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**KAREN FOLEY:** Hi, and welcome back to the Student Hub Live. Right, in tonight's session, we're going to be talking about who's afraid of the big bad climate change. A very topical subject. And joining me in the studio are Simon Bell, who you may have recognised from earlier. Simon is interested in methods and ideas and innovation, anything that relates to change in technologies and climate change.

I asked Simon earlier what his favourite fear was, and he said, "Human potentially not being recognised. We don't recognise our potential to manage fear. We can manage it, but we don't." And then I asked him really what his favourite fear was, and he said zombies.

And I also have Stephen Peake joining us. And he leads lots of groups and has a think about climate change. So academic and business groups. And his favourite fear is running out of pine nuts. Welcome to the studio, gentlemen. Thank you for joining us.

And we have some widgets that we're going to be asking you about. So we'd like to ask you, when we talk about climate change, what do you fear? What is your favourite fear? So you can enter your answer or brief phrase in two or three words. If you don't have two or three words and you just have one, you can put an x for the other ones, and then it'll still populate.

We'd also like to know on a balance scale, do you feel that there is a manipulation by the media to help us ignore the consequences of climate change, yes or no? Do you think that fear of climate change is warranted, yes or no? And what are your favourite solutions to climate change? So these are some of the things we'll be talking about. So have a go at filling those in.

And joining us on the hot desk are Sophie and Kate to take all of your questions. How are you both?

**KATE:** Good. Thank you. I'm back now after Sophie was managing the hot desk for the quiz. Yeah, we're good.

And good job from everyone who's playing along at home.

**KAREN FOLEY:** Yes, they did well, didn't they again?

**SOPHIE:** We did really well. People are saying that I should actually get Jaffa cakes on behalf of the team. Just putting that forward.

**KAREN FOLEY:** Right. OK. We'll discuss that later. That's on my to-do list. I'm really sorry. I haven't had time to investigate the Jaffa cakes thing, but we will. I'm going to Google that later. In fact, can you guys Google that and get an answer on the cakes/biscuits-type thing? Yeah. We've got a lot to talk about right now. And that's one thing we could do with that.

OK, guys. Climate change is the ultimate problem we're facing, isn't it?

**SIMON BELL:** Some people would say so. To be honest, we don't really know. I mean, we've got a sense that there's something huge and worrying out there. And we've got a sense that we're not probably handling it terribly well. But because the markets keep on changing, the metrics keep changing, the information keeps changing, we're not really entirely sure. But it looks like it could be quite scary.

**STEPHEN PEAKE:** It's one of the top three that sort of get rolled out as - it's three minutes. The doomsday clock. It's three minutes to midnight and we're all doomed. So one of them would be nuclear war, the imminent threat of a global nuclear war. One of them would be climate change. And the other is sort of biosecurity. So it's one of the top three that we regularly worry about and fear about and get anxious about.

**SIMON BELL:** Artificial intelligence is coming along quite strongly as well.

**STEPHEN PEAKE:** Yeah.

**KAREN FOLEY:** OK. Well, let's just do climate change because this is really freaking me out.

But you know, I remember, like in the late 1990s, there were all these ideas. And people were making these predictions about when we would die, and when the polar ice caps would melt. And so like you say, people have been sort of, I guess, guesstimating what would happen and predicting things. But it hasn't always been right, has it?

**SIMON BELL:** 1978, I started my university life, I suppose, in undergraduate. And the text at the time was Paul Erlich's "Ecoscience." Great book. Massive book, huge book. And it was good science. This wasn't instinct. This wasn't knee jerk. This was properly thought out, best science of the

day. They even used computers, which is something else.

**KAREN FOLEY:** Innovative at the time.

**SIMON BELL:** Exactly. And there was lots of linear programming and planning going on. And it clearly showed that we were really doomed. I mean, and Paul went on to write a book about the population time bomb. And he predicted, well, we really shouldn't be here now.

The thing is he got it wrong. And there's nothing wrong with getting it wrong. We get it wrong all the time. But the problem was that really terrifying prospects were presented. And this is the nexus of the problem. How do we know when we've got it right? And how do we deal with the consequences of not being sure?

And probably, the worst way of dealing with the consequences of not being sure is to be fearful. And yet, that is the kind of alley we're pushed down all the time, by media and by the climate change folks themselves. They tend to try and terrify us all the time.

**KAREN FOLEY:** And they do.

**SIMON BELL:** And they do a pretty good job. Well, until people switch off.

**STEPHEN PEAKE:** To be fair, so have we got it wrong? We've been pretty hopeless historically at estimating when the proverbial is going to hit the fan.

**KAREN FOLEY:** Well, we're all still here.

**STEPHEN PEAKE:** We are all still here.

**SIMON BELL:** Some of - all right.

**STEPHEN PEAKE:** Most of us are still here. Not all species for sure are surviving and doing well and thriving.

I mean, a lot of the - so if we're talking about climate change and global warming specifically, as opposed to all the things we were worrying about in the '70s, then a lot of our - we can't be entirely certain when the Greenland ice shelf is going to collapse. We just can't be that certain.

But the idea that there's a lot more energy in the ocean, stored in the oceans, and this is undermining the Northern and the Southern ice cap, we're pretty sure about that. We just don't know when these events are actually going to unfold. So it's not that the doom-mongers are sort of, always wrong. It's that we can't be precise, or they cannot be precise at any one

moment in history about exactly when things are going to unfold in an irreversible way.

One of the things that has happened since the '70s is that generation upon generation of scientists and academics and policymakers have approached this problem by trying to share more and more and more science about the issues.

If you throw science at it, if we make TV programmes, and courses, and we show people the science, this alone - they'll look at it and they'll think, oh my god. That's terrible. I'm going to change my, I'm going to become a vegan. And I'm not going to fly. And I'm going to save energy. And I might not have as many children. And that hasn't really happened at all.

So the moment that we are in right now, in this sort of period of late capitalism, is where I think we're pretty fatigued and exhausted. We've got climate fatigue. You know, climate change fatigue -

**KAREN FOLEY:** Almost like we're immune to these ideas and these concepts. Because no one holds anyone accountable, do they, when they get it wrong? I mean, the people are making, like you say, these scientific arguments. All seems very sensible. Doesn't happen. You know, they're not given a personal improvement plan or anything like that. They can just get away with it.

**STEPHEN PEAKE:** Well, I have here in front of me the most scariest graphic that the Intergovernmental Panel on Climate Change has in its fifth assessment report.

**KAREN FOLEY:** With red. With high.

**STEPHEN PEAKE:** Yeah. Where it's red and even purple here means that this is very, very risky. There's lots of damage. There's a temperature scale at both sides. And it goes from about 0 to 5 degrees. And this is temperature increase from now, or on the other side, from the pre-industrial. They're slightly different. There's a 0.8 degrees differences.

What it's saying is that as the earth warms-- and this is designed to frighten the pants off us as policymakers. I've not really met anybody who gets particularly frightened by it. But this is as condensed as it can be.

And it says here that, look. Parts of the world, when you rise 1 or 2 degrees - it doesn't sound very much on average. But actually, if you're a tree, or a particular plant, or a particular species in a particular place, a glacier. You know, something that isn't even a non-living thing and you're melting rapidly. These are irreversible. They're big, localised damages.

Extreme weather events obviously start to - as the average temperature increases, then the likelihood of having more extreme weather events and more intense weather events increases.

This one, they call it distribution of impacts. This one is supposed to scare us. And what that means is that for a small degree of warming on the earth, like we're experiencing now, there are winners and losers. In some parts of the world, crops grow slightly better. Where there's available nutrients and water, it's actually slightly better.

But in other parts - semi-arid or arid places that are already dry, they might be getting drier. So it's even worse.

So it's actually not, climate change doesn't treat the population equally. It's a very uneven thing.

And then, the actual costs, overall when you add it up. When you say on the whole, are we better off in a warmer world?

Well, as we go up to 1, 2, 3 degrees, it starts to - nobody wins. And the aggregate costs are significant. We've got a pretty good idea about.

And then on this, this is perhaps the most scary one, the one that Hollywood likes to get involved in. They call them large-scale singular events, like the collapse of an ice sheet, or suddenly the death of the Amazon, or the switching off of the North Atlantic Oscillation. And you get icebergs growing where they shouldn't do and tsunamis happening. And of course, that's more Hollywood-esque. But that's a scientific depiction of what we think we know. And an honest way of trying to do it.

Well, as you say, it's part of the fear. It's the formal scientific way in which we try to say, look. Wake up. Wake up, everyone. We're sleepwalking into disaster.

**KAREN FOLEY:** I'd like to see what our widget said. Because we asked people about favourite fears. And when we talk about climate change, what is your favourite fear? So I'd like to ask about that.

But before we have a look at that widget, I'd like to also raise a question, which is about the ozone layer repairing. And ideas about this fluidity and change. Do you think that is decreasing people's fear?

**STEPHEN PEAKE:** That we've been successful in healing the ozone? Yes, I think there's always a group of people who, we could call them technological cornucopias. They have this great faith that capitalism, and technology, and general advancement of society and civilisation will drive us inexorably onwards to better things. Because of course, here we are, aren't we? We've survived this long. So why will it not happen in the future?

**KAREN FOLEY:** You don't believe them. Mm, I wonder.

**SIMON BELL:** At the same time - I mean, actually, to some extent these kind of graphics are trying to elicit that kind of reaction. Because the response is it cannot be that 7, 8 billion people will change behaviour. That's ridiculous.

So the idea is that there will be changes of behaviour among those who have the capacity to make large-scale improvements or changes because they'll be worried or disrupted by this particular kind of information. So in a sense, that's the kind of thing we're looking for.

We're looking for large, technical changes. Changes of behaviour which will result in something improving.

And the doubters can say, look, we can do it. We did it. And where's acid rain now they might say as well. There's various things they might point to and say, look. When we set our minds to it, we can make changes. Just give us the right information. Don't try and terrify us. And maybe we can do something about it.

**STEPHEN PEAKE:** The specific question of healing the hole in the ozone layer was a very particular story about some very specific chemicals where we could replace one nasty chemical with a more benign one.

**SIMON BELL:** Still nasty.

**STEPHEN PEAKE:** That had different -

**SIMON BELL:** Hydrocarbons.

**STEPHEN PEAKE:** Yeah, that had different effects. One that didn't eat the ozone layer, but did contribute to global warming. So it's a little bit complicated. And we could control a certain number of producers of these CFCs in the world. And we could have an agreement. And it's a very successful international agreement. It shows what we can do when we get -

**SIMON BELL:** The Montreal Agreement.

**STEPHEN PEAKE:** - together. The Montreal Agreement. But climate is not the same. I mean, there are many more gases. Just carbon dioxide and some other; methane, nitrous oxide, some exotic industrial gases. They come from not just burning fossil fuels. From farming, from forests, from processes involving humans directly/indirectly. It's a much more complicated problem.

So to just say, I don't need to do anything because those clever people, they'll -

**KAREN FOLEY:** Sort it out.

**STEPHEN PEAKE:** They'll sort it out. I think that's quite naive, actually.

**KAREN FOLEY:** OK. Let's look at this idea of fears. Because I asked you guys what your favourite fear was. And we've asked our audience as well. And I'd like to take a look at what they've said.

And also, deal with this concept of favourite fears. Because fear is a driving factor. It was a point that you made, Simon. So let's see what the audience said in terms of favourite fears.

OK, people have been watching films, I think. So damage to the house, population displaced, hot weather, animals extinction, the sun, not being informed, lack of England, rising sea levels, death, ignorance, unstoppable. OK. No one being ready. So there is very much, I guess, the sense that one might expect when you're seeing some of these blockbusters, which I guess do tap into these ideas.

What are your opinions about what people have said about those favourite fears? What value and what use are they?

**SIMON BELL:** Interesting to see that death is there. I mean-

**KAREN FOLEY:** You don't think that's reasonable?

**SIMON BELL:** No. Very instinct. Because it's the background. It's the background to human life.

We're self-conscious beings. We all know that we're going to die. And we all know that we don't know what's going to happen next. And Becker wrote about this and talked about this and said, basically, the foundation of our civilisation is that to stop worrying about death and what's going to happen next, we build ourselves fictions. We have fictions, like the Open University. It's a fiction. We build stories, which we all adhere to and carry on with, so we don't

have to worry about existential fear.

So when you get something like climate change, you're tapping into something very, very deep in our consciousness. And if you really hammer at it and play at it, you're getting right down to the bedrock of what it is to be human.

And you're playing with things that you don't, and this is one of my concerns. Irrespective of the science, irrespective of the technocrats, irrespective of what we can do, it's irresponsible to play with the deep nature of human beings.

Because if you stir that up at a very, very subliminal level, and at a massive scale level, you don't know where that's going to go. And we've got evidence recently. If you stir people up in all kinds of ways, voting behaviours about European Union, all kinds of things, people behave in very curious ways that we cannot predict.

We play with fire when we play with fear.

**STEPHEN PEAKE:** It's interesting, actually, because we do seem to be on the cusp of a kind of new reframing of climate. And so you can talk about risk, climate risk. The risk society. General risks that we face. I was noting these down.

And we could talk about crises. We've framed it as crises. And the sort of fear industry. But it's on the cusp of moving into climate terror. There's sort of the military industrial complex. So these kind of diagrams mean very little to people who-- even if you're an academic and engaged in it, actually they're pretty poor at communicating the risks that we face.

They're a good attempt, but we're not really going to get them.

**SIMON BELL:** I'd say they're a rubbish attempt.

**STEPHEN PEAKE:** The insurance industry and the reinsurance industry and the banks, they do get this because they've got the people, and the time, and the ability to digest and understand and try to make - try to see how those risks will impact them.

**KAREN FOLEY:** That's a different area, isn't it? Like you say, it's about analysing risk and about assessing that as opposed to the fear.

Let's go to the hot desk and see what you guys are talking about. I hear that Robert Fleming has been with us since 10:30 this morning. Well done, Robert. Remember, you can take a



break. And I do think that deserves a medal.

We might post you something, Robert. If you send us your email address to [studenthub@open.ac.uk](mailto:studenthub@open.ac.uk), we'll all sign something in the studio and get that back to you. Well done. Very loyal.

How's it all going? What are you guys talking about?

**SOPHIE:** The chat's gone a little bit mad. Everyone is loving this conversation. They're really enjoying the chat that's going on. We've had quite a lot of questions in.

One from, I think it was Sylvia, who's asked if there's any OpenLearn or FutureLearn courses about the environment, or anything on climate change that she can look into?

**STEPHEN PEAKE:** There are a good number. If you just put climate into Open and you'll see lots and lots of units.

**SIMON BELL:** Or, indeed environmental management.

**STEPHEN PEAKE:** Yep.

**SOPHIE:** I will send out the FutureLearn web address soon. We also had another question from a few other people. What are the day-to-day things that people can do?

For example, Amy has her computer on quite a lot. Obviously, doing her assignments and things like that. Is there anything that she can do, maybe to help in other ways? Just daily things.

**STEPHEN PEAKE:** Diet's very important. And it's something that we just sort of getting around to talking about. But having a meat-free day a week is a very good idea. That's just as useful as getting on your bicycle and not using a car or using public transport.

**SIMON BELL:** OK, that's true. And there's practical things you can do like that. But another very practical thing you can do is just think. Is just when you see these panicky headlines in the press, or when you see - look at the information you're receiving and wonder why it's coming to you the way it's coming to you.

Consider what it's trying to do. It's trying to evoke some kind of a knee-jerk response. Count to three. Think about what you're getting. Think about who is sending the message and what they're looking to try and achieve. And quite often, the worrisome response is the last one you

want.

**SOPHIE:** Great. Thank you. I know that we've got just a couple more. There's a lot of questions going on.

**KATE:** Yeah, there have been a lot of questions. It's interesting that you mention diet, because we also had some conversations about whether a vegan diet was good for climate change.

**KAREN FOLEY:** Is HJ back in the chat?

**KATE:** No, HJ is not in the chat at the moment. And we've also had a bit of an interesting discussion about electric cars, and whether or not they're good or bad for the environment. So I don't know if the panel have any thoughts on these?

**SIMON BELL:** Well, again, this is very, very interesting, actually. Because it depends on where you get your electricity from.

So if you've got a nice, low-carbon source of energy, then those electric cars are really good news. But if you're burning and fracking and doing all kinds of other things to get the energy, then they're probably still good news in some ways, but it's more difficult to actually, a more nuanced response. So an electric car is not a great thing in itself.

If it's part of an overall systemic package, if we can think of it as a whole - if it's the transport end of an energy policy, and that all holds together, then it's a great thing. It can be a great thing.

**KAREN FOLEY:** So you never get a straight answer when you deal with academics. I'll give you some straight answers. We asked our audience.

**STEPHEN PEAKE:** I like Simon's. The answer is to think.

**SIMON BELL:** I try so hard.

**STEPHEN PEAKE:** Is to think. I love it.

**SIMON BELL:** Wasn't that a straight answer.

**STEPHEN PEAKE:** And while you're thinking, presumably you're sitting and you're thinking so hard, you're not actually doing anything else. You're not consuming anything else. So it is good, just sit and think. I love it.

**SIMON BELL:** Just think of the energy that would save.

**KAREN FOLEY:** Let's do some yes and no's, right? OK. So we asked our audience, do you feel there was a manipulation by the media to help us ignore the consequences of climate change? Now, a lot of them said yes. So what role is the media playing then in terms of how we're managing this?

You've mentioned various things like scaremongering, portrayal of the statistics, et cetera.

What is your view on the media and how this is all being managed?

**STEPHEN PEAKE:** Well, the media has an absolutely vital role in communicating.

**KAREN FOLEY:** Are we the media, by the way?

**STEPHEN PEAKE:** Yeah. Where higher education starts to narrowcast or broadcast. We've got larger audiences, larger number of students. Yes, in that sense we're part of it. And there's an enormous responsibility for the media to try and represent this story in relation to the whole balance of stories that we face in a balanced and independent way.

And generally, I think these days they do that remarkably well actually. But that's how we, we're very much affected by what we read and hear and see in the media. And so it's critical.

If a journalist goes on and says, on the one hand, on the other. You get one climate denier to say, this person says it isn't true and one climate scientist says it is, then the lay person is left thinking, well, there's a big disagreement about this. And actually, the scientific community is more like 97% of scientists say it's warming. And 1, 2, or 3 that disagree. And so it's very easy to come away and not understand the reality. Or, closer to what we'd call the truth of our consensus around climate. So it's really important.

**SIMON BELL:** There's lots of levels to this. I mean, there's the sharp end of the stick, which is people say there's a conspiracy going on and the media do not have clean hands on this and they have particular agendas which they're running. That's one story.

Then, there's the other part -

**STEPHEN PEAKE:** Some journalists do. I mean, individual journalists do.

**SIMON BELL:** Then, if you look at what a journalist does, increasingly, if you like, what some academics do as well is we game ideas. And we have theatre. This is also theatre.

**KAREN FOLEY:** Well, exactly. And everyone's approaching something from an individual perspective.

**SIMON BELL:** And we're trying to tell stories. And if you want to tell a story, you don't want to tell a boring story. You want to tell an exciting story and a gripping story.

**STEPHEN PEAKE:** The world is going to end.

**SIMON BELL:** Is it?

**STEPHEN PEAKE:** Did you not know? I thought that's why we were here.

**SIMON BELL:** Oh.

**KAREN FOLEY:** Well, this session is going to end soon. And we asked our audience whether they think their fear of climate change is warranted. So they're all watching all of this going on, and most of them have said yes.

**SIMON BELL:** Yes. Well, that's a good answer.

**KAREN FOLEY:** Do you think?

**STEPHEN PEAKE:** But it's not the destination. And I think that's what this project is, that's what you're about, isn't it? Which is why we kind of hooked up to do this.

Fear on its own is not really a good motivator. Where am I going to go with that? OK, I read "The Guardian." On the one hand, on the other, I've understood. I'm open. I realised that my consumption is causing this terrible thing to happen. I've done the best I can. And I just feel rotten.

**SIMON BELL:** Yes.

**STEPHEN PEAKE:** That's not a basis for optimism, or hope, or humanity.

**SIMON BELL:** But there are things that can be done. And for example, it is to start to gather around the idea of how we deal with this.

First of all, know it. Know there is something called fear. And know that fear is something which is manipulated and played. And it's played quite consciously by different actors for different reasons. And both ends of the spectrum play it for different reasons. And they use it, though, for the same purpose, which is to try and herd people into certain kinds of knee-jerk

reaction.

**KAREN FOLEY:** So your argument then, Simon, is that fear is being used with real effect to effectively just scare people and achieve nothing, but that there are solutions? And I've asked you for some of those. And I'd like to see what the audience say their favourite solutions are. Because you know, this whole point, I guess, that Kate and Sophie were making about, what can we do about it personally. And you say have a meat-free day.

But the things that we talked about earlier, starting with individual and working out. And avoiding the temptation to knee jerk and rationalise. Don't be daunted by complex things. Collectively use brainpower to come up with solutions and don't think yourself as out of play.

So there is this whole sense of, how much power do we really have? And I'd like to see what solutions people have as their favourites. And see what we can do about it.

Because if there is this fear and if there is this threat, there must be something we can do. And yet, there is the sense of feeling quite out of control, which I think is playing into the idea of fear, isn't it? Let's see what people said. What is your favourite fear?

OK. What are your favourite solutions, sorry. OK. So renewable energy coming up very highly there. Planting more trees. So a lot of active things. Streetlights off, biofuel, emission regulations, less meat and fish, cutting carbon, reducing waste, wind power. These are quite common. And again, very media-orientated ways of which we try and get individuals to reduce their carbon footprint.

What do you think in terms of what people are saying about that? Is this the media's action on the individual, or are these real solutions?

**SIMON BELL:** Some of these responses are very good ideas. They are not solutions. I think if we were to look back on this particular period in about 50, 100 years time, we would see that we're on the cusp of a global society. And we're starting to think as creatures in a global nature about our reality. And we're starting to consider ourselves as individuals within something of global nature. And that's a very big shift of consciousness for people.

In that shift, we're starting to get the point that what we do individually matters, but what we do collectively is more important. And we're reconfiguring our collective action. There's no doubt about that.

Look at the political movements all over the world. We are reconfiguring how we're thinking collectively. And this is part of it.

Now, this is a big spur. This is a big indictment or a big inducement to start thinking collectively. And to start to bring ourselves to bear on big matters like climate change in a collective manner. The past collectives have failed. Either they have been insubstantial or they've just been erroneous. We need new civics. We need new forms to move forward.

**KAREN FOLEY:** What we need is a whole day of discussing this, and we don't have time. So Stephen, I'd like to have a last word from you, please.

**STEPHEN PEAKE:** On one of the favourite fears, on the screen with favourite fears, I think somebody missed. They meant to put heat wave. And what they put there was heart wave. And I stating what Simon said at a slightly different way is that we're beginning to behave and feel and know and be in a sort of more global way. And that's heart waves. Actually, heart waves.

We need to get in touch with our humanity as we try to deal with all these multiple interacting problems around water, food, population, climate. They're all interconnected. And I think I'm optimistic, like Simon is, that we're actually on the cusp of being able to do that.

So you know, the solutions are to stay in touch with your humanity. Don't just buy a copy of "The Guardian" and change your light bulbs and slam the front door and get a bottle of Pinot Grigio out and say the world is going to end. That's not going to help anyone.

**KAREN FOLEY:** Good. Well, I'm glad we've got some answers with that. See? Very, very simple. And we thought it was such a complicated subject. Simon and Stephen, thank you so much for joining us today. That has been a really interesting discussion.

As Sophie said, we've got some links that we're going to have. And there are some links on the Resources page of the website to some of the environmental science modules and qualifications that you can have a look at if you would like to know more about this.

So next up, we're going to have a science session. We're going to be looking at planets and moons. And I'm going to have Suzanne Schwenzer, Simon Kelly, and Dave Rothery joining me to talk about the three M's - Moon, Mercury, and Mars.

But before that, let's show you a video all about the Moon. We'll be back very soon. See you then.

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