey:** So we are relatively small proportion.

Gail Bradbrook: Some 15% of global fossil fuel finance comes from the UK. The point is for us to show real leadership here. Let us not wait for other people to get on this train. Extinction Rebellion is in 58 countries. There are people protesting. In Extinction Rebellion, we say we are in active rebellion against the Government. We do not recognise the social contract any more. Just as my job as a mother is to keep my children safe, your job as Government is to keep the British people safe. Targets like that are not going to do that. It is not about blaming China or the US, especially with what I have just told you about fast fashion. It is all these embodied emissions in consumption as well. Let us be honest about the emissions we are making here. Let us absolutely do our best, and not just because it makes sense for climate change but because it makes sense for a whole raft of reasons, if we are going to focus on biodiversity loss at the same time. Let us stop breaking these issues up as if they do not have the same root cause.

Q282 **Mark Pawsey:** Baroness Worthington, if we take this action, are other countries going to immediately follow our lead?

Baroness Worthington: Yes, they are actually. They have already. When we set the Climate Change Act, we were the first in the world to do that, to legislate for a target, and others have followed suit—so, Sweden and New Zealand. We have seen just today 18 out of the 27 member states of the European Union are saying they are backing a net zero target for the whole of Europe. People are following. Japan has also just come out. The bigger question is why we need to legislate in the UK. That is because of our political economy. If you are China, you do not need climate change laws; you just make it happen. You make the capital flow, bring in a 50-year plan and act on that basis.

Q283 **Mark Pawsey:** May I ask why they are not doing that?

Baroness Worthington: They are. If you look at what is happening in China, there is a huge shift. They are doing all the things at once, so they are also building out new thermal capacity, but they are massively increasing their nuclear and renewables capacity. We think this year we are starting to see the thermal coal reducing, as a result of those two new technologies.

Q284 **Mark Pawsey:** Will they be adopting the same targets as us?

Baroness Worthington: They do not need to adopt targets. They have central planning. We need laws because we are an open economy. Our companies are going to be the ones that are responsible for delivering this. They need a really strong, louder legal framework in order to know what to invest in. That is why the Climate Change Act is necessary. If you



HOUSE OF COMMONS

look at the US, they have a completely different political economy, where they allow new entrants in far more readily than Europe does. They can use innovation policies. They will allow disruption in far more readily than we do. Why does Europe need laws? It is because of our political economy. That sends a signal to our companies so they know what to invest in.

Q285 Mark Pawsey: To pick that up, we are the business Committee, so we have an interest in the competitiveness of our businesses, and we are interested in the jobs of the people who work in them. How can you look British workers in the eye and say, "The proposals we are arguing for might make the businesses that you work for uncompetitive and may affect your job security"?

Isabella O'Dowd: We have seen very strong business support for net zero throughout this whole period, with the CCC's advice. Over 60 companies submitted evidence to its call for evidence, showing support. Just in the last few weeks, we saw 135 businesses send a letter to the Prime Minister, saying that they supported the CCC's advice and that they need long-term targets in order to transition so they can bring their employees and their industry into that net zero world, so they are not leaving people behind.

There is another interesting point on this. Why should we go further than other countries if they are not? It is a no brainer. In the last 25 years, the UK has been one of the most successful countries in growing its economy and cutting its emissions. This is actually an opportunity. It is an opportunity for companies to grow in the green economy and take on the challenge of net zero in a very positive way.

Q286 Mark Pawsey: You will be aware that the steel industry in the UK, for example, is under pressure. One of the challenges it faces is very high energy costs in the UK compared to its international competitors. It is inevitable that the measures proposed to achieve this objective will have an impact on energy costs. How are you going to look those workers in the eye and say, "We are supporting you in keeping your jobs"?

Isabella O'Dowd: The first step is that we should be supporting the cheapest forms of energy, so solar and onshore wind.

Q287 Mark Pawsey: We may not be able to adopt fast enough in order to sustain the industries that are currently under pressure. Would you agree?

Isabella O'Dowd: We can adopt fast enough. That is what we put in our *Keeping it Cool* report pathway. There are a lot of examples in other countries where we are seeing this happening. The technologies are there. We have enough time to make that step. That is why we need urgent action from policymakers, but also from businesses, to make that change.

Q288 Mark Pawsey: Will that be quick enough to save the threatened steel



industry?

Isabella O'Dowd: Yes. We need to look at how we can make that just transition, in terms of using low-carbon technologies and adopting industry in order to achieve that.

Baroness Worthington: I would not want it to stay unchallenged that it is the carbon policies that are making steel uncompetitive in the UK. There are massive issues to do with economies of scale and competition from other countries that have invested in new capacity that is much more efficient. The thing that the steel industry got wrong was assuming that climate change would just go away. It has not gone away. It has got much more serious. It should have assessed a zero-carbon plan early enough to have been able to invest in it. It had all the opportunities it could need.

Q289 **Mark Pawsey:** Are its competitors around the world bringing forward zero-carbon plans?

Baroness Worthington: We have just described how other competitors are doing it. Not everyone relies on the rule of law to make progress. If you look at what India is doing in terms of its steel capacity, it is investing in new cleaner systems. There are ways of making steel without the need for burning of coal. You can use electric arc furnaces. Instead of shipping our steel off to be recycled on the continent, we could have kept the steel here and built arc furnaces, which would have run on clean electricity, which would have helped balance the grid. It is a lack of imagination. It is a denial at the very top that this is a real issue. I am sorry for the workers, absolutely, but they have been misled by their management. We should have been much clearer about the policies we needed to get them to move to innovative systems.

Gail Bradbrook: I am not okay with this idea that we set the environmental movement up against workers and ordinary people. This is one of the most unequal countries in the world. When you have the inequality that we do—we are in the top three—people are less interested in focusing on climate change, as a direct correlation as it happens. The father of neoliberal economics, Milton Friedman, said that he really liked and celebrated the idea of a market-based economy, because there would be no concentration of power through market forces, and therefore no harm would be done. I am totally behind Milton Friedman's vision: let us not concentrate power and let us not do harm, but we have to look at this system.

Why are we so focused on economic growth as an idea and that we have to have this kind of job or that kind of job? We know Government policies have destroyed more jobs in the renewable industries than the steel industry. Essentially, this is not about the green movement versus workers. This is about a just transition and looking at completely different ways of thinking about how humanity lives on this planet. If this could



HOUSE OF COMMONS

have been delivered by some kind of clean growth thing or in a way that is not going to affect our economy, we would have done it.

I want to quote Winston Churchill here, because it feels like that phase of appeasement that we have been in for years. He says, "Owing to past neglect, in the face of the plainest warnings, we have now entered upon a period of danger...The era of procrastination, of half measures, of soothing and baffling expedients, of delays, is coming to its close. In its place we are entering a period of consequences". I keep saying it, but I really think the British people will do whatever it takes. If they understand that everything they hold dear, everything that they love, is at stake, they will step up. British people have done it before. Even in the era of Brexit, they are talking in that way, the dig for Britain spirit. It is there. You folks just have to be honest.

Perhaps I can add one final point. I really sympathise with civil servants, MPs, businesspeople and people in institutions who have to toe some kind of line. I have worked those jobs. I know. I am part of it as well. I have been there. Extinction Rebellion is going to be developing a platform for whistleblowers, so civil servants can tell us what is going on behind the scenes, and what you know, for example, about food security. You only have four people in the UK looking at food security and we have multi-breadbasket failure on the horizon. Whistle blow. Tell us the truth.

Q290 Drew Hendry: I am interested in finding out what the panel feels about the Committee on Climate Change's analysis and what specifics you disagree with there. Picking up on Gail Bradbrook's statement earlier about thinking outside of the box, what specifically about the Committee on Climate Change's net zero report is not ambitious enough?

Baroness Worthington: It is quite an ambitious report. It is very detailed. They have a team of experts who have really applied themselves to this question. It is things that have not been able to be included because of complexity that we need to take more account of. You cannot pretend this is a precise science. You are forecasting out 30 years from now, and we have already seen our forecasts of 10 years ago were wrong. We have to enter into this in the spirit of humility and knowing that what we think is cast iron science is not cast iron science. We are into a period of risk. There probably need to be fewer emphatic statements that this is the only path or the only target. It could have been a little more honest with us about the fact that we are dealing with error bars and risk.

In that context, one thing that would have made a difference would have been to acknowledge that technology costs are a huge uncertainty. Everything we have seen about industrial innovation has shown that those costs come down rapidly when you deploy at scale. The UK and Europe have had a big hand in helping that to happen across different sectors. Those cost estimates appear to be some sort of truth, but they are not. They are a projection with starting assumptions. I would have liked to have seen more scenario testing on those cost curves. Once the



HOUSE OF COMMONS

cost curves start to come down, it gets a lot cheaper and we can go further.

Isabella O'Dowd: We were pleased with the level of ambition we saw in the CCC's advice. It showed a real shift. We support 2045, on which I have done some analysis. You can make the case for 2045 from the Committee on Climate Change's advice when you look at all the speculative options. The big areas where we feel strongly you can go further are elements such as diet change. In their further ambition scenario, they have 20% reduction. In our *Keeping it Cool* report and their speculative options, they talk about a 50% reduction. We are already seeing that. The Waitrose survey showed that a third of Britons are already becoming vegetarian or flexitarian, so reducing their meat consumption. Areas around behaviour change and lifestyle are things where we are seeing the general public already making that change.

We think there is more of a role for nature-based solutions. In our report, we had much larger greenhouse gas removal savings from afforestation, habitat restoration and soil carbon sequestration. The CCC's advice has a very small amount; I think it is minus two megatonnes of CO₂. We think this is a key area of protecting our biodiversity and making sure we are sucking carbon out of the atmosphere through nature-based solutions.

Gail Bradbrook: There is an issue with this idea that the committee is independent. In my understanding, it has to report based on the Government's industrial strategy. When you have the expansion of Heathrow justified on the basis that we are going to have a load of bogs, I think, in Wales, we need that to happen anyway, not to use that to justify aviation expansion. There is reliance on carbon capture and storage technologies that are not real. They have been called magical thinking in science papers in *Nature*. I know there are some test versions out there. We know the soil is an amazing carbon capture and storage mechanism. The biggest thing we need to do is work with our farmers.

We know that IPCC reports underestimate things that are already happening and we have to use the precautionary principle. This is not a time for taking risks when we are talking about the fate of humanity. You cannot then balance economic practicalities out. In my opinion, focusing on carbon capture and storage technologies is a terrible thing to do.

Q291 **Drew Hendry:** I will stick with you for the next question, which I would like to ask the other members of the panel as well. You are not a fan of the technological solutions, particularly carbon capture and storage. You would like to see other things happen just now, if that is right.

Gail Bradbrook: That is a personal opinion.

Q292 **Drew Hendry:** Yes, absolutely. Are the Committee on Climate Change's assumptions about potential for behaviour and lifestyle change appropriate? You have mentioned a kind of wartime blitz spirit. Should we expect the public to do more?



Gail Bradbrook: We should expect a certain proportion of the public to do more in particular. Ordinary people are really on their knees in this country. They are finding it really hard to cope with the stress and the pressures that are on them. We know that 50% of carbon emissions come from about 10% of the population. If you limited the carbon footprint of that top 10% of people to an average European—this is a global emissions figure from Kevin Anderson—it would reduce emissions by a third in a year or two. In the UK, you have a certain section of the population that is doing a lot of frequent flying, is eating a high-carbon diet and so on.

Q293 **Drew Hendry:** To clarify, do you think the assumptions that have been made by the Committee on Climate Change about behaviour and lifestyle are appropriate?

Gail Bradbrook: As you know, we are talking about a citizens' assembly and we want people's buy-in to that process. We want people to come up with the solutions. As an example, yes, you can expect that people will change their behaviour. As my colleague said, that is already happening. I am saying that we should focus on the people who are making the most emissions.

Q294 **Drew Hendry:** I will come to Isabella O'Dowd on that same question about the Committee on Climate Change's assumptions about the potential for behaviour and lifestyle change. Are they appropriate? Should the public do more?

Isabella O'Dowd: Yes. We saw a shift in the latest CCC report on behaviour change. It is an area that people find quite hard to model. Comparing further ambition scenario and their speculative options, we would very much support the speculative options around diet change, demand reduction in aviation and afforestation. This is a key area for us at WWF. We need the public to be part of the solution, but we also need leadership from Government, to make sure those decisions are easy and appropriate for the general public. We are seeing shifts already, alternative transport models across the EU. That is a key part of behaviour change, in order to achieve net zero.

Q295 **Drew Hendry:** Do you think the committee's assumptions are correct?

Isabella O'Dowd: The speculative options are closer to what we put in our *Keeping it Cool* report. Again, it is an area that is difficult to model. If we are already seeing that shift in diet change from the general public, we may even be able to do that faster than the 50% reduction. We are seeing the general public more engaged on these issues of climate change and asking for solutions on how they can change their lifestyle.

Baroness Worthington: To be honest, the behavioural change is not something I have looked at in a lot of detail. I always assume that it is important for Government to take a lead on these issues. We do not really have time for X million people to wake up one morning and think, "I am going to change my lifestyle". You need to create price signals that



HOUSE OF COMMONS

mean those choices become automatic, and choice editing. We are much more focused on the structural policies that enable people to make the right choices and not lose out. On the fairness question, we have to ensure we bring people with us in this response. We cannot have the costs of making this transition fall on those who cannot afford to bear the cost. I cannot really comment on the CCC's assumptions, but we should keep ourselves focused squarely on policy.

Q296 **Chair:** Your focus, Baroness Worthington, would be to use signals in the market to change behaviour, so you price things to reflect their true cost.

Baroness Worthington: Yes, exactly.

Q297 **Chair:** That is fair to say. Can I pick up on Gail Bradbrook's point about carbon capture and storage? I was quite surprised by your response there. Our Select Committee visited Middlesbrough and Redcar, I think at the end of last year, and we believe that carbon capture and storage has a role to play in taking carbon out of the atmosphere and supporting some of those industries that will not be able to survive if they continue to be big emitters of carbon and other pollutants. Are you saying that you do not think carbon capture and storage has a role in either meeting our carbon emissions or protecting some of those industries in parts of the country where, frankly, there is a desperate need for jobs and well-paid jobs?

Gail Bradbrook: Extinction Rebellion believes we have to have a citizens' assembly to deal with this issue and look at all possible options.

Q298 **Chair:** You were very critical.

Gail Bradbrook: Personally, I would not rule any technology out. I do not think there is any harm in looking at technological solutions. When I was at CogX technology conference last week, you had a guy there asking for I think £200 billion globally for CCS technologies. I always look at that in the face of nature, which is our carbon capture and storage mechanism. We are one of the most nature-depleted countries in the world. That is where the carbon will be stored. This is what I was trying to say. It is like putting it down to physics, as if it is purely about carbon atoms. We have an issue of water here. When you look at what the Pasture-Fed Livestock Association and people like that talk about when they are talking about how to work with the land, you are dealing with water issues there as well. There are nitrogen issues. There are other pollution issues. There is healthier food.

Q299 **Chair:** I understand what you are saying. You say you want citizens' assemblies and to take people with you. I am just putting it to you that the people of Redcar and Middlesbrough may in principle be in favour of reforestation and getting back to nature, but they also need jobs to be able to feed their families and ensure their children have prospects for the future. I am just putting to you that, if you want to take people with you, you need to find solutions that go with the grain of human life and people's needs.



HOUSE OF COMMONS

Gail Bradbrook: Yes, we are absolutely talking about a just transition and that nobody should be put out of work, but there is all sorts of different work people can do. I come from a coalmining community. The whole industry was closed down and it was not a just transition. I do not personally rule out technology, but, as many scientists and engineers say, it is magical thinking. I do not think we should be putting our eggs in the basket of a technology that is not proven at scale.

Q300 **Chair:** What about nuclear technology? Are you in favour of more nuclear power plants to meet our energy needs in a low-carbon way?

Gail Bradbrook: In my personal opinion, it is a bad idea, given that nuclear power stations are on the coast and we know we are going to get mass flooding. Given that many credible commentators talk about the collapse of civilisation, how are we going to manage nuclear power stations in the face of a civilisation collapse? I am talking about Professor Schellnhuber, who advises Angela Merkel on climate change.

Q301 **Chair:** They are opening new coal power stations. Coal power production is increasing in Germany because they are not using nuclear power.

Gail Bradbrook: I am talking about the commentator, not the German policy. Why would you think of opening new nuclear power stations, given what flooding we are expecting to see, and given the possibility of a collapse of civilisation? Some people are saying it is inevitable. This is why the children are on the streets. They think what we are going to leave them is an impossible task.

Q302 **Chair:** It is a very powerful argument, but we are trying to explore what policies are needed and how we can do it in a fair way. There is consensus that we need to get to net zero. I am putting to you some of the ways we could do that, through carbon capture and storage, and nuclear. Baroness Worthington, what is your view on carbon capture and storage, and on nuclear, to meet our energy needs?

Baroness Worthington: My main focus is on this happening quickly. That puts an emphasis on proven technologies at scale and technologies that can be transferred to other countries, in particular China. In that context, the UK moving ahead with demonstrated projects on both CCS and new nuclear is really important. Whether the CCS will work is still open. The economics of it are quite harsh. Solar and wind are coming down at such rates, including converting that into fuels, that you might find CCS's day in the sun has passed us by. There is an issue on gas. CCS on gas is where we should focus. A British technology that has been exported to the States, to be developed in Texas, seems to show that you can use gas with this technology with no net energy penalty. That means it will be cost effective. I am holding out hope that we will get a best available technology on gas that is CCS capable. On nuclear, the UK needs to hold the line.

Q303 **Chair:** What does that mean?



HOUSE OF COMMONS

Baroness Worthington: It means that we do not close early, we do life extensions and we look to see whether there is a new breed of nuclear that can be used safely here in wider parts of the country.

Isabella O'Dowd: I have not seen a scenario to achieve net zero without CCS. We think there is a role for it, whether in industry or with technology such as DACs. We need to see investment from Government. We saw investment. It was taken away and now the investment is nowhere near the same level. We need to look at all technologies. We would like to prioritise the nature-based ones, but we see a role for CCS.

In terms of nuclear, there are enough models out there that show that wind and solar renewables are the cheapest forms of energy. We do not see a role for new nuclear. We need to be looking at the long-term energy solutions for storage. We have done some analysis to look at what you would need in a 2030 scenario, and that does not require new nuclear.

Baroness Worthington: It requires existing nuclear.

Isabella O'Dowd: It does.

Q304 **Peter Kyle:** This is a really interesting session. Isabella O'Dowd, could you start? What specific measures would it take, in the short to medium term, to deliver your net carbon zero target of five years earlier than the Government are willing to meet their target? I suspect you will be more specific than the Government are right now, but what specific measures are you aiming for?

Isabella O'Dowd: We recently published our climate emergency package, which was a list of policy actions for each Department if the Prime Minister was to declare a climate emergency, and what we would need to see across Government to step up to this challenge. In the short term, there are some very easy policy actions we need to see. We need to see support for the cheapest forms of energy, onshore wind and solar. In the medium term, we need to phase out fossil fuels with a just transition. We need to have that transition from dirty to clean technologies.

One area we did a lot of work on last year was pushing the Government to commit to the end of the sale of diesel and petrol vehicles by 2030. The 2040 target is not ambitious enough. Another key area where there is not enough action is in buildings, so making sure homes are built to the highest standard and that we are putting in enough investment to retrofit existing housing so it is energy efficient. The ones that get us from 2050 to 2045 are the diet change, looking at international agreement on aviation and shipping, and looking at international innovation so technologies can come on sooner and faster.

Q305 **Peter Kyle:** You will be pleased to know that some of the recommendations you are outlining there are ones that are being



HOUSE OF COMMONS

supported by this Committee. Bringing forward the target on EVs in particular is one this Committee has led on. On 4 July, this Committee is leading a debate in the House of Commons specifically on electrical vehicle conversion, bringing forward the date. Bryony Worthington, could I ask the same of you? What specific measures would be needed in order to achieve your target?

Baroness Worthington: I am delighted you have asked that question. When we were writing the Climate Change Act, we thought the day would come when we would need new policies to make sure we could meet the targets in the budget, so we wrote part 3 of the Act, which no one reads, but it is there. It enables you to pass new policies that will do two things, either put a limit on existing sources of emissions or incentivise investment into abatement technology, so things that reduce emissions. That could be natural or technological. Those are all enabled and you just need to consult and then use statutory instruments to bring them in.

For those parts of the economy that are not decarbonising, and that means transport and heat, you can introduce similar policies to those we have used in power over the last 10 years to bring our carbon intensity hugely down to the point now where we have whole fortnights of coal-free power generation. My simple message is to read the Act. Read part 3 and then start a consultation on how we do this at a high level, so you are handing down responsibility for meeting these targets to the private sector. Then the private sector will create the right financial incentives for everybody to comply.

Q306 **Peter Kyle:** Is it fair to say that, whereas WWF and other organisations have specific policy requests, you have a principle of governing, a sort of policy lock on all new legislation? Is that correct?

Baroness Worthington: You do what we have done in power. If you look at what we did in power, we started 20-plus years ago with the non-fossil fuel obligation. We did that because we wanted to support existing nuclear, but we let in renewables on the back of it. On the back of that, the first wind farms got built and the first landfill gas sites got developed. From there, we now have a multi-billion pound offshore wind industry through successive policies that have been sustained through different Governments. They got there by not picking winners, by creating broad-brush policies, enabling companies to compete to deliver the most cost-effective solutions. What is not to like about that?

You have to apply it to transport first, because cars do not pollute; the fuels they burn pollute. In California, they have a whole economy cap and trade system that means the oil majors are responsible for the emissions they cause. We have the powers in the Act to enable us to do the same. We should take a trip to California, learn how they have done it and do it here.

Q307 **Peter Kyle:** How would that apply to heating, for example? Heating is almost 46% of our emissions.



HOUSE OF COMMONS

Baroness Worthington: Exactly the same. It is the fuels that pollute, not the buildings infrastructure. You want to have good, non-leaky buildings for sure. Building regulations need to be increased and then enforced, but it is the fuel sales that cause the emissions. The point where there are taxed into the system is where you regulate them. That very low-level carbon price would then be recycled into innovation to mean you can buy down the cost of those technologies.

Q308 **Peter Kyle:** Gail, you have the most ambitious target of any of the witnesses here today. You have quoted Churchill a few times. You have quoted Churchill's speeches, which were the aspirational ones, but Churchill was also very prescriptive in the policies that were going to achieve the ambition, the rhetoric, he was trying to lead the nation on. The question I asked of Isabella was, "What are you going to do in the short, medium and long term?" For you, there is no medium and long term. All you want to achieve is in the short term. Specifically, what measures are going to deliver this in the short term?

Gail Bradbrook: I keep coming back to this point. If the British people know what is happening, they will do what is necessary. Half of our food comes from overseas, 77% of fruit and veg comes from overseas, and extreme weather disrupts perishable food shipping routes. Latvia had a state of emergency last year on its harvest. Lithuania said it was a national disaster.

Q309 **Peter Kyle:** Are you saying a specific measure is no import of food?

Gail Bradbrook: I will answer that question. The specific measure is to let the British people know they are going to walk into their supermarkets, possibly in just a few years' time, if we have what the academics call a multi-breadbasket failure, and not have food on their shelves. That is when the rioting starts, people panic and there is fascism. This is why we talk about a wartime economy and why the shift has to move from this idea that we are going to do this within business as usual. Through a citizens' assembly, you will come up with a package that people can get behind because it will have ordinary people on it who have been taught critical thinking skills and given evidence.

As an example of what happened in wartime, the Government concluded that it was not going to come from taxation. That is an unfair burden on the poor, so they brought in rationing and went on to a shadow factory plan. There was more home-grown food.

Q310 **Peter Kyle:** Let us skip forward 60 years and say specifically what measures we need.

Chair: Six years?

Peter Kyle: No. She is quoting measures from the war. Rather than what we did in the war, what do we do now?



Gail Bradbrook: I am not here to be a think tank. You have other people. You have Zero Carbon Britain, which has examples. Norway has set its target at 2030 and is not doing any more fossil fuel explorations. We could follow its lead. You have Bhutan. It is not my job to say, "This is what it should look like". We are saying, "We cannot decide. You have to ask the British people".

Q311 **Peter Kyle:** Can I put this to you? I am a fan of citizens' assemblies. We should have been using them a lot earlier. We could have navigated a lot of the issues our country faces now without the divides we have in our society if we had used them. You have mentioned them many times. What happens if you do a citizens' assembly and it does not deliver the scale of ambition you want? What happens if they see that and say, "I am not willing to make the changes you are demanding of us in order to make it; we want to set a target of 2050, along with the Government"? How will you respond, as a campaigning organisation?

Gail Bradbrook: I personally believe that will not happen. If they look at the science and the facts, they will step up. Like I keep saying, British people step up when they know the reality. Their children will get back out on the streets.

Q312 **Peter Kyle:** If the citizens' assembly does not deliver the response you want, what will your reaction be? There is no point giving power to a citizens' assembly if you are not willing to listen to the outcome from them in the first place.

Gail Bradbrook: Genuinely, if the outcome is not realistic, in terms of what we are facing, you would get back out on the streets again and campaign for another citizens' assembly.

Q313 **Peter Kyle:** One that gives you the result you want?

Gail Bradbrook: No. It is likely that it would come up with some idea, which might be 2027 or something. It would say, "We could not quite make that, but we have gone a bit further". The point is that they would be seeing an emergency response. It is the equivalent of saying, "Imagine there are 20 Hitlers"—because this is far worse than one Hitler—"lined up and the British people would say, 'No, we will not do anything until 2050'". I cannot personally imagine that would happen. Sure, if it did, I would still be campaigning for something else to happen beyond that, because I know that is not reality.

Q314 **Anna Turley:** Isabella, I would like to focus on the WWF report. You have already given us some examples of what is in there. Could you tell us a bit more about how you have reached 2045 as your target and what additional measures, on top of what the Government have proposed, you would like to see to get to that? Particularly, could you focus on what is outside the Government's control, in terms of the behaviour change you mentioned?



Isabella O'Dowd: Last year, we commissioned Vivid Economics to look at the earliest date the UK could achieve net zero. We commissioned Vivid because the two consultants were ex-CCC, so we thought it was a good starting point, in terms of looking at the CCC advice. We started by looking at its previous scenarios, so its 80% target and its max deployment target, which is a 90% reduction. We looked at the areas that had really progressed since that last analysis. That was mainly through literature, examples from other countries and we did lots of expert interviews with key people, academics and industry experts, across the different sectors.

The main areas where we managed to reduce emissions were power, industry and agriculture. The overall pathway, which is pretty aligned with the CCC's advice, means that power, transport and heat practically need to get to zero by 2045. Industry, agriculture, and shipping and aviation need to reduce, but you cannot get them to zero. You then need to look at the greenhouse gas removal technologies that can offset those emissions.

We mainly focused on nature-based solutions. As WWF, that is a key area for us. We limited technologies such as BECCS to make sure it was only sourced from the UK and as sustainable as possible. We were keen to highlight that we want to cut emissions as dramatically and quickly as possible, so we do not have to rely on other technologies such as BECCS. If you look at previous trends, we think the UK can cut those emissions from the sources.

In terms of how we got to 2045, compared to our 2050 scenario, 2050 was very much in the control of what the UK Government look at. The main differences for 2045 were the diet change, so a 50% reduction and looking at the emissions you could save if you had an international agreement on shipping and aviation. Also, if you have international drive on technologies such as DACs or other technologies, they come on faster and therefore you can move faster and further. Those are the key areas outside of Government's control. The UK definitely has a role to play, whether that is the international aviation and shipping or driving those technologies and being a fast mover in those areas.

Q315 **Anna Turley:** When you say "driving those technologies", what sorts of incentives would you like to see? What kinds of tools and leverage do Government have to encourage and drive this behaviour, in terms of industry and investment but also the wider population?

Isabella O'Dowd: The UK Government have an important role to play in giving innovation funding towards these new technologies. We have briefly talked about stuff like CCS. It has a role to play if we look at being ahead of the time, so we make the most of that in terms of economic growth and the jobs it can offer. If we look at stuff like electric vehicles, what can it offer to the UK by being ahead and committing that money up front, but then having those jobs available and the money that can feed back into the economy?



Q316 Anna Turley: Could I pick that up with you, Bryony, particularly around the incentivisation for businesses? You mentioned earlier industries not moving quickly enough to decarbonise. What would you like to see Government do to support that transition and support our businesses in making that move to lower carbon? Also, we have talked about CCS but no one has mentioned hydrogen. Could you perhaps say something about the role of hydrogen in heat and transport as well if you think that is relevant?

Baroness Worthington: Power is now largely decarbonised. We still have a way to go, but we are seeing the end of coal and we are going to be using more and more clean power, and balancing the system to make the most of our renewables. The next challenge is oil, which is used in transport predominantly, but there is still some in heat. You have to work through the carbon intensity question: "What is the most polluting fuel?" Then you will get the best bang for your buck in getting that off the system if you replace it with zero emissions. Getting oil out of transport is the biggest challenge now. We will get to gas after this.

In that sense, you have to learn from what we did in power. It is a highly capitalised, very mature market, where everyone is already being served with the service they require. You can argue that there is a lot of congestion and lots of externalities, but, by and large, a huge amount of capital is working to get people from A to B. In that environment, you have to force disruption. That is why you need obligations. I am happy to bring forward the banning date to 2030, but what I care about more is 2019, 2020, 2021, 2022. We are selling less than 1% pure electric vehicles at the moment. We are trying to get to 100% by, let us say, 2030.

How are we going to ramp it up? The way we will have to ramp it up is by forcing innovation into that market by creating obligations. Whether we put that on the car manufacturers, or on the retailers of the fuel, to pay for it is a moot point. We can consult, but we have to create a financial incentive that says, "We are decarbonising transport, not in a 30-years-from-now timeframe but in a tomorrow timeframe". That is the only way we will get back up on to that curve.

It will not just be one policy. The policy I outlined, which is broad-based, economy-wide, gives you the backstop. That makes it possible to meet ambitious targets. What you do with the revenues from that and how you incentivise individual technology breakthroughs can be through a combination of issues to do with obligations that drive people to change their behaviour, so targeted incentives, and regulation, just choice editing. If something is polluting, hurting children's lungs and has no place in a modern city, let us just ban it out of our environment. The technology is now there to enable us to have combustion-free cities. That would be better for everybody. It would boost productivity. It would reduce the burden on healthcare costs the air pollution causes. It would be great for climate change. That is my prescription in the near term.



Q317 **Chair:** Bryony, can I come back to a point I raised at the beginning on the use of carbon credits? I wanted to clarify it. What is needed at an international level to ensure that any use of carbon credits is robust? You said at the beginning that it meant that even the targets the Government are setting do not require domestic action if you can purchase those credits. What would you need to either stop those or make sure they were used in a robust way?

Baroness Worthington: There is a policy answer and then a technology answer to that. In terms of policy, if we are going to be trading internationally, we will need a really robust set of rules at a UN level. In the jargon of the UN, it is article 6 that sets the rules for how, if you purchase an allowance from another country, that country cannot also claim credit for it, so it is called double counting. You need an international ledger that keeps track of all this if you are going to do it. When we host COP 26, I would want to see us putting a huge effort on making sure that rulebook is really robust and is signed up to by everybody.

On the technology side, I am all in favour of lots of natural system carbon sinks, but how do you know they are actually working? One of the real forcing factors of climate change is that natural sinks could become sources and not sinks. We are seeing risks of forestry, in Canada, for example, switching from net positive for the environment to net negative, as in emitting CO₂. We are going to need sensors and smart systems to ensure we are monitoring these things that we think are helping, whether that is under the water, on the land, on our soils, in our forests, that gives us a reasonable chance of knowing this is permanent and real storage. The minute it stops being, we have to then revise our rulebook.

Q318 **Antoinette Sandbach:** Gail has already described a war effort approach. Isabella, would you support a war effort approach to climate change?

Isabella O'Dowd: Yes. We highlighted that in our climate emergency package. We are in a climate crisis. The general public are waking up to that. The recent Greenpeace study that showed that two-thirds of people in the UK recognise we are in a climate emergency highlights that. In our climate emergency package, we call on the Prime Minister to make this a priority across all Departments and to step up to this in a war effort, yes.

Q319 **Antoinette Sandbach:** Bryony, how about you?

Baroness Worthington: I am not a big fan of war analogies, I am afraid. No disrespect, but a lot of people died and it is not a good thing to be harking back to. I would rather we go much further forward on a positive vision for combustion-free economies. That is entirely possible. Our own home-grown companies are already on this agenda. If we do it well and support them, they will be exporting to countries around the world. The idea that we are going to go back to rationing and enforced hardship makes me slightly worried. We would quickly lose the political envelope within which we can act.



That is not to say it is not urgent at all; it is hugely urgent. I agree we need to tell the public the reality of the risks, but we then need to double down on what the UK is good at, which is innovation. We started this whole thing: we invented the combustion engine. The Industrial Revolution started in Manchester. I want the green industrial revolution. It has already started. We just have to speed it up and export it.

- Q320 **Antoinette Sandbach:** You have touched on some of the issues around the risk of losing public support. Gail, I heard your evidence, which said that you just think the public will step up to the plate. What evidence do you have to support that? When we were looking at high energy prices, I remember going and knocking on doors, and part of that came from green levies that were on people's bills. What evidence do you have to back up your argument that, in the UK, we may have rationing when we are responsible for 1% to 2% of world emissions, and other countries may not be doing the same sort of things?

Gail Bradbrook: In a wartime economy, rich people have to cough up. That is what happens. I do not think we need to say this is going to—

- Q321 **Antoinette Sandbach:** The whole burden is going to fall on the rich, who might move out of the UK or relocate their resources elsewhere.

Gail Bradbrook: We run the tax haven economy from the UK. We could deal with that to start off with. There is quite a lot of money there. As for the amount of fossil fuel subsidies we do, we are the worst in Europe for that. There is money available if we want it. In terms of public opinion, Opinium showed that 63% agree we are in a climate emergency. From ComRes, 54% said that climate breakdown threatens to extinguish our species.

- Q322 **Antoinette Sandbach:** That does not deal with paying. That deals with identifying a problem. Your analogy has been quite radical. I am asking what evidence there is for you to say that you could bring the public with you.

Gail Bradbrook: When you have 71 councils declaring a climate emergency, the spectrum has shifted. People care about their children.

- Q323 **Antoinette Sandbach:** I have children but I also know that I live in an area where there is no accessible public transport. If you are going to heat your home, you have to burn oil. If you are going to replace your boiler, it might cost you £7,000. There is 17% rural poverty. My concern is how you think you could have that war effort without alienating large sections of the population.

Gail Bradbrook: I agree it is an unfortunate analogy. One of the dangers of talking about a war type of thing is the idea that you are giving emergency powers to the Government, which is why we balance it by saying you must have a citizens' assembly and you must have ordinary people chosen at random, Fred the builder and so on.



Q324 **Antoinette Sandbach:** I think you dealt with that with Peter. When they get evidence of some of the impacts on their lifestyle or their income, they may not choose to make those choices.

Gail Bradbrook: The burden does not have to be put on poor people. That is a choice we can make. I also live in—

Q325 **Antoinette Sandbach:** I understand that. Bryony, I do not know what your evidence is.

Baroness Worthington: I would like to get us into some stimulus spending. You do not want to break the bank but we are in a low interest rate environment. There is a tonne of capital out there waiting to find a destination. Bonds are not delivering what they used to. You want it to be serviced towards something, and a green industrial revolution is a perfect opportunity to draw that investment into the UK and into green infrastructure. I feel like there is an economic answer here that leads to a nice net win overall. For example, on transport in particular, we have just done some analysis with Frontier Economics of the take-up of EVs, which is predominantly middle-class and rich people. How are we going to get middle-income and poorer families to be able to have access to electric vehicles, which are much cheaper to run and do not give you horrible MOT bills every year?

There is a carbon poverty that we are not really acknowledging, which is that people are trapped into the petrol pump and running very cheap second-hand diesel cars. How can we get them as part of this? The answer lies in Government policy to, first, communicate to people that they will save money overall but, then, perhaps a zero-interest loan, which would not cost the Treasury very much and would be cheaper than the grants it is giving to middle-class people, facilitated in a way that tries to target it towards those most in need, would be a very cheap win. It would help defuse this unfairness problem, which will come and hit us if we are not careful. Look at what has happened in France. There are clever policies we can draw on. Scotland is already doing this, by the way. I do not see why it is not UK-wide.

Antoinette Sandbach: We may be coming up with recommendations in due course.

Isabella O'Dowd: I wanted to pick up on that point. When we talk about a warlike effort, what we mean is making sure climate change really is a priority across Government. We have seen it with other stuff like the Olympics. It should not just be, like you are saying, about transport. There are so many areas that this fits over. It should not just be BEIS championing this. That is why there are a lot of positives in making sure that all Departments are very clear about all aspects, whether it is housing, transport or looking at having healthier diets in hospitals and schools. There is a whole wide range. Because we are in this climate crisis, we really need to see Government step up. There are huge benefits from better-quality air and cheaper forms of renewables. There is a



HOUSE OF COMMONS

positive element to this. The war comparison is unfortunate, but it is about stepping up and seeing this as an opportunity to show action because we do not think enough action is happening.

Q326 Antoinette Sandbach: Given the recent Treasury letter about these so-called costs of declaring a climate emergency or even trying to move to net zero, how could the costs be shared fairly across not just taxpayers but consumers and businesses?

Baroness Worthington: Stay in Europe. Sorry.

Vernon Coaker: Many of us agree with that.

Baroness Worthington: I have a serious answer. You have to minimise the costs. You have to get maximum bang for your buck, so the effectiveness of the policy is absolutely paramount. That means, unfortunately, creating signals that allow markets to work out what the answers are. We can do a little bit of tinkering in terms of directing the funds towards these things. If we have a fairly good hunch that we need CCS on gas, which we can probably say with some confidence we will need, direct some of that into a contract for difference that enables the investors who are ready to do that to do it with confidence that they are not going to lose their shirt. Those are the sorts of ways in which you can keep the costs minimised and keep it in with the grain of the investment cycle that companies are already pursuing. We have a massive asset now of low-carbon electricity that is producing more electricity than we need at certain times of the day and week. We should be converting that into use in other sectors, and making sure we are not trying to over-engineer a top-down policy from Government but allowing those broader signals to find the least-cost solutions.

I was a civil servant so I can say this: climate change mitigation is littered with examples where civil servants think they know the answer, it turns out they had not got it right, and the market comes in and surprises them, and finds a much cheaper way of doing something than they could ever estimate with their graphs, economic assessments and lots of commissioned reports. Broad signals brought in quickly can give the long-term signal that industry needs. Let us go on keeping costs at a minimum. The transition has created a rebellion on a global scale, but no one is out on the streets saying they want to stop decarbonising electricity. We have done it over 10 years and it has been a huge success.

Isabella O'Dowd: We welcome the Committee on Climate Change's ask for Treasury to do a full analysis on this. We really need to analyse how we can spread these costs, looking at private and public expenditure. Going back to what Nick Stern said, we need to see this as an opportunity. We are keen to stress that that review looks at the benefits and the full value of spending money on climate action, which the CCC highlighted. Moving faster, it will cost less in the long term. We talk a lot about the power sector but that is a good example where we saw initial



HOUSE OF COMMONS

support and now we are decarbonising and seeing, in the next three years, £50 billion of private investment in that sector.

We need to have a full assessment of where we are spending money on high-cost, high-carbon projects, and where that money could be better suited to making people living in fuel-poor homes more efficient and ensuring it is spread well, with long-term targets so that business can plan and give that investment.

Gail Bradbrook: That is why we are calling for a citizens' assembly: we do not trust politics as it currently exists to deal with this issue because there are too many vested interests. When you have things like the chairman of Cuadrilla being the non-executive director of the Cabinet Office when choices were being made about fracking, the current political system is captured to vested interests. If the premise of this Committee is that the industrial strategy is the correct strategy or whatever, you have to take it back to the people. I do not need to labour that point again. The other piece from our perspective is about justice and fairness.

Q327 **Chair:** I do not think the premise of this Committee is on industrial strategy. This inquiry was set up before the Government had committed to a net zero strategy, so premise of these sessions was to look at the Committee on Climate Change's recommendations on net zero.

Gail Bradbrook: Maybe I have misunderstood.

Peter Kyle: This Committee is wholly independent of Government.

Gail Bradbrook: Can I just check something? I understood that you can only do something when the Minister has said you should do a report.

Peter Kyle: No, absolutely not.

Q328 **Chair:** Can I speak from the Chair? I was elected by Back-Bench MPs to be the Chair of this Select Committee and all the members of this Select Committee are Back-Bench MPs and are elected. None of us serves either on the Government or the Official Opposition's Front Bench.

Gail Bradbrook: Maybe I have been misinformed. I do not know if it is that important a point.

Chair: It is an important point for us.

Gail Bradbrook: I thought in your terms of reference there was this thing. Maybe I am wrong. Correct me if I am wrong.

Chair: That is what we are trying to do, Gail.

Gail Bradbrook: I thought that, in your terms of reference, you had to come up with recommendations within the framework of the Government's industrial strategy.

Chair: No, that is absolutely not the case.

Gail Bradbrook: Okay, then I have been misadvised.



HOUSE OF COMMONS

Chair: Whether it is our work on the collapse of Carillion, on the future of audit, on carbon capture and storage, on electric vehicles, in almost all the reports, if not all the reports, that this Committee has published, we have challenged and criticised Government policy and put forward our own recommendations. We do that without fear or favour of any of the Front Benches of any of the political parties.

Gail Bradbrook: My colleague behind me is correcting me that I am mixing it up with the Committee on Climate Change's terms of reference, so apologies for that.

Chair: It is an important point to make. I do not want us to look like we are here with a prejudged view in any way. In fact, I put down a Bill last week on net zero before the Government had committed to it. It is an important point.

Gail Bradbrook: Fair enough. I did want to pick up that fairness point. There are ideas of green new deals, jobs and so on, and therein lies a lot of detail to be thought about. In our terms of reference for the citizens' assembly, we talk about climate justice and the idea that we cannot just go and help ourselves to the resources, in an extractivist way, of other countries in the world. We have to think in an internationalist way about what other countries need from their own resources, not just from a UK perspective. Given that food might run out in a country from one harvest to another, feeling really together on this—

Chair: Can I come back to Antoinette Sandbach?

Q329 **Antoinette Sandbach:** Bryony, you spoke about the market sending out the right signals. When you set that overall policy framework, supported by some cash, the private sector then came forward and delivered things in a way that civil servants had not expected or anticipated. My original question was really around the balance. Those incentives are paid for by taxpayers, effectively.

Baroness Worthington: They do not need to be, no. Sorry, carry on. Finish your question.

Q330 **Antoinette Sandbach:** How do you balance that between consumers, for example, and business?

Baroness Worthington: Some incentives are paid for out of the public purse but they are in the minority. The vast majority of the billions that have gone into power decarbonisation have come from a mechanism that socialises the cost through everyone's bills on a very, very low level. Overall, we have found that that pump-priming exercise, with an almost unnoticeable level of levy on your bills, directed into specific technology groups, brings the cost of those technologies down so fast that ultimately the consumer gets back to the same net position. That is what we have seen now with the costs of onshore wind and solar coming down. Offshore wind is also down on its cost curve. It is a pump-priming exercise rather than hugely expensive public expenditure.



HOUSE OF COMMONS

Q331 **Antoinette Sandbach:** Those on the lowest incomes or fixed incomes bear the biggest burdens from those bills.

Baroness Worthington: Fuel poverty is a reflection of how much of your disposable income you pay on heating and carrying out your daily life with energy. That is true, but there are fuel poverty policies that come in. You can use the receipts of these levies to both help improve people's standards of living and drive innovation. If done well, you can make this a progressive policy so you narrow inequality through use of the recycling of these revenues. You have to start from the basis that money needs to flow to move things on to get things cleaner. Then the question is how we do that equitably. Putting it on the public purse is one way but, as we know, that involves a Treasury that needs to then see the value in that future spend today. If you could persuade the Treasury, that would be the most progressive way of doing it. In this world where the Treasury believes this should be defrayed into the private sector, it ends up on consumers' bills. That is the nature of the tension between Treasury and every Government Department.

Q332 **Antoinette Sandbach:** If it is going to end up in consumer bills, and we have to really step up and have a real game change in approach to deliver on this target, in reality, are we going to see that potentially impacting on those with fixed incomes and the lowest paid, as the Treasury seeks to defray it on to the consumer?

Baroness Worthington: If you do not have a corresponding social policy, yes, but, in power, we have seen payments being made back to people. The example of transport is a good one because, if we are saying we are going to very, very narrowly incrementally increase the price of a litre of fuel, because it is polluting and hurting our lungs, we need to find those people who are climate poor, who are trapped into this reliance on cars to get from A to B, to get to their jobs, who do not have the capital available to purchase a cleaner vehicle, which would be cheaper to run but not cheaper to buy. That means policy. Those policies are possible and we can implement them, but we have to do them in tandem if we are going to keep this justice argument being advanced.

Q333 **Antoinette Sandbach:** Isabella, you have spoken about the importance of natural capital, as it were, or natural carbon sinks. Given that much of that land at the moment is productive farmland and would need to be either reforested or changed in some way, how are you proposing that that would be paid for?

Isabella O'Dowd: This is an area where we see that farmers are at the front line of climate change. They are seeing the effects on the ground, whether it is the heatwaves or flooding. We think we have a good opportunity with the Agriculture Bill and the Environment (Principles and Governance) Bill to look at how you pay farmers for public goods, in terms of making sure their land is managed so that it can continue to produce foods, but looking at ways to use that land to remove carbon. What was interesting in the Green Alliance's latest report was that



HOUSE OF COMMONS

erosion and loss of organic soil content is costing farmers £903 million a year. There is a benefit to farmers in making their land more productive but also sucking in carbon from the air. The NFU has gone for a 2040 net zero target. We are keen to work with farmers to look at solutions in that just transition.

Q334 Antoinette Sandbach: How are you going to counteract public anger, potentially, where somebody who might own several thousand acres of farmland receives a public subsidy or some form of public payment where somebody does not really care? Do you see what I mean?

Isabella O'Dowd: Yes, I see what you mean. We can definitely write in with more information on this.

Antoinette Sandbach: Thank you. That would be helpful.

Q335 Vernon Coaker: We were talking about the involvement of the public and some of the issues relating to that, which was very interesting. The Prime Minister has plans for a youth steering group to advise on priorities for environmental action. I think they have established 30 15 to 24 year-olds to do that. What do you think of that? What should they be asking? I am also intrigued as to where the 30 people came from, how we broaden it out and get everybody involved, involving all sections of youth and all parts of the country. Do you see what I mean? I wondered about your thoughts on the youth steering group, what it should be doing and how it can be done.

Isabella O'Dowd: The youth movement is critical. They are the future generation; their voices are being heard and need to be heard within Government policy-making, because it is their future that we are trying to protect in terms of the effects of climate change. My understanding is that they are looking bringing people from across the country. This is an initial starting up, this group. Making sure that those promises are followed through and those voices are listened to by Government and the policymakers is a really critical area. We would very much encourage that.

Q336 Vernon Coaker: Pulling them in from across the country, rather than just a group from London, is really important, is it not, so that they pile in from everywhere?

Baroness Worthington: Yes. We have not looked at this in detail. If you could reduce the voting age, that would help.

Vernon Coaker: I agree with that, by the way, but there we go.

Baroness Worthington: The youth committee should and, I am sure, will say, "Listen, you are the adults. Can you help us out here? You have been looking at this for 20 years or more. You have access to all the Civil Service expertise. You can do inquiries". They need to create the political pressure to say, "Sort this out and sort it out fast". I do not think we should be looking to them to invent new solutions because it needs a



HOUSE OF COMMONS

maturity of knowing how and when we act to deliver this. It is going to have to come from experience as well as youth. It has to be a whole-society response. I love the fact that they are being brought in but they should be saying, "Come on, you are the adults. Get on with it".

Gail Bradbrook: Young people rate environmental problems higher than adults, second to Brexit. I asked XR Youth people what they thought about that idea and they said, "It is irrelevant if that is in any way tokenistic. If there is no process for the youth's input to be binding or have any actual weight with the final decision, it is the same empty promises". "Let us hear what the young people think, and then make all the decisions about their lives and future while they are not in the room and have no actual say in the decision-making". That is how they feel. There are 40 chapters of XR Youth across the UK.

Q337 **Vernon Coaker:** Where was that quote from?

Gail Bradbrook: It is their perception.

Q338 **Vernon Coaker:** I just wondered. Were young people saying that?

Gail Bradbrook: Yes.

Q339 **Vernon Coaker:** Where from? It is not a trick question; I am just interested. Do you remember?

Gail Bradbrook: No, sure. I think Teddy is based in Leicestershire. I am not quite sure. We would say that a citizens' assembly would include youth participation. We really do believe in that mechanism whereby you teach ordinary people critical thinking skills, and then bring in the experts who have done the work, so it is a partnership between the two. I would really want to make sure a youth voice was not used as an excuse to tell the children to stay in school. The radical school strike action is absolutely needed to keep the pressure on.

Q340 **Vernon Coaker:** Whether it is young people or whoever participates in any citizens' assembly, what should the format of that be? What should people be asked, whether they are young, middle aged or old? What would you say to them? "Is there an environmental problem?" People would say yes. That is why they are there. What are the questions that would prompt the best outcome, if you like?

Gail Bradbrook: The question that we have set at the minute is along the lines of, "How should the UK halt and reverse biodiversity loss and aim for net zero carbon by around 2025, while ensuring climate justice and ecological justice both at home and overseas?" Then you bring in the experts. My understanding is that you do this sortition approach.

Vernon Coaker: What, sorry?

Gail Bradbrook: It is called sortition. You choose people randomly. This is how Greek democracy was originally conceived. You brought in ordinary people to examine the evidence.



HOUSE OF COMMONS

Q341 **Vernon Coaker:** Thank you very much. Bryony, do you want to add anything to that? What sorts of things should we be asking people? That random selection of people is going back to the Greeks—

Baroness Worthington: I would ask them about how they absorb information and what information sources they find most compelling. I do not think they are going to come up with the answers; nor should we expect them to. We could learn about the things that influence their thinking, where they are getting their information from and what Government could be doing more to inform them and inform everybody. The advent of social media means we have amazing platforms now to talk to people directly, unmediated by press barons et cetera. I would focus on that communications challenge, because we are into a whole new era now of information flow. That must be harnessed to help us move this needle faster. That is an area they would have specialism in.

Q342 **Vernon Coaker:** Isabella, slightly moving on from that, how do we stop people being cynical? The assembly takes place, and everyone comes, has a couple of days and discusses it. Then there will be outputs from that. What would you expect from Government, us or anyone in terms of how we respond to that? Going back to Peter Kyle's point, there might be 50 or 20 outcomes. You might agree with 10 and not with five. What would you expect to happen that would retain the integrity of the process?

Isabella O'Dowd: It is a difficult question. Transparency is key. We need to be very open and transparent about the decisions that have been made. A really good example is if you look at public support for stuff like onshore wind and renewables. It is extremely high and yet it is banned by the Government and we are seeing fracking projects coming through. I completely agree that, if you have this youth steering group, it must not be a greenwashing exercise. They must really take on board the messages that are coming through. There must be transparency and Government must listen to the people who are trying to feed in, who are on the ground and witnessing the effects of this.

Gail Bradbrook: Could I clarify something about the citizens' assembly? It would not just meet for two days.

Vernon Coaker: No, sorry. I did not mean that.

Gail Bradbrook: It is like a jury service. Bear in mind, with a jury service, somebody's liberty is being decided and you put that to ordinary people. The process, like I say, is about critical thinking skills. My colleagues here would be invited. These are the kinds of colleagues who would be invited to share with ordinary people, to get your points across. We have to understand that ordinary people can deal with information and can process it. It is an involved process like a jury service.

Vernon Coaker: Sorry, I did not mean it was two days and that was the end of it.



HOUSE OF COMMONS

Gail Bradbrook: It is fine.

Q343 **Vernon Coaker:** I am interested, though, whatever the process, in how you maintain the integrity so people feel as though they really are contributing in a way that the Government act on, listen to and respond to. Transparency is one of the ways of doing that.

Can I move on to enforcement? The Government have various carbon reduction targets and commitments. What do you think of the existing enforcement mechanisms for that? Are they strong enough or too weak? Bryony, do you want to start on that? Where do we go to with this? You might want to throw in Brexit and where that leads.

Baroness Worthington: The Climate Change Act does not have a chapter on enforcement because you are relying on judicial review to keep Government honest. The Climate Change Act created a legal metronome of responsibilities that passed between the CCC and Government to respond. They have to do certain things by certain dates and then they are open to judicial review. Preserving that is paramount. You have to be able to challenge the Government if they are failing on the law.

In terms of sanctions if they fail to meet the target, it is really about the public sanction of Parliament and citizens saying, "This is something we will take issue with in the courts". On the redress, I wanted to have baked into the law a requirement for the Treasury to fund any redress with purchasing of abatement, three times the amount that has been over-emitted, as a financial incentive on the Treasury to see that this is not a zero-sum game and there will be a penalty if you allow things to drift and do not bring in policies. That would probably be used rarely, but I felt it needed something that would create that tension in the Treasury's mind, because it is very easy say "laissez faire" and let the market deliver. I still think we need something that makes it much sharper in terms of the decisions we are making.

Q344 **Vernon Coaker:** The Treasury would have a power to act where somebody had failed.

Baroness Worthington: No, it would have a requirement on the Treasury and Government to find the funds to redress for any over-emissions that were allowed. It does not exist explicitly in the Bill but, if it were taken through a court system, that could be one of the penalties a court decided to impose. That was the argument that persuaded me that we did not need it in the Bill. We are going to see this with the Environment (Principles and Governance) Bill. We are going to try to create a body that is meant to be keeping the Government to account. At the moment, the proposal is that climate change is not part of that.

Q345 **Vernon Coaker:** Climate change mitigation is not going to be included in this Office for Environmental Protection, is it? You think it should.



HOUSE OF COMMONS

Baroness Worthington: That is correct. I cannot see the logic of not including it, given that it is the overarching thing that drives a lot of other environmental issues.

Gail Bradbrook: We would like to see the UK championing the law of ecocide at the UN level as the fifth crime against peace. It is a law that has already been drafted by a beautiful and brilliant barrister called Polly Higgins, who unfortunately died in April this year, but her work continues. That would hold business leaders and people of significant public office to criminal account for not protecting people or for mass damage and destruction of the ecosystem. You have four crimes against peace already and ecocide was always supposed to be the fifth one. We think that having civil litigation is not good enough because business leaders and others just see that as a cost of doing business. People have to actually be tried as criminals.

Q346 **Vernon Coaker:** You would hold them to criminal account.

Gail Bradbrook: Yes, in the same way as crimes against humanity, war crimes and so on. We need the highest possible law at this time.

Q347 **Vernon Coaker:** Where does that go? Who decides whether somebody has done that or committed that?

Gail Bradbrook: Wherever crimes against humanity are tried. I guess it is in The Hague, but I am not sure. It would be great to see the UK champion such a law.

Q348 **Vernon Coaker:** Isabella, is there anything you want to add to any of that?

Isabella O'Dowd: I would support that climate change and the environment must go hand in hand. You mentioned Brexit. If we do leave the EU, we must make sure that those emissions levels continue to be enforced. We have the Climate Change Act and the CCC, and we need to keep driving that as we achieve net zero.

Q349 **Chair:** There is a five-year review mechanism that the Government have suggested with net zero. There has been some criticism of that, in that, if other countries do not follow us, we might relax our own targets. Could it also be seen as an opportunity to perhaps move in the direction all three of you want to move in: if we legislate for net zero by 2050, in five years' time we could decide to bring it forward to a date closer to yours? Do you think that five-year review in the Government's statutory instrument is a good thing or a bad thing?

Isabella O'Dowd: I would like to see it as a good thing. We will be able to move faster if we see urgent short-term actions now and if we see moneys committed in the spending review coming up. In five years' time, we will see that other countries are moving faster, and that the UK should step up to that ambition and set a new date.



Baroness Worthington: I am in the same camp. The Government can review at any time they want, really. They can ask the CCC for its advice. The idea that we are going to go backwards from this target is not happening. It is only going to be toughening. It is easier to change the number in 2050 than it is to move it to another year. Considering beyond zero is really important, and that is where we need to be in terms of the moral, right thing to do.

Q350 **Chair:** That is a good point. You could stick with 2050 but, like you have said, Baroness Worthington, say it should be minus 120% by then.

Gail Bradbrook: Obviously, we want much shorter targets. If there is any opportunity to make that happen sooner, that is a good enough reason. Given that the Government over the last few years have been removing lots of environmental legislation and have done what some green leaders think has been the worst 30 years ever on environmental policy, there is always the possibility that a Government come into power and say, "Okay, let us not bother with that any more". I see risks in it as well.

Q351 **Chair:** There is a range of targets, starting with 2025, as you have set out, Gail Bradbrook, going to the CCC and the Government's 2050 target. Among the three of you on the panel, there is a 20-year gap between Gail Bradbrook's 2025 and the WWF's 2045. I do not want to pitch our witnesses against each other, but are you trying to achieve the same thing or do you feel you are arguing for different things?

Gail Bradbrook: We had a chat beforehand. We have some feminine leadership here. Speaking for myself, it is not about getting into a battle with other people. I asked Isabella if her target was fixed, and I do not want to speak for you, but it is "as ambitious as possible". It is our job in Extinction Rebellion—and I am sure we will be back on the streets in the autumn—to shift that Overton window, to keep putting the pressure on, to make it possible for you guys to say more ambitious things. You are talking within the current paradigm; we are saying that the paradigm has to shift. That is a place where we are all together on that.

Isabella O'Dowd: I would agree. We support the level of urgency. That is why we really need to focus on these short-term policy actions moving forward so we can achieve net zero as soon as possible. We have been quite clear on that in our modelling.

Baroness Worthington: In the spirit of unity, yes. We are all in this for the same reasons. We care passionately that we do the most we can without causing undue hardship. That is the balancing act. The sixth carbon budget covers the years to 2035. You should be advocating for net zero in the sixth carbon budget and engaging in that process because the Climate Change Act is a process that does not stop. It keeps us going. It gives us opportunities like these moments where we can raise the flag and say, "We need to do things differently". We all play different roles. Extinction Rebellion is out there moving that Overton window to



HOUSE OF COMMONS

allow all of us to do more, as are the youth strikes, but we need to do more. That is absolutely clear.

Chair: Thank you very much. This Committee is very supportive of the need to get on with this, not just to legislate with a target but to put in place the policies needed to achieve the target, whichever year is set. Our Committee has published reports on electric vehicles and carbon capture and storage. We are shortly publishing a report on energy efficiency and have just started on inquiry on our energy infrastructure. In all the recommendations we have made so far, the Government have pushed back against what we have said, such as bringing forward the target for the phasing out of the internal combustion engine. We know that, if we are going to meet any of the targets we have spoken about today, we need a more ambitious set of policies.

Our Committee will carry on looking into the detail of all these areas, whether it is on power, transport or heating—although agriculture is not our area, it is an important part of achieving these targets—to ensure that we deliver new legislation, or update the Climate Change Act, but then quickly put in place the policies we need to get there sooner rather than later. Thank you very much for the evidence today, which has been incredibly useful as part of our inquiry into net zero. I hope we can work together in the future to realise our ambitions. Thank you.