

Transport Committee

Oral evidence: [Work of the Civil Aviation Authority](#),
HC 667

Wednesday 17 April 2024

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Members present: Iain Stewart (Chair); Jack Brereton; Sara Britcliffe; Fabian Hamilton; Karl McCartney; Grahame Morris; Gavin Newlands; Greg Smith.

Questions 1–68

Witnesses

I: Sir Stephen Hillier CBE, Chair, Civil Aviation Authority; Sophie O’Sullivan, Head of Future Safety and Innovation and Programme Director, Future Flight, Civil Aviation Authority; and Anna Bowles, Head of Consumer Policy and Enforcement, Civil Aviation Authority.

Examination of witnesses

Witnesses: Sir Stephen Hillier, Sophie O'Sullivan and Anna Bowles.

Q1 Chair: Welcome to today's session of the Transport Select Committee, where we will be looking at the work of the Civil Aviation Authority. Before we begin, I invite each of you, for our records, to state your name and position, please.

Sir Stephen Hillier: Thank you very much indeed. I am Sir Stephen Hillier. I am the chair of the Civil Aviation Authority.

Sophie O'Sullivan: Good morning. I am Sophie O'Sullivan. I head up future safety and innovation and I am the programme director for the future flight programme at the CAA.

Anna Bowles: I am Anna Bowles and I am the head of consumer policy and enforcement at the Civil Aviation Authority.

Q2 Chair: Welcome all. We are grateful for your time this morning. Before we get into the main questions that we want to cover today, there are a couple of topical issues I would like to start off with. First, the situation in the middle east has consequences for air travel, both for direct flights to the region and for long-haul flights that overfly. Can you give any comments on any concerns you might have on the safety of those flights?

Sir Stephen Hillier: Thank you, Chair. Clearly, the Civil Aviation Authority and aviation authorities across the world are monitoring the situation extremely carefully. The hard lessons of experience over recent years show the risks of flying in active combat areas.

The system, in relation to what happened over the weekend in the region, essentially worked as it should. NOTAMs—notifications—were issued to avoid that airspace. Aircraft were re-routed to avoid the airspace. On occasions, aircraft were diverted to different locations to avoid landing in those areas. That clearly caused some disruption for passengers, but in the context, protecting passenger safety and the safety of the operation was the priority.

Clearly, it is a situation that we must continue to monitor very closely as the Civil Aviation Authority, working extremely closely with the Department for Transport, who are essentially the lead in this area. We provide support. We make sure that the communication channels are there so that airlines and operators get the information that they need and that they work closely with the Department for Transport as well. We maintain close contact internationally through Eurocontrol within the region and more widely to make sure that we are sharing information and that we do not put anybody at risk as a result of the serious operations going on there.

Q3 Chair: Thank you. Clearly, the situation is ongoing but may develop in different ways. As things stand, you do not have any concerns about



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general safety.

Sir Stephen Hillier: I don't have concerns about safety. The system is operating as the system should in these cases. As you rightly say, we must continue to monitor it closely and keep the communication channels open. We must make sure that this does not somehow become seen as routine. It is not routine; it is something we must all focus on. I know everybody is.

Q4 Chair: Thank you. I am grateful for that. Another topical safety-related issue is certain aircraft manufactured by Boeing. I appreciate that the most prominent examples are not aircraft used by UK or, I believe, European operators. Do you have any more general concerns about the safety of Boeing aircraft at the moment?

Sir Stephen Hillier: The issues that have arisen have been very clearly flagged up internationally. What are we doing about it? First, we are maintaining a very close relationship, as we always do, with the Federal Aviation Administration in the US. I have spoken personally to the administrator there. The deputy administrator is visiting the UK next week. We will continue those discussions because the FAA is very clearly in the lead in the remedial work that needs to be done with Boeing.

Within the Civil Aviation Authority ourselves, we have a continuing oversight, monitoring and assurance role for Boeing operations in the UK, be that maintenance and repair operations, or indeed those who operate Boeing aircraft. We continue to exercise that function. We have specifically put additional resources into that area to make sure that we are monitoring everything you would expect us to monitor. We will be taking the results of our findings to our discussions with the Federal Aviation Administration next week. That is all in place.

Is it safe to fly in Boeing aircraft? We would not allow them to fly if we did not judge them to be safe. That is the action we have taken and that is the action that the FAA has taken. We have a track record. When we had the 737 MAX 8 issue a few years ago, I believe the UK was the first nation in Europe to ground those aircraft until remedial action had been taken.

We are monitoring very closely, and if a Boeing aircraft is flying at the moment, the public can be assured that we have done our work and we judge it to be safe.

Chair: That is very helpful, thank you.

Q5 Fabian Hamilton: Sir Stephen, could you set out what you have achieved in your first four years as chair of the CAA? Is there anything you wish you had done differently in those four years?

Sir Stephen Hillier: A great question, thank you. The first thing is that I would not personally characterise it as what I have personally achieved over the last four years. I am just one part of the Civil Aviation Authority.



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My job is to lead the board and the board's job is to lead the organisation. What the CAA has achieved is down to colleagues across the organisation. It is they who have put in the hard work and the effort. I rather think my role is about creating the right environment for colleagues to succeed.

On what the CAA has achieved over the last four years, I put it in three headline categories. The first is that we have fulfilled our statutory responsibilities in relation to safety, security and consumer interest. That sounds a little bit, "Well, that's just what you do, isn't it?" But we need to underline how much hard work and effort it requires to be relentlessly effective in that role. It has been conducted against a backdrop of covid. I joined the CAA about six weeks after the first lockdown started, managing through the covid period and then the recovery from covid and making sure that it was safe, and trying to minimise consumer disruption. Perhaps we can talk more about that later on.

There has been a whole range of other issues. We have just been speaking about some of the particular aircraft types. There are things like the NATS incident in August last year. Things happen in the day to day and we try our best to avoid them. The challenge for the CAA, the test for the CAA, is how well we respond to them. I would say that we responded to them very well in that period. It is not that we are perfect, but we are a learning organisation and we try to make sure that we develop. I put that in the room, if you like. Doing the day job and fulfilling our statutory responsibilities is our No. 1 achievement.

The second thing is about external validation of that. It is all very well for us, the CAA, as an independent regulator, to say, "This is what we think we have achieved." We need to be tested ourselves. We are tested by audit. There are two key ones. The International Civil Aviation Organisation audit was concluded in the early part of last year. That was important because it was the first audit of the UK safety system by ICAO post our withdrawal from the European Air Safety Agency. It was a key test for us. I am pleased to say that we scored very well on that. It ensured that we are in the top tier for safety of aviation nations around the world. That was really important for us.

The second test was the Government-commissioned independent review, an arm's length body review of the CAA which reported about this time last year. That was more about, "How does the CAA do its business?" The headline from that was that the CAA remained a highly effective safety regulator, so it was good in that sense. It also highlighted a number of areas where we could improve and be even better, and we absolutely accept that. We accepted the recommendations. As I said, we are a learning organisation and there are a number of areas where we are now taking forward the recommendations.

The third and final area, "What does success look like?", is growth. We continue to be a growing organisation. Reflecting from when I took over



as chair four years ago to where we are now, we are 40% bigger, with 40% more people in the Civil Aviation Authority. That is not because we have become some sort of bloated regulator. The reason is that our regulatory perimeter is expanding. We have taken on responsibility for space regulation; we are now the UK's space regulator. We now have a growing role in aviation sustainability that we did not have before. Future flight is a really strong growing area that continues to expand rapidly, with new propulsion systems and new types of air platform. We are re-establishing ourselves as a sovereign regulator, following our withdrawal from the European Air Safety Agency. That has added to the number of colleagues in the organisation.

We are a larger organisation with more responsibilities. We have a bigger budget, but I am pleased to say that our charges to our customers in real terms have reduced. We are not just transferring our costs to somebody else. That growth is really important and we have now invested in a new strategy for the organisation, which reflects all of the new challenges that we have. It also reflects our lessons from the ALB review, lessons from recent experience and so forth. I will not go through the strategy in detail but, essentially, our strapline is protecting people, enabling airspace. That is what we do as an organisation. Quite a long answer there.

- Q6 **Fabian Hamilton:** It needed to be, obviously. I was not there, but in your pre-appointment hearing, you set out three priorities. I am not sure if you remember what they were; I can remind you. How have your priorities changed over the last four years? Can you set out your priorities for the next four years? Shall I remind you what you said at the time?

Sir Stephen Hillier: It is probably best that you do.

- Q7 **Fabian Hamilton:** The first priority, you said, was "to ensure that the CAA continues to be a world-class aviation regulator"—you have pretty well answered that—and "continues to enjoy the trust and confidence of Government, the public, airlines and aviation internationally". The second priority was "to deal with the rapidly changing environment that we are in at the moment". Again, you touched on that in your first response. You mentioned, of course, the most pressing part being the covid restart and recovery. The third priority concerned "the people in the CAA". Again, you have touched on that but I wouldn't mind some more detail. You said: "In order to deliver the two earlier priorities, I need to make sure that we continue to have outstanding people who have the skills, experience and capabilities to deliver all of that." Could you expand on your opening remarks in relation to the three priorities that you stated four years ago?

Sir Stephen Hillier: In relation to the first two, hopefully, I touched on those earlier. The people side remains critical for the CAA. I often say that the CAA doesn't own anything apart from the intellectual and actual capacities and skills and experience of its people. That is what we add to the aerospace system. Making sure that we are able to recruit the right people, that we are able to induct them, train them, develop and use



their experience and give them opportunities in the organisation to realise their potential is absolutely vital.

I would say, as would anybody in the aerospace enterprise, or in fact in any part of the economy that relies on highly skilled people, that it is a challenge. These are skills that are not in abundant supply and we are in a highly competitive market. I would say that we have been successful as a result of a lot of initiatives in the human resources function within the CAA. Colleagues across the organisation put a lot of effort into making sure both that we are an attractive employer and that we are able to bring people into the organisation.

Q8 Fabian Hamilton: Can I interrupt you a moment and ask you about the skills issue? Is that because we are not training enough people in the right skills that you need for your organisation? If that is the case, how are you doing it, and attracting people from abroad?

Sir Stephen Hillier: Across the aerospace enterprise, the skills that we are looking for are being looked for by everybody. Traditionally, we recruit from the sector that we regulate, if they are more experienced people. If we are looking at people with high technical skills, they are just in demand.

What do we offer in response? People want to be part of the regulatory function. They want to use those wider skills. They want to develop themselves in those areas. I like to think that we create a working environment that people want to be a part of. There is a strong sense in the CAA of people wanting to do the right thing—public service. I am absolutely confident that for everybody who works in the CAA on a day-to-day basis, when they wake up and go to work, it is so that they can make the airspace safer and better; there is a real sense of mission and purpose. We can offer all of those things.

We put a lot of effort into advertising ourselves as an organisation. We sponsor graduate recruitment programmes. We sponsor STEM skills. We bring people in at the base level. We do not just bring them in higher up in the organisation. We have a very extensive outreach programme. Those who participate in the outreach programme, from me, through the board right through the entire structure of the CAA, make sure that we do that across the country. It has been successful as the result of a lot of hard work. To give you some flavour of it, 42% of the Civil Aviation Authority have been recruited in the last three years; that is a lot of people we have managed to recruit and bring in.

We need to make sure that we retain them because they develop really valuable skills. Particularly in relation to future flight, if you are on LinkedIn and you have three years' regulatory experience in future flight, in new technologies and the Civil Aviation Authority, people are interested in you. There are benefits in people cycling from the regulator into the industry and vice versa, but we need to make sure that we retain the skills. I am sure Sophie will want to say something about that.



Q9 **Fabian Hamilton:** Your staff turnover is acceptable?

Sir Stephen Hillier: It is about 8% turnover every year, which is pretty much where it was pre-covid. It is significantly better than a lot of other high-tech organisations.

Q10 **Fabian Hamilton:** Can I move us on to something else? In your pre-appointment hearing, we asked you to outline the weaknesses of the CAA as an organisation. I don't expect you to remember everything you said four years ago. You said you would defer your answer until you had taken up the role. What is your view now? You have told us about the strengths and they are very good indeed. What were the weakness, if you found any, and what are you doing to address them, if you believe there are any?

Sir Stephen Hillier: I remember saying that at the time. I guess it was the easier answer at the time to say that I would need to wait and see. I would not describe them as weaknesses because that sounds like we have problems in the organisation. I would describe it more as areas where we need to apply more emphasis than we might have done in the past.

Our statutory regulatory duties, as I mentioned before, are absolutely our focus. We don't take our eye off that ball at all. As the last four years have progressed, what has markedly increased is the enabling aerospace part of our remit; creating the right regulatory environment for new technologies and innovation, doing more in relation to outreach in STEM, and more engagement with the sector. We recognise that that is where the biggest growth has been in our organisation. From the board down, there has been a lot of emphasis on that area.

It has been successful, but you are asking about where I see things going in the future. That continues to develop. It is not because there is, if you like, a playbook for this: "Here's how you act as a regulator in relation to eVTOL platforms or hydrogen-powered aircraft." This is new stuff, so we need to develop the regulatory environment for that. We need to make sure that we are able to play our part. We need to be able to liaise with industry, not do their work for them but ensure that they have the best environment to work in, as they do what they do best. That would be the second area to mention.

The third area we need to focus on is about tempo and pace. It very much relates to new technologies but it goes across the board. It goes from technologies right through the consumer interest. We do not have the luxury of just taking our time. If we ever did, we certainly don't now. Taking our time allows us to do things in the most considered way, but when you are dealing with innovative technologies, you need to work at a pace that ensures that you are not unnecessarily or inappropriately slowing down the whole process. We slow the process down if we think we need to, because we are there to look after safety. What we need to



make sure is that our own internal processes do not slow things down inappropriately.

It is easy to say that we should work at a faster pace. The challenge the board has is how you articulate that to the organisation. It is not just about saying to people, "Do it more quickly," because then there is the risk of cutting corners. We need to make sure that we are able to describe a way which says, "Make our decisions faster." Those decisions sometimes might be, "No, but make it faster," and that is what we constantly hear. When I speak to the sector, people do not criticise the CAA for the quality of the work that we do, which I think is a really great test.

Q11 **Fabian Hamilton:** It's the speed at which they do it.

Sir Stephen Hillier: It is the speed. They do not really focus too much on the charges that we make. In fact, some of them say, "We'll pay you more if you can make decisions more quickly." We need to work out how you can make decisions more quickly without undermining safety, public confidence and so forth. That would be perhaps the biggest challenge that we have going forward.

Q12 **Fabian Hamilton:** That leads me neatly to my next question. On 17 July last year, the Department for Transport published its CAA review. Can you tell us what you learned from that recent review, that CAA public bodies review? Did any of the findings of the review concern you—for example, engagement with customers or confusion about the respective roles of the CAA and the Department for Transport?

Sir Stephen Hillier: First, the headline: we and I welcomed that review. We had not had an independent review by Government since about 2009. It is really important to us that we had an external view of how we are doing as an organisation. We assess and audit other organisations constantly. We should expect to be assessed and audited ourselves, so we welcomed the review. The review took the best part of a year; it was a pretty thorough piece of work from the start through to publication. At publication, as I mentioned earlier, the headline was, "The CAA remains a highly effective and internationally well-recognised and respected regulator." That is a really important headline.

Below that are a number of recommendations. We accepted all of those recommendations. The ones that were most pertinent to me were in relation to our accountability and how we work with the Department for Transport. I believe we have an excellent working relationship with the Department for Transport, but there needs to be more clarity and setting down of exactly how that works, with means for the Department to ensure that they could hold the CAA to account—an independent regulator but held to account in a number of areas. That work is very firmly now in hand and most of the recommendations there have already been put in place.



Secondly, you mentioned engagement with the sector. I confess slight disappointment with that because I thought we had put a lot of effort into engagement with the sector, but that is really the value of having an independent look; there is what we thought we were doing and then there is what the sector thought we were doing. We have redoubled our efforts in that area through a range of different fora. To take just one example, two weeks ago today, the CAA board spent two days in south Wales having a board meeting, engaging with local industry and a whole range of other stakeholders in the Cardiff area as part of the outreach programme. All the feedback we have from those sorts of visits—we have also been to Glasgow, Edinburgh, Northern Ireland and Belfast—is very positive, so that is well in hand.

There were recommendations in relation to how we looked after consumers. That was a concern to me and the board because, again, we thought we were putting a lot of effort into that area, and we do. I think what it showed is that we need to do more to make our effort coherent and visible and to put some sort of metrics against it. We were doing all of those activities, but how did we know they were successful? Were they actually meeting consumers' expectations?

We have a consumer panel, an independent consumer panel, which advises us on that. The review said that we should make more use of that panel, so we definitely have that in hand as well. The rest of it we already had in production, but the review helped us bring to a conclusion a consumer strategy. I am very happy to talk more about the detail. Anna will be able to pick up on that. It sets down very clearly some headline objectives for where we want to see improvement, how consumers are looked after and how we will measure that.

Q13 Fabian Hamilton: Is there a timetable for the remaining recommendations to be implemented? Or do you feel you are on the way to that right now?

Sir Stephen Hillier: We are definitely on the way. The majority of the recommendations, I would say, are in place. The one I was about to come on to, which will take longer to bring to a conclusion, was on how we deal with our customers. Our consumers are people whose contract is with somebody in the industry, airlines in particular. Our customers are those who are licensed by us and pay us for a service. Again, we have already recognised that we need to do more there. The particular thing the ALB review focused on was, "You're too slow on the digitisation of how you are doing your work," which goes back to the time point.

Part of the review was identifying financial efficiencies. We were able to secure the reinvestment of financial efficiencies into a comprehensive customer experience and modernisation project. That has started now, but it will take probably at least three years to roll out fully, partly because it is complex. It is an IT-based programme and we need to make sure that we get it right, particularly when we are talking about licensing and certifying things that are safety related. We need to progress with



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sufficient tempo but in a suitably cautious way to make sure that we do not put anything at risk unintentionally. That customer side was very important.

As I say, it is all baked into financial efficiency. We took 5% out of our operating costs, and we are doing that reinvestment. We also committed for three years that our scheme of charges, what people pay us, would only increase at inflation minus 1%, and we are holding to that. In the current environment, to be able to say that you are doing a real-terms reduction in your charges to those that you regulate is a lot of work from us to make that happen, but it is really good because it makes sure that we are a financially taut and efficient organisation. That is what the Committee and our customers expect of us.

Q14 Fabian Hamilton: My final question requires only a very brief answer. If you were sitting here in three years' time, would you be confident that the recommendations that you have implemented now would have been achieved by then? Nobody can predict the future, but on the balance of probability, yes or no?

Sir Stephen Hillier: My extension is for four years, unless the Committee has news for me.

Q15 Fabian Hamilton: No. I said three years, so—

Sir Stephen Hillier: In three years' time, yes. Those who are charged with delivering the programme are very clear that the board is focused on achieving those timelines.

Fabian Hamilton: Thank you very much indeed.

Q16 Chair: Last month, you published your new strategy, Sir Stephen. The previous one, in 2021, was understandably about supporting the sector to recover from the pandemic. Looking ahead, what does that mean in practice, not just for your customers but for their customers—the people who fly?

Sir Stephen Hillier: The aim of the strategy is partly internally focused, to make sure that we cohere the organisation, but, as you suggest, it is saying to our customers and to consumers, "This is our focus for the organisation. These are our strategic focus areas. These are our annual strategic objectives. This is what we are trying to achieve." Essentially, it is inviting people to hold us to account. We will hold ourselves to account, but we also want all of our stakeholders to be able to say, "This is what you said you were going to do. How is it going?"

One area that is particularly in focus is that we want consumers to see not only that the CAA has these responsibilities—to know that we have them—but how we are doing in delivering them and how we intend as an organisation to match growing consumer expectations. From a CAA perspective, we welcome growing consumer expectations. We want people to be constantly trying to raise the bar there.



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I think it has been well received so far. I appreciate that it is a strategy and people will look at it and say, "Okay, that's all very interesting, but what's actually happening?" I guess I would say, "Judge us by the results." We will publish things. On the consumer side, when we say, "We will measure how we are succeeding," we will publish that information. We seek to be as open and transparent an organisation as possible. It is all part of ensuring that we communicate. We will be successful only if we communicate as an organisation.

Q17 Chair: If you were here in front of us in a year's time, what would success in implementing the strategy look like?

Sir Stephen Hillier: Perhaps it would be more helpful if I were to write back to the Committee. I can list the individual performance measures we are looking at as an organisation. I would group them as headlines. We want to be relentlessly effective in the day job of safety, security and consumer interest. We want to have a demonstrably strong response to emerging issues. There will be emerging issues, and we cannot predict all of them. We want to show that we can do that. We want the sector to feel that the CAA is enabling, that it is an engaging organisation that is very much focused both on future flight—new technologies—and on creating the right environment by providing the right guidance and shaping the sector's efforts, without doing its work for it. We want to make sure as an organisation that we have the people we need in order to be able to deliver that.

I suggest that I set down some of those things and write to you with some specifics. I would very much welcome the opportunity in a year's time to sit down and have you hold us to account and mark our homework, if you like.

Chair: That would be very helpful. I would now like to turn to the interim report on last year's air traffic control incident. Sara has a few quick questions about that.

Q18 Sara Britcliffe: Stephen, I am going to ask the other two witnesses, just so that you can have a bit of water and a break. What are your thoughts on the interim report into the air traffic control incident last year?

Sir Stephen Hillier: I really appreciate the offer, but can I cover that one? Sophie deals more with future flight and innovation. There is a link to the consumer side of things, and I will turn to Anna shortly, but perhaps I could do the headline.

It is an interim report. The final report is in production at the moment. We are aiming to get it out as soon as practicable. It is by an independent panel, so I am not going to lean on them too heavily. They need to do the work and produce the evidence that they need. Nevertheless, the interim report is out there. What are the striking bits of that report? First, we have to acknowledge the severe disruption that was caused. By our estimate, up to 700,000 passengers were affected, either



directly or indirectly. It was major disruption, right at the peak of the holiday season. That is the baseline.

The interim report pointed to the challenges of resilience in the system. If up to 700,000 people are affected by an incident that lasted for about six hours before we were into the recovery phase, it shows that the system is running pretty tight. That is something that must be looked at further. I am not criticising the fact that the system is running in a taut way, but you need to make sure that you have some sort of resilience plan in place in case things go wrong, because things do go wrong. The second issue—these are not in priority order—is communication. That was clearly flagged up. I expect that there will be more recommendations in relation to that in the final report.

The interim report talks about what contingency planning is done—how the system copes with these things when they occur. I expect that there will be recommendations in relation to how you exercise that contingency planning; who has overall responsibility and so on. Rightly, the interim report points to a lot of things to do with the impact on consumers and how they are communicated with and how they are handled in really difficult situations. I expect that there will be quite a few recommendations in that area.

Finally, the report talks about the financial liability side. I know that generates a lot of attention, particularly from the airlines. At this stage, I would say that the independent panel has to do more work. We must wait and see what its final recommendations are in this area. It is a complex area. We need to make sure that there aren't unintended consequences with some of the potential paths we could look at going forward.

I have not talked about the technical side of what went wrong. The interim report talks to that. NATS itself has published an interim report in relation to the technical side. I am certain that the technical problem that was experienced on the day has been addressed. Clearly, we will consider closely other technical issues involved. It plays into the resilience. I am not saying that there are other issues, but we were taken by surprise by that technical issue and need to be confident that the processes are sufficiently rigorous that we can spot things to the greatest extent possible before they become a problem.

Q19 Sara Britcliffe: You touched on the fact that NATS addressed the technical issue there. What actions will the CAA be taking in response to the interim report? I appreciate that the final report has not come out, but what actions will you be taking now, prior to that report, based on the interim report?

Sir Stephen Hillier: When the technical problem was identified and the technical solution was put in place, clearly we had an overview and assurance role. We had to be satisfied ourselves that that had taken place.



Between the interim and the final report, there is nothing that we identify needs to be done right now. If we thought that it needed to be done right now, we would intervene. We will just wait for the final report and see what it says about technical issues, investment in technical capabilities, resilience planning and contingency planning when things go wrong. We don't see anything that needs to be tackled immediately. I will just wait to see what the final report says.

Q20 Sara Britcliffe: Why have there been no multi-agency simulation exercises?

Sir Stephen Hillier: That is a good question. It is something that the interim report flags up. When I look at it personally, what I see from the Civil Aviation Authority is that when we have major issues in the aerospace system, the CAA spends a lot of time not necessarily acting as the glue in the system, but talking to all parts of it—talking to Government and the Department for Transport, talking to airports, talking to airlines and trying to push out information to consumers. We have a central role when things happen.

It is entirely logical to say, "If you have that sort of role, what happens in terms of exercising and doing some contingency planning in advance of its actually happening on the day?" That is flagged up in the interim report. Instinctively, I feel that there is definitely something there. We should have more ability to scenario-play, to work out how it is going to happen. It is not about the CAA taking over and trying to run the entire system. It doesn't work that way. It is about testing out things like communications channels. When do you tell people? Who do you tell? That is the sort of thing that we could easily scenario-plan and exercise in advance.

Q21 Sara Britcliffe: In that case, have any been planned?

Sir Stephen Hillier: Not at this stage. I would not want to start doing that work now, in advance of getting the considered views of the independent panel, which is liaising across the sector. We want to make sure that we shape this and get it right.

That does not mean that if something goes wrong in the aviation system today, there will be no ability to respond. We absolutely will respond, as happened back in August and as has happened in a whole range of incidents. This is about responding better, more quickly and more efficiently in the future, and making sure that consumers are better looked after in the process. To me it feels right that, rather than leaping in and doing something in advance of having all the evidence and data gathered by the independent panel, we should wait for the independent panel to report and take action from there.

That is if it were to be us. The CAA cannot just assume a role. We do not need to be given some sort of hard-edged authority, but we must have the consent of all the interested parties and stakeholders. They need to



feel that they will be adequately represented in whatever the mechanism might be. We need to approach this in a measured way. That does not mean that we are not able to respond today if something goes wrong.

Q22 Sara Britcliffe: The interim report says that some of the recommendations from the 2014 CAP1515 report have not been actioned. Can I ask why that is?

Sir Stephen Hillier: I checked up on that. All the recommendations from the 2014 report were actioned by NATS. I know that they had independent third-party assurance that they commissioned to make sure that they had implemented those recommendations. I know that the CAA itself subsequently assured that those recommendations had been put in place. The 2014 actions were done, but each of the instances is unique in its own way, so there will be new recommendations. As you can see, there are new emerging recommendations from last year's incident. The environment changes as well. I mentioned earlier that, from a CAA perspective, there are growing expectations when it comes to looking after consumers. We want to do more and more for consumers. I fully expect that the final recommendations from this latest review will be stronger in relation to looking after consumers than might have been the case in 2014.

Part of the aerospace endeavour is that, unfortunately, things go wrong. When they do, we learn the lessons, implement recommendations and strengthen our capabilities, but it is a highly complex thing. Other things happen, and then we need to make a new set of recommendations and take them forward.

Q23 Sara Britcliffe: To clarify, are you stating that all of the recommendations have been actioned?

Sir Stephen Hillier: From 2014? Yes.

Q24 Sara Britcliffe: You mentioned NATS. There are no other recommendations that have not been implemented.

Sir Stephen Hillier: Not from 2014.

Q25 Sara Britcliffe: Okay. The interim report highlighted weaknesses in the airlines' communications to passengers, which you mentioned. What other steps are you taking to address that?

Sir Stephen Hillier: As I was saying, we need to make sure that we have taken all of the evidence and got all of the data before we firm up recommendations and take action. I know, and it is highlighted in the panel's interim report, that there is a slight sense of frustration about their ability to understand the data on exactly what the passenger experience was. What were the consumer issues? How were they handled on the day? The panel commissioned some third-party work, through Transport Focus, to give them the quality of data to really understand



what happened to passengers on the day and what the shortcomings were.

That information was not available for the interim report. I have not seen it personally. I would not expect to, because we commissioned an independent panel. I expect that the final report will have a much greater level of granularity, detail and understanding of what the impact on passengers was. We will improve the recommendations from there.

The question of what we do on a day-to-day basis—right now, in advance of those recommendations—to look after passengers in these circumstances is one that I can hand over to Anna, who looks after the consumer part of the CAA.

Anna Bowles: Absolutely. We have regular conversations with all of the airlines. They inform us that they are giving the correct communications to consumers. Our source of information around that is somewhat limited, because we have limited information-gathering powers. That is one of the increased powers that we are seeking and the DFT has expressed support for, when parliamentary time allows. It requires primary legislation change.

We get information directly from consumers when we receive complaints, and we use that information. What we see is that, in the majority of cases, people are given information when it is needed. The NATS event was a very extreme situation. The feedback that we are hearing is that the communication was perhaps not as frequent as people would have liked, because there was uncertainty for a prolonged period for some people who were stuck in a resort for a period of time. We have had conversations about how airlines manage situations in these more extreme circumstances. For more day-to-day delays and cancellations, we are relatively assured that airlines communicate passengers' rights to them, but we are having conversations around how that can improve in more extreme situations.

Q26 **Sara Britcliffe:** Can I come back on that? Am I right in thinking that the interim report states that all of the airlines should have a basic leaflet that comes from the CAA stating passengers' rights? I understand that it is an interim report, but surely something like that could be implemented prior to the final report coming out, just to make things easier for everyone involved.

Anna Bowles: All airlines are required to provide passengers with details of their basic rights. They do not have to do that in any particular set format. We have a leaflet out there, but many airlines choose to do it in their own way. Increasingly, many airlines use an app. People mostly book their flights using an app. Then the airlines will send messages to the passengers on the app. That will link through to websites where you can get all the detail. Often there is no paper-based leaflet that gets handed out, primarily because often people are not at an airport when



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they get the information. They get it on the way to the airport, in their hotel or at home before they leave.

- Q27 **Sara Britcliffe:** To go back to the incident last year, when there were a lot of people stuck at airports, that would have been a very easy thing for the airlines to distribute, rather than the mixed communication that happened during the incident.

Anna Bowles: It is something that could have happened at that time, potentially, and it was not in place. There isn't a requirement to hand out leaflets. There is a requirement to provide information. That is where the majority of airlines use the electronic system. In the majority of cases, that works.

There are challenges with technology around that as well. When people are abroad, for example, they may be in an airport where they cannot access wi-fi, or they may not have any data left on their mobile phone.

- Q28 **Sara Britcliffe:** You don't need wi-fi for a leaflet.

Anna Bowles: Absolutely, although you would need to have that leaflet in all of those different locations. That is not a requirement at the moment.

- Q29 **Sara Britcliffe:** What I am trying to say with regard to the interim report is that, while I understand that it is an interim report and you are waiting for the final report, surely there are some actions that can be taken now, rather than just a wait-and-see game.

Anna Bowles: There are certainly things we can look into around a leaflet.

- Q30 **Sara Britcliffe:** I don't just mean the leaflet; I mean the broader report and what it states. I understand that you are waiting for the final report, but right now you can see where the report is going, to be able to implement some actions.

Sir Stephen Hillier: I am very happy to take that away. As has been covered, this is not a new requirement. There is already an obligation on airlines to provide information to customers in these situations. What the interim report flagged up is that that did not happen in all cases back in August last year. I am perfectly happy to take that away and see whether there is anything more that we could do in the interim. In large measure, it is about saying to airlines, "You know that you have to do this already. We require you to do it. Make sure you're doing it." Your comment is particularly timely, given that we are approaching the busiest time of the year, in the holiday season. Perhaps we can do a bit more there.

- Q31 **Sara Britcliffe:** You mentioned the powers that you currently do not have and one of the things that you would like to have. You have been working with the Department on that. What other powers would you say are necessary for you to be able to do what you need to do?



Anna Bowles: In the consumer sphere, I think we need increased information-gathering powers, so that we are able to identify incidences of non-compliance, and then increased enforcement powers. At the moment, with the powers that we have, it can take quite a long time to go through the process of taking action. We experienced that last year with Wizz Air when we took enforcement action against them. It was a relatively straightforward process, but it is still quite time-consuming, even in relatively straightforward circumstances. We started having conversations with them around December time, but we did not have undertakings put in place until June.

We consider that enforcement action to be quite successful. The output of that is that Wizz had to look again at their communications and policies around providing welfare and assistance to passengers. We are comfortable that the communications that they provide now are accurate and that will benefit future consumers. We also required them to undertake enhanced measures. Those measures required them to go back and look at a very large number of claims that had been submitted to them over the previous two years. As a result, a significant amount of money—an additional £1.24 million—was refunded to passengers in respect of welfare and assistance claims that they had put in. That process was relatively straightforward, but it still took a year. For some people, that is refunds that they have not received for hotel accommodation. We have no ability to fine Wizz, for example, around that. Fining powers would be helpful and would provide a disincentive to behave in certain ways.

Q32 **Sara Britcliffe:** There is no timeframe for them to have to respond to that, with the powers that you currently have.

Anna Bowles: Had Wizz decided not to sign the undertaking, for us to force them to do that would have required our taking them to court.

Q33 **Sara Britcliffe:** Would any of the other witnesses like to respond?

Sir Stephen Hillier: I think that it has been well covered, particularly the point about data gathering. The point that we consistently stress is that we are not trying for CAA exceptionalism with these powers. Essentially, all we are asking for are powers equivalent to those that other regulators already have. It is bringing us into line and gives us a strengthened armoury, and should allow us to move more quickly in pursuit of consumers' interests.

As has already been covered, the Government have already made it very clear that they support that. We just look forward to its being moved into practice. I come back to the point about rising consumer expectations, which we support. We need to ensure that our statutory powers match rising consumer expectations. For consumers, the holiday is perhaps one of the largest expenses of the year, a really key event. I do not think that they would want the CAA to have lesser powers than they see elsewhere in their lives.



Q34 Grahame Morris: Can I develop the point about additional powers? In 2022, the Government carried out a consultation on aviation consumer policy reform and asked for the CAA's views on powers of enforcement. Subsequently, the then Minister of State for Transport, Jesse Norman, said that the Department was making "a commitment to legislate when parliamentary time allows", based on the outcome of the consultation. Were you disappointed that the Government have not made parliamentary time to give you the additional powers that you were seeking?

Sir Stephen Hillier: Disappointment would be one way of phrasing it, but I'm not sure that that would help. Simply the recognition that we needed more powers was welcome. I don't have insight into the pressures on parliamentary time and priorities. It is simply for us to continue saying that this is important for us in the performance of our statutory duties—what we are being asked to do. We can do better than we are doing at the moment. Clearly, it is for the Government to decide where that stacks up in relation to a range of other priorities. I would not characterise it as disappointment. It is simply that we need to keep reiterating and restating the case. Earlier, we talked about the arm's length body review. It was run through in that context as well.

Q35 Grahame Morris: I don't think I am giving away any confidence or secrets when I say that, in general, the Committee is a bit disappointed that quite a number of outstanding issues were not addressed in a transport Bill, although some specifics have been.

Can I ask Anna Bowles about the consumer interest? What is the CAA doing in terms of discussions with Government? You mentioned that you were seeking extra powers to protect consumers. Is there anything that you can do, short of legislation, to mitigate the current deficiencies in the powers that the CAA has to protect consumers?

Anna Bowles: We have certainly undertaken an exercise where we reviewed our powers to see if there are any additional things we can do without the legislative action that has been requested. We have conversations with the DFT on a regular basis.

There are things like the leaflet that we talked about. There are things we can put on our website to make sure that consumers are informed. We are undertaking a review of our website as part of our broader work to make sure that we provide consumers with as much information as we can. The information-gathering powers are a really key part for me.

Q36 Grahame Morris: Can you give us an example? When you say "information-gathering powers", just explain because I am a bit dim.

Anna Bowles: I have no data on how many complaints are made to any airline in the UK, what those complaints are made for or how airlines respond to those complaints. That would be incredibly useful data for me to try to identify where things are going wrong and where we need to focus our attention.



Sir Stephen Hillier: In terms of other things we do, we use reputation. That is clearly very important. Airports and accessibility is something that we take very seriously. We publish a league table on performance of airports in relation to accessibility. As far as I am aware, there is no real legislative underpinning for doing that, but nobody wants to be low down in that sort of table.

Q37 **Grahame Morris:** I want to ask you about that. As part of our scrutiny of HS2, the Committee visited Birmingham and we went to Birmingham International airport. I know it is not regulation as such—maybe it is guidance—but in relation to the installation of the new generation of scanners there were some concerns about the timeframe for that. Clearly, it would be a tremendous benefit for passengers because you can pass through much more quickly and the restrictions in relation to containers of liquids and so on do not apply. The scanners can pick up all of those.

In relation to complaints from passengers, are they particularly about timings and cancellations? I know there is an issue with the new algorithms in booking flights. If you are looking for a getaway and you look at the airline for prices, when you log in a second time it knows that you have already logged in and the price the second time is much higher. Is that within the purview of the CAA, or is it simply about times, flights, frequencies and delays?

Anna Bowles: There are responsibilities and requirements in place around price transparency. Airlines need to be very clear that they include all the mandatory fees within their baseline prices. Algorithms driving differentiated pricing is not something that would fall within our remit.

Q38 **Grahame Morris:** Are you familiar with it? Do you know what I am talking about?

Anna Bowles: I have heard of it, but I am not aware that it happens in practice.

Q39 **Grahame Morris:** Believe me, it does. I want to ask about new developments, and maybe I should ask Sophie O’Sullivan about this. Following on from the installation of the new scanners and so on, is there likely to be disruption? In Birmingham we saw that the installation was going ahead. I think the scanners were manufactured in Germany by Siemens. Is it anticipated that that will cause disruption during the installation phase?

Sophie O’Sullivan: I think Sir Stephen should answer that.

Sir Stephen Hillier: Sophie’s area is more about the future of flight, as in new technologies, so perhaps I can cover the next generation security. First, I should say that this is primarily a Department for Transport lead. We are supporting the Department there. Decisions around implementations or delayed timelines are not the responsibility of the



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CAA; it is the Department for Transport. That is where the principal discussions are going.

In terms of the new technologies, we clearly speak to airports a lot. It is very capable new technology. I am told by the airports that the issue is not just that it is more expensive. It is to do with really physical things. The equipment is heavy. You need to be clear where it goes. As you are installing it, clearly that has an impact on current security arrangements. You need to monitor that in relation to passengers. You need to train new staff. There are supply chain issues across the aerospace sector, so there is a high demand for these new bits of kit. There is a whole range of issues. That is not me making excuses for airports. It is just that this is the environment in which they are working.

What we are really interested in, though, is the customer experience. We know that security is one of those issues that takes time and can be disruptive for passengers. People see it as necessary, but it is not necessarily an easy part of their journey. If we can make it quicker and easier, we are clearly very much in favour of it.

The UK is pretty leading on this. We are still at the leading edge of this technology, despite the fact that we might not have complete UK-wide adoption for a little while yet. Other nations have similar challenges. We need to be aware that the passenger journey is not just the UK element. If you are going overseas, you might find that you are back to plastic bags and the traditional things. It will take some time for international aviation to get to the point where we have all of the next generation technology. Nevertheless, it brings not just ease for passengers but better security capabilities. We are very keen for that to happen as soon as practicable. As I say, the Department for Transport is really focused on the issue.

Q40 Grahame Morris: So that we are clear, the Government's ground handling review is a Department for Transport initiative. Is the CAA involved in any way or just as a consultee?

Sir Stephen Hillier: The ground handling review is in progress. We are not a consultee.

Q41 Grahame Morris: It is quite separate from the—

Sir Stephen Hillier: Yes, it is a separate thing. I would not describe the CAA as a consultee. We are supporting and providing the essential connection into the DFT about the consumer interest and how it fits into the rest of the aerospace system.

The headline—bringing ground handling into the system—is absolutely appropriate. It is a critical part. It is an international initiative. ICAO, the International Civil Aviation Organisation, is sponsoring it. The expectation is that by 2026 ground handling will fall within nations' regulatory purview and not just the UK. The CAA will have responsibility for doing



oversight and assurance of ground handling activity. I think that is entirely appropriate.

Q42 **Grahame Morris:** It is another area where it is beneficial if we have standardisation and international co-operation.

Sir Stephen Hillier: That is exactly why ICAO is driving it forward. Aviation as a whole is a highly internationalised system, as you know. We do what is right for the UK. That is our primary responsibility, but we have excellent relationships across the international community. It is absolutely essentially for everything that we do.

Q43 **Gavin Newlands:** I want to move to the future of flight and bring in Ms O'Sullivan. Clearly, there are many future potential benefits in the area of work you are currently undertaking, whether that is economic, societal or environmental. There are eVTOLs. I have seen Project CAELUS at Glasgow airport. I have been to Orkney to see Project SATE. I will start with eVTOLs. In your view, what are the main hurdles for commercial use of eVTOLs? Does the technology itself lie with the regulators or elsewhere, perhaps with us?

Sophie O'Sullivan: The advanced air mobility sector, which is what we use as an umbrella term for the eVTOLs that you are talking about, is a priority for the CAA. It is a key part of our future flight programme. The work we need to do is two-pronged.

We are working closely with applicants so that they can certify the new types of airframes that they are working on. The timescales are dependent on the applicant's ability to design, develop and deliver their platform. They work in multiple iterations. Sometimes tests are passed and sometimes they are not. What we need to do is to make sure that we have the capability and the capacity to support those applicants. That is a question that we come back to every year.

The second prong of what we need to do is run a large-scale programme to deliver the policy changes that are required to create a proportionate regulatory framework. To give you an example, if an existing aerodrome today would like to offer services to eVTOLs, we need to put out guidance to say how it would be what we are calling a vertiport. We will be publishing that guidance this year, in December. We are also working on guidance for aspects like ground handling for VTOLs, carrying passengers, refuelling and that type of thing. We need a large-scale programme to deliver those policy changes, and that is part of our future flight programme.

Future flight is a programme that goes out to 2030. It has five strategic outcomes that we are working towards to support Government in that plan. Strategic outcomes 2, 4 and 5 show how we want to progress towards a 2030 timeframe to scale up the use of VTOLs in the UK.

Q44 **Gavin Newlands:** You said in your answer that the capacity point is something you review every year. I think Sir Stephen said earlier that the



growth in the work of the CAA, and obviously the workforce as a result, has been, at least in large part, due to the future of flight. Do you think you have enough resources at the moment to allocate to development of eVTOLs specifically?

Sophie O'Sullivan: On eVTOL at the moment, we have five people dedicated to the applications that are currently coming in. Looking at the large-scale change that I talked to you about—the second part of the programme—we have 70 people dedicated to a future flight programme right now. That is one of the largest programmes that we have on innovation. Right now, we believe that is the right capacity, but we will continue to come back to that question. We have to look at market developments, how many applicants there might be, which elements of the sector we see growing within AAM, within RPAS, so we will continue to come back to that. Right now, the answer is yes.

Q45 Gavin Newlands: We have heard evidence before. Brad Miller from Ferrovial was concerned that across so many sectors the UK is leading in research and development, but when we get to the commercialisation stage sometimes regulations get in the way and sometimes it is Government support. We have seen it before, certainly in the years I have been an MP. We always seem to lose the commercialisation stage to other countries. That is one of the reasons why we are asking the questions. We have just had the regulatory framework Bill for automated vehicles, which I think is coming back from the Lords soon. How far away are we from having a regulatory framework Bill for eVTOLs, unmanned aircraft or future flight more widely? Is that something that is in the near future, or are we not there yet?

Sophie O'Sullivan: The data we have shows that in the sectors of advanced air mobility and RPAS we are not behind as a state. That is not what the data shows us. We will need a series of SI updates to do multiple changes for these sectors. For example, for rulemaking for bespoke vertiports and operations we are targeting the SI in late 2025. That is how the programme is formulated at the moment. We have a number of SIs that we need to work towards.

I come back to my earlier answer that this is a priority for the CAA. It is one of our largest programmes, with multiple workstreams going on at the moment. I can already point to deliveries around what we are doing with some of our airspace structures to enable RPAS operations. I have talked about some of the vertiport guidance. I would not characterise it as that we are behind. We are not perfect, to come back to Stephen's earlier phrase; we need to continue to learn and we are doing that by working very much as part of the internationalised system, through our NAA network and collaborating with the FAA and IATA on a regular basis.

Q46 Gavin Newlands: Are you on target, or very close to target, for the 2025 type certification of eVTOLs?



Sophie O'Sullivan: At the moment we are on track, yes, but I come back to the point that the timeframe for certification of platforms is quite application dependent. We must certify to a standard and not to a timeline. That is how we enable aerospace but also protect the public.

Q47 **Gavin Newlands:** I will move on to drones. Is the target for enabling demonstration of BVLOS—beyond visual line of sight—on track this year?

Sophie O'Sullivan: Yes, I would say that is on track. What the first strategic objective is really about for RPAS is the demonstrations, as you say. Some of that is applicant dependent, similar to what I said about VTOL, but what we need to do is ensure that there are the airspace structures and a proportionate regulatory framework to enable those demonstrations.

At the moment there are three ways by which you can operate an RPAS. You can operate it within your visual line of sight, so you can see it as a remote pilot. That is a fairly low-risk operation. You can use other persons to extend your visual line of sight, or you can go beyond a visual line of sight. The clue is in the name.

To do that at the moment, we put something called a temporary danger area around the operation, which is really a form of segregation. We have put in place a new structure called a temporary reserve area. That is already live. That is a structure by which you can test more complicated operations. You can look at how you do things, such as detecting other aircraft and avoiding other aircraft. That is critical to get us to a potential way of scaling up these operations and meeting the commercial ambitions of some of the applicants that we have.

Q48 **Gavin Newlands:** For future flight and the pathway, particularly the drone pathway for strategic outcome 1, 2024 is an extremely busy year if you are looking at that particular graphic. Obviously, a fair chunk of it is under the auspices of the CAA. You seem confident that you are going to fulfil your part of strategic outcome 1. Are you confident that the Government and industry will fulfil their part in 2024?

Sophie O'Sullivan: At the moment I would say that we are collaborating and working very well together. We need to create a proportionate framework. Next week we are launching a technical variation policy, whereby effectively you can change your RPAS in a more rapid way if you are working in research and development. Our part is to make sure that the airspace structures are there and that we have a proportionate regulatory framework. I think we are on track for that.

There is a lot of interest from industry. We already have six applicants in our temporary reserve area trial, and we are seeing around another 10. Is industry leaning into this? Are they funded? Are they ambitious? Yes is our view. Government have given us an extremely large amount of funding to enable this—£15.6 million this year alone—and to have a dedicated team. I cannot speak on behalf of the whole of industry or



Government, of course, but what I see are very positive signs from both parts of the sector.

Q49 Gavin Newlands: Before I move on to airspace modernisation, this is perhaps an unfair question. Given the potential economic benefits of eVTOLs to the country and the potential size of the sector here, as well as the fact that you guys seem confident that you will not be standing in the way from a regulatory point of view, are you confident that the Government or the DFT are as seized of the urgency of making sure that we, in this place or the Government, are not standing in the way of progress in the sector? We have seen it before. Sir Stephen probably ought to stand in the way of that one, to be fair.

Sir Stephen Hillier: Picking up on what Sophie said, and judged by the actions, Government have given us not just the remit but the resources to achieve it. I don't see anything standing in the way, as you put it, from that point of view. All I see is support.

From a CAA perspective, we are doing exactly what has been lined up. I underline that, ultimately, what we are held accountable for is safety. To emphasise that point, we do not regulate to a timeline; we regulate to a standard. We describe the environment. We describe the regulatory set, but we expect industry to work on the evidence, understand the risks, show us how they are going to mitigate those risks and have a plan for doing it, which we can then assure. The onus is not on us to make it safe. The onus is on them to tell us how they believe it is safe, and then we will assure that plan.

The other critical part is that it fits into an existing enterprise. There are a lot of airspace users out there already, particularly in this part of the United Kingdom. It is busy airspace. We need to make sure about not just what works for the new technologies, but what works for the new technologies and does not impact on the other sector. We need to integrate these new capabilities. It is not just a stand-alone, with their individual little bit of new technology and how that looks. It is how it works for everybody else as well.

Those are the challenges. It is exciting. It is really interesting work. People talk about it as the next generation of aerospace technology, so it is exciting stuff and we are on the leading edge of it.

Q50 Gavin Newlands: Thank you for that. Let's hope it is not that age-old phrase "when parliamentary time allows" that gets in the way of any potential regulatory legislation.

Perhaps I could move on to airspace modernisation. I have been a long-time supporter and agitator for that. Clearly, airspace modernisation and airspace change are not entirely straightforward, but by some distance it is the easiest and significantly the cheapest element of decarbonising aviation. In my personal opinion it has taken far too long. Why has more progress not been made on modernising the UK's airspace?



Sophie O'Sullivan: I am happy to talk to that. Obviously, airspace modernisation is our vision; by 2040, to have cleaner, quieter and more effective flights. As you say, because airspace in the UK is quite complex you have to balance a range of stakeholders and their different use cases. We needed a long-term strategy that went out to 2040, but that does not mean that we are not going to deliver anything until 2040. Some of the examples I have given today, such as temporary reserve areas—I can also talk about atypical air environments—are new airspace structures that enable innovation and are moving towards the direction of integration for the AMS. Delivery in the short and medium term is part of that.

One of the things that the team is exploring, to give an example around sustainability, is free routing. At the moment, if you go from A to B and you are on a fixed route, that does not give you the freedom to look at how you could deploy things like higher climbs or different queue management that could possibly have benefits in terms of noise, emissions or sustainability. How that is going to work within the AMS will be part of the update of which we publish part 3 this May. There will be some deliverables around that that we continue to work towards. While the strategy is until 2040, I hope that some of the examples today illustrate that that does not mean delivery is out that far. We are doing deliverables in the short and medium term.

Q51 Gavin Newlands: You make the point that there are lots of competing factors from different stakeholders. Would you say that is the main issue? There are obviously a lot of potential issues, Government funding and so on. Is the main issue that you have lots of different people with lots of different asks at the moment? If that is the case, do you think it would be better if there was a stronger lead on this? I am not pushing at the CAA here. It possibly requires a political lead in this respect. Would that help drive through some of the competing factors?

Sophie O'Sullivan: Yes, I think it would. If we look at the way an airspace change is managed at the moment, as I think you know, a sponsor will request a change, give us the design, consult, and then we will make a decision. We have put in place a function called ACOG, the Airspace Change Organising Group—it is a function of NERL, the part of NATS that we regulate—that helps co-ordinate that change, but, effectively, those changes are still being made by individual sponsors.

In order to think about how you balance the competing interests, one of the topics that we are in the early stages of exploring is having something like a single design entity where you might have, essentially, a single controlling mind that can look at how you could holistically design airspace in the UK and balance those requirements. We are looking at how you might do that, who might do that, and what the funding might be. There will be a consultation later in the summer. To answer your question, how you do holistic airspace design and look at the competing



different use cases is one of the things that we think is really critical to moving this forward.

Sir Stephen Hillier: Perhaps I could add a CAA perspective to the start of your question. This is one of perhaps the most complex things for the CAA to work through over the coming years, but not from a technical perspective. We can do redesign and everything that works for aviation, but it impacts a lot of people. In many ways we say it is analogous to the planning system. People on the ground in particular are affected by it and there will be a lot of competing interests. We, the CAA, cannot do that by ourselves; it will be something that will need to be worked through very closely with the Department and Government to make decisions on something beyond just a technical basis. It is one of the most complex things that we will be dealing with over the coming years.

Q52 **Gavin Newlands:** I think that is great. You said that it is not just for the CAA, it is for everyone, but is the CAA fundamentally responsible for making it a success? Do you feel that responsibility?

Sir Stephen Hillier: It cannot just be down to the CAA. We need to be careful. Our role is as an independent regulator assuring the system. We need to make sure that we are not designing, operating and assuring. That would be a conflict of interest for us. We have NATS. Clearly, it has a key role, and we assure and regulate it. We have air navigation service providers around the country at airports and other locations, and we assure them. This is truly a whole system issue. Because it is a whole system issue, the CAA has a vital leading role to play, but Government and the Department do as well. We cannot do it by ourselves. Nobody can do it by themselves.

Q53 **Gavin Newlands:** I agree. To move on to the 2022 progress report on modernisation, it identified six initiatives as requiring attention. Can you perhaps give us an update? I think there might be another iteration of that report coming shortly, so I don't know whether you can give us headlines if that report has been finalised. Can you give us an update on the areas that require attention?

Sophie O'Sullivan: That report is due out at the end of April. It is our annual update to the Secretary of State on how we are progressing with airspace modernisation. You are right; it was due out at the end of March. We delayed it by around four weeks because we wanted to ensure that aspects of the future flight plan that were published on 18 March were fully aligned with what was in part 3 of the AMS. That was the reason for the delay. In that, we will be outlining how we are going to tackle topics such as detect and avoid, which I mentioned today, unified traffic management, and SWIM. We will be giving an update on those. I can follow up with the six topics that you referenced as to how we are getting on with those.

Q54 **Gavin Newlands:** If you could write to us specifically on what progress you have made on the six areas from the last report, that would be



fantastic.

I want to finish on this. You have made the point about airspace change and sponsors. With an airport in my constituency, I don't know how many times I have been through that process for a variety of reasons. To what extent have the delays associated with airspace change affected or delayed overall airspace modernisation?

Sophie O'Sullivan: In some ways, they are quite separate because we have separate sponsors. A sponsor will come and ask for an airspace change, and airspace modernisation is looking at the asset pool, essentially, and how we want to modernise it.

Q55 **Gavin Newlands:** It is part of the overall aim though of modernising airspace. I know they are two separate workstreams but with the same overarching aim of modernising our airspace.

Sophie O'Sullivan: Exactly. If you have an airspace change that wants to do something that is going to have benefits in terms of sustainability and integration, that is obviously working towards our 2040 airspace modernisation strategy. We have just relaunched what we call CAP1616, which is the airspace change process itself. We took some time to look at all the consultation feedback that we had had through various airspace changes to update that. What we have done in this iteration is to separate the guidance and the regulation, which should make it, we think, more user-friendly and more accessible. We also have a faster version of the airspace change for low-impact changes. We have listened to the feedback around delays. We obviously have to balance consultation and those impacted by a change, but where we deem one as low impact there will be a faster process.

Gavin Newlands: Okay, thank you.

Q56 **Jack Brereton:** I want to follow on a little bit from what my colleague, Mr Newlands, mentioned with regard to that report because it painted a very poor picture, I fear, of what progress has actually been made. Not only were six initiatives of the 15 rated as requiring attention, a further six initiatives were assessed as having major issues. Only two were on track and one had been implemented. What I am keen to know is whether the next report that is due out is going to paint a better picture of progress than we saw in the previous 12 months.

Sophie O'Sullivan: What we have seen that is markedly different from previous financial years is the programme for future flight and airspace modernisation and how they are working together. That is why today I have been able to point to things such as the temporary reserve area and the atypical air environment. These are aspects of airspace modernisation that are taking us on the "demonstrate, scale, sustain" pathway to enable innovators.

We also have funding from Government, as I referenced in an earlier answer, which is much larger than we have received before, and is going



across future flight, and bridges airspace modernisation and what we need to do for innovators. We are not perfect, to come back to an earlier answer, and there are learnings that we need to do. Airspace is very complex because there are different users. Sometimes, if you think you have taken one step forward with what you might do with the RPAS sector, you might get some responses from the GA sector that are not so favourable. You have to balance all those things together, which is why it is quite complex to move forward rapidly. The next stage of the report will be able to talk to some of the deliverables I have outlined today and what we are doing with that additional funding.

Q57 **Jack Brereton:** Is it going to paint a better picture or not?

Sophie O'Sullivan: It is going to paint a picture that will give you some more deliverables and what we are doing with the funding, but ultimately I would leave that assessment to your good selves.

Q58 **Jack Brereton:** Maybe you would like to come in, Sir Stephen.

Sir Stephen Hillier: I won't get into a debate about what better looks like. This is an evolving process. As I mentioned, it is complex. As we do more, we learn more and sometimes we end up with more actions, having learnt more. To follow up on the earlier offer on those specific six areas, I am very happy to write back to the Committee and say, "Here is our assessment of where those are at the moment," and to do the cross-check that we give sufficient emphasis for the six areas that we reported last time when we do the report that we are going to publish at the end of this month, just to make sure that we close that off properly.

Q59 **Jack Brereton:** Are you concerned about whether this is achievable and deliverable, given the hiccups that we have seen? This has been going on, as my colleague Mr Newlands said, for quite some time, and we have quite a lot of frustration about the lack of progress that has been made when it comes to the modernisation programme. Do you have specific concerns about the deliverability?

Sir Stephen Hillier: It would be wrong for me to say, "No, I don't have any concerns," because if I did not have any concerns we would go and do it straightaway. This is complex activity. We are still learning in some respects. There are difficult things that will need to be implemented. It will require work from the CAA, from across the sector and from Government. There are a lot of component parts. I would not want to see it in just those dark terms. We are making progress. It is not a big bang approach where, suddenly, one day we will have modernised airspace. It is going to be an incremental process over a number of years with the eventual goal that by 2040 we will have realised all the benefits that we have set out.

I don't think there will be a moment when you wake up and go, "Ah, right, I can see a real difference." It will happen in individual stages, and those stages will be both in the sorts of things we are talking about in relation to integrating future flight, and geographically within the UK. It is



much easier to put some of the changes in place in areas where there is less traffic density, so there is work being done in Scotland in the Glasgow-Edinburgh cluster to take things forward more quickly. I am sure Mr Newlands is familiar with them. I am not saying that is easy to do, but it is far easier than in the south-east of England. It has the advantage that we can start to reap those incremental benefits but we also learn and transfer that learning from elsewhere in the country.

Q60 Jack Brereton: Are you suggesting we could have a system in place in one part of the UK that is different from another—a sort of twin-track?

Sir Stephen Hillier: No, it would not be a different system. It would be a system that realised the benefits that we are expecting out of airspace modernisation—better routeing, greater environmental benefit, and so on. We would be able to realise those benefits more quickly in some parts of the country than we would be able to do across the whole country. It would not be a different system; you would not be flying between two entirely different things. It would just be more efficient and more effective in one part of the country as we gradually rolled it out. That sort of activity happens all the time—those incremental changes.

Jack Brereton: Thank you.

Q61 Fabian Hamilton: Can I move us on, Sir Stephen, to sustainable aviation fuel? What steps is the CAA taking to encourage sustainable aviation fuel uptake such as hydrogen fuel cell technology? Do you have the powers to do that and are there other levers that the CAA can use in this particular area?

Sir Stephen Hillier: I will ask Sophie to answer as it is in her area.

Sophie O'Sullivan: We have quite a lot going on in this area. We published our sustainability strategy very recently, but the part of it that you are pointing to is how we enable some of the newer technologies in the sustainability area. We have areas of the sector that are interested in looking at brand-new technologies such as electric or hydrogen. They require different airframes and different regulation because you effectively need quite different aircraft. Then we have the sustainable aviation fuel that you talked about, which can work with the same airframe but you are fuelling it in a different way. Actually, right now you can use up to 50% SAF blend.

To encourage SAF, we recently permitted the 100% SAF flight with Virgin that you may have seen. We took the safety case through a series of technical gates to ensure that it could be done safely—effectively, to push the boundary and to ensure that we had done that within the realms of a safety case. We hope that that encourages other operators to look at what they could do with SAF going forward.

In terms of hydrogen and electric, a lot of what I have talked to you about today is electric propulsion—RPAS, advanced air mobility. On hydrogen, we have set up our regulators pioneer-funded hydrogen



challenge, which has three applicants. We are working with them on the research and development of hydrogen, whether you have a hybrid engine or fully hydrogen propulsion-type aircraft, to understand what we need to learn and how we might regulate for that. There are a number of things going on in that area. I should also mention we have approved something called Project Acorn, which is the first ever hydrogen refuelling trial at an airport.

We are doing lots of communications on sustainability. It is all part of our sustainability strategy to publish information on how the sector is becoming more sustainable so that consumers can see that information. When it comes to new technologies, we have various challenges and applicants, and we are working closely with them to encourage them.

- Q62 **Fabian Hamilton:** Can I question you a bit further on hydrogen? We all remember from the history books hydrogen being a very good fuel but quite a dangerous one. I did a lot of work early in my career on hydrogen fuel cell road vehicles, and one of the biggest problems was the safe storage on a road vehicle of hydrogen because it is so combustible and because of its compression or its freezing. How do you overcome that in terms of safety on an aircraft? However dangerous it might be on the road, it is a lot more dangerous in the air.

Sophie O'Sullivan: Yes. I would describe hydrogen as exciting but also challenging for exactly the reasons you have outlined. Storage and leakage, because you cannot see it, are things that we need to work with industry on. We must work in our "demonstrate, scale, sustain" mode of operation because of the complexities and some of the risks that you outlined. We need demonstrations that happen within clear parameters, approved via a safety case, so that we can build our confidence. There is some way to go. We are seeing the sector really lean into this as a challenge and there is a lot of funding that we can see, but I don't have the answer at the moment as to how you could put it on an aircraft. I don't think anyone does.

- Q63 **Fabian Hamilton:** There must be other fuels as well, or other forms of propulsion. The obvious one is battery technology, but batteries are very heavy. Again, it is bad enough on the road; goodness knows how you get them into the air. I accept that that poses a lot of challenges. Are there any other technologies that the aviation sector is working on at the moment that could overcome the carbon challenge and the weight and safety challenge?

Sophie O'Sullivan: That is a great question. It is one we are looking at internally all the time. Whatever the route aviation takes to meet the jet zero goals, part of the net zero plan, it is our role to ensure that it is done safely. As a regulator, we have to think very carefully about where we sit in terms of market development. We do not want to be too far out in front and, essentially, picking a winner and saying, "It will be hydrogen." Equally, we do not want to be too far behind. That is why we have teams such as our horizon scanning team that are looking at current



developments. At the moment, we primarily see SAF, electric and hydrogen. They are the main developments, but we will continue to monitor that.

We need to work with industry to see how you might overcome some of the challenges such as the heaviness of electric, as you said, and the combustibility of hydrogen. We need to keep working very closely with industry and sometimes do research ourselves—the downwash research that we have done in AAM is a good example—so that we can assure ourselves about mitigating safety risks, and work alongside the sector at the right tempo based on where it moves and, essentially, which way it may go to meet this challenge.

Q64 Fabian Hamilton: That sort of indirectly moves me on to my next question. Thank you for that, Sophie. I gather that you plan to publish an AI strategy this summer. How do you envisage the greater use of AI and data more broadly and how will that change the aviation sector or even the fuel technology sector?

Sophie O'Sullivan: That is a very interesting question. I can talk a little bit about our strategy.

Sir Stephen Hillier: Every organisation is grappling with this. We are not unique. We are speaking to other organisations and other sectors to see what their experience is. I am slightly wary of AI strategies because, in an area like this, by the time you have written the strategy it is probably a bit out of date. We need to make sure that we do not fix ourselves into "This is how the CAA is going to deal with the AI challenge." We need to be pretty agile in this area.

There are three things in my mind at this stage. First, there is enormous potential, as there is in so many other sectors, particularly technology-based ones. This is not about how we try to resist or manage AI; it is that here is a great thing, potentially. The challenge will be how we protect safety, because that is our primary duty. I see that working through in two areas. At the moment, we rely on looking at platforms, seeing what they do, analysing data and licensing and certifying on that basis. There is the possibility with AI, particularly in the new platforms, that it will be able to generate itself to better capabilities and learn from all the platforms and absorb that. How are we going to know as a regulator why it is doing certain things if it is working on a machine learning AI basis? Ultimately, safety decisions are vested in human beings. How can we ensure that a human being still has the ability to make those assessments against that backdrop?

On a more positive side, and potentially easier, is that the CAA, all regulators and, in fact, the entire aerospace enterprise, generate enormous quantities of data all the time. At the moment, we rely too much on the people analysing that data. AI gives us the potential to analyse data with certain algorithms to give us insights that we might otherwise miss.



It is sadly very often the case that when something goes wrong in aviation, and, in fact, in any enterprise, it is not the one that was on your risk register; it is something that comes up and people say, "Oh, where did that come from?" Subsequently, knowing that something has gone wrong, you join bits of data together and say, "Well, actually, we could have known about this if we were able to join that in a better way." AI gives us the potential to do that, but we need to make sure we get the data right, we need to understand where the sources of the data are, and we need to understand the algorithms behind it.

There is enormous potential, but like any organisation we have a lot of thinking to do to make sure that we can continue to operate in an AI environment while being able to guarantee to people who fly that we know what is going on, it is safe and human beings are ultimately making the decisions in relation to your safety.

Q65 Fabian Hamilton: I suppose, like any software and any technology, the output, the outcome, is only as good as the data you put in and the human factor. Thank you very much indeed.

Sir Stephen Hillier: We had a board discussion on this just a few weeks ago. We need the ability to understand and question the IT and not just say, "This is what it's telling us," and accept it. How do we have the skills to ask the right questions and continue to assure technology?

Fabian Hamilton: Thank you very much.

Q66 Gavin Newlands: I have a supplementary on SAF. Ms O'Sullivan, you mentioned the Virgin flight, which, given that it was 100% SAF, required a permit to fly because it was not type-certified, I presume because of the fuel. Have you had access to data from that flight about engine performance or condition, residue or anything at all that has been fed back to you from Virgin or anybody else?

Sir Stephen Hillier: As far as I am aware, it was entirely unremarkable in that respect. I suspect if there had been something remarkable I would have heard about it. In a way, it is a proof of concept. It was building confidence in SAF. SAF is going to play a growing role in aviation's biggest challenge, which is the sustainability challenge. SAF will be a key factor for the foreseeable future as other means of propulsion come along. The importance of having SAF production capabilities worldwide is going to be absolutely vital. A lot will have to be done there.

Gavin Newlands: I agree. Thanks for allowing me to ask that question because it now allows me to get back to a conspiracy theorist who feels it was suspicious that no data had come out of that flight. No matter what I said, I could not placate him. I do not generally ask questions for conspiracy theorists who get in touch. It is not a common thing I do, but I had the opportunity, so thanks, Chair.

Q67 Chair: Thank you. We have covered a lot of ground today. I would like to conclude this session with some questions on one final area, and that is



the thorny issue of Heathrow landing charges. The airlines routinely criticise the model for setting those charges. The airport will no doubt have a counterview. Could you say what work you are doing for the next part of the process in setting landing charges in the future, or what changes are coming?

Anna Bowles: I can take that one. In terms of the H7 price control process, we issued a final decision last year. Following that, it was appealed to the CMA by four organisations, three airlines and Heathrow, and, broadly, the CMA agreed with the output of our final decision. There were a few areas that we had to take forward, and they are out for further consultation at the moment to arrive at a final price control.

Alongside that piece of work, we are undertaking an exercise to review the approach that we take to setting the price controls, and we are doing that for both NATS and Heathrow. We undertook a consultation earlier this year. The consultation has now closed. I think we had 15 responses to that consultation and we are considering those responses. The consultation asked about what a review should look like, what things should be included in the scope of the review, governance processes and what sorts of things we should consider in the price control building blocks. We plan to complete our review towards the end of the summer, and following that we will publish a policy note that will set out our lessons learnt.

Q68 **Chair:** Thank you. We would be interested in hearing further detail on that once you have concluded the review of the responses.

Anna Bowles: We will be happy to share.

Chair: Thank you very much indeed for your time this morning and for undertaking to write back to us on the various points we have discussed. For now, thank you again.