

Accelerating Transition

Episode 3
With Kara Mangone
And John Greenwood & Ahmed Saeed

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Kara Mangone: Hello and welcome to another episode of *Accelerating Transition*. I'm Kara Mangone global head of Climate Strategy here at the firm.

In our previous episodes we've taken a close look at how the private sector is taking steps necessary to address climate change, but meeting the challenge of Net Zero is going to require the private sector, the public sector and partnerships between the two. To talk more about those partnerships and collaboration, I'm very excited to be joined by my two guests today: Ahmed Saeed, vice president of operations at the Asian Development Bank, which has spurred investments and projects like mass transit, green buildings, and sustainable agriculture across Asia. I'm also joined by my colleague John Greenwood, head of the decarbonization group in our investment banking division, which works with companies and sovereigns to reach their Net Zero goals. Ahmed, John, thanks so much for joining me today.

Ahmed Saeed: Thank you.

John Greenwood: Pleasure. Thanks Kara.

So I'd like to start the conversation today by just giving a little bit of context around addressing climate and the role of emerging economies. So just to level set for a second with a little bit of background:

If we're going to meet the climate goals set out in the Paris agreement, it's going to take a tremendous amount of investment. Our research estimates that that will require about \$120 trillion in investment by 2050, so just a very significant magnitude. Of that about \$120 trillion, 55% of those funds will need to be focused on Asian economies.

The good news is that we have seen momentum globally in sustainable finance in recent years, with investment in energy transition going from \$290 billion globally in 2011, to upwards of \$500 billion in 2020. But that still puts us behind the pace required to meet those very significant amounts of capital that need to be invested over the next few decades. We need to increase that investment by about five to eight times where we are today.

And the majority of growth—this is also, I think, a really important sort of context for this conversation—the majority of the growth that we've seen in the past decade has come from high-income economies, which make up more than 50% of that total capital

invested. The pandemic only exacerbated this divide: In 2020, high-income economies increased year-over-year investment energy transition by 24%, while emerging economies actually saw more than a 20% contraction. So a very significant divergence. All of this leads to a very simple reality and I'd like to start the conversation here, which is that we need to see more investment at a faster pace in regions like Asia.

Ahmed, I'd love to kick off starting with you: You work closely with leaders in the private and public sectors across Asia. What are the key priorities that the Asian Development Bank—and the industries and the regions that you cover—is really focused on? So just walk us through a little bit, what are your top strategic priorities today?

AS: Sure. You know, as an institution, Kara—and thank you of course for having me, it's really an honor to be with you. As an institution we were originally established with the goal of addressing poverty through the vehicle of economic growth and economic development. And over the years that agenda—as our understanding of the definition of human flourishing has continued to expand—that agenda has gotten broader. And I would say, over the 50-some years of the history of our institution for many of those years, that that agenda has gotten broader to include things like gender, economic growth, inequality.

And I think one of the really interesting things about the moment we're at right now is actually all of those strands are starting to reconverge on climate. And so every single thing that we do as an institution now is deeply affected by the climate transition. And so while it's hard to prioritize amongst these very, very important competing strands, it's certainly very clear that climate is both urgent and critically important for us As an institution,

And we've really taken two different approaches—just answer your question at very, very high level, to kick us off—we've taken two different approaches to addressing the climate challenge in Asia. And as you noted, the battle against climate change will be won or lost in Asia. The region is already 50% of global GHG emissions and as developed countries start to decrease carbon intensity, that number is just going to keep going north unless we do something about it. And the two different approaches that we've taken at ADB, one is really in what I would call our traditional line of business, and one reflects the recognition that doing business the old ways just won't get us there.

So, if we look at our traditional work, which has primarily been efforts with governments, we've been really ambitious as an institution. We just announced a \$100 billion climate-financing target before 2030. And even that significant increase in our commitments doesn't reflect the full scale of our ambition. The Japanese Prime Minister announced at COP26 that they'll be working with us to set up a new facility at our institution that could unlock tens of billions of dollars of additional capital, leveraging the power of guarantees from G7 member states and others. So that is our traditional work, and that's working with governments to provide them the financing they need to do the things they

must around building sustainable infrastructure, about mitigation and adaptation planning in a number of different ways.

But as you noted at the outset, the investment need is enormous. Those sums will simply not be achievable through the public sector alone and we need the private sector to step up in a big way. And our role as we see it in that process is to become a better collaborator and partner. And there's a number of issues here: I think about how those partnerships are designed, but what we've really done at ADB over the last 2.5 years is to say, 'What can we do as an institution to take our unique assets—and our unique assets are our relationship with governments and trust, um, and subject-matter expertise in a host of areas that are relevant—and rather than being, you know, the kid who sits in the corner of the sandbox with his or her back to the other children and plays with their own toys, we're trying to turn around as an institution and we're trying to share these very unique toys that we have with other institutions, institutions like yours, that have different skills and different capabilities.

The Climate Innovation Fund that we launched with Goldman Sachs and Bloomberg Philanthropies, I know we'll talk about that later, is one example. And there are others, but maybe just to answer your question at the outset, what I'd say is we've taken these two approaches: One is to do more with higher impact of the work that we've always done, and the second is to become a much better collaborator, and that's a journey that we're just beginning.

KM: Thanks, Ahmed. I'd love to dig in a little bit more on that second point around collaboration, because you really have, as an organization, been quite a trailblazer in terms of what you all are committing to, and your capabilities, and how you brought others to the table. You gave the framework too, which I think I want to just underscore the \$100 billion target before 2030 is, I think, a really important, very near-term milestone. Help us understand a little bit better, you know, what has been your role in helping to finance climate transition so far with your own resources? You mentioned that bucket one. I think really importantly, doubleclick for us a little bit more into how it's worked with third parties. So what does this partnership look like? Who are you spending time with? And how do you see that increasing your impact?

AS: Sure. So just in the traditional areas of engagement, as you know, we're engaged in supporting governments, whether that's in building out renewable power projects; whether that's investments in the grid to make them ready for intermittent power; whether that's in building sustainable infrastructure around ports and other areas; there's a tremendous amount of work that's been going on across the institution that will continue. Now on the subject of partnerships, I'd say, two different things, and I'll give you some examples of things we're doing, but the first thing is that we think that the fact that the private sector needs to act doesn't mean that the private sector has all the tools it needs at its disposal. And in particular, the interface with government is absolutely critical. And so multilateral development banks have a very unique role to play in helping the private sector engage government. And so that's one thing that we've

been trying to do, saying that the intangible assets of our institution, um, you know, I have 50 people who work for me in Jakarta. We've been working on the Indonesian energy sector for 50 years. And I don't think it's an exaggeration to say that they trust us. So we have a privileged conversation with the government. Historically, we have primarily used that privileged conversation for our own ideas, our own insights, and married it to our own money. Increasingly, we've got to take that privileged conversation and make it available to you and to other institutions.

And just a couple examples of things that we've done recently, I mentioned the Climate Innovation Fund with Bloomberg and Goldman Sachs, which is one example of, I think, of a very high-impact collaborative model. We've also created a new sustainable infrastructure financing platform with equity capital from Temasek and HSBC. And then finally, we launched at COP26, something called the Energy Transition Mechanism, which is a blended-finance vehicle which uses the power of concessional capital to reduce the cost of capital for an acquisition vehicle and, basically, use that to shut down coal-fired power plants early. So these are just some examples of I think where partnership looks like it's going to be able to have incremental impact in a way that it didn't.

But I'd make a couple of other comments about these partnerships before handing the floor back to you and this is really where I think we're going to need to spend a lot of time going forward as an institution. It's very clear that we have today the technologies we need to drive the climate transition. The quantum of capital required is enormous, but actually affordable in the context of a global savings arc, and actually most of these technologies, ultimately, will be NPV positive. In other words, mobilizing the capital will make sense. So between the use of funds and the ultimate owner of funds, there's actually a high degree of alignment, but the one of the areas that I think we as an institution really need to spend time with you and others going forward—and this falls into the rubric of collaboration is: Is the intermediary network fit for purpose today? Do we have the duration of capital we need? Do we have the right return targets? I think that's a place where, you know, collaboration goes beyond one plus one equals two, it starts to become one plus one equals three, or four, and I think that's a really important area to spend time on as we move forward.

KM: That's such a great point, and it's something that we talk about a lot as a firm—and I'm going to bring John into the conversation in a moment—is just the importance of the broad ecosystem, right? And looking at all these different players in private markets, all these different players in public markets. One last question before we move to John, that I'd love to dig into, just building on some of what you said around the expertise that you have: You have boots on the ground, you understand these economies, you understand these projects, understand these markets just give us a sense of, as you approach these different projects and investments facilities, how do you think about goals for what you're looking to achieve? And I do want to underscore one point that you made up front, which I think is really crucial, which is the interconnectivity between you know, climate goals and decarbonization, but also economic development and health impacts and resilience and a lot of kind of the other pieces of inclusive growth side as well.

AS: Yeah, so I really appreciate the question about objectives, Kara, because I think one of the traps that it's very easy for public sector institutions to fall into—and that we have to guard against at ADB—is the trap of being obsessed with intermediary variables. So we've laid out this objective of \$100 billion. The reality is that my children—and, you know, other generations to come—really couldn't care less if ADB deploys \$100 billion or \$200 billion. The only thing they care about is parts per million: How many—how much GHG is in the air and how does it affect, you know, our civilizations and our societies. So I think one thing that's very important for us as an institution is that while we may define you know, key goals, we have to be very, very focused on the objective and the objective is to slow down and ultimately halt the process of runaway climate change. And so everything we do has got to be aligned with that.

And I emphasize that because, you know, we are in a world where, in an ecosystem where nobody owns the outcome often you know, one part is responsible for tech innovation and other part is responsible for capital mobilization. A third part is responsible for governance. We've all got to take ownership of outcomes, and so I think that's extraordinarily important for us as an institution. Now we also have objectives in terms of supporting our countries in terms of their economic growth. Increasingly we've realized—certainly the last 10 or 15 or 20 years—how important the distribution of gains are to societies. Um, but as I said at the outset, we see more and more that this subject of climate change, is the single cross-cutting theme that affects everything we do. We cannot improve the lot of women if we don't affect climate change. We cannot uplift the poorest of our societies who get hurt more than others if we don't address climate change. And so this really has become this overarching organizing principle for our work.

KM: Thanks Ahmed. And that's actually, that cross cutting nature, I think it's such a good transition to where John spends time in his work. So I would love John to bring you into the conversation. As head of the decarbonization group, you work with clients across the spectrum to help them reduce their carbon footprint and you are seeing day in and day out what an integrated challenge this really has become and also opportunity. So talk us through how has that work changed over the past couple of years. And I know even in the past couple of months it's accelerated quite quickly and just tell us about what you're seeing and hearing from clients that you spend time in this day in day out.

JG: Thanks Kara. Yeah, there's been a huge shift in the market and corporate focus on decarbonization. Um and as you said, even in the last, you know, several months since the pandemic, you know what we're hearing from clients is that this is really no longer just a conversation about doing good. It's really evolved into a much more sophisticated conversation around risk management on the one hand, and the tremendous revenue opportunity it can afford companies, given the change in consumer and shareholder preferences. And so what we have seen on an incredibly accelerated basis over the last two years, is a huge uptick in the number of companies that are making Net Zero commitments. Just to put this in context through numbers, 2/3 of the largest 167 global emitting corporates have now made a commitment to Net Zero. This represents over

80% of all global industrial emissions. So it's incredible what we have seen in terms of, you know, obviously at COP we've seen countries stepping up and making commitments, but over the last two years of just a huge acceleration in the private sector companies making these commitments.

What is probably surprising is, despite these commitments that have been made—which is a very important step in terms of thinking about how we get Paris-aligned—I think actually figuring out how you're going to implement it is a totally different question. And so, you know, companies will start from the very beginning on, first of all, just trying to understand what is their baseline on emissions. How do I benchmark myself against my peers? And this is an area where I think the ADB and others um you know, can really support, because through technical assistance and other programs, it's really an education process for these companies where there's a real opportunity from the NGO community and multilaterals.

Then the conversation, which is obviously where Goldman is very involved, is, once you kind of figure out the baseline and where you need to get to, it becomes 'How do I put together an implementation framework to meet that Net Zero commitment?' And so clients are now really focused on specific products and tangible solutions to help slow down the generation of net-new emissions, right? And this starts anywhere from looking at implementation of operational efficiencies, how to procure more renewable energy, and ultimately thinking about a carbon-offset procurement strategy in order to meet those goals. So there's a lot around this and Goldman Sachs across all of its divisions are working together to be putting together portfolio solutions to support our clients in their energy transition.

I make a final point um which is, this is also going to require, important changes in corporate structure disposals, acquisitions, et cetera to help reduce the carbon intensity of some of these carbon-intensive companies, and that's going to require capital, right? And Ahmed, you know, made the point around thinking about what do we do with carbon-intensive assets like coal fired power plants, and this is going to be a real area of focus.

KM: That's a great point. I mean, so many things that you touched on there that I want to get into more. This transition from ambition to implementation that you talked about a few times I think is a really important thing to unpack. And I think in the context of collaboration which is so much the topic of this conversation here, what I want to kind of touch on is from two different fronts: I'd love to actually start with the country level because we, obviously, we talked a lot about Asia, which is crucial to global climate goals. John you obviously have extensive experience across your career working in a lot of different markets including Latin America and would love to just get your perspective on how you are seeing, decarbonization play out on the global stage. What do you see as the key pain points today for these different countries and attracting capital? And then what are some of the greatest opportunities

JG: There've been a lot of reports that have come out around COP26 from the International Energy Agency and others about how far we are from reaching these goals of Net Zero 2050 scenario. Specifically if you look at the 2010 baseline in order to meet the Paris alignment, global reduction emissions, what we need to be reduced by 45%. Even with the existing commitments, even those that I've just talked about, which is an incredible achievement in terms of all these commitments, it hardly moves the needle with respect to that 45% reduction, we're talking about less than 5%, right, on current commitments. And so this is why the quantum of capital needed towards the effort is just enormous. And you mentioned at the very beginning of the call, the expectation is that the total capital need to meet Paris Alignment Goals is around \$6 trillion per year. And I think Ahmed mentioned that 50% of global emissions comes from Asia. And so a lot of a lot of this capital needs to be directed towards these Asian economies.

So what are the challenges? And obviously this is something both Ahmed and I work on day to day with our clients. As an institution, as Goldman Sachs, as ADB, we've been working on deploying and attracting capital into infrastructure in these economies for a very long time. So what makes the challenge different as it relates to specifically around climate tech and energy transition? There are a couple of things: One is around technology risk and market risk: While conventional renewable I think is now well banked and speaking with Ahmed previously, there are markets like Vietnam and Thailand and others where putting together a financing for a conventional wind or solar deal now is extremely, extremely efficient capital, both with banks and the capital markets, it will become more difficult when we start to work towards other types of climate tech, whether that be carbon sequestration, direct air capture, biofuels and transportation. And this is going to require some real innovation and probably a different view in terms of risk, as you think about the scalability of these technologies. How do we address it? We address it through exactly these types of programs that Ahmed is talking about. It's going to require blended financing. A true cooperation between NGOs, multilaterals, and the private sector to find the right balance on risk taking and the ultimate cost of capital.

The second challenge is that a lot of the investment that's going to need to happen in these emerging economies are going to need to happen at the community level. We're talking about sustainable farming, operational efficiencies for small and medium-sized enterprises, fleet conversions, etc, right? And so while in the past a lot of our focus at Goldman has obviously been in some very large multibillion infrastructure, these are all going to be very, very small investments and that's how we're going to conquer climate change. And so how do you approach this, both the private sector and the multilaterals? I think it's gonna take a lot of innovation, but, you know, working with local and regional development banks, thinking about ways of warehousing risk and then taking a diversified portfolio of smaller underlying energy projects and securitizing them in the capital markets, I think is a real area of opportunity.

And the final point I'll mention is just the one that Ahmed already referenced in terms of their announcement at COP. With the emerging markets, there is a lot of legacy coal fired power plants. Um, and this is not something that you can just wave a wand tomorrow,

build a whole bunch of renewable energy and make the conversion, right? There are real issues around the grid stability. So this has got to be done in a really, really thoughtful way and through the energy transition mechanism that the ADB is working on and other types of mechanisms I think that are being looked at, um, really working with companies on taking these assets and putting together an energy transition plan that shows the either retirement of these assets before their useful life, or figuring out a way that's economically feasible to transition their feedstock, is really necessary to move the needle. When you think about the amount of coal fired power plants in places like china and others, there's a real need.

KS: Thanks John one of the things that you had mentioned earlier that I want to circle back to, when we have the discussion around how corporates are looking at decarbonization and implementation is how they really are starting to integrate it financially and as an investment. And we know that one of the evolutions that we're seeing in the market is that companies are having a lot of engagement with investors. It's a very significant focus of shareholders and investors. How has that financial interest created the incentives for companies to pursue these strategies? How are those commitments actually affecting their balance sheet and capital allocation decisions?

JG: You know, when I previously talked about this change that we've seen in terms of how corporate are thinking about decarbonization, um and the significant pickup and the number of companies that are making Net Zero commitments. What's really driving this is the difference between thinking about sustainability and decarbonization simply as "values" and now really thinking about it as "value," because there is now a massive wedge that is being created around cost of capital for energy-efficient assets and projects and businesses, and those that are carbon-intensive. Carbonomics just came out with a very interesting piece that talked about this difference in cost of capital and IRR, and what it means in terms of the actual cost of investing in hydrocarbons. And basically what it shows is that over the last 5 to 10 years, the IRR for example, an offshore oil project has gone well above 20% While at the same time, renewables has declined to below 5%. And what that actually implies in terms of cost of capital for long term hydrocarbon investments is between \$40 and \$80 a ton. So very simply emitting carbon investment decisions by companies.

KS: One of the trends that we've talked about throughout this conversation and, John, you talked about it very specifically as one of the key challenges you see in meeting global climate goals is this concept of the cost curve not being in the same place as renewables for emerging technologies, which are going to be critical for us to address global climate goals. You gave a couple of examples, direct air capture, sequestration could probably add hydrogen to that, e-fuels, etc. And you talked about how one of the solutions is going to be blended finance to really get at that. The other solution is, of course, you know, policy and incentives, but in terms of what we're talking about here and what we can do together in terms of public/private, that that is really one of the opportunities is innovation. And pulling different sources of capital There is a innovation

facility on it that you that you mentioned that we've spent some time on together as a group and would love for you to just spend some time talking about, how did that come together? How do you view that innovation fund between Bloomberg and Goldman Sachs and the Asian Development Bank, and how do you see that playing out more broadly in markets as a tool that can be piloted and then leveraged in other economies and markets?

AS: I just want to pick up on a couple of the themes that John mentioned. Um one of the real challenges, I think, in how we talk about the climate transition—I'm speaking from the perspective of development in emerging market countries—one of the real challenges in how we talk about it is we've historically talked about it as a burden-sharing exercise—and this is also ultimately grounded actually in the macroeconomic frameworks that won a Nobel prize—but the idea was that this transition was going to cost a lot of money and that the new world we would move into, while it would be cleaner, would actually be a more expensive one. And what we haven't fully incorporated in our understanding is, in fact, that we have an opportunity to pivot to a world that is better in every way, that's cleaner and—in most cases, once we scale the technologies—that's actually an NPV-positive move.

And speaking from the perspective of a development bank, I think there's a really important realization at the heart of it. And the really important realization is that, in fact, decarbonization *is* development; that the single greatest opportunity that countries in Asia and elsewhere in the world will find to mobilize capital—and capital married to skills and technology to come into their countries—is going to be around decarbonization agendas. And so countries will have an opportunity to develop high-quality jobs and cutting-edge industry in the future on the back of inbound investment to drive decarbonization. And, in fact, while we talk largely about energy, as we all know, this is a whole-of-society and whole-of-economy transition: the industrial sector, waste, roads, energy, telecom, everything. And so I think that's an important point. Now, John talked about a whole host of really complicated issues, this issue of legacy assets and um, stranded costs and how we deal with them: Um, the fact that we're dealing often with very discreet and what would, we would do a sub-scale problems that need to be aggregated. The fact that risk premia are higher in these markets because legal systems are not necessarily as transparent. All of those things become easier if we have motivated governments who realize that, you know, if a leader wants to be remembered in 30 or 40 or 50 years as a transformational figure, if they can internalize the lesson that they're never going to get an opportunity like this again to improve the livelihoods of their people, I think that can become a very powerful driver of change that cuts across a lot of other things that are very complicated, difficult problems. Because as long as we're pushing up against resistance in government, it's going to be a totally different dynamic than if governments are leaning into this and seeing this as an opportunity. So, you know, you have talked about what we view as the biggest opportunity: I really think the biggest opportunity in emerging markets is to pivot from a conversation that this is

a price to be paid, and to pivot to a dialogue that says, wow, this is an unbelievable opportunity to improve the livelihoods of people. And I think it happens to be true.

JG: That point around that this is an opportunity, not a cost. Um, I think is particularly interesting for the emerging market in another important way. As we're talking to our largest global corporate clients, and they have now mapped out their implementation plan, it becomes glaringly obvious to them that no matter how much capital they put to work towards their decarbonization, there is going to be an important gap, and the only way that important gap gets closed is through the acquisition of carbon offsets. Where do these carbon offsets, this carbon live? And most of the opportunity set is in the developing world. And I'm talking specifically around nature-based solutions, whether that's forestry or agriculture, whether we think about, you know, in the Asian economies or in LatAm in the Amazon, a number of the nature based-solutions where investments are going in today that will ultimately generate carbon offsets, where corporate clients are going to be making 10-year commitments to buy them. All that money is going to get directed into the emerging markets and get directed into rural communities. And so this is a really incredible opportunity for emerging economies.

AS: The idea that not just are you going to get investment flows to build renewables, um but that you're going to get investment flows to make investments in carbon offsets. I mean, this is going to end up being just, let's just talk about the carbon prices, you were just talking about, right, and where do we think carbon will trade in 10 or 20 years, with all of corporate industry long carbon right now, right? I mean, this is going to be a really valuable flow of funds. So I think that's something really interesting.

KM: This was one of the topics on the podcast that we just had, actually, was really digging into natural nature-based solutions. And one of the concepts that we talked about was how do you scale that model? Because it demonstrates the power of innovation; it also demonstrates the power of partnership because, John, to the points you're making, you do need to have some boots on the ground, you know, to understand the community impacts and to understand within these jurisdictions, how you approach these investments really holistically and sustainably. And corporate clients are really seeing that as an innovative opportunity. But the question is, how quickly can we scale that? I think so much of this discussion—even that we've had today—has been around there are these gaps, but what is the pace with which we can accelerate that transition and what are the tools that we have in the private sector within the public sector to be able to marry that? And that's probably a great transition to talk a little bit about the innovation facility that we have developed between the Asian Development Bank and Bloomberg and Goldman Sachs and Ahmed, would love for you to talk about, you know, how did that come together, what does that look like? Where do you see the goals? Um and how is that connected to a lot of the topics that we have been talking about today, in terms of where the opportunity is to bring together complementary expertise?

AS: Well, I think great partnerships are built when different organizations, beginning from their starting point, institutional starting point, their role in the ecosystem,

recognize that they're not the complete answer and they sort of fumble their way towards each other in the dark and then they kind of find each other in the middle. And I think the Climate Innovation Fund that we at ADB consider ourselves to be very privileged to be housing, funded by Goldman Sachs and by Bloomberg, you know, is an example of Goldman and Bloomberg as philanthropies and market actors, recognizing that more collaboration was needed with public-sector institutions and working their way towards us, and recognizing that Asia really is ground zero for the climate change battle, and us at ADB recognizing that we had to make our relationships and knowledge and insights available to institutions with the region capability and insights like Goldman Sachs and Bloomberg's and so I'm really pleased that we found each other.

You know, one of the things that John said earlier, was that scaling high-impact climate solutions is something that will take blended finance tools, and I think that's a very, very important point. That, you know, in many cases, if we look at kind of narrow, near term current bankability criteria, there are things that we simply must do. They may be financially viable once we can trade carbon offsets or they may be financially viable as the market catches up to where we know it's going to be, but we simply can't wait. We've got to launch these experiments today so that they are in a position to scale quickly. And that really does take philanthropic capital, because the philanthropic capital is able to say, 'Hey, you know, that set of projects needs to get tested and off the ground today because we're going to need that kind of solution at 100 times the size, you know, in two years, and we can't afford to wait.'

And so I think the power of the Climate Innovation Fund, from my perspective, we're targeting some very important geographies, India and Vietnam, we are trying to look for really catalytic transactions that are opening up markets that do not represent a one-time use. We're going to try to create models that are scalable and replicable and that generate a lot of impact over time. So we're very excited about it, we know that we've got our work cut out to find the right set of transactions in partnership with you and our colleagues at Bloomberg, but we think that this is both an important initiative in and of itself, but also illustrative of an approach that's going to be really, really important as we go forward.

KM: And you just talked through there, Ahmed, so many of the different pieces that we've covered over the course of this conversation: innovation collaboration, how we pair complimentary expertise, how we look not only within our own organizations of what we can bring to the table, but then how do we, as you said, sort of share our toys and bring others along with us and figure out how to have higher impact through that partnership. One thing that I would love to get both of your perspectives on, just given the breadth of expertise that you each come to this conversation with, Ahmed you've had incredible career in and out of the private and public sectors, John you've worked across a variety of markets, industries, economies. We've talked so much today about what we can do to close this sort of climate gap. I like the way, Ahmed put it: an opportunity, but what else is needed from the public and the private sectors to deliver on sort of the climate

challenge or the climate opportunity that we see in front of us outside of just investment dollars, which we spend a lot of time talking about today?

AS: I'll highlight one thing which I think in my view is very important. And that's this issue of intermediaries and market structure. Um, and also the relationship between various actors. I think that if we look at some of the most important problems in climate and John talked earlier about the problem of scaling climate tech—how do you create the first scale manufacturing for a solution that you know, basically works? And you know, basically if you build enough of it, it's going to get to a price point that's attractive. These sorts of things fall into the crevices between the market structures that have been scaled and become very large to address a different set of problems. Right? That particular problem of scaling climate tech, I refer to it as, the trilemma of late-stage climate tech. The trilemma of late stage climate tech is that it's too low return and long duration for venture and growth investors; it's viewed as tech risk by the banks and the capital markets, and by the infrastructure investor universe; and if you don't build it, it's actually not cheap enough for the end user, and so you've got a chicken-and-egg problem. That's actually, in my view, a market-structure issue, it's not actually a question of whether or not this investment is worth it and whether or not it's associated with a risk-return profile that the ultimate owners of capital are willing to bear.

And I think there's ways for us to innovate around these, so for example: let's take that middle spectrum, the banks and the capital markets, they view this as tech risk. Well actually there's a group of actors who have very deep technology and diligence capability, right? So I think one really worthy area of inquiry is what are the market structure innovations that will bridge the gaps? In this case, for example, it might be that you create a first-loss facility, you know, backed by deep technical knowledge, that actually helps mobilize debt financing. And I think there's other parts of this ecosystem which also represent market structure mismatches. If we look at the venture piece, venture for hard science is very different from venture for software, right? I mean, are there models from the biotech industry, big pharma, which ends up being this consumer of technical risk and underwrites it in a way by providing an exit? I think this is a really interesting space that I feel like I know I'm asking some of the questions, but I suspect the answer is that we found in the halls of Goldman Sachs much more so than at the ADB.

JG: From my perspective, I'm extremely optimistic around the convergence of governments, corporates and consumers on decarbonization and our ability to advance towards the Paris-aligned goals for Net Zero. I think where the opportunity lies is, how can we accelerate the effort? Because I think in any metric it's going to take us longer and it's going to take a lot more investment than we think to get there. In order to accelerate this, I think it's going to require support in regulation, and I say this for the following reason: Ahmed was talking about efficiency, like market efficiencies, and one of the markets that's incredibly inefficient is the market of carbon. Today, a voluntary carbon credit is basically what anyone is willing to pay for it, because it's voluntary. And we have certain voluntary carbon credits that are being purchased for \$2 and others for \$200. And that creates a massive inefficiency when you're trying to effectively monetize

the value of carbon because there is no forward curve. And so this is one particular area where I think that regulation can really help accelerate the investment that's needed into decarbonization. And I also think that there's actually a role for the ADB and other multiregional multilaterals to help around the standardization, um, to develop a more efficient market around carbon.

KM: Ahmed, John, thank you so much for joining us today. This is an incredible conversation. So many valuable insights. And I think that reframing so much of what we talked about today—which is usually, I think, describes the climate challenge—I do think it's important to underscore that so many of the points each of you made given where you sit, who you're spending time with—countries, clients, corporates, investors—both of you very much view this as an opportunity. And I think that is really such a crucial takeaway from this conversation. So thank you so much for joining us. It's great to have you.

JG: Thanks Kara,

AS: Thank you, Kara. Thank you, John.

KM: We'll be back next week with another look at this vital and fast changing topic featuring more experts from Goldman Sachs as well as its partners and clients. Until then I'm Kara Mangone. Thanks for listening to *Accelerating Transition*. We'll talk to you next week.

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