



UK Research
and Innovation



Briefing: Chris Stark - what I've learnt about climate change policy and agri-food

Based on an AFN Network+ webinar, held 23.07.24

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About Chris Stark & this briefing

About this briefing:

This briefing is based on a webinar discussion with Chris Stark, given to the AFN Network+ community on the 23rd July 2024. **Chris had not begun his new role in government when the webinar was recorded. The views expressed by him were personal opinions and not intended to indicate the approach of the new government.**

This briefing is written and edited by Jez Fredenburgh, Knowledge Exchange Fellow for AFN. The transcript has been lightly edited to paraphrase in parts. You can also [watch the webinar](#), and [read the audience chat and Q&A](#).

About the webinar topic:

In the webinar, we deep dive into Chris Stark's insights, frustrations and reflections as the country's leading climate change policy expert. Chris is one of the most well-known figures in climate policy, and was until April chief executive of the UK's Climate Change Committee (CCC). He left the CCC in April to become CEO of the Carbon Trust, but in July was asked by the new Energy Security and Net Zero Minister, Ed Miliband, to lead the UK's 'Mission Control' to accelerate the transition to green energy.

In this previous role at the CCC, Chris led independent advice on the UK's net zero target, the world's first net zero target to be legislated, and directed the development of detailed pathways for the UK to reach carbon neutrality by 2050. For the agri-food sector, this included the report [Land Use: Policies for a Net Zero UK](#).

We cover;

- *Where we are now, and how to drive change fast
- *Will change in diets really save the day?
- *Farming and land use - why is change so difficult?
- *Chris' time at the CCC - what are the political blockers and enablers to policy change?
- *Ideas for the new government

In conversation with Chris is Jez Fredenburgh, Knowledge Exchange Fellow, and Prof Neil Ward, col-lead of AFN Network+. Both Jez and Neil are based in the Environment Department and the Tyndall Centre for Climate Change Research, at the University of East Anglia.

About Chris Stark:

Chris Stark is leading the UK government's 'Mission Control' centre to accelerate the transition to green energy by 2030. He was personally asked to join the new team, assembled by the new Energy Security and Net Zero Secretary, Ed Miliband. In doing so, Chris had to leave the Carbon Trust, where he was briefly CEO.

In his previous role as Chief Executive of the UK's Climate Change Committee, Chris led independent advice on the UK's Net Zero target, the world's first Net Zero target to be legislated. He also directed the development of detailed pathways for the UK to reach carbon neutrality by 2050. In 2021, he presented the UK's third climate change risk assessment, with detailed analysis and advice on the extensive risks facing the UK from climate change.

Chris has held several senior roles in the UK government, including in HM Treasury, and as Director for Energy and Climate Change in the Scottish Government.

Summary of key points

We need clarity on land use change – and a more exciting, collective discussion about what it could look like

- Transition in the land sector is not happening. The central issue is a collective failure to be as excited about it as we are about the energy transition – where change is happening. We need an idea about the future we want, so we can feel motivated to make the change – this is about better framing and storytelling.
- There is a need for clarity about how we manage land use change. Fundamentally, we don't have a land use framework, or land use change framework – we need one so we can open discussions with the farming community about how we're going to deliver change whilst maintaining livelihoods. It's politically difficult, but important that we do it.

We need to reframe land use change and move away from net zero as the central goal. A broader 'mission' could help

- A big challenge facing this government, and successive ones, will be how to better frame the changes needed. Land use change can be made more exciting – so far it's been framed primarily as a set of impositions on farmers. The reason for that is a lack of positive framing, unlike in the energy and electric car transition.
- Net zero as a driving factor for change is moving out of view. We've got to get beneath it: Net zero is a condition we absolutely should reach, but it has been captured as a political slogan and by political concerns, and is no longer just a scientific goal. It is not motivating if people feel they are being forced to change their lifestyles.
- It's possible to have a different discussion of the changes needed for net zero, that is framed more positively without net zero alone being the driver for those changes. What we are talking about in the main, is a change in land practices that should continue to be lucrative for people who are on it.

- Abroad 'mission' for land and the food system could allow reach across government. Tackling climate change as one of the benefits of such a mission, but not the sole purpose of the mission, would lead to more productive and positive discussions.

We need to rethink the incentives given to farmers, including around livestock

- Planting enough trees to sequester carbon will be very difficult without reducing livestock to free up land. Key to enabling this is reduced demand for livestock products. That can only happen if incentives exist for landowners and land managers, and reduced production is not replaced by imports. The second is problematic and difficult to model, and we're still exploring how that interaction works.
- There is a question about what incentives we give to farmers to create the changes needed. This includes discussion about incentives for sequestering more carbon, e.g. a 'carbon crop'. This won't happen without a flow of finance and better financial incentives for them.
- The framing needs changing from one that says change can't happen around livestock and diet, to one which includes what we would like to happen, with the recompense to farmers that you'd expect for that. This is possible.

We need a better discussion about dietary change, to acknowledge meat consumption is reducing, and help farmers prepare for this

- There has been a political blocker to any discussion about the change in diet required and the need to give a different set of incentives to farmers. The fact that agricultural emissions come mainly from livestock has been an enormously difficult discussion to open up. Under the Conservative government there was a period of complete omertà about some of these issues, which meant no progress. This government will have to open that up more.
- The nation's diet is gradually changing, particularly in younger generations who consume less meat and when they do consume

meat it's often processed. So the conditions are in place to achieve a future scenario similar to [what the CCC modelled](#) – a gradual 20% reduction in beef, lamb and dairy, per person.

- It's key that this dietary shift is acknowledged. We could be discussing with the farming community getting ahead of this trend and creating new revenue streams for livestock farmers, while the nation's diet is still changing. Talking about changing practices can be a difficult discussion to have, and it's important we have the right terminology and language when meeting with different and diverse farming communities, whose livelihoods and lifestyles depend on the land.
- Change in diet and livestock production won't happen without policy that supports the farming community to deliver it, and without better communication to explain the changes needed to the public. Currently it's framed as environmentalists telling people to stop eating meat, so that farmers are put out of pocket. This needs shifting.

The space between government and the private sector is currently under-used as a driver for policy change

- Most progress in policies to tackle climate change come from the interaction between the private sector and government: If the government and the food and farming community indicate they are ready to discuss change, a more productive space can be created. But each party has to move a little.
- We know retailers have a huge amount of influence over what we eat. Targeting policy at retailers, particularly supermarkets, to drive better supply chains towards carbon targets, is an underused policy route.

Improving food security could be a better vehicle for discussing changes with farmers – but farming groups need to be involved

- The farming community has a fairly fixed view about what support it needs, and is very good at making that argument to Defra. Net zero is probably not the most motivating factor any longer for a discussion. We've got to broaden it, including delivering on greater food security, which is a discussion that farmers are interested in having. The political framing of it so far has been the blocker.

- It's very difficult to speak to the farming community in some parts of the country on any of these topics. We've got a narrative failure and an inability to sit and have a productive discussion in some parts. We need enable the big farming representatives, the NFU particularly, to have more prominence in the policy debate and discussion, as they once did.

We need examples of best practice farming, but at scale

- Celebrating innovative farmers is often the best way to get the wider farming community on board. However, often examples aren't at the scale of change needed, or they are highly commercialised and intensive, cramming a lot more onto the land, and are not particularly appealing.
- Regenerative farming is inspiring but it doesn't get to the core of the issue – that land needs to fundamentally be used in a different way.
- Most of the measures the CCC proposed for low carbon farming would be cost-saving for farmers if they implemented them, and yet they don't. Some of that might need to be regulated so that [farmers] save money.

Change and policy needs to be built from the ground up

- We need to start from the position that the people who know most about the land are the people who work that land, and there will be people who are very good at having this discussion and people who are very bad at it. That's true in all policy areas. But we've got to bring them in to have that discussion.
- Often the best way to develop policy is to build from the bottom up, towards what can be done, rather than what must be done. There's still lots of opportunity to make progress and there is a lot of fluidity in how to make things work. If we start from the position that something's got to change, and then invite people into how they can shape it, that is generally more positive.

Webinar transcript

Abbreviations: Chris Stark (CS), Jez Fredenburgh (JF), Prof Neil Ward (NW), Climate Change Committee (CCC)

Where we are now, and how to drive change fast

JF: Why has food and farming still not got a zero plan?

CS: It's a very good question and it's something I hope we will address soon, because it's the central issue. I'm about to move to the UK Government again, in a very surprise move, and it's interesting that the department I'm going to is the one that already has the plans for net zero - my job will be to turbo boost those plans and make the energy transition happen even more quickly.

I've got lots of ideas on how to do that because we've done lots of thinking about it. If I look at the global transition that we need to go through to get somewhere close to the Paris temperature targets, I am very optimistic about our ability to make the energy transition happen. Whether it happens at the right pace is a separate issue, but I'm confident it can be done.

The bit that is not happening is the change that we require in land use globally, and also at the UK level. We could debate why we don't have it, but I think the central issue is that there is a sort of collective failure to be as excited about the land use transition as there is in the energy transition. And there are lots of reasons for that, but we're gonna have to sort that out because it is as important and probably more so, given the lack of progress so far. And we need to [tackle emissions in land use and energy] in parallel.

Net zero is a very important goal globally, because it's when we will stop the warming of the planet. And if we don't make those changes in land use and activity - especially the question of what we do with agricultural land and what we do with forestry - we are not going to hit net zero, and we're going to find ourselves in an even worse position.

So why don't we have it? Fundamentally, at a UK level, we don't have a land use framework, or land use change framework. The need for clarity about how we are going to handle land use change in the UK is something that the CCC continues to call for, and we didn't get it from the last government. We will need to get it from the present government, and that is not something I'm familiar with - I don't know the plans there yet - but that's something I'll certainly be pushing for internally. I think it can be quite motivating to do that, too.

Most of the land that we have 'spare' - land that we can play with and use and change - is agricultural land. So it is an agricultural question primarily. But what's beneath that, and what I think we'll talk about today is, it's not as simple as spelling out change in land use - you've got to talk about the way in which we change practice and lifestyles on that land and livelihoods for the people who own and work that land. So I can understand why it's politically difficult to do that, but it's important that we do.

JF: You said there is a lack of excitement around land use change, why is that? Can it be made more exciting through a different framing and picturing?

CS: I fundamentally believe it can be made more exciting than it is. I think the reason why we haven't made more progress is because we've had a fairly miserable discussion about these changes - it's been framed primarily as a set of impositions on farmers. Farmers haven't had any proposals put to them really, that would allow them to respond positively or otherwise. And the reason for that is that we haven't had that positive framing that we've had [in the] energy [sector].

I think there is a slightly more fundamental thing running through this too, which applies to both the energy transition and the transition we need to make in land and agriculture, which is that we've had for a while now, a focus on net zero as the reason to [make the change].

My feeling is that that alone is not going to be a successful strategy for very much longer. In fact, it's probably not a very successful strategy already. It was a pretty remarkable period when we did the work in the CCC on net zero, and underpinning it was the report [[Land Use: Policies for a Net Zero UK](#)]. That period of net zero itself and net zero alone being the driving factor for doing all this stuff across the economy is probably moving out of view now and probably rightly so.

I think we've got to get beneath that - so net zero is a condition that we absolutely should reach at the UK level and at the global level. We may even need to reach net negative in this country and other countries too. But that as a driving factor is running out of currency, and the reason for that is that net zero has become a bit like a containment vessel for a load of political concerns that are not really about net zero at all or the climate.

You often see the word 'agenda' [used with] net zero in certain quarters of the press - it has been captured as a political slogan and is no longer just a scientific goal. And, of course, that's not a motivating thing, if you feel that you are being imposed upon, and that your lifestyles are being forced to change.

It's perfectly possible to have a different discussion of what we need to do to get to net zero, that is framed more positively without net zero alone being the driver for that. That is particularly true when it comes to land and agriculture. What we are talking about in the main, is a change in land practices in this country, that should continue to be lucrative for people who are on it. But we need to frame that in a different way, and we haven't been successful in that.

One of my frustrations is that I'm part of the system that hasn't delivered that more positive framing, and I'm very keen that we change that. I think that's going to be one of the big challenges that faces this government and the one after it, and the one after it, and the one after it and the one after it. So we need to start a better discussion on this.

JF: Do you have a sense of what that framing could be?

CS: Yes, I have a few ways into it. But I'm also humble enough to say that I don't think I have all the answers here. And I think that this will be a better discussion, if I admit that from the off.

We have talked about a set of changes that are partly about modern farming practice – and don't forget that most of the farming we have in this country is in some shape or form shaped by policy or even driven by policy. So that is within our gift to change, but we haven't really tried. So the question of what incentives we give to those who work on the land, is part of it. There is, I think, a more controversial discussion, which we need to open up, about what incentives we give to those same farmers to sequester more carbon – and you could think of that as carbon as a crop.

I don't expect any of this to happen without there being some flow of finance and some better financial incentives for farmers. And there is an even more controversial bit to this, which is that a very small proportion of that farmland will be needed for things like energy crops. There is another discussion (and definitely relevant to my new job) about whether some of that farmland might be used for energy production itself, solar most obviously. I don't find that quite so controversial, because we're talking about a tiny fraction of farmland.

However, the main controversy is definitely that agricultural emissions come mainly from livestock. And that is linked ultimately to another question about the nation's diet and what demand we have for meat products produced on that land. That has been enormously difficult to open up, and successive Secretaries of State in Defra, I have to say understandably, haven't wished to open it up at all.

We had an extremely difficult period under the Conservative government where there was a complete omertà about some of those issues, which meant, of course, we made no progress at all. This government will have to open some of that a bit more. But again, if you frame this as a set of things that can't be done, it's not surprising that the people who are making their livelihood from the land aren't interested in having that discussion. So we're going to have to change [the framing] to a set of things that we would like to see done with the recompense that you'd expect for that at the end of it. Again, I think that's possible.

Will change in diets really save the day?

JF: A lot of models for food system transformation, including that of the CCC, put a large emphasis on dietary change. Is this sensible and realistic? And if not, where does that leave us?

CS: This is at the heart of the challenge that we've just talked about, and maybe it's worth explaining why we think that's so important.

In the run up to doing the CCC report on net zero [and land use], we were aware that we had a few gaps in our understanding, some of them substantial. Some of [the smaller] gaps were on the energy side – we didn't have scenarios, for example, on the use of hydrogen in the future economy, or how much carbon capture or greenhouse gas removal we might require. That sort of stuff we can model quite simply though, and we started to piece those things together.

There were however, a bigger set of gaps that we didn't have answers to so easily because they're not about energy system modelling. And they were mainly around what we expected of nature, agriculture, and of land use change. And the [CCC land use report] was our expression of fairly rudimentary, but nonetheless important scenarios, that we felt we needed in order to underpin a more ambitious effort for the country to go beyond what was then an 80% [GHG emissions] reduction target between 1990 and 2050.

However, we didn't have the ability to look at what land we had in the UK and how it could be used differently. And fundamentally, what we were looking at [for the report] was a set of scenarios for changing that. Essentially, we freed up some of the agricultural land that we had in the UK to do other things: Basically, the requirement was to cram more onto the land that we had.

The UK is a very good place to look at that question because we are largely an island economy, and most of our land is agricultural. The question is a very constrained one – it's not like the US where you can quite simply flip states to do something else. The most important challenge of all was that we needed to store more carbon in land through two main routes: [One is] peatland restoration, and the other big and controversial question is where to put more [trees].

[Woodland creation and forestry] won't happen unless it's on what is presently farmland. The key constraint is that a lot of that land is used for livestock, and sheep and cows are driving agricultural emissions to be higher than we would otherwise want them to be. We felt that some of that land could be freed up, especially for woodland creation and forestry – but without reducing the livestock numbers that would be very difficult.

Of course the key condition [to enable that change to happen] would be a change in demand for those products. [Note: the [CCC land use report](#) recommended a 20% reduction, at least, in meat, lamb and dairy per person]. There are other things in play, of course, but that is the main driving factor. We felt that if the nation's diet were to change away from meat, and especially red meat, towards a more vegetarian diet, and perhaps more 'exotic foodstuffs' that replace meat proteins with something produced in a different process, then that should allow us to free up some of that land for carbon sequestration.

But that [could] only happen with two conditions really; that the incentives are there for landowners and land managers, and that the change in diet is not replaced with imports. The second one is very problematic and difficult to model, and I think we're still exploring how that interaction works.

But however you look at it, there is a change in the nation's diet coming – it's already with us. And I suppose a big part of this is actually acknowledging that that's happening and saying to the farming community – wouldn't it be good if we got ahead of this and create new revenue streams for you, while the nation's diet is changing?

We may need to go further than the change in the diet that is already underway in this country – [although] I'm actually of the view that we probably don't need to go *that* much further than what's already coming down the pipe. And you can see it most obviously through the data – the data isn't as good as it could be, but you definitely see a change in diet, just across the generations, now very clearly. Younger people are consuming less meat and what meat they consume is often processed.

So there are conditions in place to achieve the sort of scenarios that we laid out in the CCC land use report. But we won't see that happen without policy that supports the farming community to deliver it. And we don't see that happen unless there is some better communication of what I've tried to explain to the public. At the moment, it's framed as climate folks say you've got to stop eating meat, so that farmers are put out of pocket. And that is not at all what we were envisaging when we did that work. But I'm afraid that's the prevailing narrative that has taken hold – I'm very keen to try and shift that a bit.

Farming and land use, why is change so difficult?

NW: Is this discussion about livestock and emissions happening in a more comfortably framed way elsewhere in the world? Is there anything we can learn from others, or is this a universal problem?

CS: I think it is a universal problem around the world, [although] there are other parts of the world that are handling it differently. The attack that is felt acutely by farmers is experienced in other parts of the world too – look at French farmers, for example.

There is a more positive framing that we tried to bring to it at the CCC, which is around health. We were looking at the kind of diet change that would be implied by some of the public health guidance, which was radically different to anything that the CCC was recommending: Much greater reductions in consumption of red meat, for example, were implied by Public Health England, while the CCC was looking at a reduction of a fifth over time.

My old chairman, Lord Deeben, himself a farm owner and a strong advocate of British farming, really liked the framing 'eat a little less, but eat higher quality meat'. And I think that is a good framing if we can pull it off. But we received a lot of criticism from some of the environmental community for that kind of framing – George Monbiot, especially, I remember being very upset about some of that.

So it works to a degree when you frame it that way. But it doesn't really step away from the fact that that practice itself is still tricky, and it definitely doesn't get away from the fact that we may well still import very cheap meat and essentially export the problem if we don't put control around that and create a level playing field for livestock production.

We are now seeing some moves on the continent to try and put carbon taxes on meat production. That was not something we ever felt we wanted to touch because we didn't think it was necessary. But it's very interesting to see that happening, but again, I think that points back to an overly negative framing of this.

[There is] a more interesting development, in France, which is not an idea that we had in the CCC, but exciting to see happen. Under pressure from French farmers [who] worry [about] the importation of cheap food products, especially meat, the French government is looking to food retailers to do more and develop sustainable supply chains and better labelling.

[Targeting policy at] food retailers to drive better supply chains more in line with the carbon targets, I think, is an underused policy route. It's a really exciting way to look at it, because we know that retailers have a huge amount of influence over what we eat, and I wish I'd explored it more at the CCC. It's maybe a better route to deal with diet issues too, but also the question of buying well and buying in a sustainable way from a domestic supply chain.

NW: It feels like there's a trade off between livestock and tree planting. If Net Zero is non negotiable, then what are the different levers we could pull to reduce emissions? E.g. If we planted more trees, could we get away with less diet change and a smaller reduction in livestock numbers?

CS: You're probably seeing in some of those scenarios a reflection of the fact that some of this is highly uncertain. So I'll go to an issue that hasn't come up yet, which is soil carbon, which is something that those advocates of grass fed beef quite often talk about. It's the idea that the land itself is enhanced by having livestock on it and it stores more carbon, and that we haven't paid enough attention to that, and there is some truth to that, that essentially, if you are rearing animals well, and if they're walking around that land they can store more carbon in the soil. There is definitely truth in that.

But you cannot escape from the fact that that patch of land is a source of emissions because of the animals on it. And there is a marginal benefit to doing that type of farming and livestock rearing differently, in the fact that some of the soil can store more carbon, but the soil itself doesn't store the carbon for very long if the temperature changes that we're seeing in the planet continue to take hold.

The fundamental point is that if you were to put forestry on that patch of land, assuming you could somehow switch [its use] very easily, it would store much much more carbon than the soil. So when we're modelling this stuff, we're up against that question - how do you model the amount of carbon that we need to sequester in the land, and where do you want to put it in that modelling? And trees are very useful - you could start with no tree, but you grow a tree and you know how much carbon is in it.

So naturally, when you're doing a modelling exercise, you turn to the things that you know most about, and that idea of using forestry as something that is akin to a feature of the energy system, is tempting. And I don't mind saying I think that sometimes we've got that wrong - that you're looking at trees almost as a sort of technology. In reality it is much more messy than that: You're asking people who are earning a livelihood from that patch of land to switch to completely different skills. You're also potentially talking to a set of people whose lifestyle is connected fundamentally with the job that they do.

And even the terminology itself may shift across the country. So if you talk about tenant farmers in Wales, or crofters in the north of Scotland, these are not the same conditions, lifestyles or employment prospects. And it's not possible to grow forestry in some of that land. So we were using fairly crude assessments, I don't mind admitting that, to look at freeing up roughly a fifth of the land that we have in the UK presently for agriculture. And I'm not sure we always got that language right - and that definitely did not help.

I sat in front of some very polite but nonetheless upset and annoyed Welsh farmers, in one very memorable meeting I had. And it was very obvious to me in that meeting, that we just didn't have the right language, the right lexicon to have the discussion with them that I wanted to have. And that's also true of crofting in Scotland. And you can tell immediately that we're into fundamentally difficult topics that don't make it easy to have that discussion.

But underneath it is this challenge that if we don't find a place to store that carbon in the natural world, then we're going to have to look to much more exotic forms of carbon sequestration, which are highly unproven, very, very expensive, and probably not that good for the environment in the same way as a more natural approach to this might be, where you're achieving lots of environmental aims, not just carbon.

Blockers and enablers to change

NW: What would you do differently if you could do it again, from the perspective of the agri-food system and net zero in the UK?

CS: This is still the challenge – I don't mind talking about what we would do differently, because I think we're going to still have to do it differently. But I think we need to start from the position that the people who know most about the land are the people who work that land, and there will be people who are very good at having this discussion and people who are very bad at it, but that's true in all areas of policy. So we've got to bring them in to have that discussion from the off.

[At the CCC] I feel that we were trying to find something that was very top down, for an audience that wasn't receptive to it or ready for it. Often the best way is to do things the other way around – to build from the bottom up, towards what can be done, rather than what must be done. There's still lots of opportunity to make progress on this, which takes you into things like agroforestry and more regenerative practices.

But I stand by the scenarios that we built, because broadly we will need to store a certain amount of carbon in the land, and to do that we're going to have to change practices and essentially free up land. So if we don't start from the position that that has to happen, then of course, we won't make progress – but we don't need to have entirely rigid targets for that.

And I think that was my other regret, that it sounded like we were having to make very rigid scenarios work, when in fact, there's quite a lot of fluidity about these things: We don't know how much forestry we will actually need in the future, or how many bioenergy crops. There is also lots of room, potentially, to do some of these in harmony with other things on that land. Getting into more nuanced discussion about that was too tricky because we were moving at pace to build these scenarios, which are necessarily about large rudimentary numbers that can fit into a much bigger modelling exercise.

But we've got the opportunity now to look again at some of that. So I think opening that up and working with the community, and I mean that in the broadest sense of people who actually know about this stuff, would be

the next stage. And that's of course what we didn't get from Defra under the last government – they were never that keen on having that discussion. But if you start from the position that something's got to change, and then invite people into the question of how they can shape that, I think that is generally a more positive discussion, and that's probably what we need to do now.

NW: What have been the biggest blockers to real progress on net zero in the agri-food system?

CS: The political blocker to having any discussion about the change in demand that's required under these scenarios, and the need to give a different set of incentives to farmers. Now, we're in the middle of what increasingly looks more and more like climate change is driving food insecurity. Every year we're seeing food insecurity grow or change in some shape or form, so I think there is probably a more receptive audience now.

But the challenge is, I'm afraid, that the farming community has a fairly fixed view about what support it needs. And is very good at making that argument to a department that is largely set up to deliver for those farmers, even if the relationship with the department has never been entirely cosy. Pushing into that relationship that is already quite tense, the idea that we've got to do a lot of new stuff that on the face of it is about climate, is very challenging now.

So I think we're going to have to have a different sort of discussion about a range of environmental services that we're looking at farmers to deliver for the greater good, amongst them climate services. And net zero, as I mentioned, is probably not the most motivating factor any longer for that discussion. So we've got to get into a broader set of things, for example flood protection, and what we think we can expect from farmers by way of adaptation to some of these climate risks, as well as delivering greater food security, which is a message that they certainly are interested in having and discussing. So I think that's the biggest blocker – the political framing of it generally.

There is also a set of lower level, nonetheless important blockers, [including that it's] very difficult to speak to the farming community in some parts of the country on any of these topics. So you've got a sort of narrative failure there and an inability to sit and have a productive discussion about any of this in some parts. And I think for that we need the big farming representatives, the NFU particularly, but it's not just the NFU, to come into the discussion more actively as they once did.

Minette Batters [former NFU president] was very good at this, actually. But we then essentially had a crisis discussion that took over after the net zero framing. So I think bringing the NFU back to this is going to be very important – and the NFU themselves have a very good team on this stuff. So [they should be] helped to have more prominence in the policy debate.

Questions from audience

JF: You've said it's difficult sometimes to talk to certain groups of farmers: Is there scope to better celebrate and champion the farmers that are leading land use innovation to inspire others? And is there a place for this in climate change policy?

CS: Yes, it's often the best way in. You look to best practice and celebrate the fact that it is working. Although we tried a bit of that in CCC, I think there's so much more to come. My only concern is that often the best practice isn't really at the sort of scale of change that we need. Regenerative practices is a really lovely discussion – I've visited farms and it's really inspiring to see. But it doesn't get to the core of those issues that I talked about earlier, that some of that land needs to be used in a different way fundamentally. So that's the bit where I've struggled, actually.

There's quite a lot that you can look to, and there are really good stories of farmers continuing to earn a livelihood, really good employment prospects for people on that land, and different practices that are much more in line with a range of environmental concerns. But [there is a big] challenge of changing practice, relearning some of the skills that we might need in the future – low carbon farming itself – aside from the land use change that we've talked about already.

It's incredibly wasteful what we do with farming on the whole. There's some very good farming in this country, there's also some very bad farming, to the extent that most of the measures that we were proposing for low carbon farming would be cost-saving for farmers if they implemented them, and yet they don't. So we were looking at this slightly odd recommendation to Defra that some of that might need to be regulated so that [farmers] save money. So we're quite far off having that kind of positive set of examples, because we're not doing it.

My main worry is that the areas where we do see it tend to be more highly commercialised farming practices, which is not actually the sort of farming that is the often appealing thing we're trying to push towards - it's cramming a lot more onto that land and is pretty intensive stuff. And actually, we don't need to do all of that. So that to me isn't the kind of best practice I'm talking about. So I'm not sure we have those stories out there. That was very difficult for me and, as admittedly an urban dwelling analyst, we didn't have [those sorts of examples] at hand when we were recommending things at the CCC.

JF: Given this, is there a role for government to take a more active role and work with farmers to create example farms? What do you see as critical elements to an effective land use framework?

CS: There is a lot of merit in having clarity about what the country as a whole is trying to do, and that's essentially what we were hoping to see from Defra in terms of a land use framework, because then you get into the question of how that's delivered. And that's what you see in energy – I think that's why the [questions about] energy are easier in this country, because we've got a lot more clarity of what the UK is trying to do.

I'm off to do a totally different job than the one I do at the moment, which is all about, essentially shaping a goal for the imminent future and trying to make it happen much more quickly. That is possible, because we've got some sense of what we need to do and we haven't got that in land use. So it's a bit of a mess at the moment.

What I want from a land use framework is pretty simple, rudimentary stuff, actually - what are we trying to achieve, a sense of what the policy framework might be around that, and then an open engagement with the community, particularly the NFU and the farming community, about how we achieve that.

We haven't really got that at the moment, so we've got an impossible discussion, and it is only the environmental community or the climate community that talks about the change in land use as required. And therefore it looks like an imposition from some eco climate nuts. And of course, it shouldn't be like that, we should be talking about the way in which we continue to maintain livelihoods across the whole of the UK and all the different practices that happen across the UK.

But we can't have that [discussion] without a land use framework. So I don't have that high an ambition for the land use framework, except for perhaps the government's own view of what those scenarios might need to look like in the future.

JF: What kind of evidence is most required and favoured by policymakers to make crucial decisions around land, for example, in the formulation of the land use framework?

CS: This is a great question. When you join the civil service you're taught that the way policy happens is that you spot a problem, analyse it, put some options to a decision maker or a minister, and then the minister takes that decision, and it gets fixed. Of course it just absolutely does not happen that way – policies are a constantly fluid process.

My experience is that ministers are often responding to a desire from the community of people that they work closest with to change in some way. So who will the farming Minister most be interested in - it will be farmers themselves and the representatives of the farming community. So if you want to see some sort of change there, you've got to bring more than just analysis. And that's the challenge - when you're in the CCC, or even when you're in the net zero department in government, you're dealing with numbers and scenarios that are driven by a need to achieve a numerical target. And that's not going to be that compelling in Defra.

I'm going to jump to a totally different sector to give an example of where I think policy change has been much more effective. We saw with the transport sector, for decades, a resistance to look at decarbonising vehicles in the UK, and then recently quite a rapid shift towards accepting and moving towards much more ambitious targets to reduce emissions, especially through the rollout of electric vehicles. That shift happened because the automotives sector itself got the right signals. And now the automotive sector does most of the running on the need for the support for electric vehicles.

That is a very good model potentially for the way in which we might think about farming into the future. For years, the automotive sector said, 'we don't want to have any discussion at all about electric vehicles.' And they are now in a position where they see a competitive threat from China and are actively engaging with government about the right conditions to support the sector's transition.

That is an upstream discussion that is very similar, I think, to the farming discussion, [although] it's still in its early days in farming. So could we get into a more productive discussion with producers? Yes, I think we could. But that would be predicated on the idea that there will need to continue to be support for farming in different forms, but they need to be up for that. So that's a two way discussion, and I don't know that you need to have numerical scenarios to make that happen – I think that almost comes next.

Brian Eno is a music producer who also talks about climate change – I always think it's interesting we hear from people who approach things a different way. I heard him talk last year about the role of the arts in the climate discussion, and he said something that really struck me. He was at Imperial College with a bunch of geeky modellers, like me, talking about climate change. He said to that room of people; 'you are the problem, you need to accept that those who are convinced by numbers are already convinced by that argument. But the people who are not convinced are the ones who are not going to be convinced by those same numbers.'

Then he said something much more interesting to me: 'The idea needs to come first. If you sell an idea to them, then they look for the evidence'. And I think that's probably also true in this discussion that we need a good idea about what a better future looks like, and then the numbers are there. So I'm very much of the view that the policy environment works in a much more organic way than perhaps you might think - it's not just about building a more compelling evidence base for change, you need to feel motivated to make that change before you go to the evidence base.

JF: It's all about storytelling?

CS: It is essentially, yes.

JF: What is the role for business and the private sector in storytelling and drive to change?

CS: Most of the change that we see in policies for climate comes from the interaction between the private sector and government. So, if I can draw a classic two-by-two strategy question; At the bottom of my two-by-two, you've got voters, and you've got customers. And then at the top you've got governments and business with its customers.

What we think of as change is often caught between those two vertical links – the customer demands something and a business supplies it, or the voter demands something and the government supplies it. I think, actually, the interesting stuff is the interaction at the top between government and companies, which is where most of the change happens. The reason I moved to the Carbon Trust was because I was very interested in that.

If a government indicates it wants change, and you have a community or business community that indicates that it's willing to have change, then you get into a much more productive discussion about what can be done with policy. If I go back to my earlier [point] about electric vehicles; very few people were demanding an electric vehicle, but they're very happy to drive that electric vehicle now that it's available, can be supplied and has all the benefits of driving it, [like being] very cheap to run. But that discussion didn't come from the customer base demanding an electric car. It came from a policy discussion that was above that.

And I think that is the productive space that we can move into, but each party has to move a little. That is not happening at the moment; we're in a very polarised discussion about targets that Defra, or the Scottish Government or the Welsh Government, whatever it is, has to deliver, and a farming or landowning community that doesn't want to change its position because it feels threatened. If we move slightly closer to each other, that's where the good stuff happens and that's generally true in all sectors. [The land based sector] is an odd sector, in the sense that we haven't had it yet.

JF: There are multiple government departments making food policy in England - how would you coordinate across all of these departments to drive a reduction in livestock farming, and more generally net zero in agri-food?

CS: I'm very keen on missions, but I'm not very keen on having 400 missions. I'm not going to this job [at the Department for Energy Security & Net Zero] because I'm desperately keen to decarbonise the power sector. I'm doing it because it has the support of the Prime Minister, it is an important goal to decarbonise electricity, and to do so quickly is a really useful thing.

But I'm also doing it because I think it is a useful mission into which you can build a much bigger system change: To decarbonise the power sector quickly, we need to think about the infrastructure we put across Britain, we need to think about the places in which we need to generate electricity in different ways. That's an infrastructure question, an industry question, you've got to think about jobs, and about the ways in which we use that electricity. So it's a good mission, because it's not solely about what it says on the tin. And I think those conditions apply to land use, agriculture, climate and wider environmental services and the food system.

But if we could define a better mission, I would approach it in a very similar way to the way I intend to approach my next job, [and] you can have that reach across government. That idea of a mission around [land

use and the food system etc] is very appealing to me because I wouldn't define it through the climate lens, I would define it in a different way, with climate being one of the benefits that comes from tackling the mission well.

So I don't think we need to have too many more climate missions – I almost feel that the climate or the net zero outcome is just one of the happy benefits of tackling a broader mission. And I think if we frame it in that way, that's probably the way into more positive, productive discussions.

JF: The Climate Change Act will be 20 years old in 2028 and other countries are starting to adopt national framework laws modelled on it. What advice would you give about creating appropriate legislation and advisory bodies like the CCC, and how do you make it about climate, but also not about climate, in the way you've just described?

CS: The Climate Change Act is a brilliant piece of very strong legislation because it's so clear in what it's trying to do. Prior to 2008 when it passed into law, there had been some genuinely visionary work done, particular on the economics of climate change, from the UK. Professor Nick Stern who is now at LSE was then in the Treasury and it was a really big deal when he produced the Stern Review.

The UK was absolutely at the forefront of the climate discussion globally. And at that point, the idea that you could have national legislation around it was actually quite a controversial topic, and not many people felt you could. So that period of coming up with a piece of visionary legislation that set a template and a blueprint for how other countries could do it, was absolutely the reason that the UK did it.

The other condition that worked in 2008, was that the opposition fully supported it – you had a Labour government which would be out of power in a couple of years time and a David Cameron led a Conservative party that was looking for a way to demonstrate it was progressive. But the other thing was that the Act is a single target that you're aiming for, and that target is numerical, and it's about carbon, or carbon equivalent. And it's such a good metric, because it's in every corner of the economy.

So you're looking at something that driven by a single metric can look at fundamental shifts in the whole system across the whole economy. That still works, I think. And the other thing that works is the idea that governments themselves don't stick to those long term goals unless there are conditions to make that continue to work. So carbon budgets every five years are set as a carbon target that the government has to meet, and the CCC will receive all of that.

I think you could do similar things outside of climate. In the case of the food system, I think you could select a range of metrics and put similar targets and ambitions around it, and then ask questions of how the system could be adapted to make that change happen more quickly and have some sort of independent oversight.

But it does rely on having the sufficient metrics and evidence around those metrics to make that thing work. And it is a messy old business, the food system – it's far, far more difficult to change the food system, than it is to look and model the way in which we might reduce carbon in the energy system. So it could be done, but I'm suggesting it may be more difficult than just putting a piece of legislation around it and creating an independent body to oversee it. I tend to think that we probably need something a bit more organic.

Key findings from the Climate Change Committee

This briefing refers several times to the Climate Change Committee's work in producing its seminal report, [Land use: Policies for a net zero UK \(2020\)](#). Here's a reminder of its key findings and recommendations:

- **Increase tree planting** – increasing UK forestry cover from 13% to at least 17% by 2050 by planting around 30,000 hectares (90 – 120 million trees) of broadleaf and conifer woodland each year.
- **Encourage low-carbon farming practices** – such as 'controlled-release' fertilisers, improving livestock health and slurry acidification.
- **Restore peatlands** – restoring at least 50% of upland peat and 25% of lowland peat
- **Encourage bioenergy crops** – expand the planting of UK energy crops to around 23,000 hectares each year.
- **Reduce food waste and consumption of the most carbon-intensive foods** – reduce the 13.6 million tonnes of food waste produced annually by 20% and the consumption of beef, lamb and dairy by at least 20% per person, well within current healthy eating guidelines.

About the AFN Network+

The AFN Network+ (UKRI Agri-food for Net Zero Network+) is a unique network of 2,000+ academics, researchers, third sector organisations, policy makers, and agri-food industry professionals from farmers to retailers.

Together, we are working to identify key research gaps that may be holding the UK food system back from transitioning towards a net zero UK by 2050, while also enhancing biodiversity and healthy ecosystems, nurturing livelihoods, supporting healthy consumer habits, and minimising the environmental impacts of overseas trade. Our findings will inform the next decade of research investments in this area by UKRI (our funder and the UK research councils umbrella organisation).

Alongside our core research, we run in-person and online events, produce topical resources, and give out hundreds of thousands of pounds of funding a year.

The AFN Network+ is coordinated by the University of East Anglia, University of the West of England, University of York, and University of Leeds, and is a £5m, 3-year project funded by four research councils; the Biotechnology and Biological Sciences Research Council, Economic and Social Research Council, Engineering and Physical Sciences Research Council, and the Natural Environment Research Council.

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