HOUSE OF COMMONS

Defence Committee

Oral evidence: Defence and Climate Change, HC 179

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Watch the meeting

Members present: Mr Tobias Ellwood (Chair); Robert Courts; Gavin Robinson; John Spellar; Derek Twigg.

Questions 204 - 218

Witness

I: John Kerry, United States Special Presidential Envoy for Climate, Executive Office of the President of the United States.

Examination of witness

Witness: John Kerry.

Q204 **Chair:** Welcome to this meeting of the Defence Committee on Tuesday 23 May 2023. It is a real pleasure to welcome Secretary John Kerry, the US Special Presidential Envoy for Climate. Secretary Kerry, thank you so much for your time this afternoon and for helping us further our studies and understanding of the impact of climate change on global and national security.

We would really appreciate it if you opened up with some of your own comments and remarks, which will lead us into some questions. Once again, thank you for your time this afternoon and for joining us here in London. The floor is yours.

John Kerry: Thank you very much, Mr Chairman; I really appreciate the opportunity to have a conversation with you and your Committee members on a topic of enormous importance to all of us. Frankly, the UK and US have long recognised and understood that the climate crisis, as it is now, represents an enormous threat—real and present and future—in terms of the security of our nations and of the planet.

Some of this may seem obvious to some—some of it not—but the bottom line remains that we need to collectively come together to be able to respond to this crisis. The security and wellbeing of all our people are at stake. Specifically, let me just cut to the chase. It is clear that the climate crisis is building up on a daily basis and annually, and we can measure it way back in human history. It is building up to a place where it is going to be one of the most significant disrupters of life as we have known it on the planet.

Broadly, the places in the world today most impacted by the climate crisis are south Asia, the global south and parts of Africa—most of them defenceless nations suffering consequences that they have not contributed to in any significant way. That in and of itself is a growing source of friction, which I believe will contribute very significantly to a massive change—a disruption, if you will—in the normal discourse of nations, as people feel greater and greater amounts of anger and frustration at their plight, absent help and assistance from other nations that are capable of providing it. That in and of itself becomes a source of friction and complicates global affairs—international relationships.

Let me give you five very quick hits of where and how the security relationship is most affected. First of all, it is clear that there will be more destruction from some of the impacts of the climate crisis—there already is more disruption—than occurs in certain wars; it depends, obviously, on the size and scope of the war. But certainly, there is going to be very significant destruction, which all of us are going to have to address.

Secondly, the situation will require and already is requiring the mobilisation and deployment of troops. As we are more and more focused on adaptation and resilience-building, that demand is going to grow higher. It is certainly there in all situations in extremis—of emergency.

Thirdly, it will threaten readiness, response times and possibly even deterrence because if you have disruption to your readiness or capacity to be able to respond to a crisis that requires deployment of troops, that could have a profound impact on people's sense of deterrence. For those who like to make mischief in the world—that is a reality we live with on a daily basis, a global basis—that is opportunity, and we need to deny that opportunity.

Fourthly, high-ranking officers in the United States military, generals and admirals, have many times termed the climate crisis "a threat multiplier". Indeed, look at the threat to food production, to water, to just the heat—we lose 10 million people a year now on the planet to extreme heat. Already this year, because of El Niño, we are understanding that we are going to have much more extreme heat. We are seeing some of those temperatures right now, today, with millions of people affected in India and the middle east. Even here, it is the end of May and they are predicting 90° temperatures in much of the United States. So the threat multiplier is a serious concern.

Fifthly, as I mentioned briefly earlier, the damage being done to other nations—island states, vulnerable countries such as Pakistan, Bangladesh and various countries in sub-Saharan Africa—is significant enough, and culpability for it is clear enough as you look at what is happening, that relationships are increasingly going to be disrupted. The international community is going to be seized by the consequences of not responding adequacy of this crisis, the impacts of which will mostly fall on less developed and developing nations.

If we don't respond adequately, I think we will see an undermining of the common principles around which we have organised our defence and security communities. They will be undermined in ways that will challenge why it is that we have not implemented the precautionary principle of governance, which is that when you see a threat coming and know that there are things that are existential, responsible people are supposed to respond. In much of the world today, there is not an adequate response to the cause, which we understand to be the emissions that come from the burning of fossil fuel in an unabated fashion. The challenge is how we reduce that.

I will very quickly wrap up on why this challenge looms larger and larger by the day. The fact is that the best scientists in the world have given us adequate warning and have told us again and again—most recently, in the 2018 IPCC report—that in order to avoid the worst consequences of the climate crisis, which you would think we would want to do, we have to try to hold the Earth's temperature increase to 1.5°. That is not a Conservative, Liberal, Labour, Republican or Democrat-founded notion; it is without politics. It is a scientific conclusion based on physics and

mathematics, and the direct evidence of what is happening, planet-wide, to us all now.

We have to reduce emissions, but we are not reducing them at the rate that has been prescribed in order to hold on to that target figure of a 1.5° limit on warming. That will have profound implications—in the trillions of pounds, dollars, yen or whatever currency you want to apply. The world is going to be enormously impacted by the increased costs. Your great citizen Nicholas Stern has written books on this and has spoken about it, as have many other economists on a global basis. It is far, far more expensive to respond later, rather than sooner—now.

If we are going to do what the science tells us we need to do, speaking to a Defence Committee I would say that we should be close to talking about this and thinking about it in the context of war mobilisation—doing what is necessary to meet the threat. In world war two, we didn't know for certain, as we approached the winter of 1943, what the outcome was going to be. We believed in what it would be, but we weren't certain. There is a book written by Professor Paul Kennedy at Yale University called "The Engineers of Victory", in which he writes about how mid-level players, engineers and others came together to make the decisions that allowed us to gain control of the seas and the air, and penetrate the defences that Hitler had built along the coast of France and the rest of Europe. We succeeded in doing what we needed to do because we treated it in a fully expressed concentration of the minds, if you will, in order to achieve our goals.

We have written about those goals and the climate crisis. Many people have spoken about them—there has been plenty of chatter—but we are not yet organising ourselves and concentrating on the deployment of renewable energy, and the shift out of unabated coal and fossil fuel burning. We haven't done that at a pace that allows us to guarantee what we are supposed to.

In terms of planning for a Defence Committee or any nation, we are going to have to apply technologies and we are going to have to rely on the military to help us to be able to respond in many parts of the world that we never would have anticipated. I think that one ought to consider whether there is not a level of public negligence in the avoidance of some of the decisions that we know we need to be making.

Britain and the United States have moved as aggressively as any nation on the planet. You have enormous wind deployment, and we are increasingly going to be getting into that. We have set a target of 50% to 52% reductions by 2030, and you have set a target of 68% by 2030. The problem is that unless we get other major economies of the planet to do the same, we cannot achieve our goals. We are literally linked together in a global demand for action that is not yet being met by Governments around the world.

We are better off than we were when we started. We were heading towards 4° or 5° when people were not doing anything. In the COP—the

Conference of the Parties—meetings in Glasgow, Sharm el-Sheikh, Paris, Copenhagen and so on, we have moved the ball, but we are not yet approaching the levels that we need to be at. Let me just leave it there for the moment as an opening.

We do have the ability to win this battle. It is not out of reach. We are capable of doing this if we make the decisions that we know we need to make, and if we summon the energy, information and creativity that our economies and our societies are able to summon to a task when they need to. The covid vaccine is an example of that, as there have been many other examples at moments of history. But right now, we need to be doing more, and we need every element at the table.

I think more than 50% of your Government emissions in Britain come from military emissions—emissions associated with the entire complex of weapons production, vehicle production, aeroplane production and so forth. In America, it is the same thing. More than 50% of our Government emissions come from military activities. There is an enormous role here for the military to help us to meet this challenge, not just on the ground and in the deployment factors, but in the way in which we build our defences and deploy them.

Q205 **Chair:** Secretary Kerry, thank you very much indeed for your opening remarks. There is much to unpick, and it is very sobering indeed. I think the first question is whether the penny has dropped for this generation—not future generations, or the young generation—that this is the single biggest security challenge facing humanity, and that we need to work together. Would you agree that the turnaround to repair this is still measured in decades? Even if we did meet 1.5° straight away, we are going to go through a period where there is climate change.

If you do agree with that, let me ask you this. You seem still very positive; I remember listening to your Fulbright lecture at the end of 2022, where you still had faith in the world to come together and work together. But we see a G7 communiqué coming out showing different viewpoints on how to use fossil fuels. Is 1.5° becoming further out of reach, or is it still possible to do? You talk about the threat multipliers if we miss that target.

John Kerry: 1.5° is still possible, but you have to underline "possible" with an exclamation point. It is a very hard lift now. There are many scientists who are suggesting that we will go through the 1.5°, and then we will hopefully have the ability to claw back and come back to it after some future deployment of technologies and other changes that will take place. What is important is: why are we putting this at risk?

The fact is, we have been told by scientists what we need to do: achieve at least a minimum of 43% to 45% reduction by 2030. Can we do that? Yes, we could, but countries would have to make decisions that they are not making currently in order to transition faster off of coal, in order to deploy faster renewables that we know are technologies that work.

Let me give you an example: because of the Ukraine war—I am sure we will chat about that a bit—Germany has cut off all Russian gas. Germany is

now at about 50% deployment of renewables and is aiming for about 80% of total power production in their energy sector from renewable energy. That is a remarkable thing, and they believe it is absolutely achievable. So does the IEA. Fatih Birol, the director of the International Energy Agency, believes it is entirely possible for us if we were to adopt the practices that we are still avoiding, so there is time.

I will tell you why I am optimistic about the long-term possibility here: we as a species are really good at innovation. When really pressed, we tend to be pretty good at finding solutions to major problems—sometimes later than it should be, and with greater consequences than there had to be. I don't know what it is going to be, but I see unbelievable amounts of activity taking place in venture capital and amazing amounts of research at institutions in Britain, the United States and Europe. Our best universities and colleges and laboratories are working overtime at trying to find solutions. People are looking at direct air carbon capture. There is a lot more money going into storage and capture than there ever has been. There are big questions surrounding it. Is it affordable? Will it price out at a rate that is going to be competitive with other sources of energy and so forth? The marketplace is moving, Mr Chairman, and none of us can predict with certainty where that goes, but whether it is green hydrogen, ammonia or battery storage, there is capacity here for us to have major turnarounds that could come very quickly, because there is a greater seriousness of purpose in the exploratory and venture arena.

Chair: Secretary Kerry, thank you very much indeed. We are very conscious that you are the Special Envoy for climate change. We do not want to get you in trouble with your colleagues Tony Blinken or Lloyd Austin as we now wander into these other areas, so we know that you may have to caveat your comments as we probe into some of the deeper security implications of climate change. First, let's go to one of the continents where this is really having an impact. Robert Courts, would you like to take this further?

Q206 **Robert Courts:** Secretary Kerry, thank you very much indeed for your time in talking to us today and for that incredibly sobering and impactful opening statement. I was particularly struck by your comment that we are already seeing the impacts of climate change. What I wanted to ask you is: where in particular is that particularly acute now—Sudan springs to mind as an initial starter—and where would you see that list expanding to over the next 50 or so years?

John Kerry: It is going to expand to the entire planet. It is happening right now. I didn't share this with you in the opening part, but let me just share it with you. There are scientists today—I will quote one of them in particular: Johan Rockström from the Potsdam Institute in Berlin, where he is the director. He and some other scientists have proffered that we could well be at or past all or some of five tipping points right now. Those five tipping points are: number one, the coral reefs; number two, the Barents sea ice; and number three, the permafrost, which is particularly concerning for military operations, because as permafrost thaws in various places, the land begins to move and disrupt runways, airports and various

facilities. Buildings are cracking. You can go up in the northern part of Russia and other places and see the effects.

However, the greater damage is the release of methane in massive amounts, and methane is 20 to 80 times more destructive than carbon dioxide. With this release of methane that is occurring because of the permafrost thawing, who reverses the permafrost thawing? We don't know how; we don't have the power to do that, so that's a tipping point. That is something that you may find is irreversible.

However, the two most compelling tipping points are the Arctic and the Antarctic. Now, I went up to the Arctic and the Antarctic as Secretary of State. I visited both, listened to the scientists and stood on the ice sheet of the Arctic watching a torrential river flowing underneath the ice out into the ocean of melting ice. It was 70°F above normal in the Arctic last summer; it was 100°F above normal in the Antarctic. And you could see the disruption in the ice sheet just visibly as you fly over it, and vast amounts of it have been breaking off and going out to sea and melting.

I saw one fjord where 86 million metric tonnes of ice falls each day, calving into the ocean and then going out to melt. We are seeing a higher rate of sea level rise than was predicted earlier. And if the entire ice sheet over the next century or century and a half—a long period of time obviously, but within the lifetime of some people born now—you can see levels of disruption that are coming at us that we have no ability to do anything about, except adapt or build resilience.

That 86 million metric tonnes, folks, is enough water on a daily basis floating out into the ocean to supply the greater New York region, the greater Connecticut region and the greater New Jersey region—you know, a lot of people—with their water needs for an entire year.

Q207 **Robert Courts:** So it sounds very much as if we can see the most severe impacts in perhaps the hottest and warmest places in the world—at present, Africa. And we can see the initial effects of climate change in the colder regions. But the impacts in terms of the strategic environment—it's going to impact across the whole world. I mean, there is no corner of the world that will be safe.

John Kerry: Yes—that's a very good point. I'll just build on it slightly. In sub-Saharan Africa, you have 48 nation states that produce 0.55% of all the emissions of the world. Eighteen of the 25 most impacted places in the world are in Africa. So that's where you're going to have a massive impact. The entire food production capacity is at risk. It hasn't happened, it's not happening tomorrow, but it is at risk of imploding. And then you will have literally tens of millions of people on the move, banging on the door of Europe, or banging on some door where they think they can get in and have a better life.

In addition, there are 20 countries—the UK and the US among them—that are responsible for about 76% of all the emissions, so that's really where we have to get it right. Those 20 countries need to step up, because

unless they do, the rest of the world is really going to be suffering the consequences. And I think it's going to be an extraordinarily disrupted global community at that point in time.

Q208 **Robert Courts:** You mentioned, of course, the impact of food and grain on the most vulnerable countries already. And perhaps we've seen a foreshadowing of that already with the Ukrainian war and the supply of grain to African countries. Is that the sort of thing that you could expect to see more of?

John Kerry: Yes, absolutely; there's no question about it. Yesterday on the front page of *The New York Times*, there was a big photograph above the fold of the Mekong delta, with a huge expanse of rice paddies. And the rice crop is threatened there. It's threatened in south Asia; it's threatened in India. And that's a staple food for billions of people. So that is at risk. It's happening now.

It's partly happening because of the warming and the increased acidification. It is also happening because of irresponsible damming. The building of dams on the Mekong river, all the way from China down through Laos and Cambodia, has been out of any realm of reasonableness, without regard to downstream impacts. Of course, the Mekong delta is the final downstream destination.

Q209 **Chair:** Secretary Kerry, you mentioned 18 countries. Is Sudan one of those in Africa that you are concerned about? I ask that simply because there is a very live situation there. You and I first met, I think, when we tried to put the fire out in Yemen. There are so many patches of the world that the west has sort of wandered into—Afghanistan, Iraq, Somalia, Libya and so forth. Sudan seems to be a live example of where we could be doing a lot more to assist in stabilising that country before things get out of control, but the addition of climate change and what is happening in that country is going to really compound the challenges there if we do not lean into it.

John Kerry: It will compound them, but Sudan, South Sudan, Ethiopia, the entire area—the horn of Africa as a whole—is going to be enormously impacted, as will the Sahel. These are places that will be greatly affected. As I said, 10 million people a year die from extreme heat. In the last few days in India there have been millions of people sleeping outdoors in the hope of getting through the heat, because it is 30°C at night and we are seeing unheard of temperatures during the day. This is happening faster than a lot of people anticipated, and that is something that we really need to take note of.

Last summer in Europe, I think the Rhine river was down to inches in some places. Lake Powell and Lake Mead, which feed the Hoover dam electricity plant, were at record low levels—insufficient to produce the electricity. Water was insufficiently cool. It was too hot in France, so it was not able to cool the nuclear plants. You can start a long list of the impacts that are occurring today, which many scientists will tell you are bigger and faster in their happening than had been predicted.

Q210 **Chair:** Is it also fair to say that good governance, wise security or utility of the armed forces is going to be challenged in these countries where dictators or authoritarian states will be taking ever more extreme measures to look after themselves—to stay in power—rather than being able to handle these threats perhaps wisely and cognitively?

John Kerry: History is full of so-called leaders who find people and places to blame for their inability to provide for their people, or willingness to provide for their people. That is why the climate crisis is a threat multiplier. There was a book written a number of years ago—I think it is called "Water Wars"—that lays out the case. You already have conflict. You have tribes fighting over wells in various parts of the world. As the water patterns change significantly, leaders will fight to provide for their people. They have historically fought over various water bodies. I would not eliminate that as one of the risks that we face if we do not respond adequately.

Chair: Thank you very much indeed. Let's now turn to Ukraine and how the battle over food, oil supplies and things like that is impacting there.

Q211 **Robert Courts:** We have mentioned Ukraine briefly already in terms of the context of grain supply. I am particularly concerned about the security implications that we will see from the climate, and the trade conflict that comes after that. I wonder whether I could ask you as well about how we approach China. This is clearly a key country that we have to engage with in terms of reducing global emissions. It also has a massive strategic importance there in terms of exporting, capturing and processing vital materials, including things that go into our and your fighter aircraft.

John Kerry: Yes. China is critical to any solution, because China today accounts for about 30%—not quite 30% yet, but growing—of the percentage of world emissions. China is nearing 30%. We are around 10% and declining, and the EU as a whole is somewhere around 7%. Obviously you are no longer in the EU, but I do not know yours precisely; alone, your emissions don't reach the levels of those other countries.

China, even as it is building new coal plants, is also deploying more renewable capacity than any other country in the world. China is the largest manufacturer of that capacity of any place in the world. That is why China looms so large on both sides of this: we need China to be at the table, working in a co-operative way with us; and we need to work co-operatively with China.

We've got to find a way to deal with the climate crisis and separate it from the other issues that are of enormous concern to many people in the world. And there are a lot of them; it's not just some tiny little list. There is a list of items, from nuclear weapons to cyber-warfare, cyber-theft and the economy—you can run through the long list. That's not the challenge. The problem is that for a period of time—and right now—there has not been the level of communication that we had previously as we worked with China on this.

My hopes are—I know President Biden is very much hopeful—that there could be some thawing in the relationship. He's working at it. It is our hope that sometime in the next weeks there will be able to be some discussions that could begin to move us in a better direction. But the bottom line is that I mentioned 20 countries, and at the top of the list of those 20 countries are China, the United States, Russia, India, Indonesia, Brazil, Mexico and South Africa—a group of countries that have big economies and that are also major emitters. No country can solve this problem by itself. That is why we have had 27 meetings of the Conference of the Parties under the UN process, and why we are going to have the 28th in December in Dubai in the UAE. Our hope is that this one could go further than we've gone previously in pinning down the level of ambition we need for mitigation, because you cannot adapt your way out of this crisis. You've got to reduce the emissions.

Mr Chairman, you mentioned earlier the longevity issue here. These emissions stay active in the atmosphere until you take them out and do something with them. That requires direct capture, and right now we don't have that. We have the technology, but it is massive; it is very expensive, and bringing it to scale is exceedingly difficult. Even if we got to net zero by 2050, we would still have to suck a trillion tonnes of CO_2 out of the atmosphere. We face a monumental challenge here because the damage continues to be done no matter what. Again, I think we have the ability. If we apply ourselves and bring ourselves together in consortia and begin to work more intensively, that is our best shot at being able to do what we need to do.

Q212 **Gavin Robinson:** Mr Secretary, I think you are fairly indicating that President Biden has the aspiration of thawing relations and encouraging movement, particularly with China. You know that this is a global quest, but not all are equally committed to it. What more do you believe the United States or us or other developed nations can do to deal with the resentment that abounds in many of the countries that you have indicated within that top 20? They look on at the developed west with a level of resentment and say, "Well, you boys for generations have benefited from using fossil fuels and have grown economically." Some of the other countries in that 20 are saying, "We just want our opportunity to do that as well," and they are not as invested in the challenges associated with ever-increasing temperatures. Do you have a plan, rather than just thawing relations, to incentivise those countries to make that significant difference?

John Kerry: The best incentive of all is the fact that if we do not do it, every country in the world will be equally significantly impacted in existential ways. If existential choices do not motivate you, I am not sure anything will. It is really important to have a fact-based conversation here. Yes, Great Britain began the industrial revolution. The United States picked it up, as certainly did Europe and other countries throughout the 1900s. They developed their economies and went merrily along their way, filling the atmosphere with these fumes. Only a couple of times during that period did some visionary people venture to suggest that this could be a

very damaging process. The Swedish scientist Arrhenius in the late 1800s suggested it. In more modern times, Rachel Carson wrote about the potential damage being done. There have been others, but it really was not until 1988 when Jim Hansen, a NASA scientist, testified before the US Congress, saying, "The climate crisis is happening. It is here with us now." That is when Governments on a global basis began to concentrate and focus on it.

In 1992 we all came together in Rio and passed an agreement, which was voluntary, that we would address emissions and the climate crisis. Since then, we have had 27 meetings of those parties—the 28th coming now—and we have yet to pull the world together in an organised fashion that is guaranteed to get the job done.

My friends, even during those years, from the warning on, a lot of other countries have gone out and wilfully used coal, because that is all they had. The truth is that all those large countries have been responsible for doing things to their own climate and to the climate of the planet as a result of the ways they have chosen to propel their vehicles, heat their homes, light their factories and businesses and so on. That is it.

You are not going to gain anything by pointing fingers and saying, "You guys started in the 1800s." You can measure all the emissions between 1898 and 1900 and 1988 and they pale compared to the emissions that have been going into the atmosphere from 1992 until now, during the time we had an agreement to supposedly do something about this. I think we have to stop finger pointing and pull together. Countries that can do more need to do more. Countries that have an economy that can put money into this effort need to put money into the effort. People who have the technologies need to deploy them and come together and further develop technologies that are going to save us from ourselves.

Q213 **Chair:** Can I probe Gavin's question a bit further? I think it is very interesting to recognise how much of the relationship, or poor relationship, between the world's two superpowers is playing. You spoke about the importance of co-operation, but ultimately the relationships between the United States and China are not good. That came out when the Chinese balloon went down in February. It was reported that there were no back channels with China. Arguably, you are the best communicator with China. You go there on a regular basis with a very different agenda than most. Others are visiting Taiwan or speaking with authority because of China's military aggression—its growth, its assertion, its One Belt, One Road programme.

My question is: how much is this distorting our ability to nurture the type of relationship that we need to persuade China? I heard what Gavin has said before—Britain poisoned the world, and we had our industrial revolution; it is now China's time, and their timelines are very different to ours. They are saying 2060 or 2070 is when they will start to really move into a proper, carbon-neutral place, and of course Russia is then playing on that and pivoting over to sell its oil and gas, because there is no longer a western market because of Ukraine. You have Russia and China choosing

a very different avenue. Surely China must recognise that they are going to be as damaged and affected as the rest of the world if we keep going down this road.

John Kerry: Well, look, President Biden made it very clear at the very beginning of his Administration that the climate crisis was not like—and should not be treated like—the other issues between the United States and the west and China. For a long period of time, we separated it. It was able to be separated and we could go along a climate track, which we did fairly effectively, with some agreements as to what we would do, but before we could implement those agreements, other things interfered and made it more complicated.

I think President Biden very much wants to go forward. I have been talking with the Chinese by video conference in the last months. Regrettably, my counterpart, Xie Zhenhua, was sick for a period of time; he is much better now, and we are engaged in conversations. He has told me that the Chinese now believe it is important for them to separate the climate crisis from the other issues. The other issues are the bailiwick of Secretary of State Blinken, the President and the White House. I try to keep moving along as well as we can here to get progress on the climate front, because, yes, China knows it is going to be impacted. That is why they are deploying an extraordinary amount of renewable energy right now—way more than the rest of the world put together.

China is currently moving. We would obviously like them to do certain things that they have not yet done. We have talked about those, whether it is methane or a faster transition, but that is what we have to talk about; those are the kinds of things that are important to sit down and hash out. President Biden wants us to be able to do that sooner rather than later, and that is what he is working towards.

Q214 **Chair:** The challenge for you, though—is this something that you raised?—is that China's emissions are not coming down as fast as they should; they are still building coal-fired power stations. They are putting their own economy above the interests of the planet. How do we reconcile this? On the one side, they are making batteries and they are doing all those clean energy things and making turbines and so forth, but on the other side, they still are very much pursuing a China-first strategy.

John Kerry: Yes, they are, and I think that there are many other countries in the world doing the same thing. What we need to do is find the common interest and the ways in which we can actually work in an acceptable way in terms of co-operating to make certain things happen. That is what we agreed to do in Glasgow. We agreed that we were going to work on methane, and China agreed to put together a methane plan. That plan was shown to us in Sharm el-Sheikh, and they are working on the approval of it. It is one of the things we would like to talk with them about. In addition, they also agreed that they would try to work with us to accelerate the transition off coal.

I think there are many ways in which we could actually be helpful to each other in the exchange of information, and in the ways in which we might even be able to co-operate on the ground to accelerate the reduction of emissions, which we all benefit from. What we need to do is find the things that we can mutually agree could make a difference to both of us, without compromising other kinds of things that nations might not be willing to compromise. I hope that can happen.

I know—I say it again—that President Biden is committed to trying to move us to a better place in that dialogue. But there are some tough issues, and they're on a completely different track from the climate track, which is where they ought to be.

Q215 **Gavin Robinson:** Mr. Secretary, we've talked about some aspects of this impacting upon defence, including the potential for famine, mass migration and that a number of nation states may be impacted by friction and tension between themselves. This question is more particularly focussed on defence and the impact of climate change. I would be interested in your assessment as to the impact of climate change and the operability of Armed Forces, be it through extreme temperatures for personnel or for the effective mobility of equipment and ships and so on, and rising sea levels potentially impacting outposts and defence locations based overseas.

John Kerry: That is a very important question. We are already seeing impacts. In Norfolk, Virginia, for instance, they are making plans for how to deal with readiness in order to get the complement of a ship to be able to reach the ship in the event of an emergency where they may be cut off as a result of the rising sea level. I was briefed on this a number of years ago, as Secretary, from the admiral in charge of the east coast who was talking about the readiness impacts that the climate crisis presents.

Obviously, I just mentioned the permafrost changes and so forth. The Department of Defence right now has said that each year here in the States, they are seeing the consequences of increasing incidents of flooding, drought, wildfires and extreme weather events on military installations. In 2019 alone, the Department of Defence assessed that climate-related impacts to 79 different installations in every geographic combatant command area of responsibility were present, and they see these threats as only increasing.

There are many other ways in which the footprint of a particular deployment will have an impact. In 2021, the director of national intelligence released a new national intelligence estimate on climate change, which identified a list of countries of concern where analysts see overlapping fragility alongside climate vulnerability that would be worsening over the next decades. This has now been integrated into the preparatory measures taken by our military and NATO and others in various places.

I will be doing an event in a few weeks in Brussels with Frans Timmermans, vice-president of the European Commission, and Jens

Stoltenberg, the head of NATO, which will be focused specifically on the impacts of climate with respect to security and the measures that we need to take to respond.

Q216 **Robert Courts:** Secretary, climate change is of course a global issue, and we are clearly going to have to have a global response, as you have quite rightly touched on today. What greater co-operation should we be doing between ourselves—US and UK Armed Forces and wider NATO—to make sure we address these challenges at that larger level?

John Kerry: I think, sir, that there is a great deal of co-operation and communication—that has been forced, obviously, by Ukraine. Because I am not following it on a day-to-day basis—it is not my lane, so to speak—I cannot tell you all the refined particulars of one change or another that might make a difference. I think Jens Stoltenberg will clearly share that with us when we have our meeting in a couple of weeks.

In the meantime, I think a simple principle is that the more you can co-operate, the more you are sharing information, and the more you are welcoming together to augment capacity, the stronger you are going to be. I have been personally deeply impressed by the way NATO has come together. I think President Biden has provided very important leadership from day one. He came in after a period of time where NATO had been denigrated, criticised, attacked and neglected by an Administration, but now it is probably the strongest implemented alliance on the planet. Is there more that can be done? Yes, but let Jens Stoltenberg fill in those blanks.

Robert Courts: Thank you.

Q217 **Chair:** Secretary, you spoke earlier a little bit about food security and the challenges that that presents. I want to turn to a specific challenge that I think I may have raised with you in person when we met over the last couple of years since the Ukraine invasion. That challenge is the grain ships coming out of the port of Odesa. You are well aware how critical those grain ships are. We actually feel the consequence here in the UK, because of the cost of living crisis—as it is called here—with food inflation.

One fifth of the grain is getting out—that is all. As hardship increases in Africa because of climate change, should we not be doing more internationally to ensure that five fifths of the grain is able to get out? There is grain that is now caught up in silos, and there is grain yet to be taken from the fields and so forth. There is a massive backlog, simply because the UN deal has been scribed by Russia. The bully has determined the conditions for which those grain ships can get out.

That deal was written at a time when it looked like Odesa may even fall, because that was the way that the war was heading. Now you have national waters, and international waters, surely we could, perhaps through the UN General Assembly, turn Odesa into a humanitarian safe haven. It is needed for African and European food security too. Sorry—that was a long explanation. Is there not something more we could do to wrestle back the control and the movement of the grain ships coming out

of Ukraine?

John Kerry: Tobias, that is obviously a really central issue, which belongs in the United Nations and the Security Council—except the weakness of the Security Council has been exposed as a consequence of the vetoes that have taken place and its lack of capacity to summon what should normally be summoned. In the absence of that, the General Assembly and other things are the available tools.

Food, clearly, should not be used as a weapon of war. So says every declaration of decency since world war two, when we began to organise ourselves around a different set of values and principles, which have worked pretty effectively—notwithstanding breaches here and there. I think there should be more focus on Odesa and what might be the best way of protecting that channel. I am only putting the question back to you: might Odesa become a haven and protected for the purpose of being able to distribute the food, as was promised? I think that is an important principle to try to enforce. Again, it is not my job to be opining on which city or location ought to become what in this war. That is for others. But as a matter of broad principle, the food as a weapon component of this—much like using fuel as a weapon—is a very clear message to all of us.

If I might just quickly add this parenthetically, the fuel issue is critical for everybody to take note of. Gas and gas elements have been using Ukraine to push very hard on saying, "We're the clean entity. We're going to be the transitional fuel," but "transitional" has a very funny time period attached to it: 25, 30 or 40 years. Facilities are built out with that long payout horizon.

Obviously, unabated gas will become its own problem going forward, unless there are hard standards put in place about what the emissions capture will need to be. If you are replacing a coal plant, or an oil-based fired furnace of some kind, with gas, you are getting a momentary reduction in emissions of 30% to 50%, but after a certain number of years—20 or 30, certainly—that will have to be held accountable. You will have to reduce those emissions. Food, gas—those basic necessities—should not be used as weapons. Germany has made the most pronounced policy statement of all by moving completely away from it, and suggesting that there is an alternative future without it. It remains to be seen how that plays out.

Q218 **Chair:** Secretary, thank you for that. We visited Odesa, and the Mayor of Odesa is very keen to do this. I was in Kyiv only three or four weeks ago, and it is something that they would like to pursue as well. I appreciate that it is not necessarily directly in your remit. It is something that I spoke about to David Beasley, the former head of the World Food Programme. Thank you for introducing us to him; it was most welcome. He gave evidence to our Committee. He is a very lively character.

You have been cautiously optimistic; you have always caveated the concern about where we are going with 1.5°. You say, "We can do this; we can still turn this around," but we have had COP26, and COP27, which

seemed to be less successful. We will have COP28, which you have referred to, in Dubai. When in the next couple of years do we need to secure real change? When will even your optimism run out, and when will we need to face the reality of fundamental, seismic climate change?

John Kerry: I think we face that now. As I said, if you have five tipping points, and two of them involve the potential of literally multiple metres—double digits of metres—of sea-level rise, that is as good a definition of catastrophe as you can achieve. The reality is that is where we are headed unless we do more about this. Why do I have this measure of optimism about our capacity? Because this is within our capacity. We have the technology necessary to achieve our 2030 goal; we are just not deploying it rapidly enough, and we are not building the supply chain rapidly enough to deploy it, but if we did that, we could meet the goal; and during that period, another technology may come online that completely changes the modelling and the equation. I believe in that possibility very deeply.

There is another reason why I believe in that. When I started this job in 2021, we were headed towards 3.7° or so of warming, but the IEA has told us that if all the promises made in Glasgow and Sharm el-Sheikh were kept, we would be at 1.8° of warming by 2050, coming out of Glasgow; and coming out of Sharm el-Sheikh, we could be at 1.7° by 2050. That is if we implement. That says it can be done. That is only 0.2° off 1.5°. If we got the coal plants closing faster, shifted more rapidly to alternative sources of energy, and began to exploit other available possibilities ranging from small nuclear reactors to ammonia and green hydrogen, we could move faster.

One thing I have seen, which reinforces in me this possibility of getting the job done, is the fact that things are happening that were never measured by any other modelling. For instance, electric vehicles have taken off in ways that nobody predicted. We hoped, but nobody predicted, and the modelling did not show the rate of transition taking place in the electric vehicle market today. We could accelerate the deployment of electric buses. We are working on an effort to do that with India now, with some 12,000 buses. If we were able to accelerate the provision of some of the critical minerals that are necessary for their manufacture—if we were able to do more in the manufacturing—we could up our own deployment.

President Biden set a goal that by 2035, our power sector will be carbon-free, and new cars sold in our automobile sector will be 100% electric. That is the goal. Whether we can achieve it or not, I don't know. But in the effort to get there, we are seeing many things happening much faster than we anticipated, and they are proving that we still have that capacity for the unknown change to come to the table and carry us over the finish line. We have to keep pushing. One thing I know is that we are not doing what we know we could do with what is available to us now in technology. We are not doing that as fast as we could.

Chair: Secretary, our time is up. Thank you very much indeed. Your passion, vision, encouragement and leadership are clear to see. They were on display when you were over here at COP26, working with our climate

change president, Alok Sharma. I know you have been working very closely with Prince Charles, as he then was. Of course, he can't be so vocal on these matters any more. You have also been working with David Attenborough, and you have been leading voices on something that is—as I stressed at the beginning—the biggest single challenge that the globe faces. But time is running out, and we need to do more before global conditions escalate. The crisis is unfolding in slow motion, and we certainly need to do more about it, given the security implications that we have been studying here today. On behalf of the Committee, thank you for taking time out of your busy schedule. It is so much appreciated. Thank you to the staff and my colleagues as well. That brings the Committee hearing to a conclusion.