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WHAT COMES AFTER THE IPCC'S SIXTH ASSESSMENT REPORT?

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P R O C E E D I N G S

MS. KAPLAN: Hi, everyone and welcome to the Brookings panel on what comes next after the IPCC's sixth assessment report. We've got a really wonderful panel of five experts on climate and climate policy and politics. And it's going to be hopefully a really interesting and illuminating conversation.

Just a reminder that you can submit questions to ask our panelist during the Q&A via Twitter by tweeting at @BrookingsGov by using #IPCCReport or emailing events@brookings.edu. And I'll just leave it to our panelists to introduce themselves starting with Amar.

MR. BHATTACHARYA: Thank you very much, Sarah. So my name is Amar Bhattacharya. I'm a senior fellow at the Center for Sustainable Development in the Global Economy and Development program at Brookings. I'm also a visiting professor in practice at the Grantham Research Institute of Climate Change and I'm a colleague on Finance of the New Climate Economy.

So with all of those hats, I am very much focused on the nexus between climate and development, on how we can turn the threat of climate change into the global opportunity for the 21st century.

MS. KAPLAN: So I think next will be Barry if we're going alphabetically. Barry, we need you to unmute yourself.

MR. RABE: To repeat. Sarah, thank you. My name is Barry Rabe, I'm a political scientist, a professor of public policy at the Gerald Ford School of Public Policy at the University of Michigan. I'm also a nonresident senior fellow in Governance Studies at Brookings.

My work has studied a range of climate politics and policy issues in the last two decades. Issues of federalism, political feasibility of different policy tools like carbon

pricing. And more recently looking at the politics of short-lived climate pollutants as opposed to carbon dioxide. Thanks.

MS. KAPLAN: All right. Dana, you're up next.

MS. FISHER: Thanks, Sarah. Hi, everybody. My name is Dana Fisher and I'm a professor of sociology at the University of Maryland. I too am a nonresident senior fellow in the Governance Department at Brookings. I've been studying climate policymaking at the International as well as the federal in United States for over 20 years now.

I've written about a number of different issues having to do with multilevel governance and I focus a lot of my time recently on climate activism. I was a contributing author to the IPCC Working Group Three report that came out two weeks ago today, I believe. I'm currently working on my next book which is called, *Saving Ourselves from Climate Shocks to Climate Action*, which will revisit all of these issues that I have been studying over the year.

MS. KAPLAN: Yeah. Do you want to go ahead, Elaine?

MS. KAMARCK: Okay. I was waiting for you to call on me. So I'm Elaine Kamarck. I'm a senior fellow and at the Brookings Institution and the founder of the Center for Effective Public Management. I have worked for Al Gore for a long time, but that doesn't make me nearly the expert that the other people are on this panel.

On the other hand, I do study American politics rather intently and American government. And I've written and thought a lot about the politics of climate change and am looking forward to the discussion.

MR. BOYKOFF: And I will jump in. I'm Max Boykoff, the professor and chair at the University of Colorado, Boulder in the Environmental Studies Department where I'm currently our department chair too. And then I'm also a fellow in the Cooperative Institute for Research in Environmental Sciences or CIRES, which is the Cooperative

Institute here at the university in association with the National Oceanic and Atmospheric Administration.

In real broad terms, I do a lot of work that looks at how formal science and policy find meaning in people's everyday lives and how that then feeds back into those more formal processes. Along with Dana, I was a contributing author to this third working group report. And I guess to finish, I'll just say that I am not associated with Brookings so I'm a free agent. I'm just going to -- I'm not constrained -- no, I'm just kidding. But yeah, I'm really happy to be here among these fantastic folks. Thank you.

MS. KAPLAN: Yeah. So I mean I guess to start us off, probably most of you in the audience already know that the IPCC or the Intergovernmental Panel on Climate Change is this coalition of hundreds of scientists that every six or seven years put out these assessment reports so of informing policymakers and governments on the state of climate science.

And there are a couple of different working groups went into sort of understanding the physical science of climate change. The second group looked at impacts and the need for adaptation. And the third group, the group that both Dana and Max were a part of looks at mitigation. How we start getting those greenhouse gas emissions down to zero and tackling this problem.

And these reports that have come out over the past eight months have been very striking and sobering. I have covered all three of them, which meant reading roughly 10,000 pages. But I'm curious from each of you maybe we can start off by just talking about sort of what is the collective message of these reports from the three IPCC working groups? Like where do we stand? What kind of trouble is the world in? And also, what are the possible paths ahead? I mean we can start with Amar.

MR. BHATTACHARYA: Yeah. So I think, you know, the three reports stack

up rather nicely. The first report basically says the science is ever more clear that climate change is happening. Happening more rapidly than we had thought. It's happening because of human activity and that we are fast approaching a point where if we don't act and act very aggressively, we will be in serious trouble.

The second report basically says that there are actually solutions at hand that we can follow. And many solutions are beginning to produce results in terms of adaptation and resilience, but the actual response to date is very uneven and there is even maladaptation taking place. So we need to, in some sense, get our ducks in a row as far as adapting to climate change.

And the third one, which is really where I focus quite a lot in my work. Is that there are tremendous possibilities now in actually mitigating climate change and acting rapidly. The report lays out a whole host of solutions, but they are comprehensive. They will require fundamental changes in the way we operate and they will require fundamental changes in international cooperation.

And that is, in my view, the essence of not just the science but the politics and the economies of climate change where we need to put our focus right now.

MS. KAPLAN: Yeah. Max and Dana, you both worked on this third working group report which definitely is probably going to form a lot of our conversation today. Yeah, what is sort of your takeaway from that report and the previous two? And sort of how they all match together?

MR. BOYKOFF: Dana, would you like me to start or follow?

MS. FISHER: Why don't you go first, Max? And then I'll go.

MR. BOYKOFF: Okay. Yeah, I mean coming out of -- focusing in on this third working group report, I'll just say that it became very clear through the technical summary that really was the voice of authors that politics and status quo interests along with

a lack of adequate funding. So not science, not technology are now the primary barriers to meeting our targets.

And, you know, there's bold statements within this report about policy shortcomings in terms of failures in leadership, but then also remaining possibilities and potentially significant solutions at hand. So it is very direct. It is very unequivocal that there needs to be policies put in place at scale to address this intersectional set of challenges.

And I think this report was very clear and direct especially when you get into the full report that I apologize, Sarah, that you had to read the whole thing.

MS. FISHER: Well, I would just add to what's already been said. I mean I think that there's no question that there's a very clear message in a report as, you know, a sum of all the three working groups that climate change is real for anybody who is still challenging that. And moreover, that it's becoming much more of a danger to society. And that we're going to need to respond in some sort of meaningful way.

I think adaptation and mitigation probably both is going to be necessary. I think that within our working group, I think that the most notable contribution this time around, in my opinion, is the fact that finally there's a little more attention to understanding the dynamics of these entrenched interests, which the report talks about as vested interest.

And the degree to which their access to power is playing a large role in climate inaction and keeping the world from moving forward and putting ourselves on a path towards something that will keep us below at least two degrees Celsius change.

MS. KAPLAN: Yeah. Barry and Elaine, maybe as people who are in sort of this world of understanding policy and politics, what was your takeaway from that discussion of sort of the role of entrenched interests and the need to address that as a primary obstacle to mitigating climate change?

MR. RABE: Sure. You know, it really is staggering to read the reports and

see how much progress has been made in key technological areas. And just how many policy options are available for government, other players and forces at the local scale, but also globally.

And yet, underscoring all of this is the P word of politics, political feasibility to adapt strategies and to sustain that political support through different stages of implementation. And that really remains a large, large challenge. Just quickly going back to your point, Dana, this question of entrenched interest.

Whether we're talking about the energy sector, the agricultural and livestock sectors become an enormous issue and challenge certainly in the United States. But for every other government around the world that's going to have to be dealing with this. And hopefully, at some point coordinating their efforts. So to me it's this underlying political feasibility question that just is a huge takeaway message with lots of questions.

MS. KAMARCK: I would add to that and also change the focus a little bit because I think the entrenched interests are certainly a big piece of this. But I want to focus on the public itself and the public's lack of prioritizing climate change.

And to do that, and I'll talk more about this later in the hour. To do that I want to start with a joke that was told on Saturday Night Live right after -- in October of 2018 right after the last round of IPCC reports came out. And Colin Jost said the following. We really don't worry about climate change because it's too overwhelming and we're already in too deep. It's like if you owe your bookie a $1,000, you're like, okay. I've got to pay this dude back. But if owe your bookie $1 million, you're like I guess I'm just going to die.

And that kind of -- I've cut that joke. I've put it in the beginning of a paper I wrote on this. It kind of summarizes where the public is on this. While the number of climate deniers has undoubtedly gone down. Certainly, the younger generation is very involved with climate change. The fact of the matter is this is not a number one issue. And until it is

you're not going to have the kind of political clout behind it that you need to make non-incremental changes.

And so, I'll stop there, but we can come back to this in a bit.

MS. KAPLAN: A joke is really depressing.

MS. KAMARCK: Right. Exactly. And, you know, he told it in a way that was both funny and really depressing. He clearly thought it was really depressing.

MS. KAPLAN: Yeah. I saw someone post -- I don't remember which newspaper it was, but a paper had their coverage of the working group report. You know, not on the front page. And at the bottom of the A section underneath, you know, all of the -- or on the bottom of the front page underneath all the other news that was going on about Ukraine and the Supreme Court confirmation hearings was a little thing that say like, Planet Rapidly Heading towards Disaster read more on page ten or something.

So I mean it is as a member of the media, I can -- I think there's a role that journalists have played in setting the agenda also. But that actually sort of segues really nicely into the chapter that both Max and Dana worked on in the working group three report, which was about national and subnational policies and institutions and the role of activism and also, you know, other nongovernmental actors and these best interests that we've been mentioning.

And I'm curious sort of both, you know, what was your experience working on that chapter? To what extent do you think it represented a departure from previous IPCC reports? And, you know, what were the findings? Like what was the takeaway from that section? And maybe we'll start with Dana this time.

MS. FISHER: Right. That's a great question. So basically, I should just start by saying, I was a contributing author to the chapter. So a contributing author is the lowest level of author, which means that we're invited to come in to fill a need in terms of

research that needs to be reviewed and discussed within the chapter where there isn't known expertise amongst the leadership of the chapter.

And I was specifically asked to come in to add a new section specifically thinking about the role of civic engagement and civic activism as part of mitigating climate change. And this was, you know, in the wake of Fridays for Future and the climate strikes. There was this question of the degree to which climate activism was playing a role.

I did also just as a side note, bring in -- so I'm working from a policy actor perspective. So my work was actually put into this section that was about the different actors that play a role in determining policy outcomes in terms of mitigation. And so, you know, that's both the state as well as businesses as well as civic actors, scientists, the media was also put in there.

And the structure, of course, changed quite a bit, but I would just say that the way that it works is that we were asked -- and maybe Max's experience was different. But we were asked to do this. And it was wonderful to hear that the IPCC was finally adding this section to think about the role that citizens play. Not just as consumers of climate information and as those that have public opinion. But actually, as actors who may push forward mitigation efforts.

And, you know, I was tasked because as you know the IPCC's goal is to do a review of the (inaudible) literature. So I was sent out to review all the literature. I work in this area so that was the reason I was tasked with this. But what was I guess is I started out writing it and because, you know, we in the social sciences frequently are looking at policy outcome when we look at our work, right?

So the goal is to measure, you know, if climate activism or engagement on a specific issue plays a role in passing a bill? Or overturning something? Or changing an election, right? But in this case, I was specifically focused or told I had to focus on the

literature that explains climate outcome in terms of emissions. And there's very little research there. So it was somewhat frustrating for me because we in my world, in the social sciences don't frequently ask this question.

So there was not as much literature there as I would like there to be. And so, what I found was that I collected together the work that was there as well as those who talk about the ways that this may work. But then what I ended up with was this, you know, this call for the fact that we really need to do more research on this to understand the way that activism, which absolutely plays a role in pressuring governments, pressuring businesses. In playing a role in electoral change to understand that how that may very well lead to climate action.

And climate action in terms of emissions changes because we don't measure the civic part very well nor do we measure the climate change very well when we're talking about these kinds of efforts that citizens might do. And so, that's been one of the big challenges that I feel like I'm going to spend the next few years trying to overcome in my work.

MS. KAPLAN: Do you think that's possible to draw a line sort of a scientifically rigorous line from a protest in the streets to greenhouse gases in the atmosphere?

MS. FISHER: Well, that's a very good question, Sarah. I think -- okay, so first of all, there is some interesting correlation analyses that look at the number of people who are in the streets and then state bills that have passed specifically that have to do with climate. Or overturning, you know, clean energy reforms in certain places.

So there are some of those. They're relatively simplistic. I think we need to do a lot better. The place that I think we can do the best is actually when we try to understand the kind of civic activities that people take that's not protesting in the street.

Protesting in the street was going to be -- is going to be tough. I think that we can try to do it, but, you know, for example, you take a diesel bus down at D.C. to protest and then, you know, and you camp out. And then you get back on a bus to go back is the question of how much it really stop, you know, reducing your carbon footprint while you've got all these fumes, et cetera, happening. There's a lot that has to go into understanding that.

But what I've been looking at a lot recently is thinking about the work that a lot of the different core that are involved in stewardship. And, you know, the idea that these core which might actually eventually work as a civilian kind of core. The kind of work that they're doing in communities where they're training people to plant trees. To install solar panels and to do other work like that. Weatherize houses, implement certain efficiency standards.

In those ways, we can do a much better job. And so, I'm going to go with the low hanging fruit for now. I would try to figure that out because I think that it's possible to do it. But I mean whenever we do this kind of large-scale analyses, this quantification becomes really fuzzy.

I would just say that it's no less fuzzy than trying to model out how, you know, dust in the Sahara is going to affect the hurricane season, which is so much money has gone into doing that kind of work, which plays an important role in climate change by the way.

MS. KAPLAN: Barry.

MR. BOYKOFF: Well, in terms of my role. I similarly was a contributing author. I was brought in to talk mainly about media. And so, Sarah, to your earlier comment, it's absolutely true that media play a big role in shaping public conversation and policy priorities.

And, you know, very few people are picking up the peer review literature that Dana and I were sifting through to provide our text into the documents. I mean all together there were 18,000 scientific papers that were taken on board peer review papers in order to produce this report.

And so, I've written a fair about media. I think it's important to examine different elements of media representational practices and how that influences our attitudes, our intentions, our beliefs, our behaviors. And even more than that, the formal deliberations within scientific priorities and policy action. So I was able to not only, you know, enter into this through my own work, but then also review and bring in -- it's a burgeoning area of study and I'm really happy about that.

So in writing about that though, I also wrote in some parts about the influence of controlling counter movements because they have sought to influence the way in which media represents climate change. And they have sought to do that in order to delay policy action, to divert attention away from the urgent action that's needed.

And so, I do think the chapter that we worked on together, Dana and me, we were brought in, I think, by some really visionary lead authors that had seen that this was not included in the past and it was a big -- what we were talking about here were blind spots. And so, Novrodubrosh (phonetic) and Katherine Mitchell had invited us in. And, you know, they had really actually been pushing for some of this language to make it into the summary for policymakers. It did not. But it successfully is within the technical summary and is within the full report.

And that's an important step forward. So to that part of your question, Sarah. I think this is a really advance of the way in which the IPCC are walking that tight rope of policy relevant, but not policy prescriptive. But then also bringing in the full array of influences that shape the ways in which we frame and consider and talk about, think about

the changing climate and the way that we take action in the face of those changes.

MS. KAPLAN: And I'm going to ask, Max, if what your thoughts are? And this is partly for my own benefit as I try to do a good job of being a climate journalist.

You know, what is the biggest shortcoming that you see in the sort of public conversation about climate change right now? Or, you know, the way that it gets framed in news outlets? And, yeah, in the media generally?

MR. BOYKOFF: I think the biggest issue is something that we talked about just before we came on publicly. Is about when climate change is treated as a single issue. I think that's highly problematic. That can then have all kinds of effects where, you know, Colin Jost can just say, I'm shoveling that single issue to the side to work on the rest of my life.

It can happen, you know, in a variety of ways where the democratic committee can determine that they're not going -- there isn't going to be a climate debate for the presidential candidates. But then also, through media representational practices, it can get relegated to an environmental issue solely.

But really this is one of the most prominent and existential intersectional challenges of the 21st century. And it embeds itself in everything in terms of the ways in which we live, work, play, relax in society and move through the world. It's a threat multiplier. It weaves through other issues like public health, food, foreign policy, migration, end poverty and so forth.

And so, when journalists pick it up in its full extent and are working to cover the stories in those various ways that's successful reporting in my view. When it is just thought of as an environmental issue solely, I think that's mistaken reporting.

MS. KAPLAN: I'm curious. As, Barry, as you mentioned the report weighs out hundreds of various approaches and strategies for curving emissions from kind of large

scale like top-down policy measures like a price on carbon to very individual or local efforts that people can undertake. I'm curious sort of if each you wanted to highlight a mitigation strategy or approach that you found interesting from the report.

You know, all of the ways in which action, meaningful action, is possible. And, Barry, since this is sort of your wheelhouse maybe we can start with you.

MR. RABE: Sure. I'll start with a noncarbon example. I think we see in this report over others somewhat growing attention to methane but also other noncarbon pollutants. The report refers to them as the noncarbon GHGs. They've always been there. We've always known that they have a front-loaded impact.

But I think as we have seen that the volumes of them, certainly methane, are greater than have been anticipated even in the recent NOAA report globally. But also, recognize this intensive short-term impact and the near desperation to find near term ways that can buy us more time.

Methane has really transformed in a number of ways including this report. I think in some ways almost the methane arc has accelerated in ways the IPCC report could not have. Even if you look at the last eight to 12 months, we now have a global regimen. It is very thinly structured the global methane pledge, but there are over 110 and nations that have pledged end of decade commitment significant in methane. Which no one was really talking about even a year ago.

We begin to see certainly in the energy sector, a number of jurisdictions take steps. In some cases, using pretty well-established technology. Methane has been long been referred to as the low hanging fruit. There are so many cost-effective adoptions that can be considered.

And I think there really is a kind of a momentum on this. Again, abiding focus of this report is on carbon dioxide. And we go into the familiar sectors like

transportation and electricity. But underneath that is this other question of the noncarbon gases beginning with methane. And how those might work or play out in some ways. And really, the dramatic shift that we're beginning to see in this area potentially.

MS. KAPLAN: Elaine, is there something that you want to mention? I think you're on mute.

MS. KAMARCK: I would just mention that one of the things that I would like to see someone do from this massive report is to draw out the conclusion for one issue, public health.

Because if I compare what in my mind, I call the first generation of environmental activism to the second generation. The first generation being about clean air, clean water, cancer causing chemicals, et cetera. It moved relatively quickly, okay? We went from Rachel Carson and the dead birds in the backyards of suburban housewives as they hung their clothes to the creation of VPA to the banning on various chemicals that were harmful. You know, it moved. We had it.

And if you look at that first generation, you say, well, yes. People could see it. They could smell it. It had an immediate effect. And I think that one of the difficulties with climate change which is, by the way, I call the most difficult political problem that mankind has ever faced, okay?

Is that it doesn't have that immediacy to it. Even when there's a horrific climate event, a typhoon, something like that. It's over. People rebuild and they move on. So there needs to be a way to pull the threads out of this report and tie them back to questions of human health. What does it mean for me? What does it mean for my kids?

And I think that that would be a very fruitful thing for some good scientist to do to tie these all together. I've seen Al Gore do it in his presentations. I've seen other people do it. And I think it would be a very good way to look at this report.

MS. KAPLAN: I just want to ask a follow up on that, Elaine. How much of the -- you know, you mentioned how quickly the world moved from the publication of *Silence Spring* and, you know, a series of environmental disasters in the '60s to the creation of EPA and the passage of the Clean Air Act.

How much of that was that, you know, environmental issues maybe were not as polarized as they are now? I mean even -- because I do think like the -- my colleague and I published an analysis last summer that found that one-third of Americans experienced a climate disaster. Or live in a county that experienced a climate disaster in a three-month period.

So it does seem like the impact of climate change are becoming more and more personal and resident. And you see that also in polling of how many people think -- you see climate change impacting their own lives or attribute extreme weather to climate change. So I'm just curious about sort of to what extent is it the immediacy? And to what extent is it the politics of that moment versus this one?

MS. KAMARCK: That's a very good question. I would argue and with some data to back it up that, in fact, the dramatic weather events do not seem to have impacted public opinion. I can go back to the blizzards of 2015 and only 37 percent of Americans said climate change would pose a serious threat to them in their lifetimes.

Hurricane Harvey, Hurricane Herman in 2017. Concern about climate change increased by about seven points among Republicans and two points among Democrats. But the next year, after the California wildfires, it went down again to 44 percent among Republicans and 79 percent in Democrats.

Another poll in the summer of 2019 during the record heatwaves in the U.S. and Europe only 42 percent said they were very concerned. Now, within these polling numbers, right, you're right. Polarization does matter. The Republicans are much less

concerned than the Democrats. But the fact of the matter is if you look at these Gallup polls, which I do all the time on the seriousness of climate change, on questions like that. The Gallup asks a series of these.

And they look at them over time. There's nothing moving this needle very much, okay? I mean, yes, we are polarized within these. But in fact, there's fair degree of continuity in the number of people who think this is a serious issue. And that is what worries me.

Polarization goes across the, you know, the spectrum. It's relevant for every issue that we look at. I mean, you know, vaccines and wearing masks. Everything is polarized. But the problem is that the overall impact on the public doesn't seem to be changing with the kinds of events that you would expect it to change as a result of.

MS. KAPLAN: Dana, did you want to add something?

MS. FISHER: I just wanted to say that it's true that you don't see that much variation at the federal level with the national data. But actually, there have been some really useful studies that talk specifically about data collected in areas that have experience with these kind of climate events particularly around the wildfires and the floods and extreme hurricanes.

And they find that it does have an effect overall on the population in that area and their attitudes around climate. So part of the problem has to do with the variation in the issue of climate change and its geographic diffusion in terms of its variability.

MS. KAMARCK: Yeah. I'm sure that's the case.

MS. KAPLAN: Amar, I'm curious also. Is there a mitigation strategy or approach that you want to bring attention to especially given sort of your expertise on the role of -- or the intersection of climate and development and sort of international climate issues?

MR. BHATTACHARYA: Thanks, Sarah. So listening to this rather sobering conversation. The good news is that the polarization and the divided views in the U.S. is actually the exception. In the rest of the world, there isn't that much debate right now either in public opinion and global citizenry or at the level of politics.

And, you know, I would want to come back to the arithmetic of climate change to frame that. So, you know, if you look at future emissions. Future emissions will be driven by what happens in the developing world. All of the energy demand of the future will come from the developing world for three reasons.

Why? One is that their energy deficits are large. Second, developing countries are in a moment of massive structural change. Urbanization is probably the most important, but they are also in a moment of massive demographic change. In the next 30 years, the planet will add two billion people to the planet all in the developing world. So the success of climate mitigation will be dependent on whether we get these two pieces to come together. You know, climate and development.

In the advanced countries, basically the challenge is how to replace aging and polluting capital with better, smarter, more efficient capital. It's a win/win outcome, but it's a big challenge. In the developing countries, most of this is about ensuring that the new capital is as good as it can be. And the technologies that, you know, colleagues spoke about provide a very powerful means for leapfrogging. For doing things in completely different ways.

And we talk about climate, but don't forget about the co-benefits, you know, that Elaine was talking about, you know. Look, one of the co-benefits, health of course. Very importantly, but think about compact communities. Less congested cities. Think about equal systems that thrive. Think about protecting rather than destroying natural capital.

So, you know, in a way we have in our sight a completely different and new

forms of economic growth. So we said that science is clear. It took the economics profession a little while longer to catch up to the science, but we are there now. We now recognize actually that there is an opportunity now for better forms of growth and very, very powerfully the private sector sees this very clearly.

At Glasgow, there was something called the Glasgow Financial Alliance for Net Zero. That alliance is now $150 trillion strong. You know, it brings together every segment of the private sector. And they have two kind of goals that are really driving them. One is how to align with Net Zero. How to make their business and their finance consistent with Net Zero. And the second is how to finance the massive investments that will be necessary for this transformation.

So I heard my colleagues talk about a lot of the things that have to be done in a bottom-up way. And I think that's very important. But we also need top-down strategies that will produce results at scale.

And I just want to give the example of South Africa. A very interesting case. South Africa came forward at Glasgow with something that they called a just energy transition. An energy transition that would get them to Net Zero by 2050 but in a way that was just for their populations. That was signed by the president of South Africa, Cyril Ramaphosa, President Biden, Chancellor Merkel, President Macron, Prime Minister Johnson and now the European Commission.

And the idea is that it's a mutual compact. The country comes forward with a commitment around a just transition that delivers on climate, delivers on development and in return the international community provides the support that is necessary. This isn't dole out. The bulk of what we are going to be talking about here is the private sector.

So I just want to say that we want solutions at scale and we want system transformation. We have to think big. It is very important to let a thousand flowers bloom,

but we need a system approach if we are going to bring about the scale and the pace of change that is necessary.

MS. KAPLAN: I guess then what would be sort of the enabling conditions for that kind of large-scale top-down system change? Massive flows of capital into renewable energy and sustainable development? I mean what are we missing that we need in the next year or five years to make that happen?

MR. BHATTACHARYA: So the G7 countries including the United States is proposing to replicate the South African model in other systemically important countries, Indonesia, India, Vietnam, you know, potentially at Turkey, Egypt.

And the idea being let's work in partnership with the countries. Let's give them the incentive to invest in a way that's good for climate but good for their own development because as everybody says, you know, the solutions are there, but we need to have it incentive compatible. We need the means. We need things like carbon pricing, but we also need the means to finance the investments as I said.

So I think there is a momentum right now. And this is going to be a big focus of this year's G20, you know. It certainly is going to be a focus of the G7. So we need both. We need good, you know, bottom-up solutions, but we need also leadership from the top. And what I'm basically saying is that, you know, when I look at, for example, Prime Minister Modi's commitment in Glasgow, it's a fundamental shift from the status quo that prevailed in India for a long time.

And we have to seize those kinds of opportunities and say, yes, you go the distance. We will match you in creating a world that benefits you but benefits the world.

MS. KAPLAN: I think one thing that I personally found very sobering covering this most recent working group three report was this top line statement that emissions today are 50 percent higher than they were in the early 1990s when the IPCC first

started putting out these reports. And I actually went back and read that first IPCC report.

And obviously, we understand a lot more about the signs of climate change, the scale and the severity of the impacts. Their technological developments that have happened between then and now, but at sort of the baseline statement of like climate change is real. It's going to be bad. It threatens human society. The only way to stop it is to stop emitting greenhouse gases.

Like that was true then, it's still true now, right? And I think that -- I mean what does it say about the capacity of the institutions that have sort of been tasked with tackling this issue and shepherding the energy transition? Not just the IPCC but the U.N. Triple C and the World Bank and world governments to bring about change if in the 30 years that we've been developing all of this new information and new knowledge, the problem has only gotten worse.

And I think another thing worth pointing out is that current policies would put emissions on a path to be higher in 2030 than they are right now. So yeah, I wonder sort of can we trust these institutions to achieve the kind of dramatic change that is necessary for global warming in the next 10 years if given the track record of the past 30?

I don't know who feels ready to tackle that question? If you want to raise your hand maybe? All right, Max. Go ahead.

MR. BOYKOFF: Yeah. I mean I think what you just said and what Amar -- I really appreciate your comments. Yeah, at present we need to unmake and make things differently very much at the fundamental level of institutions and relationships.

Amar in particular talking about scale and pace. We have not at all come to grips with what is needed. And in some ways, we need to also center climate justice and inequality as we come to grips. I'm reminded of a quote from William Gibson that the future is already here. It's just not evenly distributed. That's to say that responsibilities for the

causes and consequences -- the causes and the burden of the impacts are unequally distributed.

Those that are big emitters are not those that are often at the front lines of climate disasters and experiencing this in vulnerable spaces. And so, it's one of the cruel realities. Least of all countries have contributed less than -- well, .4 percent of emissions.

So we need to look to creative ways to address that scale and that pace. And I will also just say that, you know, there is good news. Amar, you talked about this being sobering. Sarah, you also mentioned this as a sobering discussion. But the good news is that we can make change every hour, every day, every month of our lives when we're grappling with these challenges.

It's about the food we eat. How we travel. Clothes we wear. How we vote. So forth and so on. Understanding that individuals, you know, individual actions only lead to modest reductions. So when we're talking about the scale piece, we need building codes, urban planning, vehicle efficiency standards, carbon pricing, low carbon infrastructure, on and on. And that gets into the work that Barry has contributed over the years, their really important work.

And so, when we start to then look at that we can also then look at major polluters. I know that, Sarah, you had asked and I thought a wonderful question in the press conference the day that this was released two weeks ago to Jim Skea. Where you -- I have it here. Where you just said, the report, the politics. Not science technology or lack of understanding is the main barrier to achieving emission reductions. The report makes that clear.

What political players are the main obstacles to climate action? How must politics now change to enable the energy transition to occur? Asking in those questions, Jim Skea being so close to the center of this report even went so far as to say explicitly that he

was skirting the answer to your question.

But we in the social sciences have been studying this. And we can point to major polluters. For instance, Peter Frumhoff, Richard Headen (phonetic), Naomi Reskus (phonetic) did really important work that found that 90 largest industrial carbon producers are responsible for nearly two-third of industrial greenhouse gas emissions since 1751.

And pivoting the actions of those large industrial carbon polluters matched with increased private investments where we need increases of 300 to 600 percent more to spur the scale to the action that's needed can help confront this. And I hope that helps at least address your question in some ways, Sarah.

MS. KAPLAN: Sorry. I think Elaine had raised her hand and then Amar and then Dana.

MS. KAMARCK: Okay. Yeah. I guess I keep waiting for you to call on me, Sarah.

Let me expand a little bit on this political problem because I think it is certainly powerful interest stakeholders absolutely are a piece of this. But I do think we can't underestimate the apathy of the public over time, which has been considerable because after all if the public was energized about this, you would see more action from the political class.

I talked about how dramatic weather does not seem to impact public opinion on climate. And you can look at it as I have. The polling over several decades, you can place dramatic weather events that received enormous, you know, attention and it basically is not moving the needle.

Partisanship has also increased with the Democratic party being the pro-climate party and the Republican party still being the hold out for some deniers or people who think we shouldn't do much. But really the overall picture is one of public indifference.

In fact, over a 30-year period when the pollsters asked the question what do you think is the most important problem facing this county today? And they asked it in an open-ended way. In other words, no prompts. Over a 30-year period, the climate was mentioned by less than .5 percent to eight percent of the public.

In other words, it's way down there. I checked today, the most recent question on that climate change ranks 12th in the polls of the biggest challenge facing the U.S.A. today when it is mentioned. And in the open-ended question, Gallup shows only two percent of the public placing it as important in March of 2022 so just last month.

Now, the question is what is happening here, right? Why in face of all the evidence we have, in face of all the attention paid to this, in face of the dramatic events that impact people, that kill people, that hurt their lives, that destroy property, what's happening? Why is this down in people's interest? And I don't know the full answer to that but here's some speculation which I would like to do a lot of further work on and I suspect many of you will as well.

First of all, it is complexity. As I mentioned before, we can't see it or smell it and it doesn't make us cough. There is the burden of pengongi (phonetic) here I call it. And it's we do have a more sophisticated public than certainly we did even 10 years ago in terms of understanding the links between climate change and some of these climate disasters we've experienced. But it is still something that needs to be explained. The line needs to be drawn.

The second is not so often discussed. And that is the problem of jurisdiction and accountability. Now, the concept of jurisdiction is central of modern government all over the world. It is territory within which a court or government agency may properly exercise its power. And in the 21st century, we're confronting really two big issues. Cybercrime and cyber security and climate that do not easily fit within territorial boundaries. And therefore,

have the problem of jurisdiction.

Things are crossing boundaries. Something that is happening in Antarctica is affecting the shoreline in Florida. It's affecting, you know, the waterlines in Bangladesh. In other words, there's a mismatch between jurisdiction and accountability. And therefore, the tendency is, oh, well, we can't -- it's just happening. We can't hold anybody accountable.

Third, I would say is a lack of trust in government. And this is particular acute in the modern developed countries where people have bought the conservative line that government can't do anything right, et cetera. So even people who think that the problem is bad. We need to do something about climate change, they do not trust the government to do it. And that I think has really hurt climate politics because it is ipso facto because it is so big and because it does cross jurisdictions. It requires national action and it requires international action. And yet, trying to get support for that sort of action in an era when there's no trust in government is really extraordinarily difficult.

So I would say those are probably some of the reasons why this doesn't rise up more highly in the public's minds and why the public isn't lighting a fire under the politicians, under the special interests, under everybody else who's got much close accountability for this problem.

MS. KAPLAN: Amar, did you want to add something more?

MR. BHATTACHARYA: Just very quickly on your first point. Can we trust the institutions that failed us in the past to deliver for the future? And my sense is that, you know, we have reached a tipping point with regard to the understanding of and political commitment to climate.

So we can change the institutions. But will that happen automatically? No. And I spend every waking hour thinking about how to bring contestability and real force of

change in the world order. That's what I do. But I think there's one thing that, you know, we haven't talked about that will, I think, be a turning pointing and that's the Ukraine crisis.

And let me explain. You know, if you look back in the mid '70s, there were many people who at that time thought that this was the time to actually rid the world of fossil fuels and it never happened. But this time round in the name of energy security, we can build a completely different new energy security. An energy security we will build on green energy. Will deliver not just national energy security, but regional energy security and global energy security.

The potentialities of green electricity, green hydrogen can take us away from fossil fuels once and for all. And that is what we have to really put our energy behind at this point in time. So I hope that the Ukraine crisis instead of being a source of delay will cause us to act harder and faster. So I just wanted to make that link as well.

MS. KAPLAN: Dana?

MS. FISHER: I'm going to actually respond to Amar's point quickly before I go back to what I was originally going to say. And I would just say that while I agree with Amar that the Ukraine conflict provides an amazing opportunity to think about moving society towards a clean energy future, we don't see a lot of evidence that we're going in that direction certainly in our country where the President is about to open up a new federal lands to extraction right now.

So there's not a lot of evidence that that type of a transition is being encouraged. Instead, we see a lot of retrenchment and potential distraction so far. And obviously, in other countries there are other examples that might make us more hopeful, but certainly not here in the United States.

What I actually was originally going to say is I just thought it was worthwhile and I don't want to take us back too far in the conversation, but just the conversation earlier

about one of the things that I thought was really interesting coming out of the report is that in addition to these amazing innovations technologically that we see now being available to us.

I think the other thing that was really highlighted in this report that we didn't see in earlier rounds of the report is the fact that it is not really -- so it used to be that there was this expectation, oh, once we have this science and the scientist are at a certain point, it's all really about there being this need for technological availability that can actually bring us into a more clean energy future.

And the thing that this report actually highlights even though we don't see it in the summary to policymakers as I wish we could. Is the fact that it's really about the fact that there are political actors that are vying for attention and access to power. And then that competition is what is slowing down progress in meaningful ways. And we don't see enough of it even in my opinion in the current report because we don't see it enough in the peer review literature.

And I'm going to encourage my colleague, Barry, who has written a bunch about this over, you know, his career. Maybe he'll weigh in after me on this, but just to say that I think that that's something that provides a really important point that needs to be explored further. But also a way to understand why we don't see more climate action this report or the previous reports.

MS. KAPLAN: Barry did you want to respond to Dana?

MR. RABE: I think there's always this question. Climate policy deliberations. Are we kind of at the tipping point? Have we gotten close enough? And then there's this rebound effect when we realize how hard it is to put things into operation.

Well, that's because of forced interest or, you know, Elaine, your point about the lack of public demand for these kinds of policies. I do think there really is an interesting question going forward as we begin to see a movement certainly in the U.S. but

internationally that links climate policy much more with trade and trade restrictions and trade protection.

So on the one hand, this can be seen as a real threat because the kinds of things that you're talking about, Amar, were developed share resources and technologies and funds with developing economies could be really challenging in a world in which everyone is trying to get maximum advantage through a reinvented kind of trade system.

The flip side does become that perhaps it gives those early adapters or early actors of those that are using the technology a chance to think about whether it's carbon border adjustments or impact fees or other kinds of things. We're just in the early stages of thinking through all this. How this is really going to operate and work. And where that kind of flips the equation within domestic policy circumstances to create more momentum with those additional kinds of tipping points change.

I don't think we're there yet, but I think we can at least see in some of the subareas where that does become a possibility. And even if you break down a federal system like the U.S. into states, you can look at a number of states where there's been -- and, Dana, I was thinking about this when you raised your question for me.

Where you're sort of seeing a sustained level of commitment over years and decades. Even changes of political leadership in state. For some kind of effect like that to work, but it's not easy.

MS. KAPLAN: I want to move into answering some questions from the audience because we've gotten a bunch of really good ones. Just a reminder to everyone that you can submit questions by tweeting at @BrookingsGov or emailing events@brookings.edu.

Several people including Working Week and the Morgan Family Foundation and Peter Burklane (phonetic) from Citizens Climate Lobby have asked about carbon taxes

or putting a price on carbon. The potential of a sort of tax and dividend model where the profits from the tax are then redistributed to households. Barry, I know this is something that you have done a lot of work on. So maybe we can start with you first.

You know, what's the feasibility of that? How would it have to work? Is there any place you can point to right now that would show maybe sort of a model of a carbon tax being very successful and effective?

MR. RABE: It might seem almost impossible to think about that in the American context, Sarah, given that that's the last few weeks where Joe Biden and Senate Democrats and members of the House are tripping over themselves trying to find ways to reduce the price of a gallon of gasoline by a few pennies a gallon in short order. Joe Biden going off to Des Moines just last week for ethanol standards, waivers.

Elaine, did you want to jump in?

MS. KAMARCK: I was going to jump in and just say that four states just since last week have gotten rid of their gas tax. Now, they've done it temporarily but let's see.

Connecticut, Georgia, Maryland and New York have gotten rid of their gas tax in an effort to lower gasoline prices. And that in addition to the points Barry made about ethanol and drilling in the Artic. This is going in the opposite direction from a carbon tax, which I wrote about extensively some years ago and been a big fan of. But, boy, that's not on the table in the immediate future. That's for sure.

MR. RABE: If I could come back to building on that? I do think and I think the report is very clear on this. The idea earlier, a couple of decades ago that we would be inexorably moving towards a global carbon pricing regimen. I've been at Brookings' panels discussing this various issue over past decades.

Is not going to emerge. And yeah, again the report is very clear on this.

The number of national and sub-federal jurisdiction around the world that have some form of carbon pricing in place is not trivial. And even when we look across the American border into Canada where indeed the American carbon price is zero. It is likely to remain zero. The Canadians are at $50 a ton Canadian moving to 170 by the end of this decade.

And it is no secret that the European Union is thinking about leading a carbon order adjustment process. Looking at these issues and linking all of these questions to trade.

The last point here is I do think that there's significant enough -- and it's a forum that wants to engage a kind of carbon pricing framework. The biggest thing -- and this is reflected in polling, but evidence from around the world. Is that how you use that revenue and whether you can tell a compelling story when the tax is imposed is really pretty significant. Part of the reason that the gas tax has been so durable is that in that 25-page bill signed in the 1950s, you created a trust fund simultaneous to the gas tax.

And generally, places around the world and even coastal states like California and the northeastern states that have maintained cap and invest system through an auctioning process have done so in part by linking revenue allocation to all kinds of energy transition and other kinds of issues. So I do think -- I think this is embedded in the original question that issue if you're going to try to impose some kind of a price. How do you allocate that revenue over time, but in a way that's attentive to justice considerations, but also a compelling political story is a possibly way to think about this?

It's a piece of the puzzle but yet not a world in which all we ever do to deal with the carbon crisis is create ever higher carbon taxes or cap and trade.

MS. KAPLAN: Another question that's has people including myself are interested in is this IPCC report was the first in any meaningful way to address this idea of a just transition.

And I think that in speaking with the fears of the working group three they would have addressed it even more but it wasn't in sort of initially scoped into the report and is going to be addressed more in the subsequent report that comes out this Fall. So I'm just curious also sort of what does that phrase mean in concrete terms? I think a lot of us hear it used in many different contexts. And is it a different target for -- or is it a moving target, I guess, for where the world needs to be headed? If it's not just Euro emissions in 2050 but a just transition to zero emission in 2050.

I think, Amar, that might be a good question for you to start off with.

MR. BHATTACHARYA: Yeah. So I think the way to think a just transition is to first understand and appreciate it that some people and some places will be more affected by the transition that we are talking about.

And it is nowhere more kind of striking that in the closure of coal plants and coal mines because that's very concentrated. It's concentrated in the set of workers. Concentrated in a set of places. And, you know, we've seen that happening here in the U.S. We've seen it happening in the U.K. We are seeing it as a proposition in South Africa.

And so, when we talk about just transition, we want to make sure that those people really have nothing to do in some sense with the choices that are being made are not adversely affected. But I also think about just transition more broadly. So beyond in some sense this immediate kind of impact, it's important to think about the transition more broadly as it affects, for example, in a workers and people in the process. For example, carbon pricing.

Carbon pricing is, you know, the most efficient tool we have but it is an aggressive tool. It affects poor people more than affects rich people. So if you want to think about policies then we must be thinking again about distribution of impact. But the last part about, you know, just transition is really to think about it as a whole of the economy

transition. The reality is that we don't have one transition, but we have overlays of different transitions against a backdrop of rising inequality, major considerations about distribution of impact.

So governments need to think much more about inclusive growth and the means by which they foster it. The use of, for example, you know, revenues from carbon taxation that Barry spoke about. Can we, you know, very powerfully link to a just transition? The main point is that all countries and all governments must now think much more explicitly about the social ramifications of the transitions if these transitions are to be sustained. That's the way I think about just transitions.

MS. KAPLAN: Did anyone else want to respond to that one? Okay. Dana?

MS. FISHER: Well, I'll just weigh in quickly and say that I think that when we think about just transition, I mean Amar did a wonderful, comprehensive overview of it. But I would just say that I know for a lot of folks particularly, climate activists around the world.

One of the big points that they keep stressing is the fact that a just transition has to think about addressing the inherent inequalities in society so that it's not just about climate justice. It's about economic justice. It's about racial justice particularly in the United States and the interrelations among them all.

So a just transition has to take those all into consideration rather than just a new overlay on the existing inequalities that we see in our society.

MS. KAPLAN: Elaine?

MS. KAMARCK: Let me just build on Dana's point. And I think there's two ways to look at this. In the United States the severe lack of trust in government makes it very difficult to sell to people, I'm going to make you pay more for carbon related things, gasoline, oil, electricity, whatever. And you're going to get it back because I'm going to put

the money into X, right?

People don't believe it, all right? I've been in focus groups on carbon taxes. And they just don't believe it. They don't believe that the government is going to do it. So there's a huge trust barrier to overcome before you can get to a carbon tax.

In much of the rest of world, you run the problem of corrupt -- huge corruption in government. In other words, who is going to get that carbon tax, right? The people who regularly steal the rest of the taxes in the country? Or, you know, the bureaucrats who, you know, cook the books, et cetera?

So you've got a range of institutional problems from distrust in government to corruption in government, which you see in so many countries exacerbating the social inequalities in the world. And so, this becomes -- I think somebody mentioned this intersectionality before. This becomes a really big problem when you look at the context in which it would happen.

MS. KAPLAN: Barry?

MR. RABE: I think this is such an important area. And I think that it's one that in the U.S., but globally. It's on a conversation we're only beginning to have.

I think if you look at the early months of the current Congress there was a lot of thinking. You could deal with justice issues by looking at the grant formulas under the Build Back Better regimen and deciding what percent should go to front line communities, a hugely important issue. But this cuts at so many layers and levels even if we stay within a nation like the United States.

So it's one thing to talk about coal worker transitions where it's a declining industry. The number of congressional districts that actively produce coal is fairly small. But when you begin to turn to other comorbidities, oil and gas or other products that are also subsidized, corn, beef, dairy cattle. Each of which has its own provision, its own history of

support. That those communities don't see as subsidies per se. And talk about all the shifts that are likely to occur.

One of the few places in the U.S. that I've begun to see serious conversation on this is not necessarily on Capitol Hill but in Santa Fe, New Mexico. Where a state that is our second largest producer of oil, second only to Texas, has begun to deal with the wide, wide range of just transition issues that that petrostate is going to have to face given all the issues and questions. And even there, to begin to peel all of that back in a way that's politically functional and acceptable and leads to policy is just hugely challenging.

MS. KAPLAN: That leads to another audience question from Joan Ochi (phonetic). She asked about strategies for making climate a more bipartisan issue or -- and, you know, I would sort of broaden that to say for building political wealth or climate action. Especially given sort of how many interests corporate and industrial and also, you know, like Barry mentioned. Someone who is a corn grower in the Midwest or a rancher.

How do you start building that political well? Is there -- like are you hopeful that it can be done at the pace that is required? Especially given that right now, you know, this would appear to be an ideal political window for some kind of aggressive climate action.

We have a President who has made climate change would be a pillar of his agenda in a democratic Congress. And yet, there really hasn't been a substantive climate legislation passed discussion. Go ahead next.

MR. BOYKOFF: I certainly don't have the answer, but I can hopefully get us started. I mean I think one of the ways that we're going to really find common ground. And I think you're absolutely right is that we need to find bipartisan pathways forward without weakening the boldness of the actions taken.

And so, we need to be creative about that. You know, this is a collective action problem. And so, it can't just be solved by one party or another, but ultimately

effective actions come through creatively approaching them through conversations with one another. Groups like Yale, Climate Communication Center and George Mason have found that just 35 percent of U.S. Americans talk about climate change or global warming occasionally.

And if we expand out though to other registers, other ways of approaching that while not using climate change or climate explicitly, we may find more progress. So what I mean by that is that, yeah, sure. Maybe just 35 percent talk about climate change explicitly. That's not good. But we can also be talking about this through climate resilience. Through just transitions I think is critically important. Through considerations of stewardship. Through considerations somebody had brought up energy security, our national security.

And, you know, other things like public health Elaine brought up. We can talk about it through patriotism. We can talk about it through considerations of legacy. What kind of legacy do we want to leave on this planet?

And so, by having those more creative and broad-based conversations, we may find ourselves making more progress in a bipartisan fashion. And so, this is no way to say that we should shy away from talking about climate change. But we have to be much more creative to find that common ground. And some approaches have been a little bit, frankly, tone deaf about always having to lead and then finding pockets of resistance based on someone's politics, ideology and livelihoods.

MS. KAMARCK: Yeah. I would add to that, Max. Thank you. I would sum the challenge into three areas, right? Which I see as critical for getting people energized at the level, we need them to be energized at, okay? Which I think we all say is inadequate.

One is obviously cost, which we just discussed, right? I mean and that was kind of the first policy reaction to climate change. Well, let's just price carbon, okay? If somehow, we could price it, right, people would feel it. That would change behaviors,

attitudes, et cetera. We know the problems with that.

The second is health, okay? Health is if we can tie this more closely to human health, I think we can maybe get somewhere because people do care about that.

And the third is national security, okay? So we saw, you know, I mean I think one of the greatest if I should just, you know, talk about my old boss for a minute. I mean one of the many sad things about Al Gore not being put into office in 2000. He did get the most votes. He just wasn't elected.

One of the sad things about it is that he would have gone right to the Saudis. The Saudis' fingerprints were all over 911. He would have gone right to the Saudis. He would have used that as the reason to get really, really tough on oil and on Middle Eastern oil. He would have used that to push environmental issues.

In other words -- but he wasn't in office. And George Bush -- he wasn't in office. George Bush was in office. And obviously, the Saudis were his pals. That was not something that was done.

We are now facing, as Barry pointed out, another big possible point, right? Where you've got Russia. A huge supplier of carbon fuels to Europe and everybody in the world is at least for the time being horrified at Russia and what they're doing. Now, can this be turned into a moment where we figure out how to get Europe off of carbon?

Our track record in doing this, our track record of taking national security incidents and using them to push the environmental agenda as a national security agenda has not been good, but that doesn't mean we shouldn't keep trying. So I would say cost, health and national security are three ways to get to the public to see if we can't get over the hump here in terms of national will to do something about this.

MS. KAPLAN: Dana, do you want to go next? Another point that I just wanted to bring up is also, I was very struck by the working group third report making clear

that many renewable energies or sort of decarbonized technologies and initiatives are more affordable than the fossil fuel alternative. But how does that factor into this discussion that we're having right now? Dana first and then Barry.

MS. FISHER: Well, I would just say I think that Elaine's point is absolutely right that it would be wonderful to use the umbrella of national security to push for an energy transition.

But I think that we need to start at home and any idea that we're going to go to Europe and tell Europe to push to get off of fossil fuel-based fuels and their addiction to them when we obviously aren't doing anything to that end whatsoever in our country. Instead, we're basically going backwards is not only -- it's just ridiculous to imagine that anybody in Europe would take us seriously.

Let alone that that would be an effective national security policy. So I think that we need to look a little more carefully at what we're doing in our country and the ways that we might be able to, you know, hook into opportunities here. I mean I also do know that there are a number of people in the United States who think that the solution to the crisis in Ukraine is just to extract more fossil fuels from the United States, which are more efficient and export them to Europe and other countries, which is part of the problem as well.

So I think that there are just too many problems here. So unfortunately, I don't see there being some very, very bright light at the end of this tunnel at the moment given what we're seeing right now. Because it could be a pivot point but it's not.

MR. RABE: I would never want to overstate the prospects of working across partisan lines in the United States. And yet, I was really struck by about 10 days ago seeing a photograph of a Republican Senator Risch put his hand respectfully on the shoulder of a Democratic colleague, Bob Menendez.

So about the time of the last stages of the Jackson confirmation hearing, but

it was a Senate foreign relations hearing on whether or not the U.S. Senate would ratify the Kigalian Amendments to the Montreal protocol. And it's so interesting to think about how we got to that point because it was the latter stages of December 2020.

Not exactly a high functioning moment in the life of the American Republic that a striking number of Republican and Democratic legislators particularly in the Senate jointly sponsored the American Innovation and Manufacturing Act. It got virtually no attention, but it put the U.S. on a path to really join the Kigali process to phase down HFC chemicals used widely in air conditioning and refrigeration through a very interesting mechanism.

This is not one simple playbook you use in each and every case, but you just never leave great opportunities on the table. This is a case where I'm thinking about this and given your point, Sarah, about the advancement of technology. American manufacturers of coolants were splitting. Divided over whether to stick with existing chemicals or move forward. Those very chemicals that had helped us with the ozone crisis, could you move in a next step and transition?

We saw federalism where a surge of states in 2019 and '20 passed their own legislation and created the threat of a very fragmented market. But you also had the international poll and an international agreement that could actually close off American export access of HFCs and possibly other chemicals over time if the U.S. didn't get on board.

That legislation is less than 20 pages. It is clear. It is straightforward. The people who wrote it knew what they were doing. And what we have seen in less than a year is the EPA do what it really gets, get clean fresh statute implemented and already develop an anti-smuggling regime to prevent the illegal contraband, which has been a concern in Europe. They have many enforcement hits in their first days of operation.

Most American public policy scholars, you know, probably you're not too familiar with this. It gets very little attention. My point is not that's here all you have to do for wind, solar, other kinds of things. But there are lots of these kinds of stories and relationships that begin to emerge. And how you unpack that or play that out in other national context, I think is part of a possible path forward for us to be considering and thinking about here.

MS. KAPLAN: We're almost getting to the end of our hour and a half. So I wanted to finish on a question that I get all the time as a reporter, which is if I'm concerned what should I do?

What action can people take, you know, not sort of in the abstract potential future, but right now. Tomorrow, this week? Whether as a citizen or as a consumer, as an investor as an employee at a business to meaningful contribute to emissions reduction. I'm curious how each of you would answer that question. Maybe we can start with Dana because I know that's part of what you worked on for the working group through your part.

MS. FISHER: Great. Well, so I would say that, you know, what I think people need to think about is first and foremost, this is definitely a systemic problem, but you can still reduce your personal carbon footprint. And I would encourage people to do both.

I tell activist all the time that there are lots of things that you can do in your daily life. You can take more public transit. You can drive less. You can eat less meat. There's so many different things that you individually can do. And I think that everybody should, you know, do an audit of your individual actions and think about the places where you can cut a little carbon yourself.

At the same time, the other thing I think that everybody should think about is that, you know, working through the electoral system here to support candidates who actually are going to be progressive on climate change in terms of doing something about

acting on climate in a meaningful way. And to that end, I would say that anybody who really cares about this issue should be pushing for candidates who sign onto a no fossil fuel pledge where they basically refuse to take any fossil fuel money from the industry because that basically shows a commitment.

And there's so much research that says that if you take money from specific interests you're going to vote in their favor when it comes down to voting when bills are up. So I would say that focus on electoral politics and changing your personal life.

But at the same time, when you're focusing on electoral politics think very careful about who is supporting the candidates you're voting for. And make sure that they're going to follow through on their climate commitments. We're seeing lots of problems with people falling through like climate commitments right now.

MS. KAPLAN: Barry, did you want to go next?

MR. RABE: Sure. I would say one thing that really strikes me about the IPCC report is the growing body of evidence that at least in certain cases we can get things right not just in the U.S.

But there are cases, there are examples, there are illustrations. Some of them really small. Some of them not so small but are easy to overlook, but important to try to be part of and to build on. None of this is easy, but I also very much resonate Dana with what you are saying and for people to really think in their own spheres of influence. Whether that's a city, a university campus, a state, a national jurisdiction. What would be a really constructive and meaningful contribution?

And if it's not necessarily a contribution to best practice, make it a contribution to good practice with the hope that continues to build on it. I really do think we have seen nontrivial advancement in the U.S. and North America and globally. And that's the good news in all of this going forward.

MS. KAPLAN: I forgot to unmute myself. Amar, do you want to go next?

MR. BHATTACHARYA: Yeah. So I think we are at an inflection point so building on what Barry said, I would say build coalitions for tipping points of action. Think about what actions would really get us to the other side.

For example, you know, the massive scale up of renewables and changing the politics around that. You know, so I have about six or seven. I don't want to go through them, but build coalitions around tipping points for climate action so that would be my first.

Second, politics would change when the electoral changes. And so, investing, you know, I mean I think young people are convinced, but young people are not voting in the way that their conviction should, you know, force them to act and vote. So I think using the power of youth to change politics is the other place. I would make climate change mandatory, for example, in university education now, in high school education and girls' education.

So that people get really empowered. So I would put as much emphasis on investing in the electoral because that's the way politics will change.

MS. KAPLAN: So if I'm just to sort of follow up on that. If I'm a -- maybe I'm a 21-year-old college student or maybe I am a working parent who doesn't have a lot of disposable income and I care about climate change.

What does building coalitions or, you know, like what does that actually mean? Like what would that actually look like for sort of an ordinary person who cares a lot but doesn't have a huge amount of power or wealth at their disposal?

MR. BHATTACHARYA: My answer, Sarah, is getting them invested in the future generation. Worrying about their children and their grandchildren. Then you can be a little bit more selfless than thinking about what is the gas price I'm paying today?

So if you convince everybody that we only have one planet and we want to

leave that planet sustainable for future generations, that motivation I think does go a long way in terms of the human spirit. And I've seen that in poor people in India, you know. So in poor communities, people preventing forest from being cut down even though it could be a source of livelihood for them.

So I do think that, you know, you have to make that change so that it really infuses all the people. I mean the tragedy is that even though we know what we know as the conversation bring out, it doesn't translate itself into political change and that's what I'm arguing about. It goes back to the joke that Elaine had mentioned.

MS. KAPLAN: Yeah. So, Elaine and Max, I think we have 30 seconds for each of you to give your closing throughs. Elaine, do you want to go first?

MS. KAMARCK: I'd say tipping points is a very important insight to watch for the tipping points and try to make something out of them when they come along.

And I do think that young people do take this more seriously than their elders do. So there is some generational change. The problem is we may not be able to wait for it.

MR. BOYKOFF: Thanks. And in addition to what has been said, I'd say just conversations about climate change or creative conversations about other challenges that link back and listening to other's perspectives. It is critically important in this day and age for us to find that common ground but not to lose sight that we're working for systemic change. That ultimately, decarbonization is on the horizon and we need to engage with those changes.

MS. KAPLAN: Well, thank you all so much. I know that I got a lot out of this conversation. I hope everyone in the audience did too.

The complete recording can be found on the Brookings' website. And thank you everyone who tuned in.

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