

Panel 1: California Carbon Offsets

*Moderator: Colin Mickle**

*Speakers: Danny Cullenward** & Neena Mohan****

INTRODUCTION

Colin Mickle: Okay, looks like we are on the hour here, so we'll get started. Good afternoon, everyone, and welcome. It's great to be with you all today for the first panel discussion of the Ecology Law [Quarterly] Just Transition Symposium. I'm Colin Mickle. I'm a Renewable Energy Manager at the University of California, Office of the President [in] the Energy and Sustainability Office. Since this is the first panel of the day, the organizers of today's event have asked that I share the definition of a "Just Transition," which is borrowed from the Just Transition Alliance.

"Just Transition" is a principle, a process, and a practice. The principle of just transition is that a healthy economy and a clean environment can and should co-exist. The process for achieving this vision should be a fair one that should not cost the workers or community residents their health, environment, jobs, or economic assets.

Any losses should be fairly compensated. And the practice of just transition means that the people who are most affected by pollution—the frontline workers, and the fence line communities—should be in the leadership of crafting policy solutions.

With that, I'm very pleased to be joined by two excellent panelists today, Neena Mohan, who is a Climate Justice Program Manager at the California Environmental Justice Alliance, and also a committee member on the Environmental Advisory Group at the [California] Air Resources Board. Also joining us today is Danny Cullenward, who is [the] Policy Director at CarbonPlan, and a Research Fellow at American University's Institute for Carbon Removal Law & Policy. I'll give Danny and Neena an opportunity to introduce themselves and describe their work in a moment.

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And then we can jump into questions, and also hopefully, have time for some questions from the audience at the end. Before that, I'd like to just quickly set the stage and provide some high-level background on one of the subjects of discussion today, which is carbon offsets, and then their relationship to phasing out fossil fuels. So, carbon offsets are perhaps one of the most controversial and complicated topics in the environmental and climate space. One offset or offset credit is intended to represent the reduction of one metric ton of CO₂ or CO₂e.

There's a wide range of offset project types. Everything from forestry [to] methane capture, renewable energy, ozone depleting substance capture and destruction, improved cookstoves, [and] lighting projects. The list really does go on and on. While there is some overlap, offsets are most commonly split into two categories. There's the voluntary market and the compliance market. Corporate buyers, such as many tech companies with climate goals, for instance, would typically be purchasing carbon offsets from the voluntary space, whereas entities that are part of California's Cap-and-Trade Program, such as the University of California, and the UC Berkeley campus, in fact, purchase CCOs which [are] California carbon offset[s]. [These] can be used to meet a portion of the entity's emission compliance obligation in the Cap-and-Trade Program.

The California Air Resources Board [CARB], which manages Cap-and-Trade, has six approved carbon offset project types, although, in effect, only four are really used. While offsets are intended to have a positive climate impact by avoiding or sometimes even removing CO₂, the projects represent more than changing molecules in our atmosphere. Offset projects have positive and negative impacts on communities where the projects are operating.

For these reasons, the role that carbon offsets should or should not play in decarbonization strategies is often debated. I'm sure Danny and Neena will share their insights and thoughts on this question as well. With that very general background, I'd like to pass to Neena and Danny to introduce themselves and their work. Neena, if you wouldn't mind starting us off.

Neena Mohan: Sure, yes. Thank you so much for the opportunity to be in conversation with you all today. As Colin said, my name is Neena Mohan. I'm the Climate Justice Program Manager with the California Environmental Justice Alliance. We also refer to ourselves as CEJA, based on our acronym, so you might hear me say that.

A little bit of background—the Alliance is essentially a formation of ten different grassroots environmental justice organizations all across the state. We have membership in the Bay Area, in the coast, in the Inland Empire, Central Valley, LA, [and] San Diego. The alliance was really formed to uplift the very overlapping, but still distinctive environmental issues that local communities were facing across the state, and really provide a forum for people to come together, and to uplift solutions that were working, and apply those to the state-wide level through policy advocacy and through implementation. Just really doing the work of movement building and building the power of environmental justice at the state level in California.

We focus on a variety of different issue areas. I work on climate, but we also do energy work, civic engagement work, and we have local land use-related work. The climate work in particular this year has really focused on trying to advance the fossil fuel phase-out and supporting workers and communities through the transition. I'll stop there and pass to Danny.

Danny Cullenward: Thank you all for having me. Great to follow you, Neena. I'm looking forward to the conversation with you and Colin today. My name is Danny Cullenward. I'm the Policy Director at CarbonPlan, which is a relatively young nonprofit research organization started about two years ago. We focus on the scientific transparency and integrity of climate solutions broadly. A lot of our work has been on carbon removal, which has been a topic of, I think, growing interest in the federal conversations in particular. My background is as a climate economist and a lawyer.

I spent about fifteen years studying carbon markets. I wrote a book about a year and a half ago that came out, talking about the political economy of markets around the world. I'm the Vice Chair of the Oversight and Advisory Committee for California's Cap-and-Trade Program called the Independent Emissions Market Advisory Committee, which is a four- or five-person group typically. We just came out with our annual report just this week. That's something we may touch on as we go.

I've been closely involved in the Cap-and-Trade Program here, including with the very controversial extension of the program in 2017, where I think it's fair to say the oil industry had an enormous influence on the design of the statute and regulations that were implemented, and have been tracking the implementation process. I am a white dude, which is basically what most people do in climate policy research look like [*sic*]. One of the reasons I'm glad to be in conversation with an environmental justice team is, I am not an environmental justice advocate.

I am not somebody with a special background or expertise in environmental justice issues or just transition issues, but I find that more often than not, being a scientist puts me in exactly the same position as the environmental justice community. It's been a privilege to work and learn with Neena and other colleagues at CEJA over the years, so I look forward to the conversations that we'll have for the rest of today.

THE CAP-AND-TRADE OFFSET PROGRAM

Colin: Great. Thank you, both for those wonderful introductions. Danny, let's stick with you. Maybe, I know you've written and published at length about this, but could you share, what are your key concerns you have with the Cap-and-Trade Offset Program?

Danny: It's really important to understand what [the Carbon Offset Program] is at a high level. A carbon offset project is a project that occurs outside of the scope of the Cap-and-Trade Program. It's in a sector that's not covered by

Cap-and-Trade, and it's meant to represent essentially outsourced emission reductions or carbon removals.

I think one of the concerns that comes up with carbon offsetting generally is that if you care about the distribution of pollution impacts, and the correlation that is often present, although not always present, between climate emissions and the local air pollution concerns that are, I think, of really critical importance to communities that live next to any major source of emissions—whether that's dairy operations in the Central Valley or refineries in the South Coast or Bay Area—the fact that you can move around the where of emission reductions in the climate policy is potentially a significant distributional concern.

I joined some of those concerns. I think those are really important to think about, but I think when you look at the practical political economy of carbon offsets, they're primarily designed in large-scale systems to provide a large volume of cheap compliance options that don't really change anything. When you look at the experience with these programs around the world, you tend to see cap-and-trade programs get set up, and then flooded with a large volume of allowances and offset credits, the right to pollute, that keeps them from becoming particularly strong or effective mitigation policies.

On top of the distributional effects that I'm sure Neena will have some thoughts about, offsets tend to perpetuate this condition technical people call oversupply, where the markets never quite bind, and the emissions never go down at a systemic level. In California, we talk about offsets playing a limited role in the Cap-and-Trade Program, but it's actually a very large role as a share of compliance. Entities in the broader Western Climate Initiative, which is the name for our market that's linked with a market in Quebec, turned in about 160 million credits in the first three compliance periods of the market, so, 160 million tons of carbon dioxide equivalent from offsets.

As a percentage of overall regulated emissions, it's quite small, but as a percentage of the overall compliance in the program, it's quite a big chunk of the reductions that are expected from the program. You see this—you saw it in Europe, you see it in a number of other programs, but offsets turn into these large volume ways to basically avoid taking action inside the system. It's premised on those climate effects being identical. They rarely are. The distributional consequences to local pollution continues to be, I think, a really critical issue that nobody wants to look squarely in the eye.

Colin: Thanks, Danny. It's really helpful to have that, as you said, the more scientific background and get a grasp of how many offsets were retired for the programs collectively. Neena, turning to you, how do you see carbon offsets in your work as a climate justice program manager?

Neena: Danny, thank you. Just appreciating your response there. I think, from an environmental justice perspective, a lot of my work is based on the understanding that it's the extractive systems in our politics, economics, [and] resource management that have really led us to being on the precipice of this crisis, and that just simply tweaking the parameters is not going to solve the root

issue. One of the things that we're really focusing on is phasing out fossil fuels given that that's a major contributor to the climate crisis and are just finding that mechanisms like carbon offsets actually further delay our transition away from these polluting sources.

Just given the urgency of the climate crisis, and particularly, the fact of the reality that many environmental justice communities have been facing these disastrous effects that are coming from the climate crisis for a very long time now, it's critical that we are approaching this with urgency. It really seems, with this concept of carbon offsets, polluters are allowed to continue to essentially pollute. Given that they have such generous emission limits already, and the fact that we already have so much carbon in our atmosphere, it feels oppositional to the urgency of the crisis.

That continues to be ignored, I think, in a lot of those conversations. One key thing that's a core tenet of environmental justice is recognizing the need to reduce pollution directly to bring justice to overburdened communities so we all have a chance at a livable future. In order to do that, as you mentioned in this definition of just transition, we have to address the negative economic impacts that might come from that, both for workers and for communities, which is going to require us to do the transition in an equitable way. Because cap-and-trade mechanisms and offsets are not directly reducing emissions, they're not an effective mechanism for phase-out [and] also, for the reasons that Danny mentioned, in terms of the over-crediting and the flooding of the markets.

CARBON OFFSETS AND INDIGENOUS COMMUNITIES

Colin: Thank you, Neena. I think both of you are aware that there are also tribal nations, which are typically part of the environmental justice constituency, that are part of the carbon offset programs such as the Yurok Tribe and others. I'm wondering how each of you consider the different environmental justice conflicts over carbon offsets and the way that some of these programs may be beneficial to tribal nations, for instance.

Neena: This is a really great question to ask because the environmental justice community is not a monolith. Definitely want to preface anything that I say with acknowledging the fact that I am not indigenous to this land, so definitely don't want to speak on behalf of that community, but I can share some of the concerns that I have heard come up in regards to this question. One of them is about the international implications of carbon trading and offsets.

A lot of research, and ground truth, and experience has shown that indigenous lands become susceptible to forest offset developers, which contributes to displacement of indigenous peoples internationally and disrupts traditional ecological knowledge-based practices and land stewardship, which already play a huge role in protecting our carbon stores and in mitigating climate change.

That's just an international perspective, and back, I think it was last year, CARB's Compliance Offset Protocol Task Force was trying to expand basically what offsets could be applicable to. We worked together with Indigenous Environmental Network and other environmental justice organizations to come together in opposition to that. A key piece within that argument was this idea of the UN's Declarations on the Rights of Indigenous People and specifically the rights of free, prior, and informed consent, and wanting to ensure that self-determination and indigenous sovereignty are really key in any sorts of offset conversations.

I'll just throw that into the mix and say that there's a lot of different, other creative mechanisms we could think about in order to support indigenous communities [such as] in Land Back movements or repatriation of the land, and furthering their sovereignty. I think it doesn't have to be solely based on offsets. I think Danny might have more to say about that.

Danny: Yes, I think that's right. Neena has identified, particularly, in the tropical forest offset context, that there's been a lot of concerns around the ability of what is basically a very capitalist structure. You get money flowing in these systems, and there's been a lot of observed conditions of land displacement on the ground in those contexts. If I understood your question, Colin. I think there's a really important focus in the California system, which currently does not have tropical forest offsets in it, although the debate to exclude them from the Cap-and-Trade Program was extraordinarily divisive and was pushed extensively in the previous administration.

I think the question of tribal interest, and again, I'm [a] random white dude. I'm not an Indigenous person, so I have no right to speak up for tribal communities. I think the most important thing to say is it's unfortunate that we had a member of the Yurok Tribe invited to come speak about these issues, who was apparently unable to join us today. I think that's really unfortunate because we should be having this conversation. The question you asked is a very good one. The Yurok Tribe is, I think, [the] most famous of the tribal participants, and I think may be the only, maybe one of two based in California, that have used carbon offsets.

In the case of the Yurok Tribe, they've done it for essentially repatriation purposes, where lands that ancestrally belonged to the Yurok people were essentially financed in a repurchase agreement funded through carbon offsets that were ultimately purchased largely by oil and gas companies and used in the Cap-and-Trade Program. The division that this brings up, I think Neena has highlighted. But I want to emphasize, take a step back—if you are a person who belongs to a Native tribe, and you're trying to reclaim your land and you participate in a public policy program that is legal and above board, I don't have any concerns about your motivation. I appreciate the significance of what that can do. The problem is it sets up a direct conflict between the beneficiaries of those income streams like the Yurok Tribe and their forest offsets project and the

fence line communities who are directly affected by the use of offsets. We have to take seriously the benefits that that system provides.

We should also take a step back and ask whether or not it's necessary in the first place. I think the whole problem with the carbon offsets conversation [is that it] has been divisively used as a strategy to wedge the environmental justice community by, frankly, the well-funded NGOs and groups that are at the center of political power [and] that have seen this as a convenient way to make it easy and cheap to comply with the program and to create a stakeholder group that's very interested in an outcome that isn't being adequately supported through other means.

I think the way to cut through this is to find ways to directly fund those means through the public funding that comes in from auction and cap-and-trade allowances. I think if we wanted to take the concerns of tribes, especially tribes in the state that might be interested in repatriation movements and in other ways to manage wildfire risks and conservation efforts, we ought to be thinking about public funding that comes from the sale of allowances that charges polluters for the pollution they put into the atmosphere, rather than creating a situation where the interests of the tribes are diametrically opposed to the interests of fence line communities.

It's an unnecessary conflict, and I think it's wrong to ignore the benefits that the tribes who participate experience. We should be able to find ways to deliver those benefits that don't require the harms.

OFFSETS AS A POLITICAL WEDGE

Colin: Thank you both for those thoughtful responses. I echo the regret that we weren't able to be joined by Tim Hayden of the Yurok Tribe.

Danny, going back to you, you've mentioned that you believe the offsets provide too many compliance instruments and don't put enough pressure on entities to take direct action in terms of reducing their emissions. Turning back to the offsets, do you find them completely untenable with climate goals, or do you think there are ways that [C]ARB or other groups may be able to change some of the protocols, make them stricter, or even add new ones that are of higher quality to strengthen the program?

Danny: It's an interesting theoretical question, but to be honest, there's been extremely thoughtful investigative reporting from Pulitzer Prize-winning writers. I can go grab my front cover story on the front cover of the *LA Times* from Sunday, from a couple of months back. There's peer-reviewed work, there's now the [Independent Emissions Market Advisory Committee] IEMAC report raising these concerns. Basically, everybody who looks into these program[s] finds the same thing, which is that time and time again, corners get cut. The rules are weak. People take advantage of them, and that's structurally advantageous because it helps lower market prices, and it benefits all the buyers who can now have a large supply of relatively cheap compliance options.

Technocratically, there are some things that can be fixed and amended. I remain committed in good faith to conversations around how to do that, but the universal response from the regulator has been that every single person who criticizes these projects is loony. It's this extraordinary situation we have in the State of California where we want to talk about our climate leadership, but basically, all critical scientific information that's brought forward—highly credible press reports that are brought forward—are dismissed without a response or an answer.

Under those conditions, there's just no possible way to talk about tightening the program, or turning a dial and fixing a parameter, which we should be doing if we were using an evidence-based management philosophy, but we're not. We're not because of the politics. That's really the problem. These systems are designed to create cheap compliance instruments, not to deliver high-quality outcomes. They are designed to push money in directions where the money flows from the private sector to the private beneficiary, rather than through the public sector and guided through a democratic process.

I think unless we really want to confront that, we're never going to be able to get to the bottom of, how do we support, for example, the forest conservation needs that we have that are dramatically underfunded in this state, let alone around the world? How do we address funding inequities associated with the historical injustices experienced by indigenous peoples, organized tribes, and unorganized tribal nations? All of those problems are very serious. Offsets, they're a band-aid, and they're designed to create a wedge in the political economy rather than to solve those problems. I think we need to look those problems square in the eye and find a different way to do it.

COMMUNITY ENGAGEMENT AND MARKET-BASED APPROACHES

Colin: Thanks, Danny. Neena, earlier you'd mentioned ground truthing. Could you speak to the role that ground truthing plays in terms of sharing information with policymakers as it relates to carbon offsets or other areas of your work?

Neena: Sure, yes. Yes, [I] definitely agree with Danny about the difficult political climate that we're in as it comes to all these questions. I think ground truthing is incredibly important because one of the key tenets of environmental justice is to look to the communities that are being most impacted to be able to provide the solutions and to uplift and share their experiences because they're the ones that know best about how to tackle some of these crises.

Since the beginning of the Cap-and-Trade Program, many environmental justice communities, at least the ones that I work with, have been opposed to market mechanisms because they recognize that it's not going to address the pollution issues in their communities. Actually, there was a recent report from [the University of Southern California] USC that showed that there's a pattern within this, where the deepest reductions in greenhouse gases and co-pollutant

emissions are occurring in higher socioeconomic status neighborhoods. There's actually less improvement and even worsening of pollutant emissions in neighborhoods that are disadvantaged.

I think that just goes to show that communities knew from the get-go, that this is not the path forward and are still saying now that addressing pollution at the source is actually how we're going to tackle the climate crisis. Again, to the point about the current political climate, there's been so much bifurcation of how we address climate and how we address air pollution. I think what communities have been saying and what I advocate for from an environmental justice perspective, is to listen to that narrative and to say that we need to address those together. We need to stop that bifurcation because that's the only way that we're going to be able to address the climate crisis with the stringency it deserves.

Colin: Thank you, Neena. Could you elaborate, in terms of some of the work that you're doing with [C]ARB—your general working with the communities and then sharing those experiences with the policymakers—maybe elucidate that process for us so we can understand what that looks like from your perspective, and then maybe the reactions you get from policymakers in the state.

Neena: Definitely, yes. Thank you for that question. I think one tangible example is through my role on CARB's [Assembly Bill] AB 32 Environmental Justice Advisory Committee. Right now, CARB is tasked with doing their update to their scoping plan, which essentially sets the blueprint for how California is going to meet our climate goals up through 2045. In this process, the Environmental Justice Advisory Committee has this advisory role, and yet the degree to which our recommendations are heard, or even the degree to which community engagement is adequately done, is definitely lacking, and it has been a concern throughout the process of the scoping plan.

Community engagement, going back to that point of ground truthing, is super critical because popular education is really important. Letting folks know that there are these regulatory processes taking place, that they do have a voice, and that they should be able to contribute that, and that the state should listen and take that into deep consideration, especially when it comes to disadvantaged communities if they're serious about addressing inequity. Yet, through this process, we've seen that the timelines often for these processes move so quickly [and] there's often not a lot of resources.

In this case, there wasn't even actually a budget—a true budget outlined for us to do community engagement to ensure that those voices would be present in the scoping plan process. A lot of times when those voices aren't heard, it's more often those organizations and entities that are more resourced, that do hold a certain degree of political power, that are able to provide that influence.

For example, in the scoping plan context, a lot of what's happening is that we are trying to advocate for a phase-out because that's what communities are asking for. Yet, the agency is coming in and saying, "Oh, we'll just address those remaining emissions with cap-and-trade. We'll just put it off to that." It's really a process of connecting with the community, doing that educational component,

and also encouraging people to show up to these spaces and to speak their own truths, and to just provide that opportunity for empowerment as we build the EJ movement and do our best to encourage folks at the state to take that seriously because, as I said, EJ communities have the solutions to these issues because they've been the ones impacted by them.

Colin: Very good, thank you. Maybe mixing worlds, Danny, hearing what Neena is talking about, I'm curious to know, have you found the community engagement, the citizen science, these growing fields, to have a larger impact on your work, following what you've described as a more scientific approach to research?

Danny: I think it's really important to have broad public engagement on these issues. I think it's really tough to figure out how to plan an economy at this level and to plan the kinds of transitions that are needed. I just want to echo the sense of the scale of change that's required. California has, I think, a tougher job in some sense because we have some of the worst air pollution in the country. We have some of the greatest existing environmental [in]justices and some of the most ambitious climate targets. I don't want to sit here and just say, "Oh, this is easy if somebody would just listen to regular people or a scientist," or that there's some simple process solution.

There isn't. It's a very tough problem. I think one of the places where I tend to disagree with my friends in the environmental justice movement is, I actually don't have a problem with the concept of a planning process that says, "Okay, we're going to do some direct regulations. We're going to have some specific policies, and we're going to have a market-based structure that's going to do, actually, maybe even some of the heavy lifting." The problem with that is not the idea. The problem is the execution. I think we've been really dishonest in the state about what we're actually doing with the Cap-and-Trade Program.

Instead of implementing it in a way that's going to deliver those reductions, we've designed it so that it doesn't do very much, and we've told local communities, "That's going to take care of your problem."

Now, Neena might not agree with me that there's a way to get this done that uses market-based programs in a significant way, but I absolutely can't go to her or members of the public who are living in impacted communities, and say, "Everything is on the up and up, don't worry about this." Precisely because we can't have an honest conversation about these issues.

I find it's really difficult to engage with the public because once people understand what's going on, they get more upset about what's going on. If you speak plainly about the technical issues in the system, you get excluded from centers of power. At the start of my remarks, I mentioned basically, I find myself in the same position as the environmental justice community because, at the end of grad school, I made a decision to speak up about some technical issues that were happening in this program. I went from being an insider in the policy system to being very much an outsider. I don't have a problem with that, but I look around and I see citizens' groups trying to do things. I look around, I see

environmental justice groups trying to do things. I think it's a problem that we haven't figured out a more constructive dynamic between those communities and the policymakers, over what has frankly been a very long time period at this point. It's not a recent dilemma.

I hope that that gets at your question. I think there's a lot of work to be done here. I don't think any of this is going to be easy, but the dishonesty and the lack of trust, I think is really at the heart of a lot of this. We have to confront that. We can't not talk about it.

Colin: Thanks, Danny. I'm going to try and recap or at least synthesize. In general, you don't find the market-based approach to be fundamentally flawed. Most of it just happens on the implementation just not being strict or honest to the original scoping idea. Am I capturing that right?

Danny: I think these things can be done well in theory. I think they're very difficult to do in practice, and we're not being honest about what's happening in California. The point of contrast, I'll draw just very succinctly—Europe has a carbon market that is far more effective and impactful. There's a number of technical steps that, for years, the Air Resources Board has been refusing to consider, despite the attention of expert advisors, legislators, and other actors who've recommended just even basic process steps to align with the kinds of success and ambition you see in the one market that's actually doing a pretty good job with this.

We're not having that conversation. I'm not an ideological opponent. I spend all of my professional time thinking about markets and transactional structures, and how to design these systems. I'm not an enemy, but I'm also going to be honest about what I see. And what I see looks a lot like what Neena says.

COMPARATIVE PERSPECTIVE ON OFFSETS

Colin: That's very helpful. Actually, it jumps to my next question, which was, where do you see this working well? You had mentioned the EU emissions trading scheme. Could you perhaps talk about some of the process improvements that you see occurring there that California could benefit from?

Danny: One of the things I talked about in the book extensively, it's really hard to set up a cap-and-trade program. No one is going to get it perfect. No one should expect anyone to get it perfect. Everybody is going to have challenges and surprises. That's not the issue. The issue is that there are a bunch of structural forces, including the success of the direct mitigation measures like renewable portfolio standards or support for electric vehicles, which, by the way, the Air Resources Board has done for a long time and is a very, very good thing.

The political preference and success of those policies, combined with macroeconomic uncertainty, tends to produce oversupplied markets basically, everywhere you find them in the world. Europe struggled for a long time, frankly, a long, long time, a decade, with their program being overwhelmed with low-quality junk offset credits from the international Clean Development Mechanism

program. Way too many allowances because they initially let member states pick their budgets, and they all picked very generous budgets. It took them forever to get their heads around this problem, but here's what they did.

They said, "We are going to measure the size of the bank of allowances that's trading in our program. If the bank is bigger than we want it to be, we're going to shrink it down automatically." They measured, and they set up automatic rules to ratchet the stringency up or down based on what they see. Using those principles, they have successfully driven their market. It's partly combined recently with the fact that we have a gas crisis and potentially brewing conflict with Ukraine and Russia, but they are over 100 euros a ton right now. It's easily four- or five-times current market prices here in the United States.

They've made a sustained policy commitment to use that instrument as the dominant tool at the European Union level to commit to the European Union's climate targets. It's not the only thing, by a long stretch, but policymakers have said, "We're going to follow through. We're going to make this thing real. We're going to measure what it's doing. If it's not where we want it to be, we're going to tighten it up. Those are all going to be automatic. We're going to tell you what we're going to do and we're going to follow through on it." Here [in California], we are doing this [Editorial note: Danny makes a gesture, covering his eyes with his right hand and turning away from the camera], and that's about all there is to say.

NEEDED CHANGES FOR A JUST TRANSITION

Colin: Thank you, Danny. Neena, in terms of moving from some of the problems we see to the solutions that Danny was mentioning, what system or changes would you like to see to ensure [a] just transition? Are there programs that you would like enacted or just rule changes, [or] process changes as well? What are the kinds of things that you think the state can focus on to ensure that just transition?

Neena: Thank you. As I've mentioned before, an emphasis in prioritization of direct emissions reductions, I think that is so critical and so key. Especially, as I said, to stopping this bifurcation of climate and air pollution that we've been seeing, I would say a prioritization of environmental justice in regulatory schemes, so, really thinking about starting first in environmental justice communities [and] prioritizing EJ communities for investments. I would say just a more concerted, real effort at advancing a managed decline of some of these polluting industries.

At the core of that is making sure that we have the revenue we need and the programs we need to support workers and communities through that transition. There's been some really great work by some of our partners in the labor movement and from unions in putting together research that shows very clearly the types of investments and the types of supports that are needed to make that

happen. It's really just a matter of the state getting on board and going through that process.

Speaking more currently to what's occurring right now, there's a process that the state is undergoing to do regional economic diversification and planning to shift away from some of these polluting industries. Even within that structure, it's going to be so critical that we give workers and communities, not only just a seat at the table, but [also] decision-making power when it comes to basically planning out the futures of their regions and how they want their economies to function. Really, I think a little bit of that shifting of power and having more decision-making authority [is] also going to be a super critical change that's necessary to advancing a just transition.

The last thing I'll say is around—I think Danny can probably speak a lot more to this—but I feel like the way that greenhouse gases are accounted for is flawed. Even within the scoping plan process, there are some sectors that aren't included. For example, pesticides were not initially going to be looked at in the scoping plan, and yet we know that those contribute to greenhouse gas formation. It's just a matter of getting real about what the science is, what the data is, and really reckoning with the urgency of the crisis. I really resonate with that sense of putting the blinders on when it comes to some of these realities because we're so steeped in all the political aspects of it.

RECENT RISING OFFSET PRICES

Colin: Very helpful. Thank you, Neena. A question for both of you—and we've identified, I guess [issues related to] policy and verification, and [other] concerns that are embedded in offsets—I'm curious, I think the last sixteen months we've seen a real run on carbon prices globally. The voluntary offsets space has gone up, compliance prices have gone up, [and] the other compliance instrument for the Cap-and-Trade Program, the allowances, are trading almost \$10 over the program floor. Do the higher prices change your thinking on the offsets? How might those high prices hurt or improve some of the goals that you both have in mind? Or is it something that is fundamentally just going to be giving more money to certain sectors and not going to be influencing I guess what you want to be fixing?

Danny: It's a good question. In my book, I talk about this problem—we call it knife edge incentives. A very cheap offset that costs, as the voluntary markets did not long ago, \$1, \$2, maybe \$5 a ton. Offsets are still trading in the what? The mid-teens these days. It's a project that says to you, "I cannot possibly do the good thing to reduce emissions, but if you give me a very small amount of money, I can absolutely do the good thing." Those are the least credible claims about whether or not that is a true story. Low-priced offsets are almost invariably non-additional.

When you dig in really carefully, it is very, very hard to make a credible claim that you can't do something, but with the tiniest of incentives, you

absolutely can. No person in finance thinks like that, but that's the logic of low-priced offsets. If we move to higher price points, the potential to do better improves significantly.

But, I want to just sound a note of caution. We're not really at particularly high price points. When you talk to people in the land sectors who are actually trying to do meaningful actions that are new, you tend to find numbers in the neighborhood of \$50 to \$70 a ton to do, for example, actual reforestation work, rather than claiming business as usual land management activities for climate credits. I'm categorically more optimistic that higher prices can facilitate better outcomes.

The problem in offsets markets when you don't have serious standards is that the cheaters produce the same product as the people who are trying to do a serious job. If they produce the same product, the cheaters are going to outcompete in the end. We have to have really robust regulatory standards to get to a better story. We have to have higher prices to get to a better story. We definitely don't have strong regulatory standards and the prices we're seeing, although marginally higher than what they have been historically, really aren't anywhere near the level that's required to do significant new activities even in the land sector where it's believed to be cheaper than it is with, say, technology-based carbon removals.

Colin: Neena, I'm not sure if you had any thoughts on the pricing.

Neena: Yes, that's a good question. To me, I'm thinking about what are still the things that would remain unaddressed even if the prices were to increase. I guess in terms of some of the common critiques in general—I think Danny started to mention around the concerns about additionality and staying with low baselines when it comes to trying to account for what is actually being done to reduce emissions. Concerns about leakage I think would still remain. The concerns about impermanence would still remain, as far as we are trying to sequester carbon and these stores that are volatile.

Especially as climate disasters continue to increase, as wildfires continue to rage on, our carbon stores are temporary, and they're vulnerable. That is not a substitute for directly cutting emissions at the source because it's just not equivalent to the type of combustion on the scale that is happening from burning these fossil fuels. And so, to me, it wouldn't get at those issues.

KEY POLICY SOLUTIONS

Colin: When I opened with the definition from the Just Transition Alliance talking about leadership crafting policy solutions, Neena, what are some of the key policy solutions that you're working on now that you think would be the most impactful?

Neena: Through the scoping plan work, a lot of what we're trying to do is make recommendations, again, about figuring out how to cut emissions directly, and to ensure that co-pollutants are adequately accounted for in how we're

approaching tackling the climate crisis. On the just transition front of things, we've been really taking direction from, again, our partners in labor and in unions to really support them in a lot of their policy ask related to having sustainable revenue generation mechanisms in place to support workers as they transition.

We're looking into things like ways to support tax based replacement or [funding] communities where they might be very dependent on fossil fuel resources for their public services. Those probably encapsulate some of the key things that we're focused on.

Another thing that we're focused on towards this end goal of a phase-out is continuing to advance our work around a fossil fuel setback. We've had a big campaign around that. If you're not familiar, it's essentially this idea of creating a buffer zone or physical distance between where oil and gas drilling and fossil fuel production takes place, and where sensitive receptors are. We define those as where homes are, where parks are, [and] where hospitals are because there's currently no law in California that says you have to have a distance between those two. We know that the air pollution causes really bad public health impacts. That's one example of how a phase-out can start in EJ communities and the benefits that that could have. That's another policy that we've been pushing through the [California Geologic Energy Management Division] CalGEM rulemaking process.

Colin: Danny, did you want to address that one as well, from your work? I know you alluded to a number of things already.

Danny: Yes. To be honest, I work less and less in California these days precisely because it's hard to have an honest conversation about the things that I work on closely. I think the transformation of the grid—what's going on to move us closer and closer to 100 percent clean energy is critical. There's a lot of good work happening in that space. We need to think carefully about transmission if we're going to get that done right.

I spend a lot of my time trying to work now with voluntary standards in the private sector, where I think there are some serious activities coming forward that might start to be able to replace the offsets model and move in a different direction—the contributions that I think are largely being wasted but could be directed towards more beneficial ends for the climate. I spend a lot of time thinking about what Europe is up to, frankly, because I think a lot of these issues have been riper there for some time.

In California, we know we've got a vehicles problem. We know we need to think about how people move and how they live. We have an affordability crisis in housing that is at the root of a lot of our climate conversations. If there's one thing I've learned in climate, you have to know what you're talking about. I'm not a housing expert, but that is number one, one of the top issues we've got to solve if we're really going to get our heads around all of this.

CORPORATE INTERESTS AND COSTS

Colin: Absolutely. Something that everyone here who lives in California is quite aware paying rent or mortgage. We have a great question here from the audience. Alicia asked, “What, if any exist, are some ways that corporate interests and EJ community interests might overlap in order to possibly move the just transition movement forward?”

Neena: I could start off with that one. That’s a great question. I think there are. I think there’s a lot of opportunities for partnership and collaboration, especially as we think about a transition and a phase-out. I think one of the concerns that we’re seeing is that it’s actually irresponsible, both in terms of accountability to workers and also in terms of sunk costs in terms of financial investments, to continue to delay an inevitable transition. That requires, I think, an understanding on behalf of corporate interests to recognize that it’s actually also in their best interest to think about how to transition, and how to move to something that’s more cleaner and greener.

I think a lot of times because EJ communities are facing these pollution burdens in thinking about how to offer solutions to reduce the impacts, one thing that comes up a lot is this idea of best available control technologies. That’s one example of when we can have industries come or corporate interests come and make those investments to actually, again, clean up their facilities in order to make it better for the community [and] make it better for the workers. I would say that’s one example, and it’s also the responsible thing to do.

Colin: We haven’t seen any questions coming in the chat, but I think I’d imagine everyone—all the panelists, most people on this call—we all agree climate change is this existential crisis that we need to be working rapidly and doing everything we can to slow down and mitigate. What you often hear, the classic conversation is, the response is, cost, right? We can talk at length about whether that’s even an appropriate response. Most people would think it’s not, but it is an economic reality.

When we think about the high cost of electrification and other opportunities, [where] direct reductions are more expensive than just purchasing an offset, I’m curious to hear both of your perspectives on how you maybe respond to that type of a conversation or your suggestions to deal with the challenges of these costs.

Danny: I think it’s a really important question because cost matters everywhere. It matters everywhere, so it’s got to be a focus. I think the framing of your question is off because the vast majority of the voluntary markets are just junk. It’s just garbage credits. If somebody wants to make an argument about California is better, we can have that conversation. I don’t think it’s true.

But the volume that’s being traded, people are paying attention to this right now. There are crypto business models being set up to suck up unused Clean Development Mechanism credits that are these vast shadow inventory that, frankly, even the airline industry didn’t bite on in terms of setting their voluntary offset standards. They’re coming in through all these bizarre backdoor deals right

now in the private markets. That's what you're buying at these low price points. It is in no way comparable to the actions that are required to figure out how to electrify buildings, which take significantly more effort, partly because they're doing something rather than shuffling around paper.

I think we need to levelize the conversation around what are the things we can get done, what are the co-benefits and constituencies that can be mobilized to support a certain level of costly engagement, and how do we make sure that it translates into things that matter for the people who need to support those activities. Building electrification is a great example because you can get people excited about not having bad levels of indoor air pollution when they have young kids, like I do. You can't get people excited about the design of cap-and-trade programs and tightening measures for offset certification, or whether the offsets are verified by a party that's paid by the buyer or the seller.

Nobody cares, but people do care about their kids. They care about where they live. They care about whether or not they're next to an oil refinery, or an oil pump jack. They care about solar on their roofs, where, to be honest, I have different concerns around those issues. People probably know there's a holy war brewing around rooftop solar issues. I tend to be concerned about the economic structure by which we're, in my view, overpaying right now for those benefits. If there's one thing anyone can say about that debate, if you're reading the newspapers right now, it is that people care about the panels on their roofs. That should tell us something about how to organize ourselves and think about these issues. Cost does matter. It is a critical function, but the politics I think are much, much more important. Anyone dealing with that issue right now in public policy is well aware of the fact that even though cost is the number one thing most of the time, sometimes it's not.

Colin: Neena, I'm sure this is something that is often brought up in your work as well. [I'm] [c]urious to hear your thoughts.

Neena: I think you started to get at it a little bit, Colin, in terms of that philosophical or ideological difference of even thinking about cost when it comes to making or trying to correct inequity. Can you put a value on that? That's a separate thing I'll put over here.

One thing I can contribute here is this, again, another fundamental EJ principle of "polluter pays." And that's actually been a really interesting concept in terms of trying to get the revenue for some of these projects and really goes to the point about holding people accountable that have been polluting and poisoning communities for decades and have just gotten off for doing that.

How can we think about when it comes to, for example, cleaning up all of the abandoned oil wells that are out there, ensuring that polluters are held accountable for that? That can be another process of just transition, where we allow folks that were previously working in fossil fuel production sectors to then clean up and remediate those wells. I think there can be a lot done when we look at it from the perspective of polluter pays and holding people accountable and

thinking about various types of revenue generation that can come from the industry as a matter of accountability.

CLIMATE REPARATIONS

Colin: Thank you both. [One audience member] asked [if you have] any thoughts on climate reparations. It's a tough one but often mentioned. I don't know if Neena or Danny, you have thoughts on that one.

Danny: My thoughts are that my friend Olúfẹmi Táíwò just wrote a book on this.¹ It's on my bookshelf and I haven't read it, and you probably should read it before I do.

Neena, do you have any thoughts?

I'll say at the international level, this has been one of the dominant themes that has been growing over time and I think it's going to make a bigger impression on folks over time. It is really hard to operationalize politically because we can't even get our act together right now.

I think one of the things Fẹmi argues in his book, which I look forward to reading in the very near future and recommend to all of you, is that when you start from that point of view, you approach these problems in a very different way. As a pragmatist, I've always been like, "I don't want to go there. It's too hard. I can't even solve the problems in front of me." I think there's a really strong argument to be made [that] you should start there.

Neena: I don't have too much to add on this besides to say that I think from a global perspective, definitely super real, politics are difficult. I think even within the state of California, we can think about it again in that context of communities who have been bearing the brunt and are now facing the worst impacts of climate change. I think there's also something to be said there around what accountability looks like, what some sense of healing justice looks like, [and what] reparations looks like.

Perhaps one potential pathway towards that is to think about how we can have communities, as I said, be front and center, be prioritized, [and] have decision-making power as a means to move some of these things forward in a more equitable way because it hasn't been that way in the past.

NATURAL RESOURCE EXTRACTION AND ITS ENVIRONMENTAL JUSTICE IMPLICATIONS

Colin: Thank you both. We have another tough question often discussed again in the questions [chat] around moving to a more circular greener economy. The question is, "as we transition to a cleaner and greener future, how do we reckon with the fact that extraction in itself continues, the raw materials to make solar panels have to be sourced from somewhere? Sure, we stop extraction from oil and gas in our backyards, but we move that resource colonialism overseas."

1. OLÚFẸMI TÁÍWÒ, RECONSIDERING REPARATIONS (PHILOSOPHY OF RACE) (2022).

Danny: One thing I'll say, I think a lot of the energy systems people I listen to and talk with have a really nice turn of phrase that's helped me get my head around this issue, which is that, in a fossil-based society, you're really thinking a lot about the energy, the fuel you're using—so the continuous extraction of the fuel. Particularly with batteries and renewables and electric vehicles we're talking about the extraction of minerals that are less about the fuel and more about the feedstocks for production. There's just no question that that's a really important issue.

What I think is so challenging is that movements that have been centered around extraction of fuels are going to find new problems and new places that haven't really navigated these issues very well. We're going to encounter massively tough problems in the United States because we have, frankly, not been producing many of those minerals. If you want to expand mineral production here, you're going to raise all sorts of local impact issues. You might be dealing with tribal nations, where you might have legacy pollution issues that have not been dealt with, and it'll just be exacerbated if we run into it blind.

If you don't do it, it's going to happen somewhere else, and you're going to have those problems somewhere else as well. I don't want to be a defeatist or a nihilist about any of that, but I think the framing that's really helped me get my head around this is the extraction for fuel issue is really shifting to the extraction for minerals question. We have got to start talking about that and start talking about supply chains, including where we want them and why we want them where we want them because putting it out of sight doesn't fix the problem. Not doing it right at home isn't an answer either.

Neena: That makes a lot of sense. I think this is a super difficult question. In terms of the materials, I think that piece that you're getting to, Danny, around intentionality is going to be super important. For example, right now, you might have seen it in the news, this idea of Lithium Valley and trying to get those material sourced from San Joaquin Valley, which is already a very overburdened area, [and] using that in the production of battery electric vehicles, which are clean, not combusting.

There's always going to be a trade-off somewhere. I think it's just a matter of how do we approach that intentionally? How do we do that in a way that doesn't further existing inequities, but seeks to rectify them?

I think part of the reason why I so appreciate an environmental justice perspective is because it really gets at the crux of transforming our society and shifting our systems. I think this question gets at the point of: if we expect to continue the way that we are, particularly in terms of demand and the way that product flows through our economy and through each other, then we're going to end up with these same issues.

But, if we try to be imaginative and conceive of other ways of existing together with the natural environment, whether that means sourcing our stuff more locally or trading with each other, or more community-centered economic systems, I think that'll provide a lot of different alternatives that won't force us

to rely on continued extraction and continued use if we can think about how to also drive down demand.

Danny: I[’ll] just sound a respectful note of disagreement. I think we’re going to have to build a lot of stuff and dig a lot of stuff out of the ground to avoid the worst of the climate crisis. I think the sooner we make peace with that—again, personally, that’s just my view—and start talking about how to do that right, the better because I don’t think we’re going to degrowth our way out of this. I think it’s going to be really tough, but I think we need to roll up our sleeves on that stuff. Precisely because if we’re going to do Lithium Valley, which is going to make a lot of things work politically and economically, we cannot do that in a way that exacerbates the pollution inequalities that are there, which is why we have to start from the standpoint of why was the environment so screwed up in the first place and what is owed to the people who live there?

Neena: I would just add to that I think it can be both. I think we [can] continue to be visionary and transformative and also address the issues as they’re coming up right now.

Colin: For those of us who are lucky enough to step away from our legal studies, say, we get out for a hike or go to a brewery with some friends over the weekend, what is the one topic or question you suggest to people who are listening and watching raise with their friends this weekend to talk about?

Danny: I’m going to sidestep your question slightly as a law school graduate. I’m going to say everything you’re taught about working with agencies and courts is not the right place to start. It is going to be legislatures. If we get ourselves out of this, we are going to have to think about how to engage in the legislative process, locally likely, because the federal government is going to be in a disastrous situation for some time, unless we all get really lucky.

I just encourage law students, in addition to thinking about how to go be a clerk at whatever fancy court, learn about the legislative process, get involved in that part of the legal system, understand how it works, and encourage your friends to do the same because we cannot rely on the courts or appointed officials to save us in all situations. In fact, possibly in very few.

Neena: I had a very similar response too for that, which is I’m all about people power. I would encourage you to think about civic engagement, what you’re doing to get involved in these issues, and making your voice heard at the legislature and in other arenas to really advance these issues because we need every single person who’s willing to throw down to make this happen.

Colin: Thank you so much. I appreciate your time in getting to share this conversation with you both and all of your amazing work and insights. Danny and Neena, thanks again.

Danny: Thanks for having us.

Neena: Thanks so much.