

Center for Strategic and International Studies

TRANSCRIPT  
Online Event

**“Just Transitions in Coal Dependent Communities”**

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FEATURING  
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Joseph Majkut: And we begin. Good morning, everyone. Welcome to the special presentation of the Just Transition Initiative. My name is Joseph Majkut. I'm the Director of the Energy Security and Climate Change Program at the Center for Strategic and International Studies, a Washington, D.C.-based think tank. Our partners in the Just Transition Initiative are the Climate Investment Funds. We'll be joined by the leader of the Climate Investment Funds just momentarily. Today we're discussing an exciting new report and a really groundbreaking initiative that our team has worked on over the past year looking at how a just transition – in a response to climate change we have to transition away from fossil fuel economies, people depend on those economies. And a just transition is meant to be a way of responding to the risks of climate change without unjustly displacing people and communities for reasons that they have nothing to do with, which is historical greenhouse gas emissions. We've looked at – you know, just transitions are an interesting object. I've learned a lot about them through working on this project with my colleagues. I look forward to hearing what they have to say today. We'll be looking at case studies grounded in communities, not from a 30,000-foot view but really embedded in the lives of the people that will be affected by the choices that are made at the COP, that are made by international finance institutions, and that are made by national and subnational governments. We've got a panel of experts from around the world today and we look forward to hearing their perspectives. A reminder that as we go through the process, we welcome your engagement. Please use Zoom's Q&A function if you've got questions for our speakers or for our panelists later in the session. If you've got questions about just transition in general, you're welcome to enter those as well. Our moderators will be paying close attention to the questions that come in and will do their best to make sure that all the questions you receive are given some recognition, at least thematically if not specifically. Otherwise, we invite you to sit back and enjoy our program. We'll start with a conversation with Mandy Rambharos of Eskom, a state-run coal company in South Africa dealing with the issues of just transition, how to respond to climate change while not abandoning the economies that exist today. We'll have brief presentation of some of the highlights from this new report which is being released today. And then we'll have a panel discussion going over some of the finer details, some of the insights that we've arrived at. And we will briefly conclude. Our program today should be about an hour and 15 minutes. We hope to keep it on time. A reminder to please use the Zoom Q&A if you can. I now welcome Mafalda Duarte, who is the leader of the Climate Investment Funds, our partner in this initiative, for opening remarks. Thank you, Mafalda, and welcome.

Mafalda Duarte: Thank you, Joseph. And I join you in welcoming everyone to this event today. And this is an important day, because we are launching this new report that Joseph also spoke about. It's a mouthful, "Understanding Just Transitions in Coal-Dependent Communities," but I think the importance is that we are

actually bringing to life some case studies from regions in South Africa and India that are particularly important in this agenda of accelerating coal transition and just transition. So, the regions of Mpumalanga in South Africa and Jharkhand in India. So welcome. Big welcome to everyone. And thank you for joining us. You've heard this before, and you'll hear it again as we – especially in these days, and as we head to COP26 – but as we all know we are in an emergency. Recent reports from the U.N. suggest that, you know, the country – the current country pledges actually put the world on a course to warm around 2.7 degrees centigrade, while we know that the Paris agreement talks about 2 degrees and really trying to go below that and stick to the 1.5-degree scenario. We also know that there's a need for a global effort to rapidly reduce reliance on fossil fuels, particularly coal. We know from different studies that global coal-fired power generation must be reduced by 80 percent below 2010 levels by 2030 if we are to meet this 1.5-degree temperature goal. So, the science – I think the science is pretty clear. The economics is catching up. We know as well very well that renewable energy is eroding the commercial viability of coal, especially the older inefficient operations. And we also know that the share of uncompetitive coal plants is estimated to rise to over two thirds globally by 2050. But the issue is that these economics are not playing out the same everywhere. Many developing countries have a more recent fleet of coal-fired power plants. They have large coal reserves. In many of them, they also export these – this coal; and for many as well, easier to add this coal to the grid, to the existing power systems that have limited capacity really to cope with the intermittent generation of renewable power. So, while the broad picture is one of the science being clear, the economics playing in favor of a coal phaseout, a key point is that this is not the scenario everywhere and there are differences between developed countries and developing countries that it's important to note. I think it's also important – and from my own perspective, I always like to raise this point – this agenda of coal transition is a lot more complex than adding new renewable-energy capacity. And this is because of the nature of this coal value chain and the fact that millions of people depend on this value chain across geographies and across sectors. And so, what is really needed is this economy-wide perspective on these impacts, and also then local and regional and national just transition plans that really take a look at all affected groups – potentially affected groups by this transition. We know that this can also represent an opportunity. And institutions like ILO have come out and said that this is as well as an opportunity – we are in a crisis. Crises present opportunities. This is an opportunity to really try to tackle injustices and social inequalities and really build a more equal, safe and resilient society. And so, ILO talks about numbers such as potentially 2.5 million jobs that can be created in renewable-based electricity by 2030 with the right policies and investments. And this could offset 400,000 jobs lost in fossil-fuel-based electricity generation. But this is also not a very straightforward – while we talk about these numbers – and these are macro numbers; this is not a very – it's not

very – not as straightforward as it might seem, because the questions are will these green jobs really replace the fossil-fuel jobs? And who is actually best positioned to take them? And what are the type of jobs that actually are being generated? So, these are questions that we have been focusing on quite a bit through our Just Transition Initiative. So, we established this initiative in 2019, in partnership with CSIS, to really investigate this just transition in the context of the transformational changes, the structural changes, that are necessary to address climate change. And so, this report that we are very proud to launch today is building on an impressive body of work that is already helping develop our understanding of the key considerations and approaches to really realizing a just transition. And this has actually brought together groups to share learning, so that's been very, very valuable. And in fact, we are using it already in terms of our upcoming new investment programs. Why is this report important? Why is it an important contribution? Because this Just pathway out of coal in South Africa and India is critical, not just for these countries but globally as well. And it is critical because we know that it's in these coal-dependent regions and communities where the brunt of this transition is going to be faced and where a just transition must happen, because otherwise we really jeopardize the reform altogether. And so, this report gives us, really, a reminder that the concerns and the fears of the people that are living in these towns and villages of Mpumalanga and Jharkhand should be all of our concerns. You know, this is not – I say it as well, and I've said it in a recent event: What COVID-19 awfully has brought to us is that we don't live in isolation; we are all connected. You know, these problems, these global-public-good problems are problems that hit everywhere, everyone, so we really have to tackle them together. And we also hope, of course, that the lessons through these studies – we've been placing quite a bit of focus on case studies, on looking at specific regions, specific countries, specific examples, because we hope and there's a huge need for learning in these countries but learning across countries, as well, across regions. And as I said, we are quite happy to – which was one of our intents to contribute to the foundations and all of the work that, analytical work, that has already been undertaken by different institutions when it comes to just transition, and we are adding to that and we are seeing already the benefits of all of this work, but to us, in particular, it's very important to draw from this and influence the investments that will be made. And we are about to launch next week at the COP two new programs, two new investment programs, one dedicated to accelerating coal transition and another one dedicated to renewable-energy-integration investments, and we have placed just transition, social inclusion, social equity at the heart of the strategic objectives that we aim to achieve with these new investment programs. So, we are drawing from this body of evidence, from these studies, and bringing that to the implementation side. And as a matter of fact, the Accelerating Coal Transition Investment Program is built upon this premise that, as we focus on the assets in infrastructure, we have to focus as well in the people and communities in the social dimension

of this agenda, as well as on governance issues. So, we have placed it quite centrally in our investment program as well. We will continue to build on this body of evidence, but today we'll be talking about this exciting, interesting report, which I have read with great interest, and I highly recommend to everyone, but I know that I've already spoken, and I've taken my minutes more than probably I was supposed to. So, without any further delay, let me turn back to you, Joseph, and really, again, welcome everyone, congratulate the team on my side; of course, I gave them the congratulations personally but on the side of CSIS as well, and everybody that has contributed, I think we have – through this report we are adding quite an important contribution to this whole agenda. Thank you. Back to you, Joseph.

Mr. Majkut:

Yes, thank you, Mafalda, and I will just echo that we've really enjoyed partnership on this project. And one of the things I think about this report, which our audience should download and read, is that it brings the conversation of just transition down to a level where practitioners are starting to think about how these things might actually occur. It's very easy to have a high-level discussion about a just transition; things get more complicated when you go down to the ground level. And so, the fact that this report and the research that sits under it really focused on, who are the principal actors in the places where coal-communities are going to be displaced by rapid climate action, a shift away from traditional coal economies, and how can those actors be brought into the transition in a way that brings justice for workers and fairness is a really interesting set of questions to ask. I'm very grateful that we're joined today by a special guest who's thought about that in context for a long time. We regret that several – we had planned a conversation with several CEOs of Eskom, a coal company – a coal power producer in South Africa, as well as coal mines – Coal Lines Limited, a coal company in India. Given the scenario that our energy executives find themselves in today with uncertainty around the global energy system, both had to decline to come. But that actually gives us an opportunity to talk to a very special guest. So, I welcome Mandy Rambharos, who is the General Manager and person in charge of how Eskom, this company in South Africa, is thinking about just transition. Mandy, welcome to our conversation today and thank you for joining us. Since CSIS and CIF both have a global audience, maybe a good place to start would be a brief introduction of Eskom, the company you work in, and its role in your country.

Mandy  
Rambharos:

Thank you, Joseph. And good morning/good afternoon to all of your listeners and everybody on the webinar. And lovely to see Mafalda, and also congratulations on the report. I think it's an excellent piece of work. So, Eskom is a coal-fired power generation company in South Africa, and I say coal-fired because we're 88 percent coal. We are a monopoly electricity producer in South Africa, completely 100 percent state-owned. So, you can imagine, Joseph, just that introduction tells you that we have a lot of work to

do in terms of our transition. So, we have about 45 gigawatts of installed capacity, and like I say 88 percent of that is coal. We have one nuclear plant, a couple of hydro plants, some pumped storage, and a very small amount of wind and solar at the moment. And so, we are vertically integrated, and we produce about 95 percent of the electricity in South Africa.

Mr. Majkut: Thank you. Now, it's not – it's not necessarily intuitive to a newcomer to this field that the leadership of a coal company would be so invested in just transition. Can you help us understand how Eskom got to where it is today and what Eskom is doing in terms of just transition?

Ms. Rambharos: All right. So, I think there's a – there's a confluence of a number of factors that impact on Eskom at the moment. For one, we are highly indebted. For another, we are struggling from what we call load shedding – which is rolling blackouts, as most people in the world know – and that's due to a lack of electricity capacity. So, our demand outstrips our supply. And our coal-fired power stations are quite old. So, most of them, on average, are around 41 years old. Even though we have a large installed capacity, we – you know, the plants are quite – also, they're aging, and so we have operational performance issues. And like I say, we're the biggest emitter of greenhouse gases in South Africa as an organization. And so, you know, when you look at all of these factors coming together, the number of communities that are dependent on the coal plants and coal mining for their jobs, it sounds very dire, but it actually presents an opportunity for us to transition. You know, to look at, you know, where the world is going right now, there isn't funding for coal plants as the cost of renewables has dropped dramatically. We need new capacity in the country. We need to deal with health issues, with environmental issues. So actually, the confluence of all of these factors come together to say there actually is no other way but to transition to a lower-carbon future. It is not as easy as it sounds because, you know, there's a number of factors we need to take into account. But it absolutely makes sense for us from a business perspective, from a sustainability perspective, and from a long-term sustainability perspective for the company itself.

Mr. Majkut: That's excellent. Thank you. So, let's talk a little bit about the terminology. Transition I get. We need to change the kind of infrastructure a company will use, or a country will use. In your case, those two – those two terms map onto each other quite nicely. What is – what does justice mean to you in this context? What does it mean to the communities that you serve, both customers as well as suppliers?

Ms. Rambharos: So, I think for us what's very important – I'm not sure if you're aware, but South Africa has one of the highest unemployment rates in the world and we have the highest GINI coefficient, you know, where we have the most unequal society. So, when we talk about a transition in the energy space moving from the technologies we currently have to new technologies, the

“just” part is as important as the transition part. So the decarbonization and dealing with the just is extremely important. So, the just part is ensuring that we don’t exacerbate the social problems that we have, that we don’t add to unemployment, that we don’t add to socioeconomic decline in the country. But that we actually, as we transition, make it better from a socioeconomic development perspective, socioeconomic growth perspective. Creating jobs, creating the opportunities for revenue, creating the opportunities for reindustrialization in South Africa. We’ve lost a lot of manufacturing capability over the last five to ten years. And so, if we can reignite that, stimulate that, create jobs and create new revenue streams, it deals with the just. And I think you will hear a lot of the labor movement, a lot of people in society talking about leaving no one behind. But, you know, I don’t – I’m not a big fan of buzzwords and buzz terms. And for me it’s actual what do we implement on the ground to make sure that we improve the socioeconomic circumstances of people? So, like I say, a lot of our coal-fired power stations are in Mpumalanga, so the area where the report is based, because that’s where the coal is. So, power stations were built in the 1960s where the coal was. And so, a lot of those communities developed around the coal-fired power stations and around the mine. And so, they were dependent on those operations for their jobs. Now when we’re looking at shutting down those plants, and as a knock-on effect the mine will shut down, is how do we make sure we return economic activity in those communities? So that is what the “just” is all about.

Mr. Majkut: And you mention that this is an opportunity. How well – or the transition was an opportunity. How well can those opportunities be brought into the current coal communities, right, through economic diversification or other mechanisms? And what – and who’s responsible for making sure that that can happen?

Ms. Rambharos: Well, I think it’s a collective responsibility. It’s not something that, you know, any one organization – or, we can’t just say it’s government’s responsibility. I think from our perspective, the way we’re looking at it is in our plans we’re looking at – you know, we’ve done extensive socioeconomic impact studies for plants that are shutting down. And we continue to do that as we shut down more plants. So, we have 16 coal-fired power plants, and we’ve done the studies for three. And what we’ve done there is looked at – you know, they’re not just desktop studies. They’re robust modeling, looking at what is the socioeconomic impact from a GDP perspective, from a job loss perspective, in the local municipality, in the – in the broader province, as we call them, and then in the country itself. And so, when we look at that you’ll say, okay, so what? You know what the numbers are, so what does it tell you? And what we’re working on is mitigation plans on how to ameliorate those risks, how to deal with the job losses, how to deal with GDP losses. But also getting into cooperation with mining companies, with government, because, like I say, it’s not something we can do on our own. It’s not an Eskom

responsibility on its own. It's not a mining company responsibility on its own. And so what we've done is we've looked at what is within our locus of control and what is outside of our control. If you look at – there's a couple of aspects that if you look at localization, local manufacture, we as a South African public, you know, in the past we've done industrialization, manufacturing of gantries, glass plates, panels, that kind of thing. We've lost that capability because we haven't had predictability and stability in the renewables that were brought in the country. So firstly, policy. We have to have certain geo-policy that we will build 'x' volumes of renewables in the next five to 10 years. What the local manufactures tell us is that if they knew – if they knew and they had certainty around that, they would then open production lines to build gantries, to build frames, to build glass plates, whatever is required. From an Eskom point of view, what we're doing is we've put a plan on the table to say: This is what our view is in terms of renewables we can build in the next five to 10 years and beyond. You know, we're working on that project pipeline. But we've also started smaller projects. We have a power station called Komati Power Station which only has one out of nine units running. So, we shut down that unit next year – in a year from now, actually. October next year. And what we've started doing is repurposing that plant. So, we've built a small pilot agri-voltaic plant, which is combination of agriculture and solar PV. And we've also started the manufacturing of what we call containerized microgrids. I can go into a bit more detail later. Of those—at that site, so that we can use local laborers and we can return economic activity in that local area. So, we've started doing that. You know, we've done some engineering studies on site as well to understand what PV plants we can put on, what battery storage plants, and all of that, and how to capitalize on local labor in that area. But I think overall it's something we need to work on collectively in the country.

Mr. Majkut: As you look at these mechanisms or making the kind of investments that you described, what are the key barriers to moving faster toward a just transition?

Ms. Rambharos: So, for me there are three main barriers. One is policy misalignment. You know, so if we don't have alignment of energy policy with industrial policy with environmental policy, we're not going to get anywhere. It's really difficult to be able to say let's just start building renewables in the country if we don't have energy policy that has foresight, or we have industrial policy that has a huge import tax on components that we need to manufacture. So policy alignment is one thing. Secondly, financing. You know, as a developing country, we actually require quite a lot of financing, capital investment, to get that done. But I think there are a lot of opportunities. And that is basically why we're here in Glasgow right now, is to try and capitalize on those opportunities, talking to investors, and a bit of work that we've been doing in the last few months Mafalda is very aware of in terms of accessing the financing. So, some very positive news and things coming out in that respect.

But I think, Joseph, the biggest barrier is mindsets. You know, when we talk about – so Eskom is 98 years old. I haven't been there the whole time, but there are a lot of people that have been there a number of years.

Mr. Majkut: I wasn't going to ask.

Ms. Rambharos: (Laughs.) There are a number of people that have been there a number of years that are – you know, they're quite accustomed to the coal business. And we're talking about moving away from coal towards renewables, small modular plants, very different from a coal mindset. If you – we have so many people that have grown up in coal-mining towns. They've grown up in coal-fired power-station communities, not just in South Africa; in the U.K., in France, wherever. And the biggest thing was to change that lifestyle, to change that mindset, to say we're doing something different now, which requires different business models, different financing models, and a different way of doing business, basically. So, dealing with that mindset of shifting from something that you feel very secure into something that's very different is one of the biggest barriers. But, you know, I think hopefully we're getting there. I always use the analogy of the horse and the cart and the car. You know, we didn't – I'm sure at that time people felt this discomfort of moving away from what they knew to a car, which is, you know, a mechanical machine. And so, I often think about the analogy when I think about coal and renewables. And I think dealing with that mindset and understanding where people are coming from and being able to take them along the journey is a very, very important thing to deal with.

Mr. Majkut: Then let me close with this question. I think you're – you and Eskom are leading this conversation around just transition and are probably far ahead of a lot of your peers. Coal really does create these concentrated local economies. So as, you know, we think about this in the United States, or as your peers around the world think about how they can start conversations around just transition, what advice would you have for them?

Ms. Rambharos: I think it's very important to place yourself in these coal communities, as we call them, you know, people that – I don't like to say coal-dependent people, because they're not dependent on coal. They grow up in a community that used coal. And to understand that you are asking people to shift from something that brought a lot of economic growth, you know, we have to be respectful of that. If you look at the U.K., if you look at Germany, if you look at all these countries that transitioned, you know, some of them – in the U.K., for example, northern-England did not approach it in the correct manner. They say that to you themselves. And so, you know they're still struggling across some of the socioeconomic fallout from that, whereas Germany took a more sage view on how to transition, obviously based on the experience with what others went through, and set up funds and dealt with a lot of the social issues. So, for me, I think when you look at transition, it's not to come at it

with a technology solution. The technology part – and everybody says, you know – they talk about the soft versus the hard issues, and the technology is the hard and the social issues are the soft. I think it's the other way around. Technology is easy. We know where technology needs to go and we know how much it's going to cost us. We know how to implement it. The hard part is dealing with the people issues. So, I think it's very important to be very cognizant of that, to be very respectful of that, and talk about a transition that happens in a phased manner over time, taking into account all of these issues that will impact on people.

Mr. Majkut: Mandy, I am so grateful that you joined us this morning and offered your perspective, and I thank you very much for your leadership in this regard. I know it can't always be easy, and we wish you the absolute best in it. Perhaps at – or not at Copenhagen, Glasgow – perhaps in Glasgow –

Ms. Rambharos: Yeah. (Laughter.) Thank you very much, Joseph.

Mr. Majkut: – you'll find bankers with big open wallets to help you along the way.

Ms. Rambharos: We hope so, too.

Mr. Majkut: Thank you for joining us and all the best. We now turn to the report itself and my colleague from CSIS Sandeep Pai, who will deliver a description of some of the high-level findings, and then we'll move into a panel discussion. I remind our viewers that you're welcome to use the Q&A. We've already got some contributions there and they will be incorporated into the panel discussion later. Thank you very much for being here. Sandeep, take it away.

Sandeep Pai: Thank you, Joseph. Let me just go ahead and share my slides. Okay. Welcome, everybody. I am really excited to present an overview of this report. This report is quite long and comprehensive. It has got a lot of data and information from these communities. But I'm really excited to give you a big-picture overview of what you might find if you visit, download, and read the report. So, basically, you know, we are trying to understand just transition in coal communities – coal-dependent communities – looking at case studies from Mpumalanga and Jharkhand. So, you know, something that both Mafalda and Mandy reiterated, and I was – I'm going to say that is that, you know, if we have to make – meet global climate targets, fossil fuels have to decline. And coal in particular needs to go away very soon, and report and report have told us that, you know, it is imperative that we set ourselves on the path of declining fossil fuels. But the big question to me and for many of us in the Just Transitions Initiative is: What will happen to people and communities who rely on this as an economic activity? So the question is: What is the just transition for fossil fuel workers such as coal – coal workers, their communities, and local regions? Because, you know, when you have a coal industry, you really have the whole region dependent on coal in many

respects. And I will show you how that dependency is. So just very briefly about our two case studies, so we looked at Mpumalanga, where, you know, almost 90 percent of coal production in South Africa happens. They also have 70 percent of, you know, coal-fired power plants. Also, this is the – this is the province which has the highest number of coal jobs in South Africa, not surprisingly if they have so much coal production and, you know, power capacity. On the other hand, we have Jharkhand, which is an eastern state in India. Again, a state which is, you know, a hundred years of coal mining. In some ways, it's the birthplace of coal. And you have many districts – we have local districts in India, many districts that are quite deeply dependent on coal for jobs, revenues, and various other things. So we chose these two case studies with the – with the overall objective that we can do – we can explore similar questions in these two places in order to generate insights that can be applicable beyond these two case studies. So overall, you know, in the report, what we did is for both these places we explored coal-related socioeconomic dependency – which goes much beyond jobs, and I will explain that. And then we explored key elements of just transition. There are – one technology that – there are many elements of just transition. We scoped ourselves for three elements in order to do this study well, and we focused on how can these places diversify their economies to sustainable sectors, so regional economic diversification. We then looked at environmental remediation. Like, what are the best – what are the challenges and opportunities for, you know, remediating – rehabilitating some of these coal mines and power plants in these regions? And finally, as everybody else said, like, it's about people. So, we need to make sure that all communities, you know, are – you know, their views are incorporated, they're part of the just transition planning. So, we basically did a stakeholder-mapping exercise to understand who are the key stakeholders in these two places who are important to any just transition planning, and who, among them, are the most underrepresented stakeholders in the current discourse of just transitions. All in all, we did 25 expert interviews with regional-government representatives, trade unions, local community groups, coal companies, industry associations, and lots of – some folks in academia. We also conducted 10 interviews with coal workers, so five each in Jharkhand – five in Jharkhand and five in Mpumalanga. And we reviewed, like, hundreds, like, you know – I would say many hundreds of, you know, articles, papers, both academic and policy papers. We also evaluated lots of, like, policy documents that came from government reports and stuff. In addition, we collected data, lots of different type of data sets, and conducted an analysis analyzing some of the aspects that we looked into in the report. So, let's start with the first point that we explored. We explored the socioeconomic dependency on coal in local regions and we call it the coal ecosystem, which goes way beyond just the jobs dependency. So, this is just an example of Mpumalanga, so we conceptualized, like, what are the different ways in which the local region, or at the national level, you know, people are dependent on coal? So, you have the national-level revenue so,

you know, in the form of corporate income tax and royalties, and then you have the municipal services. So many municipalities, we learned that in Mpumalanga they sell things like water and other services, and that's a really important source of revenue for them. There's also corporate social investments spending, and we analyzed – when we analyzed Eskom's foundation reports for the last five years, we find that they have spent around, like \$15 million. And about 3 million people have benefited in the last five years in CSI spending in the form of health, education, and so on. Then I'm looking at the employment box. You have the direct jobs – over hundred thousand direct jobs in the coal sector in Mpumalanga; then you have indirect jobs, which is much bigger, of people, you know, who are in the supply chain, and that ranges – I mean, you know, there are different estimates but it's one is to three, so for every direct job, there's three to four indirect jobs. That makes the supply chain really critical and when we think about just transition. Then there's something on induced jobs where, you know, people are selling small things to direct and indirect workers in these communities, so that is another category. And then you have the Zama Zamas, people who, you know, scavenge coal for living and – for living, for domestic use, and also for selling. Then you have the whole category of, you know, fuels, so coal is both an industrial fuel but also a domestic fuel. You know, when coal companies operate there, they create mixed-used infrastructure; you know, it's for their purposes but, you know, community users. So, this is kind of like a coal ecosystem; that is how the dependency we saw in Mpumalanga. There are many layers to this dependency, and in Jharkhand, some of these layers are different, but it's as complex, if not more, like Mpumalanga. So, what we find, the big insight is that, you know, there are many elements beyond jobs, and it really is across the regions. Many of these elements, from a research point of view, have not been quantified, so we don't know what the number of induced and informal jobs is, or we don't know, like, at least in the research sense that – what is the scale of this number we are talking about. So, what we recommend for this part is the additional analysis be conducted to identify and quantify dependency and transition risks across the coal ecosystem. So, we need to quantify some of these things like induced jobs, informal jobs, and various others that we have listed in the report. Next, we jump to the coal ecosystem – sorry, to the elements part, the three elements. So, the first element is the regional economic diversification. So, within this, what we did is we structured the report into two parts. The first part we look at the provincial-level diversification. So, like, how is the province, along with other constituents, making or striving to do an economic, you know, diversification? The second part, we looked at business diversification of especially state-owned companies. So, Eskom in the case of South Africa and Coal India in the case of India. So how are these companies diversifying and what are the just transition imperatives of that? So, I don't expect you to read this table. This is just a – this is a flavor of what is in the report. So we looked at various sectors. So, if you look at agriculture, and this is, again, an example from

Mpumalanga. You know, Mpumalanga has very good soil compared to other provinces, high-potential soil. It is already a leading producer of fruits and nuts. And so, there are many drivers to, you know, agriculture as being one of the sectors. Again, we're not advocating for one sector to be – to completely replace, you know, coal-based industries. We're talking about an area of sectors, like, which are the different sectors that we can harness. But when you look at, again, coming back to the agriculture, while I talked about some of these drivers, there are many barriers. You know, agricultural wages are very low compared to coal-related sectors. You know, land in some of these areas where coal mining is happening is quite degraded. So, the expansion of agriculture is not so easy. It's quite difficult. So that's how we grouped, that's how we arranged the report. It's got lots of information and detail for both case studies on different aspects of regional economic diversification. So, what we learned is there is potential in sectors like agriculture, tourism, and even, you know, newer sectors that are coming into the province, like renewable energy. But there are very specific challenges that need to be addressed. And you can find lots of details about those challenges in the report. But the other big thing we learned is that state-owned coal companies, power and mining companies, like Eskom or Coal India, have planned business diversification. And they are – if that diversification happens with a just transition lens, then that will be really – that will be a big contribution to helping people in communities. So the big recommendations coming out from this key element analysis is we need to understand more. We need to conduct more feasibility and scalability assessments of regional economic diversification options. So, we provided an initial assessment of some of the sectors, but we need to go deeper and try to understand more. Then once we know that we have to create developmental long-term pathways for diversification. But it needs to be grounded in local priorities. So, we don't want to go and try to diversify in sectors that, you know, local communities are not on board with. And finally, you know, we see the provincial diversification or the state diversification and the coal company diversification plan as very important pillars. And we advocate for better coordination between government and local coal company diversification plans. Next is the issue of environmental rehabilitation. These coal regions have to deal with both legacy and existing coal mines. So, by legacy coal mines I mean that mines that have been abandoned, and there's hundreds of them in both places. You know, but have not been properly rehabilitated for different regions, which we have gone into details in our report. Also, you know, how to do proper environmental rehabilitation of existing mines and power plants. So, this is a very, very important imperative because doing an environmental remediation will not only create short-term jobs, but it will also create – you know, bring in opportunity for diversification. So, in both places what we find is that there are regulatory, institutional, and financial challenges. So to give you an example, many interviewees told us, including we found in many documents, that the financial allocation for rehabilitation is not adequate. It's a very important

consideration. Also, like, it's not clear how the financial aspects of legacy mines would be dealt with. So it's really important that, you know, some of these challenges have to be accounted for. Rehabilitation of current and legacy mines must be based on post mining land use policies. So, we have to create – we have to think about what are the different sectors and opportunities that you can create with this really important resource? I think that some of these mining places are places where, especially, like, in Jharkhand, you have these mines, and land is such a big issue in a place like Jharkhand. You can really rehabilitate it. That could become a source of, you know, land for any new industries. But all of this needs to happen with – in consultation with local stakeholders, which is very, very critical. So what we recommend here is that we need to strengthen the regulatory regimes for effective environmental rehabilitation of current and legacy coal mines. We also recommend that following mine closures, robust post-mining land use policies and plans are required. So, we need to really think about what new sectors we want to bring as we rehabilitate. Of course, all of this needs to happen in consultation with local communities. Finally, the third element we explored was stakeholder mapping. So, who are the stakeholders and who among them are underrepresented? So, this is a diagram from Jharkhand, as an example. I don't expect you to read the names of all the stakeholders, but I do encourage you to download the copy of the report and read more about all these different stakeholders. We grouped all these stakeholders into five categories, starting with national universities and policy groups – sorry – universities and policy groups. And these groups, for example, are doing research that would be required for furthering just transitions. We find that while many national groups, in the case of India and Jharkhand, are quite engaged in the topic of just transition, smaller state-level universities, who have a lot of expertise, are not engaged in the just transition discourse. Similarly, you know, you have in the coal extraction and power groups you have the coal contractors who are not at all engaged in any just kind of – any kind of just transition thinking or planning. And then in India's case, there's lots of informal coal miners, you know, people who scavenge and extract coal for their living. They are right now not part of any of the just transition conversation. I will not go into the details of everything, but you will find a very comprehensive analysis of the different stakeholders involved in just transition thinking in both places, and who among them – as many of our interviews pointed out – are completely underrepresented in just transition thinking. So, what we learned from this last element are that, you know, there are broadly five categories of stakeholders important to just transition planning. In both places when we move to, say, another region, you know, there may be other categories of stakeholders. But in these two places we found five categories of stakeholders. And many of the stakeholders among them are underrepresented and are not currently engaged in any transition discussions. So, what we recommend is that local stakeholders, including underrepresented stakeholders, must be meaningfully engaged throughout the transition process to ensure inclusive outcomes and buy-in. So that was

kind of, like, a flavor of what you can find in the report. I highly encourage you to download the report. Also, we have a website which summarizes the report with videos and multimedia content. If you just want to skim that, that's fine. But you will find a lot of information. So, I really encourage you to download the report. And of course, we really look forward to your feedback. Thank you so much.

Hugh Searight: Thank you very much, Sandeep. You covered a lot in very short space of time. We'll have a chance to dive deep into some of those elements in this discussion.

Good morning, good afternoon, good evening to all of you. Thank you for joining. My name's Hugh Searight. I work at the Climate Investment Funds and I'm part of the Just Transition Initiative team. And I'm very pleased to take you through the second and final panel discussion. And, like I say, we'll have a bit of a chance to dive into some of the topics that Sandeep covered in the report.

In terms of structure for this session, we'll have a couple of opening interventions from our two panelists I want to introduce. And please do keep dropping questions into the Q&A function. I see we've got a couple already. And we'll keep monitoring that and try to get some of them at the end of the session.

So, without further ado, I'm very pleased to introduce you to Hamedat Deedat. Hamedat's the acting executive director of NALEDI, which is the research arm for the Congress of South African Trade Unions. Thank you so much for joining, Hamedat. Really looking forward to hearing your experiences from Mpumalanga and across South Africa. I know you're joining from the car, so thank you very much for making it happen. I hope you can hear us all right.

And Hamedat's going to be joined by a familiar –

Right. (Laughs.) Very good.

Is joined by Sandeep. Sandeep, we're looking forward to hearing more about the report, but also hearing from your experiences. I know you've done a lot of work and travel and research in Jharkhand itself and across India's coal belt, so looking forward to hearing your experiences from that work.

I'm going to dive straight in, Hamedat, if I could, with you. I know you've been embedded in South Africa and in Mpumalanga's just-transition dialogues for quite some time. Could you just give us a bit of background and an overview of the status of those conversations, who's involved, how they're informing

just-transition planning at the local level and nationally? Over to you, Hameda.

Hameda Deedat: Thanks very much. Thank you for this wonderful opportunity.

I'm not going to put the video on because it seems to be interfering with the connection, and I'd rather that you hear me than see me. So – (laughs) – so, yeah, so thank you very much.

I mean, look, the just transition is actually a principle. And I think, before I become controversial, let me answer your question. It's a principle that labor actually came up with at one of the COPs. And this was going far back as far as COP17, which was held in South Africa. And one of the reasons why labor particularly started to engage and actually developed the principle is because, of course, when you look at climate change and you look at where the carbon emissions are coming from, it's obviously related to fossil fuels.

We also know that across the globe, when you look at fossil fuels and who's working within those sectors, obviously, workers. And of course, workers cannot be and should not be the collateral damage when one is trying to address a capitalist consequence because they're the workers who, obviously, make the wheels of capitalism turn, but they cannot be the bearers of the consequences when we look at what we're experiencing in the context of climate change.

So the principle of the just transition is worker-centric. It is a recognition that the climate is protesting because there's a fundamental flaw and an imbalance of what is – what is happening to nature, and it's responding very fervently. So, in that recognition, we demand that workers' concerns be considered at the center, within the communities from which workers come but also who historically – and I think the pictures that were presented give you a very graphic insight into the kinds of horrific degradation of the ecology, the livelihoods, the landscape. And most importantly, if you look at the air, the communities who are surrounding Eskom and the coal-fired power stations, both in relation to their access to water as well as in relation to land and air, and actually food and food sustainability, have had to suffer as a result.

And then the third element would be, again, the issue of rehabilitation. So how does one actually then take into cognizance, when you're looking at workers and when you're looking at communities, obviously, we live on Mother Earth and there has to be a coalescence and a balance between how we live and how we work on the planet vis-à-vis how we use the planet.

So that's what the just transition is about. And it's a fundamental principle that labor has developed.

What has subsequently happened is, in the same way that the words “sustainable development” – you know, by the time South Africa had the sustainable – the world summit on sustainable development, within the framework – and I’m sorry, I’m a labor person, so I’m going to talk about the system, right? So it’s – within a capitalist neoliberal orientation, the words and the meanings get distorted. So, in South Africa, there definitely are engagements, and I think more vociferously now, around the just transition. But the just transition presented by Mandy vis-à-vis what is presented by the NBI vis-à-vis what’s presented by communities, sometimes the greens movement vis-à-vis labor, would be saying the same thing in terms of the just transition, as in the word or the phrase, but for us it’s a principle that might mean something completely different.

And so, in this particular report, I’m – you know, I’m getting agitated because the underlying thrust for us as a worker, as unions, it’s a principle. There’s no – we’re not just under-marginalized. We’re not just an under-stakeholder. We are a key stakeholder that is not being sufficiently engaged, not being given the space to really concretely articulate what a just transition should be. And the positive indications of – if you actually do the just transition in the way that labor is pushing forward, the beneficiation for the environment and the communities for themselves would definitely be there.

I think from the South African government perspective, they set up a provincial commission on climate change. You’ve got various organizations – you’ve got government departments, you’ve got business – so we’re quite committed to social dialogue. So we have the various high-profile dialogues happening, but it is not echoing in any way – and I think that’s what the report is demonstrating – the key voices that need to come forward.

So to give you a simple example, we’ve had an announcement, I think in 2017 or 2018, about five coal-fired power stations that were going to be closed down. Now, these are fundamental. They’re big power stations. As the report indicated, they provide major amounts – you know, they largely provide the employment and they’re linked to the coal mines. So when you talk about coal-fired power stations closing, it means workers are going to lose their jobs. But if the coal-fired power stations were going to be decommissioned – and it normally has a lifespan of 30 years – why was there no just transition put in place, right? Because climate change didn’t happen yesterday. We’ve been engaging on climate change, and yet the Hendrina coal-fired power station was closed without a just transition.

So now if you go and you interview a worker from either the mine that was closed or from Hendrina who’s actually suffering from abject poverty, who cannot put his or her child through school, cannot – if the children – (inaudible) – education they can do – they can do absolutely nothing, they’re

struggling to put basic bread on the table – if you go to that worker who knows that his end result is probably he’s going to die of cancer or coal-related illness, if you offer him his job back, he’s going to say yes. And that’s not because the worker doesn’t understand how coal is impacting. That’s not because the worker doesn’t understand that it has a – even at a very personal level that it impacts his health and his family, and that they’ve had to live with the air pollution. But if you don’t have an alternative to be able to provide for your family at the most basic level, then coal is going to remain critical.

I mean, just in terms of our research, we did a – it’s a very simple exercise where we asked all the various stakeholders from communities and our unions, workers’ representatives, to just talk to us about what coal meant to them. It’s a very simple question, but the kind of responses was profound. People understood coal in terms of their personal life. They understood it as a – as a – something that you take out of the ground. They’re very astute to the fact that coal in and of itself has no negative impact until you burn it, right? So they’re clear, but it’s complicated. And if you do not address the complexity, but also for South Africa the historical inequalities and inequities and the devastation that has occurred because there was – there was a specific commitment made by the apartheid state towards coal – we were pushed into our development through a very coal-driven trajectory – you cannot expect the communities who carried the brunt of a coal-driven economy to now bear the brunt of a – of an economy that’s moving away from coal. One has to be very, very clear what it is that we’re asking people.

I think just before I, you know, stop, I think it’s absolutely critical that we also recognize that in South Africa coal is not specific to energy. We have an entire value chain linked to coal which is in our manufacturing sector, and we are currently suffering from deindustrialization. So the demand in the context of climate change that South Africa should move away from fossil – and I think somebody had mentioned and do it quickly – not going to happen. We are now – we are already sitting with more than 40 percent unemployment. It would be absolutely irresponsible to articulate a rapid move away from coal when it’s going to lead to abject poverty for the majority of the people of South Africa, and that won’t be a just transition. And I don’t think any worker or community or any banker has the right to demand that of South Africans. I think what’s – if you – if we start off by saying in the global context to keep the temperature level to two degrees – because we’re going to miss the 1.5 – if we start off by simply stopping our exports of coal, that would be a fundamental contribution to reducing our fossil fuel. And that’s where we need to start.

Thanks.

Mr. Searight:

Thank you, Hamed. Yeah, a very powerful reminder of the sort of historical legacy issues surrounding just transition and where the term sort of was born, and some of the kind of issues around poverty and development which are obviously very integral to the kind of more transformative discussions around just transition. And these are two of the kind of coal value-chain system – (inaudible) – need for an economywide/societywide understanding what a transition looks like, and who's impacted, and who needs to be included in those conversations. It's a very good overview. Thank you so much.

So just picking up on Hamed's point later on about kind of need for environmental remediation as part of this transition process, you touched on it in the report – in the report presentation. Could you just unpack it a little bit more about the need for that as a base for diversification strategies, the opportunities there, and if there are any good examples from India that you came across? To you, Sandeep.

Mr. Pai:

Yeah. Thank you.

So I think the environmental remediation – so I have been researching just transition for five years now. Something that I have learned is that environmental remediation is going to be absolutely critical if you want to diversify local regions. Because if you look at districts like Dhanbad or Ramgarh in Jharkhand, these districts have so many abandoned mines. These districts have so many, like, current mines that will get abandoned. And so if you want to bring in new industries into these regions, you have to have these mines and power stations – in Jharkhand's case, mostly mines – cleaned up. You have to free up that land. You have to create incentive for that cleanup. And once you do that, you will see some of the newer industries come to these places.

Beyond the diversification imperative there's another imperative, which is for the time period you're cleaning up all this coal infrastructure – for the next 10, 15 years, because there's so many of them it'll take a long time to clean up, you know, and you need lots of investments for that – once you clean up those or as you're cleaning up those mines, you will actually create a lot of jobs locally. You will actually create a(n) equal system of environmental remediation-related jobs locally, which I think will be a really good starting point for creating a lot – lots of jobs locally.

So for me, to conclude, like, on this point there's two imperatives. It will help with the diversification process. It will show the investors that, you know, there's land available here, especially in India's case where land is so critical and so important and, you know, so hard to, like, deal with issues around land. So it'll free up land for agriculture, for other industries, for tourism. It will also create short-term jobs.

Now, regarding your second question, which was about, you know, like, what are some of the good case studies, so I just want to start by acknowledging that case studies are not many but there are some, and they are good. So one of the things that Coal India's subsidiary CCL has done in a district called Ramgarh is that, you know, they took this abandoned mine, they cleaned up all the leaching and acid-mine drainage and various things, and then they basically started fisheries. So they filled up the whole – you know, the big abandoned mine hole, and then they started fisheries. And they did it in consultation with local stakeholders. In the whole process, they employed lots of people. And this is – it's almost kind of become a cooperative now, and, like, local communities, local people benefit from these closed mines. So this was an example of how you can create – they created jobs during the cleanup process, but they also currently, after the cleanup is done and the fishery industry is running, you know, there are lots of jobs locally.

But this is one example. There is another example in Dhanbad District, which is, you know, I would say the most coal-intensive district in India. You know, after a court case and various other issues, BCCL – which is another subsidiary of Coal India – started what is called ecological restoration with three-tier planting. So they first planted – in some of these abandoned mines they first planted sort of grasses, then shrubs, and then trees. And eventually, that land was so clear and clean that they could start barley cultivation, and it was like a tourism site, and local people go and enjoy.

So these are some examples. But again, these examples are a few. You could – or a handful, and you can count them. But the whole idea is that you need to scale up these interventions. You need to have post-mining land-use policies. Otherwise, these will be isolated, you know, good examples. Yeah, that would be my take on this.

Mr. Searight: Thank you so much, Sandeep. Very interesting examples there from the report.

I think we may have lost Hamedra, so I wanted to come back to you, Sandeep, with a follow-up, sort of building on some of the points that Hamedra made around kind of the need for inclusive dialogue. Just wondering, from the Indian experience, Jharkhand specifically, sort of what stages those discourses are at, who's involved, who has the most agency. And you mentioned in your presentation this issue around understanding what the informal workforce – the extent of it and how they're engaged in the process. Could you kind of touch a little bit upon that?

Mr. Pai: Yeah, thanks. Very important question.

So unlike South Africa, where I think that the just transitions debate is quite further along – every stakeholder we spoke to in South Africa has a very strong opinion of what a just transition should look like and what it means, from labor to industry. In India's case it's a very new topic, partly because, you know – it's a new topic. It's mostly in the imagination of, you know, think tanks and the research community right now and, to some degree, with the federal government. It's not something as a topic, as a term, as a discussion point that has reached people or even, I would say, the state government in Jharkhand. It's not something they're actively thinking about or articulating. But slowly, you know, that process coming from the national actors into the local actors about what this means and how it means is slowly moving forward; however, these are very early days. So not everybody has a strong opinion.

So if you start with Coal India, Coal India gets – you know, Coal India has some idea of what just transition means, they're thinking about it, but it's not something they're using extensively. The labor, the trade unions in India haven't really got around to the idea of what a just transition means in the context of climate change, although I'm very hopeful, you know, in the last two years itself, like, this term and understanding and discourse and dialogue around just transition has really increased within various quarters of the Indian community and just transition.

So that's your first question. The second question I think was about informal labor.

So just for background, you know, we have – in India we have the formal coal industry of people, you know, who work in state-owned coal companies or coal contractors who serve state-owned coal companies, and so on. But there is a large number of people who have lived in these regions for hundreds of years; they have been, you know, using coal for so many years. They scavenge coal, they extract coal, they sell it, you know, they use it domestically, but they also sell it in the open market. This is – we don't have numbers for what is the scale of that, but, you know, for all the researchers who have gone and visited some of these places, you will find village after village after people just scavenging and extracting coal. They're a really important part of the coal economy. However, at this moment, first of all, they're very fragmented, so because of the fragmented nature of, you know, how the informal sector is compared to, let's say, the formal sector, which is represented by really powerful and strong coal unions, the informal sector currently is not at all engaged in the just transition discourse. I think we have to build capacity; we have to go and engage. They will have – I have no doubt that they will have fascinating ideas of how to move forward, but we have to – you know, somehow we have to engage with them on this topic but the challenge would be the way the sector is fragmented. It won't be an easy thing to do.

Mr. Searight: Thank you, Sandeep. Really interesting to hear, obviously, a different context in India for many reasons, as you highlighted.

Hameda, welcome back. I wanted to just follow up on the last points that you were making about the need for this more transformative understanding of just transition as a kind of grassroots issue and a kind of economywide shift. It's a question that's coming up quite a bit in the Q&A, and thanks, everybody, for posing those.

Sort of how do we move beyond this short-term mindset of transitioning, you know, a given plant or a project-level change into this kind of more structural transformation that you were talking about that is led by those stakeholders that are immediately impacted in the transition process? And are there any kind of good examples from Mpumalanga or South Africa where those kinds of questions are being asked, and in a kind of inclusive manner? Hameda, over to you.

Ms. Deedat: Thanks very much. Let's – I think that's the question, right? It's in the core. So we've been – as I indicated, from a labor perspective NALEDI's been running climate change workshops from, in fact, before I joined the organization. So for more than 10 years. And the just transition since COP17 was something that we've spoken about and, over the – I think probably the last – from 2015 to 2017 or '18, we actually – from a – from a democratizing climate change perspective, we were able to work quite extensively with our comrades across the various federations, bringing home the issue of the importance of climate change, but then also introducing something called the National Production Centers.

So it's a UNEP institute. And basically saying to comrades: As part of your collective bargaining process, you need to be talking about climate change. We need to be reducing the climate footprint. And in fact, you can use the National Production Center to come in and do a climate-friendly audit. So they come into – it doesn't matter which sector you are – they come, they do the audit, they write out a plan. And then they say to the company or the union: If you'd like us to work out what it is that you need to do, or how to put it into place, you then pay us.

So we were going very well along, you know, getting people to really understand. We worked with NUM, which is the National Union of Mineworkers, the parliamentary position was very strong in relation to the understanding. NUM side at one point was also the lead. And then we had this announcement of the closing of the coal-fired power stations. And then the contestation between renewable energy and coal. And then the issues around truck drivers were going to lose their jobs. And we went back almost

10 years. Because the reality is there's a theoretical concept of something, and then there's the reality.

And, again, I want to emphasize the point, it doesn't mean that people don't understand what coal means. It doesn't mean that they're unaware of why their water is contaminated, why it is that they can't grow food, why is it – I mean, if you look at it from a gendered perspective, women are not able to bear children. Some of them are too scared because the social reproductive labor leading to health, either with a miner who's retired, a family member who's got chronic heart disease or asthma or lung cancer, children who are born with deformities, who permanently stay with asthma, and then you have a failing health infrastructure where people can't access basic health needs. So there's a profound consequence, right, of what coal from a negative perspective does to you.

The problem is, if you do not address the issue of the economy of Mpumalanga, in a way that presents an alternative – and I'm not talking about clean coal, because we don't – I mean, there's discussions by some parts of labor that there's a potential for clean coal. There's many of us who contest that position. So we're not talking about clean coal. We're talking about how do we actually transform the region to something that is potential and that actually leads to a maximum beneficiation for everybody concerned, and not about profitability?

The current transition, which is not just, is being driven by the Greens. It's driven by the banks. It's driven by ulterior or external—you know, forces external to us in our country. And it's completely disconnected from the communities. And so to come specifically to your question is, we've being funded by the – by the British High Commission through a program called the U.K. PACT. And in consulting between TIPS; NALEDI – so TIPS being the policy unit, NALEDI being the labor institute – Peter Walpey (ph) is a – is a consultant who's worked in the area for many years; and then Groundwork, who's a community-based organization; we've come together as partners to do precisely what you're asking. And that is to go to the communities and the workers themselves and say: OK, what would you see as a transition? What would you actually envision and visualize as a way to move – if we – if we had to think of doing something different, and it involves moving away from coal, what would that look like? Could it look like something else? What would the potential be? And who would be the key initiators of that process? What would the roles be? So, Sandeep, to your point around the five underrepresented stakeholders, what would the role be for each of the stakeholders?

So we had an amazing discussion with some of the union representatives in the – in Mpumalanga, excluding SAPIA, which is the petroleum and the agricultural processing. But the units that were in the room basically – I mean,

they're quite open to visualizing maybe tourism, agriculture, rehabilitation. You know, doing desalination of the water. So the potential for jobs in addressing the inequities and the destruction in relation to what coal has left behind clearly is part of a just transition.

The problem is the way in which it's being framed is simply about fossil. But for us historically, the damage by fossil is where the emphasis has to be. You've got to fundamentally transform Mpumalanga in a way that will allow maximum beneficiation and automatically transition away from coal, or the minimization of the use of coal will come. But when you're placing coal and the movement of fossil as your central point, and you expect the people to then come along, it's not going to happen. It's not going to happen. Not because people don't understand it, but because at the moment that's their reality.

Mr. Searight: Yeah. Thank you, Hameda. We could talk about this for hours, and really interesting to hear those examples about visionary exercising going on in Mpumalanga, and I think a lot of lessons that other territories could take from that. Like I say, we could talk for hours, and I'm so sorry but we're up on time. I just want to thank everyone for their questions. We managed to touch on a couple of them. There were many more that we could have answered. And perhaps we'll try and follow up with some written responses. So thank you for that rich set of engagements.

I'd just like to thank Hameda and Sandeep so much for taking time and sharing your experiences, and for all of the questions that came in. Once again, we appreciate it.

Joseph, I'll hand back to you to close us out. Thank you so much.

Mr. Majkut: Thank you, Hugh, for your deft moderation and leading an excellent conversation. Guests, we're very grateful that you joined us today. This event will – has been recorded and will be available on the Just Transition Initiative website, as well as broadly. I'll just offer brief thanks to our panelists, to our guests, and to our viewers for your attention and time today. One of the things that's most important about this discussion is that many of these things are occurring at the community level.

And as part of this project, the Just Transition Initiative was able to create some media products around what these coal communities look like and who the people are, who are – under an energy transition are going to be seeking a just transition? We'll close with a brief video as an example of the kind products that we've made available. Encourage you to visit the website of the Just Transition Initiative to view the rest of this stuff that sits alongside the report.

With that, we wish you well and we roll tape. Thank you.

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