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STATE OF CALIFORNIA

CALIFORNIA ENERGY COMMISSION

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2024 Integrated Energy Policy	)	
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(2024 IEPR Update)	)	
	)	re: Regional Electricity
	)	Markets and Coordination
______________________________	)	

IEPR COMMISSIONER WORKSHOP ON REGIONAL ELECTRICITY

MARKETS AND COORDINATION

IN-PERSON AT:
CNRA HEADQUARTERS BUILDING
FIRST FLOOR AUDITORIUM
715 P STREET
SACRAMENTO, CALIFORNIA 95814

REMOTE ACCESS VIA ZOOM

FRIDAY, JANUARY 24, 2025

9:00 A.M.

Reported by:

Martha Nelson

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J. Andrew McAllister, Commissioner, CEC - IN PERSON

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Kevin Thompson, Chair, Arizona Corporation Commission

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PUBLIC COMMENT

Meghan Loper, on behalf of Kathleen Stakeholders of Western Freedom

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PUBLIC COMMENT (cont'd)

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INDEX

PAGE

Welcome & Logistics 8
Sandra Nakagawa, CEC

Opening Remarks 9
Siva Gunda, Vice Chair, CEC
J. Andrew McAllister, Commissioner, CEC
Elliot Mainzer, President/CEO, California ISO
Alice Reynolds, President, CPUC
Darcie L. Houck, Commissioner, CPUC
Karen Douglas, Commissioner, CPUC
Liane Randolph, Chair, CARB

1. Western Energy Markets 19
Jake McDermott, Western Interconnection Lead, CEC

2. Introduction to Pathways 32
Carl Linvill, Principal, Regulatory Assistance Project (RAP)

3. Western Regulator Perspectives 46
Facilitator: Carl Linvill, Principal, Regulatory Assistance Project (RAP)
A. Letha Tawney, Commissioner, Oregon Public Utility Commission
B. Kevin Thompson, Chair, Arizona Corporation Commission
C. Pat O'Connell, Chair, New Mexico Public Regulation Commission
D. Milt Doumit, Commissioner, Washington Utilities and Transportation Commission

Remarks/questions from the dais 72

Q&A from workshop attendees 83
Moderated by Jake McDermott

INDEX

	PAGE
4. Finding Common Ground: Diverse Stakeholder Perspectives Facilitator: Julie Halligan, Manager Electricity Planning and Policy, California Public Advocates Office, CPUC A. Marc Joseph, Attorney, California State Association of Electrical Workers, Coalition of California Utility Employees B. Mark Specht, Western States Energy Manager, Union of Concerned Scientists (UCS) C. Mark Padilla, Manager of Emerging Markets and Energy Settlements, Los Angeles Department of Water and Power (LADWP)	87
Remarks/questions from the dais	105
Q&A from workshop attendees Moderated by Jake McDermott	108
Welcome Back Sandra Nakagawa, CEC	113
5. Market Participant Roundtable Facilitator: Jim Shetler, General Manager, Balancing Authority of Northern California (BANC) A. Randy Howard, General Manager, Northern California Power Agency (NCPA) B. Jeff Nelson, Director FERC Rates and Market Integration, Southern California Edison (SCE) C. Evelyn Kahl, General Counsel and Chief Policy Officer, California Community Choice Association (CalCCA)	115
Remarks/questions from the dais	140

INDEX

	PAGE
Q&A from workshop attendees Moderated by Jake McDermott	147
6. Assessing the Benefits of Pathways for California Facilitator: Jake McDermott, Western Interconnection Lead, CEC A. John Tsoukalis, Principal, Brattle Group B. Michael Wara, Director Climate and Energy Policy Program, Stanford University	151
Remarks/questions from the dais	186
Q&A from workshop attendees Moderated by Jake McDermott	202
Public Comments	209
Closing Remarks	224
Adjournment	225

P R O C E D I N G S

9:01 a.m.

FRIDAY, JANUARY 24, 2025

MS. NAKAGAWA: Thank you for joining today's Integrated Energy Policy Report, or IEPR, Commissioner Workshop on Regional Electricity Markets and Coordination. I'm Sandra Nakagawa, Director of the IEPR at the CEC. This workshop is being held as part of the CEC's proceeding on the 2024 IEPR update. Today, we're doing a hybrid workshop, meeting in person and via Zoom.

For those of you in-person, restrooms and water refilling stations are available just outside the auditorium if you turn to your right.

This workshop is being recorded and recording will be linked to on the CEC website shortly after the workshop. To follow along, the schedule and slide decks have been docketed and posted on the CEC's IEPR website. There will also be opportunities for the audience to ask questions of presenters.

We'll have a few minutes after each presentation to take audience questions, but be advised that we might not have time to answer all questions that are submitted. The way we do questions is through the Zoom Q&A feature. We ask that in-person attendees who would like to submit questions log into Zoom and use that Q&A feature via Zoom if they are able to. In-person attendees need to keep their device volume at zero to avoid audio feedback. Also, for audience Q&A, you can upvote a question and that will bring it to the top of the queue. Those with the most votes are moved to the top.

For those in-person attendees who cannot access Zoom, please write your questions on the card, which can be found at the back table when you enter the auditorium, and bring them up to me so that I can read them at the appropriate time.

Attendees can also make public comment at the end of this workshop today. Please note that we will not be able to respond to public comments, and those are limited to a maximum of three minutes per person, with one person allowed to comment per organization.

Finally, written comments are also welcome, and instructions on how to provide those can be found in the workshop notice. Written comments are due by 5:00 p.m. on February 7th.

We're now going to turn it over to Vice Chair Gunda for opening remarks.

VICE CHAIR GUNDA: Thank you, Sandra, and thank you everybody for your presence today. It's our first workshop of the year, IEPR workshop. Looking forward to a good conversation today.

As many of you know, the Energy Commission, as the state's energy office, typically what it's called in other states, has a unique and important role within the state to set the table for, oftentimes, conversations that are truly unlimited in terms of making sure they're not constrained by regulatory forums and have a conversation that allows for ideation of policies in California.

So I'm joined by Commissioners both from the Energy Commission, the PUC, the chair of the California Resources Board, and also the leadership from CAISO.

We also have regulators from the West joining us today to listen in and provide their comments, and we have many of the stakeholders who have been integral to the development of the markets and progress in the West here and online to both listen and provide their insights.

I'm also honored to see one of my friends and colleagues in the front row here, former President Marybel Batjer. Thanks for being here.

So with that, I would like to begin these opening remarks with Commissioner McAllister.

COMMISSIONER MCALLISTER: Thanks, Vice Chair Gunda. I really appreciate your leadership on this and the IEPR platform. I think it's really important, particularly sort of early in the year, early in the legislative session, and to sort of to begin to socialize some of the conversations that have been having, the status report about where the Western conversation is on electricity markets. So really great opportunity to kick off a comment period and sort of get the broader conversation going and allow for some public input.

I really just appreciate all the staff who have put it together, Jane, in your office, David Erne and the whole team. Sandra, thanks for helping us out today and keeping things moving. And just thanks to our colleagues on the dais and those who will be presenting.

Really, this is a big team effort from, you know, California entities, but also, you know, really a lot of great input from across the West, from our colleagues, largely at public service commissions across the other states. So a great day to sort of take stock and get some expert input, present some analysis, and really start to dig into the issues so that we can have a really well-informed conversation moving forward.

So really looking forward to today and getting into some substance. Thanks.

VICE CHAIR GUNDA: Thank you, Commissioner McAllister.

We'll go to President Mainzer.

PRESIDENT MAINZER: Well, thank you, Vice Chair.

Well, good morning, everyone. I really, really appreciate the opportunity to participate in today's workshop. And I wanted to start by acknowledging the spirit of collaboration and partnership that has brought us to this gathering today.

And I'd like to really thank Vice Chair Gunda, President Reynolds, the other members of the California regulatory community, and regulators across the West who really reached out across state borders to help establish the Pathways Initiative.

I'd also like to just acknowledge really the amazing coalition of folks drawn from the investor-owned community, public power, our marketing administrations, the CCAs, labor, consumer advocates, independent power, clean tech, large commercial and industrial customers, environmental advocacy and environmental justice communities, academia and technology service providers who've just worked so hard to help advance the Step 1 and Step 2 Pathways proposals in an effort to preserve and enhance the value of wide area market coordination.

At the CAISO, we will continue to provide technical assistance to the Pathways Initiative and certainly stand ready to assist the California legislature as needed. And in the meantime, we are going to stay absolutely laser-focused on continued administration of the Western Energy Imbalance Market and implementation of the extended day-ahead market with our committed and future market participants to further enhance reliability and affordability and environmental sustainability, which are really so important to electricity customers across the West.

So thanks again, also, to all the staff who worked so hard to prepare for today's gathering and looking forward to the conversation. Thank you.

VICE CHAIR GUNDA: Thank you, President Mainzer.

I'm going to go online real quick, if Chair Randolph would like to comment?

CHAIR RANDOLPH: Good morning, everyone, and glad to be here for this conversation today.

In 2022, the California Air Resources Board adopted its latest update to the state's Climate Change Scoping Plan to achieve carbon neutrality by 2045, and that plan makes absolutely clear that a clean, reliable electricity grid is essential to California's transition.

Moving more transportation, industrial, and building technologies to electric options is going to really increase demand, requiring a commensurate increase in clean electricity generation. Between now and 2045, the electricity sector will need to see sustained build rates of renewable resources, zero-carbon technologies, grid integration solutions, energy storage, other innovative approaches.

This transformation will drive investments in a large fleet of generation and storage resources, but of course will also require significant transmission to accommodate these new capacity additions. Collaboration across California and the rest of the WECC will be critical to that success. CARB is committed to continuing its long history of collaboration with CAISO and the energy agencies on issues related to regional energy planning and related GHG accounting issues and expects that need for collaboration to really deepen as CAISO's current and planned markets expand and as these new governance strategies emerge.

So CARB will also continue to work with other Western states as they develop their clean energy and GHG reduction programs. And so I'm really looking forward to learning more about the Pathways Initiative and its potential to support California's needs and the needs of other states throughout the West. I'm really eager to hear the presentation and discussion today, knowing that this inclusive process will help deliver the clean energy we need to achieve our goals.

So looking forward to today and thank you for having me.

VICE CHAIR GUNDA: Thank you, Chair Randolph.

It’s always wonderful to have you in these conversations.

I see Commissioner Douglas from PUC.

COMMISSIONER DOUGLAS: Thank you. Yes, thank you so much, Commissioner Gunda. And it’s a real pleasure to be here today. And I’m very much, also, looking forward to today’s conversations on this very important topic for California and for the West. Thanks again.

VICE CHAIR GUNDA: Thank you, Commissioner Douglas.

So before I go to the next part of the opening comments to President Reynolds, I just wanted to take a minute and just thank her for her extraordinary leadership over the last 18 months in helping bridge a number of conversations and really bringing the public interest both for California consumers but for the rest of the West, you know, centered in all the conversations.

So with that, I look to President Reynolds for her opening comments.

PRESIDENT REYNOLDS: Thank you, Vice Chair. And it really is a pleasure to be here today. I want to start by thanking the CEC for taking the administrative laboring order who are here, really a wonderful job in putting together this event.

But also as President Mainzer recognized that it’s not just the members of the dais here, and I’ll say that it’s an honor to be joined by the other members of the dais, but it’s such a broad group of stakeholders that brought us here today and really set the stage for the issues that we’re going to be talking about. And that broader group of stakeholders, I think, is the one that will take us forward to the next steps in this process.

The other point is that we really are at a time now, I think everybody recognizes this, where there’s a lot of polarization throughout our country. And I want to express gratitude, too, for being here today and talking about our shared goals. Through this process, we’ve recognized that we have shared goals in a reliable grid, a grid that works for customers throughout the West, and that we’re all connected.

And when the regulators got together, a small group of regulators in the West got together a little over a year ago, and started talking about the investments that our regulated utilities had already made in the CAISO, and the progress and the evolution of the CAISO board moving towards the EIM board and shared governance, and recognized that we all wanted the same thing. We all wanted to protect our customers and keep rates low, and we all wanted the reliability that comes from a broader footprint of resources. We all wanted to get through extreme events that we were all experiencing with a grid that we could rely on and that would work for the people of our states.

And so once we established that foundation, it was a lot easier to talk about, well, how do we get there? How do we get to a CAISO Board where we didn't want to give up the public interest focus of the CAISO Board? That wasn't the point of talking about an independent entity, but we wanted to carry forward that public interest to a board that recognized the protections that are needed of the public throughout the West.

So what we've seen in the continuing conversations and the work of the Launch Committee and the creation of the Pathways Initiative, the successful launching of Step 1 and the creation of a proposal for Step 2, really continues to reflect that foundational belief that we can achieve greater benefits for customers throughout the West in our shared connected grid through greater collaboration, through greater sharing of resources, and through working together.

So I just wanted to reflect on those points as we move forward into the discussion today. I'm really looking forward to hearing from experts and hearing more about some of the impacts and thinking about what our future might look like for California and for all of the states in the West, so thank you very much.

VICE CHAIR GUNDA: Thank you, President Reynolds, for framing kind of the journey over the last 18 months that we've had in this new effort.

I want to just note that Commissioner Houck from CPUC will join us later today. She wanted me to inform that she really wants to be a part of the conversation today.

So as we kind of move into the day, I just wanted to close off the remarks from the dais here. Again, I cannot say better than what President Reynolds, President Mainzer, Chair Randolph, and Commissioner McAlister have already said, but I think I just want to note a couple of pieces from my observation over the last 18 months.

And again, as President Reynolds mentioned, it was 18 months ago a small group of regulators met in Portland to just think through, you know, how do we set the table for maximizing the benefits for the consumers in the West, and understanding both our shared aspirations, setting a table where people can talk about things that they're concerned about in working with each other, and also thinking through the concerns and doubts that they might have in each other, and really investing the time necessary for building trust for communication?

If there's anything I've observed over the 18 months is just the power of communication and power of togetherness. We've all started with the problem statement. We've started with concerns we have in fully trusting each other's, you know, goals and how to work together. But I have -- and I can note every single person in this room, I see a number of colleagues I want to call out by name, but to just -- you know, each one of the colleagues over the last 18 months I got a privilege to work with have showed up with clarity of purpose, clarity of communication, a clear sense of togetherness, and a hundred percent determination in building the trust in the West, understanding that no one's alone here, and we all need each other to get the maximal benefits for each one of us.

So I'm really thrilled and privileged to have been part of that conversation and look forward to really, as the Energy Commission, set the table today to get updates. I would love to hear all perspectives so we can continue to work through collectively in the West for the benefit of the West.

So with that, I will pass it back to Sandra.

MS. NAKAGAWA: We're going to go to Jake McDermott for our first presentation on Western energy markets.

MR. MCDERMOTT: Thank you all for joining us today. My name is Jake McDermott, and I'm the Western Interconnection Lead for the Energy Assessments Division at the California Energy Commission.

As many of you know, the Energy Commission is the state’s primary energy planning and policy institution. Part of our role is to create a forum for public discourse around prospective policy developments.

Today’s workshop is a successor to the December 2nd, 2022 IEPR workshop on Western electricity system integration. That workshop featured discussions around the role of markets, transmission, and research adequacy, particularly when thinking about regional grid cooperation. Recordings of that workshop are online, as is a 20-page summary document.

Since that workshop, Western regulators issued a joint letter in 2023 and highlighted their collective interest in the creation of a regional wholesale market footprint for electricity customers. The regulators were explicit in their call for a footprint that includes all states in the Western Interconnection, including California, and does so to maximize the benefits of electricity markets across the West. This letter forms the basis of what’s now called the Pathways Initiative.

At the conclusion of my slide deck, I’ll turn the mic over to Carl Linvill next to me, who will provide a longer introduction to the Pathways Initiative.

Given the importance of recent developments in this space, the Energy Commission is hosting this workshop to serve as that public facilitator and to bring together stakeholders who are working on these issues. This workshop is a forum to examine the potential benefits and risks of Pathways for California.

Before we dive into these recent developments, my presentation will serve as a primer for the rest of the workshop.

With that, next slide, please.

Let's talk about key topics for this presentation. The visual on the right tells us not only the focus of today's workshop, markets and governance, but serves as a narrative guide to understanding the contours of how we arrived here. We're going to talk through a number of Western trends, including load growth.

Increasing demand for energy necessarily means the grid must maintain more and more supplies of capacity to meet demands. Resource adequacy, especially in California, is a way to incentivize building new capacity. It is part and parcel how to think about responding to load growth.

Markets are an excellent way to organize the operations of an electric grid. I'll discuss the Western Energy Imbalance Market in addition to some of the activities on day-ahead markets. Markets fundamentally optimize the usage of a portfolio of power plants, and that means finding the cheapest sources we can run consistent with the various transmission paths available. We won't cover transmission issues in depth today, but they are an important component of this story.

Finally, I'll turn to market governance to talk about why governance matters for the creation of markets.

Next slide, please.

Now, let's walk through some background on the Western electric grid and some major trends.

At the federal level, we have the North American Electric Reliability Corporation, or NERC. It's a not-for-profit that develops and enforces reliability standards and annually assesses seasonal and long-term reliability needs.

We also have WECC, which is one of the six regional entities that is delegated the authority by NERC to create, monitor, and enforce reliability standards throughout the Western Interconnection. WECC collects and compiles data from all 38 balancing authorities and uses that to produce the Western assessment of reliability. There's a map here on the left of the four major interconnections, and in blue, you'll see the Western Interconnection.

This past December, NERC issued their long-term reliability assessment. It captured a few important trends that are critical to understand and keep in mind throughout the workshop. The first issue is NERC’s assessment that demand forecasts are increasing. At the same time, the West is adding variable resources like solar and wind and is facing the retirements of traditional thermal plants. Some of these demand projections are driven by the electrification of heating, transportation, and some of this load growth is from emerging loads like data centers.

This leads into NERC’s assessment that in 2029, California faces a potential shortfall of existing transfers. Planned resource additions eliminate those potential shortfalls, but imports from other areas in the West may be needed if resources are not brought online in time.

The second and related issue is NERC’s acknowledgement that extreme weather can produce geographically large heat waves or deep freeze events that further stress reliable grid operations. NERC marks the California and Mexico subregion as at an elevated risk between 2028 and 2029. Elevated risk is defined as the possibility of a shortfall in those extreme conditions. These emerging risks require that California think through better ways to collectively anticipate and respond to these challenges.

Next slide, please.

Thinking about our narrative arc from that second slide, we've covered load growth and how that necessitates building more resources. Resource adequacy, or RA, is one way to think about this.

In 2004, the California Public Utilities Commission adopted the very first RA Program structure. This was done largely in response to the 2000 and 2001 energy crisis. The CPUC has modified the RA Program several times over the last 20 years, most recently through the adoption of a slice of day framework that begins this year with the 2025 compliance year. RA is how the state ensures that we have enough electrical supply to meet demand.

The RA Program obligates suppliers, whether that be an investor owned utility, a community choice aggregator, or an energy service provider, to maintain contracted capacity that provides system, local, and flexible RA capacity.

While the CPUC administers the RA program for IOUs, CCAs, and ESPs, the Energy Commission is responsible for evaluating the publicly owned utilities on meeting their own RA needs. System RA is a broad capacity requirement for each LSE. That requirement is based on the CEC's load forecast plus a planning reserve margin, or PRM. The CEC's load forecast is based on a one in two peak load, meaning that the actual peak load has about a 50 percent chance of being above or a 50 percent chance of being below the forecast. The PRM serves as a buffer on top of the peak load forecast.

And finally, extreme weather events can cause demand to spike and create challenges if the actual demand exceeds the forecast plus PRM. These extreme events can create problems throughout the region along three different dimensions: one, how widespread the event is; two, how long the event lasts; and three, the severity of the event itself. While California can import power, and we typically do that throughout the year, it is challenging to rely on imports during these events when other areas may also experience heightened probabilities of supply shortfalls.

This is an ongoing challenge that could be mitigated with increased coordination between balancing areas. Later today, we’ll hear from Stanford University on their recent research that looks to replicate this issue.

Next slide, please.

While California has an RA Program here, it’s also important to look at other jurisdictions to see how they’re assessing their own RA. Each balancing authority throughout the West maintains independence of their internal approach to RA planning.

The Western Resource Adequacy Program, or WRAP, is an extra voluntary layer on top of that that can allow greater resource sharing across the region when needed. WRAP is similar to other Western market activities. It's voluntary, it doesn't supplant individual participants' decision making, and is incremental.

WRAP is new relative to California's RA Program, but in a similar vein, its goal is to reduce the risk of shortages for participants. The way WRAP works is that participants can make showings that meet their required share of system capacity. If there are deficits or surpluses, WRAP allows participants to essentially borrow from each other. Imagine the Northwest importing solar from the Southwest when the Southwest is oversupplied during the summer.

WRAP is an important part of this picture because California exists within the Western Interconnection, and what happens during extreme West-wide weather events across the region will impact the state. So there's this key ongoing question, how does California best harmonize its RA program with the WRAP and partners across the West?

Next slide, please.

Next, let's talk quickly about building new resources. I mentioned at the top of this presentation that load growth necessitates resource development. I built this table using data from WECC gathered in December of 2024. The data contains forecasted 2024 and 2025 nameplate capacity added to each of the 38 balancing areas in the Western Interconnection. It's based on projects currently under construction.

Rather than show each of the 38 balancing authorities, I wanted just to show the top five based on the total incremental capacity added in 2024 and 2025. According to the WECC data, CAISO was forecasted to add about 11 gigawatts of nameplate capacity in 2024 and will add about 5 gigawatts in 2025. This is 38 percent of all incremental capacity in 2024 and about 48 percent of forecasted incremental capacity in 2025.

Markets can help reduce risks across a footprint by sharing resources across balancing areas, but on principle, this requires capacity to be built. Essentially, markets can optimize the resources it has available, but that is predicated on having enough capacity built in the first place.

Next slide, please.

The remainder of my slides touch on markets, which, if you recall, is one of the two main subjects of today's workshop.

First, let's talk about the Western Energy Imbalance Market, or WEIM. WEIM is operated by CAISO, which is a distinct function. CAISO is a balancing authority and also a market operator.

WEIM began in 2014 and allows balancing authorities outside of the CAISO to participate in a real-time intra-hour market. Before the WEIM, trades were done bilaterally between balancing areas. There was no way to optimize those transfers or utilize available transmission.

Nowadays, the WEIM provides better visibility into system needs through the West. It improves reliability by providing an integrated footprint where buy-sell decisions are made on a sub-hourly basis. This larger integrated footprint benefits consumers by finding the cheapest source of generation and optimizing supply and available transmission resources in real time, reducing congestion, and reducing costs to customers.

This map is from CAISO’s 2024 Q3 Benefits Report. And it’s striking to consider that in 2014, the WEIM started with just CAISO and PacifiCorp, and now about 80 percent of Western load is participating in this market.

Since 2014, CAISO reports that the market has created over $6 billion in gross benefits, but that doesn’t tell the full story. Because the market has added more balancing areas over the last decade, successive annual benefits have continued to increase. For example, CAISO reports that gross benefits between 2014 and 2019, about half of the market's operating life, totaled about $860 million. In 2023 alone, CAISO reports that total gross benefits were about $1.6 billion. That's an important benchmark.

2023 had about twice the gross benefits of the first five years of operation. Part of this is because the benefits continue to scale with increased participation from more load. Additionally, the benefits are derived from utilizing an increasing number of transmission pathways. This transmission optimization is important, as more pathways allow for the market operator to find newer, cheaper ways of servicing demand with the same power plants.

Next slide, please.

The success of the imbalanced market leads naturally into a conversation about a day-ahead market. CAISO already operates a day-ahead market for its own balancing area. The purpose of a day-ahead market is to collect supply and demand bids a day out from physical deliveries, while the ISO then layers a real-time market on top of that day-ahead market to manage deviations from expected supply and demand. And those deviations are precisely what is meant by an imbalance market. By layering the imbalance market onto the day-ahead market, the market operator can then better schedule and optimize transmission and generation resources.

CAISO is actively engaging parties in its extended day-ahead market, or EDAM, stakeholder process. EDAM would allow for participation in the day-ahead market from entities that already voluntarily participate in the real-time market.

FERC approved EDAM, and the market is set to go live in 2026. A few participants that buy and sell in WEIM have already received approval from their respective authorities to join EDAM, and a few others are in the process of acquiring the needed approvals.

Finally, while CAISO will administer EDAM starting next year, the Southwest Power Pool, or SPP, is developing an additional West-wide market called Markets+. FERC recently conditionally approved SPP's Markets+ tariff.

Next slide, please.

To recap, I've covered today this story about load growth, the need to build resources, and the optimization of those resources through organized markets. Before I turn it over to Carl for his intro to Pathways, I want to spend a moment on governance and why that is important.

Markets do not appear out of thin air. They take time, patience, and trust to develop. Trust is especially important between market operators, suppliers, and LSEs.

The experience over the last decade with the EIM shows that it worked precisely because it was incremental. The EIM helped participants smooth out fluctuations in their needs by allowing trades to happen between balancing areas in a coordinated fashion.

A day-ahead market is a bit of a different story. A day-ahead market envisions a commitment of resources to the market, both generation capacity and transmission. There are also more potential benefits to be had with a day-ahead market. While a sub-hourly market like the EIM provides value by smoothing out those last-minute trades, a lot of potential value is missed. The value of a day-ahead market lies precisely in its operating timeframe. By looking out a day in advance and collecting demand needs and supply bids, a market operator can optimize the system up front, including transmission, before any physical deliveries of power are due.

I mentioned at the top of this presentation that today’s workshop is this venue for California to have that public discourse about the potential benefits and risks from this type of market growth, and I’m interested to hear from our on this very topic, both the benefits and the risks.

With that, thank you for your time, and I’ll pass it to Carl Linvill to take us through an intro to Pathways.

MR. LINVILL: Thank you, Jake.

Next slide, please.

Good morning. It’s a pleasure being here. Thank you for inviting me. I am Carl Linvill with the Regulatory Assistance Project. The Regulatory Assistance Project is a 501(c)(3) nonpartisan, nonprofit, non-advocacy entity that helps public officials, public staff around the country. It’s my pleasure to have been engaged to help the Western Commissioners that have been working on the Pathways Initiative and their staff over the last 18 months.

Next slide, please.

I just want to say for a moment, give you a brief perspective on where I come from to this conversation. I’ve been working on market development in one way or another for more than 25 years in the Western United States. It’s always been for me about promoting customer benefits and promoting the public interest.

I spent some time as a public servant in the state of Nevada, as a staff member, as the advisor and director of the Energy Office in Nevada, advisor to the governor of Nevada, director of the Energy Office in Nevada, as a Utility Commissioner in Nevada. And in the years since, I’ve spent my time being an advisor to many regulators in the West and around the United States.

My observation of the Western Energy Imbalance

Market development was one of satisfaction and almost amazement. I watched incipient efforts take off and then fall apart when consensus across a large footprint could not be obtained. And then I saw this brilliant idea of the Western Energy Imbalance Market where a platform was defined and an offer was put out one by one, utility by utility, state by state, you're invited to join if you would like.

That process of invitation and optionality led to, as was already mentioned, it started with just PacifiCorp and the California ISO, but one by one, additional entities joined the Western Energy Imbalance Market and benefits grew.

I served on the Western Energy Imbalance Market from the seating of the Western EIM governing body until 2021. What I learned from my time serving on that body was that there are real benefits for all participants in the Western EIM, that the measurement of those benefits is very conservative, that there are always benefits that are harder to measure, like the ones you're going to hear about today, the reliability benefits, which are very significant.

I also learned. One of the practices we had on the governing body was when a new entity joined, we went to the state of that entity and held our meeting in their state for that, for their -- as they were joining, and we heard from them. One of the really interesting things that I learned as I got to know each of these entities and their senior management one by one was this is producing benefits that we did not understand or we were not aware we were going to enjoy.

For example, one that really struck me was the process of onboarding to the Western EIM provides/offers the opportunity to put all the resources on a common platform. The transmission resources, the generation resources, all of the resources are now on a common platform in order to accurately operate the market. And what that did was it caused each utility to go through and reassess and recalibrate all of their resources under the standard assumptions of this common platform.

And one of the things I learned from these utilities was just that process of recalibrating that gave them a better understanding of their own system, led to optimization within their respective systems, and led to optimization, of course, across the Western EIM footprint that we see in that $6 billion number that was mentioned earlier.

Since that time -- the Pathways Initiative, as was mentioned, started about 18 months ago, initiated by regulators -- it’s been my honor to help those public officials to keep track of the Pathways Initiative. This is, you will see, I will walk you through what it is, breathtaking in its scope, complexity, diversity of participation, both regionally and sectorally. And it’s a credit to these regulators that they have made an effort to keep up with what’s going on, and it’s been my honor to help them keep up with what’s going on.

But my role is not as a formal representative of the Launch Committee of the Pathways Initiative or a formal representative of the regulators. I just want to provide you an overview from this kind of third-party perspective of how things have worked over the last period of time.

Next slide, please.

So it started with the regulators making a call.

Next slide, please.

And it’s already been mentioned by our members from the dais here, consumers will benefit most from the broadest possible market footprint, which includes California. This is a founding principle of the regulators deciding to work together.

It was also recognized in their conversations that independent regional governance will be required to reach the broadest possible footprint, which offers the greatest possible benefits.

And it was also recognized as the states compared, these are a very diverse group of states, very different state policies, different priorities, but each state cares that they have the ability to pursue their goals and that joining a market will help them to meet their respective goals and not get in the way.

So part of the whole process of coming forward for these regulators was I expect my state's policies to be honored and I honor policies of other states as we build this together.

Next slide, please.

The Pathways Initiative was launched. The regulators' letter was a catalyzing event, but it was quickly recognized that the regulators themselves could not run this very complicated operation. It would have to be a broad cross-section of stakeholders from around the Western Interconnection who were interested in advancing -- (clears throat) excuse me -- this initiative. So interested stakeholders volunteered, volunteered their time, came forward, and began building this engine, which hopefully leads to the broadest possible benefits for customers and states in the Western Interconnection.

The Launch Committee has broad sectoral representation and broad geographic representation. There's a website that's hosted on the Western Interstate Energy Board with the moniker WWGPI, West-Wide Governance

Pathway Initiative. If you go there, you can see things like who are these representatives, what stakeholder groups are represented, and who are -- who's the leadership and things like that.

So a Launch Committee was formed. There are voting members of the Launch Committee and non-voting members of the Launch Committee. The non-voting members include the state representatives. Regulators include folks like the Consumer Advocate, like the Western Area Power Administration is a non-voting member of the Launch Committee.

So you can also see, if you go to that website and look up information about the Launch Committee, that there are a broad cross-section of voting members and non-voting members. You're going to have panels today that represent those non-voting members, a couple of parts of that, so you'll get to know some of those folks today.

A broader stakeholder engagement process was established at the same time. It was recognized immediately that this can't happen in a cave, can't happen in a vacuum. There needs to be regular engagement with a broad group of stakeholders in the entire West.

And so there's a monthly cadence of a stakeholder meeting. Everyone comes. Everyone has the opportunity to ask questions. There are opportunities for stakeholders to provide comments to the Launch Committee as it develops the structure of this entity.

Also, stakeholders were invited as special work groups were needed to be created to take on special initiatives, such as what will the stakeholder process look like in this new entity? Stakeholders, in addition to Launch Committee representatives, were offered the opportunity to participate in those work groups.

Next slide, please. Next slide, please.

So now I’m transitioning to a set of slides that were prepared by the Launch Committee that describe the current status of the Pathways Initiative. You’ll see, if you’ve looked at this ahead of time, there’s a lot of content here. I’m going to do a quick time check on myself. Okay, I have, I think, about 10 minutes to walk you through a lot of information. So I’m not going to tell you everything on every slide. I’m just going to pull out highlights, but I invite you to look at the slides in their entirety at your leisure.

So the Launch Committee, again, was started to pursue an independent governance structure that’s capable of overseeing an expansive suite of West-wide wholesale electricity markets and related functions based on this set of concepts. Largest footprint possible includes California, independent governance, preserve and build upon the existing California ISO market structures, minimize duplication and occurrence of costs, and consider, over time, movement towards additional services, including perhaps a full regional RTO someday.

Next slide, please.

Their evaluation criteria as elements of the proposal were considered and brought forward as formal, what we'll call a Step 1 and Step 2 proposal in a moment. These were the evaluation criteria that were used to determine, you know, whether the proposal was a beneficial one. Does it have maximized net benefits? Does it include equitable representation? Does it offer a governance structure that's independent of any single state participant or class of participants? Is it flexible? Does it provide optionality to allow market participants to choose the services they value?

For example, if you opt in, you can opt in to the Western Energy Imbalance Market. You can opt in to EDAM as an additional service. Perhaps additional services will be offered. Each of these on the menu of options is an opt-in. You're not getting pulled into something that you haven't consciously chosen to participate in.

Preservation of existing balancing authorities' ability to maintain independence and so forth and an implementation timeline, as I said, a respect for state authority is very important.

Next slide, please.

The Pathways Initiative came over time. The Pathways Launch Committee started working together in about September of 2023. There was no structure. This was a structure that was created from that group over the last 15 months or so. It was decided that there would be three steps.

Step 1, elevate WEIM and EDAM governing body authority and the governance of the existing California ISO energy markets. That step has been accomplished.

Step 2 is the step we're in now, it's underway, transfer governance authority over existing energy markets. When we say energy markets, we mean the real-time market and the day-ahead market from California ISO to a new independent regional entity.

And then Step 3 is a little bit further off in the future and not really a very active point of discussion at this point.

Next slide, please.

So the Step 1 proposal, what is the Step 1 proposal?

Next slide.

Step 1 elevates the WEIM governing body's joint authority to a primary authority. It gives the WEIM, a governing body, an initial decision, the opportunity to make an initial decision on proposals resulting from stakeholder process if they fall within the designated decision-making scope. And it includes dual filings, the unresolved disputes over tariff changes between the WEIM and the ISO board require the ISO to use 205 filing rights to present proposals without preference to FERC for decision, but they also do allow a dual filing by the WEIM governing body.

The public interest. Protecting the public interest is central and key to this entire proposal, as you’ll see.

Next slide, please.

So in transitioning from the current responsibilities of the WEIM governing body to these Step 1 responsibilities and authorities, it requires a triggering to happen. This slide describes the trigger, basically execution of EDM implementation agreements by utilities representing load equal to or 70 percent of the ISO’s load. I understand with an implementation agreement that’s happened very recently, in the last day or two, with LADWP joining, it’s now at 65 percent.

Next slide, please.

And I’ll apologize that I’m going through this very fast, but we look forward to hearing from our regulators in just a minute on a panel where they can give you their perspective on each of these things.

The current status of Step 1 implementation is the tariff was submitted to FERC. There's an outdated number here, 45.4 percent. It's now, as I mentioned, 65 percent. And the utilities that have signed implementation agreements or are intending to join is listed here.

Next slide, please.

So what is Step 2?

Next slide.

Step 2 expands regional coordination but leaves other California ISO functions untouched. So we're talking here just about energy markets. We're talking about the real-time market and the day-ahead market. There are many functions of the California ISO that would continue under the Board of Governor's authority as they exist today. And they are listed here. Again, for the sake of time, I'm not going to read these, but you can look at them and see what they are.

Next slide, please.

Independence of the regional organization was a founding principle of this entire effort. Many elements of independence have been baked in to this, excuse me, Step 2 proposal. This graphic here describes those different sources of independence, the tariff, organizational independence, staffing independence, and stakeholder process and public interest elements that promote independence. And I invite you to look at these in detail.

Next slide, please.

This next step, Step 2, will ultimately require the formation of a new regional entity. The regional entity has come to be referred to shorthand as RO. RO formation includes steps like a declaration of a 501(c)(3) nonprofit, incorporation in Delaware, and establishment of a principal place of business, which is still under discussion.

Next slide, please.

RO governance aspects include an independent seven-member board, no reserved seats, but no restriction on the number of current WEM governing body members that may serve on the RO Board, an RO Board public policy committee to tend to that important issue of state deference and state independence, an open process for meetings and decision making, and the establishment of a collaborative relationship between the RO Board and the California ISO board with joint authority -- or joint meetings for joint authority matters and each board meeting separately for sole authority matters.

Next slide, please.

The public interest is very important. This will come up in our conversation with the regulators in a moment. Just very basically, two intertwined components of public interest are how customer interests, including affordability and reliability, are safeguarded in a nondiscriminatory market design and in operations. And secondly, how state and local policies, even as they differ across the West, are respected in market design.

Next slide, please.

There are a number of tools that were developed to promote the public interest. Again, I don't have time to talk through each of these, but the RO structure and board is important. The RO body of state regulators provides a relationship that's important. A consumer advocate organization, the addition of a consumer advocate organization, is an important element.

Next slide, please.

The new Office of Public Participation to, again, tend to that important relationship between the states and the RO Board ensure that the impact of decisions is understood and evaluated via the RO Board as engagement with the states happens through this Office of Public Participation and with stakeholders, as well.

Independent market monitoring functions and a stakeholder process. An enhanced stakeholder process has been designed that I think you'll find is quite interesting and invite you to look into that too.

Next slide, please.

This describes the elements of the stakeholder process, which I don’t have time for, but I think it’s a very robust, most likely best-in-class stakeholder process.

Next slide, please.

So what’s next in the journey here? And the journey here next is the creation of a Formation Committee, which will drive things forward. The Formation Committee sets the stage to further develop and implement Step 2 in coordination with the California ISO, the WEM governing body, and stakeholders. You can read more about the Formation Committee here, but the Formation Committee is working now and is setting the stage should the opportunity to undertake Step 2 is effectuated.

I think that’s my last slide. Yes, it is. Thank you very much.

And are we going to move immediately to the panel?

MS. NAKAGAWA: That’s right. Thank you so much, Carl, for that presentation.

We’re now going to turn to the Western Regulator Perspectives panel. And Carl is still in the hot seat, but now as facilitator. We’re inviting to join on camera Commissioners Tawney and Doumit, as well as Chair O’Connell and Thompson. Thank you so much.

MR. LINVILL: Okay, great. Good to see all of you popping in here. So I think as I go to each one of you, I'll want to -- I'll just have -- I'll quickly have you introduce yourselves. I'll call on you.

We'll start with Commissioner Tawney. Would you like to introduce yourself briefly?

COMMISSIONER TAWNEY: Good morning, everyone, and it's a real privilege to be here working with all of you on these really critical issues. I've served as Commissioner on the Oregon Public Utility Commission since 2018. I've chaired the body of state regulators and served as the BOSR representative on the EIM Governance Review Committee. It's a real delight to be with all of you.

MR. LINVILL: Chair Thompson?

CHAIR THOMPSON: Well, it's good to see so many friends and colleagues. I know it's been a while since we've all been together. It's always a pleasure to see you all.

Kevin Thompson, Chairman of the Arizona Corporation Commission. It's a pleasure to be here today. I'm thankful for everyone and the efforts that they put into this process. This is something that, you know, I know on the Arizona side, a lot of our utilities have already made their decision, which direction they want to go, but I’ve committed to the BOSR and to the Pathways Group that I’m going to see this one through.

And so I’m here today to ensure that I’m helping to see this through. So it’s a pleasure. Thank you all again.

MR. LINVILL: Thank you, Chair Thompson.

Chair O’Connell?

CHAIR O'CONNELL: Good morning. I’m Pat O’Connell. I’m the Chair of the New Mexico Public Regulation Commission and happy to be here today, and I’m looking forward to our conversation.

MR. LINVILL: And Commissioner Doumit, are you on?

MS. NAKAGAWA: He may be a few minutes late.

MR. LINVILL: Okay. Okay, great. Well, we’ll introduce Commissioner Doumit when he comes.

I wanted to start you all off with what brought you -- you’re all signatories to that famous letter that we’ve talked about a few times now on July 14th of 2023. What brought each of you to be motivated to participate in that discussion, sign on to that letter, and stay engaged for this last 16 months?

Commissioner Tawney?

COMMISSIONER TAWNEY: Thanks so much. So I’ve been engaged in the market question since I joined the

Commission and participated, for example, in the design of the state led market. And the modeling has demonstrated over and over the value proposition to our customers in Oregon, the largest market footprint possible. And that’s been borne out then in reality; right? When we are facing a tight grid situation, when we have had facilities go offline unexpectedly, EIM has provided really rapid dispatch and helped manage the price spikes that go with it.

The modeling that I continue to see produced continues to elaborate on those values for customers. Most recently, Bonneville Power Administration’s modeling for their day-ahead market decision, they demonstrated in their own modeling results $450 million to $550 million more in benefits for the Northwest region if they participated with California.

And my customers in Oregon are really struggling with energy burden, alongside housing costs pressure. And the opportunity to provide more reliability at a lower cost is critical to manage --

MS. NAKAGAWA: Commissioner Tawney?

COMMISSIONER TAWNEY: -- (indiscernible).

MS. NAKAGAWA: I’m so sorry to interrupt. We are having a little bit of audio issues hearing you. I’m wondering if we might just test that out a bit, if it’s possible to use headphones or get a little closer to the mic.

COMMISSIONER TAWNEY: Sure. Is this any better?

MS. NAKAGAWA: I think that’s a bit better. Thank you so much.

COMMISSIONER TAWNEY: Apologies. The essential question is, what is the best value for Oregon customers as they grapple with the price pressure of adapting to a changing climate, the cost of wildfire adaptation, for example? And there’s so much clear value to Oregon customers in being in a market together with their Western colleagues, that it seems incredibly important to find a way to make that happen in a fair and equitable way.

And that’s what led me to the letter and to the collaboration with these colleagues across the West.

MR. LINVILL: Thank you, Commissioner Tawney.

Chair Thompson?

CHAIR THOMPSON: Yeah. You know, the previous chairman at the Commission put me on BOSR. And back in January of ‘23, I believe, is when I was sworn in and into office. And so he immediately put me on BOSR to replace himself. And it was hit the ground running, sink or swim.

But as we started talking about, you know, a regional transmission organization in the West, it had occurred to me and from what others had said was this was a discussion that had been, you know, a topic or it’s been a topic of discussion for the previous two to three decades. And there was never much, you know, pressure, I guess, put on moving this forward.

And so as we started talking through this on the BOSR and we all agreed that this would -- you know, if we could get the Commissioners behind this and really get this Pathways group up and running, it would give us an opportunity to really start having the open conversation about how do we move to an RO or an RTO in the West? And how do we -- how can we take advantage of that bigger footprint, as you had mentioned, Carl, you know, that would be beneficial to all the West? I mean, why would we not want to, you know, send our power during the winter to Oregon and Washington State, Northern California? And why would we not want that cheap access to hydro during the hot summers in Arizona?

So, you know, to me, it made sense. I looked at it from a point of view that it would benefit the entire West. If we were to develop a bigger footprint, it would be beneficial to our consumers across not only Arizona but across the West as a whole.

And so I was happy to sign on to the letter. I think it was June of ’23 when we all signed on the letter and really got this running. And it was, I just saw this as an opportunity really to get the discussion started, see where it goes, see if this is something plausible and if it's something that we can move towards. And man, it's been an exciting run. And I am so happy to see where it's gone and where the future is going to take this.

MR. LINVILL: Thank you.

Chair O'Connell?

CHAIR O'CONNELL: Yeah, thanks. You know, Commissioner Thompson said we signed this letter in June of 2023. At that time, I was a relatively new Commissioner. So just to answer that question, it includes a little bit of background.

First of all, I'm a regulator in New Mexico. We regulate three investor-owned utilities. Public Service Company of New Mexico and El Paso Electric are in WECC. And then we also regulate Southwest Public Service, which is in Southwest Power Pool. So that's the day job.

In addition to my day job, I'm on the WECC Member Advisory Committee. I'm currently the President of the Southwest Power Pool Regional State Committee. And I'm representing the Western Conference of Public Service Commissioners on the current FERC-NARUC collaboration.

I think, again, early in my career, and so I was leaning in on the experience I brought to the job, and so prior to becoming a Commissioner, I had spent decades in an electric utility. And then a few years after that as -- in an advocacy organization, I was working across the West. And my background, I'm a civil engineer. So, you know, our job is the things that help all of us live together safely and cheaply. And so as I navigated my career, I gravitated towards electric system planning. And so that's what I brought to it.

So if you spent time working in system planning, especially in a utility, then, you know, the idea of maximum consumer benefits, it's the regulator question, and, you know, affordable, reliable, for New Mexico, it also means clean. So affordable, you know, lowest reasonable cost, reliable.

One of the things you learn by working in the planning world is that just, especially electricity, it's least cost if we can share. So sharing, what does that mean? Things like coordination, especially during extreme weather events, means the ability to build interstate transmission. Then clean, not only does New Mexico got policies that point us in that direction, as a state, we are the only one that's top ten in least cost wind and least cost solar.

So when you combine those two together, we have internally a fantastic opportunity to pursue this decarbonization goal using resources within New Mexico.

But our load within the state is very small compared to the potential of development of these resources. So I know, for example, New Mexico has a lot to contribute to California in terms of providing low-cost wind resources that are diverse across the region.

So all of those things were in my head when we gathered together and started talking about how can we create the broadest possible footprint for regional coordination? And that immediately made sense to me, that that is something worth pursuing.

So at the time we issued the letter, you know, the whole governance question of how can we bring together all of the states in a coordinated fashion was a barrier. So it appealed to me the idea that, hey, maybe we can pursue this regional organization in a way that everybody can join, and so that was compelling.

Also at that time, the utilities were working on their WMIC (phonetic) study and that was being pursued privately by that group. And, you know, just my experience working in a utility, I was worried that utilities would look at this whole how do we pursue better coordination by defining the problem narrowly. You know, if they define benefits as only benefits that the utility could achieve, or even if they were just thinking about their own customers and not everybody else, they were going to miss out on the potential that a state like New Mexico has to offer to the region.

So, you know, just the idea that as a Commissioner, what can I do to influence this conversation, get out there with a letter that tells people, hey, while you're making these choices, there's another voice out there who is your utility regulator, and I'm going to be looking at it this way. So I thought there was value in putting my name to that document.

And then as Commissioner Tawney and Carl and Kevin have all already described, so far, where it has gone has exceeded my expectations when I signed the letter.

MR. LINVILL: Thank you, Chair O'Connell.

Commissioner Doumit, welcome. I'm glad to have you.

So each of us did a very brief just who we are and where we sit. So I'll have you do that, and then answer the question, what brought you to sign on to that letter?

COMMISSIONER DOUMIT: Sure. Thanks, Carl. Certainly, yeah.

I'm Milt Doumit from Washington State. I've been on the Commission nearly two and a half years now. And this is one of the first big issues that I looked at, I guess, when I got on the Commission, that it was really being sort of talked about. And I remember back in 2023 when I was looking at the studies that showed all this California solar that was being curtailed and was available, you know, in the West and I knew, you know, we were doing Washington in terms of long duration storage ideas as well. I thought this seems to be a really natural fit. Why is there a concern about this West-wide market in Iowa? I just thought this makes intuitive sense, you know?

And then I went and talked to our IOUs and I sat in some Bonneville meetings. And among other reasons, the prominent reason was this concern about California-centric governance. So, okay, I would like to be involved in this governance idea. Maybe that will take, you know, that factor sort of off the table.

At the time though, California was just failing to pass legislation. It looked like this was going to be a dead issue and that, you know, the status quo would be an EDAM to SPP, but our California colleagues came up and heard this from others, and kind of last pitch, bottom of the ninth, I think, you know, calling me and said, hey, what if we vision with us, you know, this idea of an independently-governed regional system that looks after your state's interests, recognizes them and is really motivated by consumer value, okay, and could perhaps evolve into something more? I mean, it's going to take a while.

This will be a sort of first step issue.

And that just really, you know, resonated. It was a no-brainer at that point for me to sign the letter, say that openly, and to be involved in the Launch Committee, as I was. And we'll talk about it, I think, a little more. You know, and if nothing else, I don't know whether that's -- and we have never, sort of we at the Commission, or I guess speaking for me and Randall as well as Dave now who is retired, pushed to anyone, you know, to make a choice. But what I certainly try to do is help the West-wide market become a good, you know, option, really.

So if nothing else, we'll have made both markets stronger, so easy call to sign up and easy call to participate. So that's my story. Thanks.

MR. LINVILL: Yeah. Great. Thanks. Thanks, Commissioner Doumit.

So the next, you know, big decision, big step for this group and their colleagues was, well, how do we get this thing rolling? I mean, how do we? How does this idea of creating a broader market with independent governance, how do we launch this? How do we get it rolling? As regulators and states, we don't have, you know, the staff or, really, the proper position to push that ourselves. We need stakeholders to opt in to say, this is a good idea, we want this to happen, and we're willing to dedicate our time to building this out.

And so there was a handoff, a handoff to a stakeholder committee that came to be called the Launch Committee. Of course, we'll just say, I think all of the regulators thought it was very important that this be a regionally-representative entity, that it be a sectorally-diverse entity, and it is all that. And I think it's been very effective in producing Step 1 proposal and on from there.

So I guess what I would invite each of you to talk about now is what has been your observation about the Launch Committee working together to produce these outcomes? And starting with the Step 1 proposal, what's significant to you about the Step 1 proposal? Why is implementing this Step 1 proposal an important incremental step forward in this project?

And, Commissioner Tawney, would you like to start again, or do you want me to mix it up? I can't hear you.

COMMISSIONER TAWNEY: Is this better audio?

MR. LINVILL: Yes.

COMMISSIONER TAWNEY: Wonderful. I apologize for earlier.

So I think there's two important differentiating factors around this market conversation. The first is, in the U.S., the market conversation has been utility driven.

They've been market-participant driven. And the entities that run markets, market administrators, are really striving for a balancing act between public interest and their market participants which, you know, it created.

The CAISO is very different. And you see it in the ethos, how the CAISO operates, the role that CAISO has played in the California policy landscape. The people are the child of statute and the public interest is rooted at the core of what CAISO does. And that is a very different origin story than the other RTOs in the U.S.

That public interest-centric perspective has been very powerful. And I think what's been at the core of the regulator letter and then the Pathways Initiative, how do you take that statutory mandate for -- which is, because it's in a single-state statute centered in a single state, carry that out to a regional mandate? As regulators, as Chair O'Connell pointed out, that's the core of our work, is that public benefit. And the CAISO has that embedded in their core work. How do you carry that mandate into a nonprofit? And I think that same thing in the Pathways Initiative has been critical. And you see that in how -- the protections that are created in Step 1.

The second differentiating factor I point to here in this initiative is how broad the participation is. There is much more transparency, a much broader engagement than there ever has been in a Western initiative by folks who are not utilities, by folks who represent different pieces of the electric sector, different views on the public benefit. I think that brings a real power to the governance structure (phonetic).

You know, CAISO is already subject to FERC regulation, but how proposals get carried up to a FERC filing and the way in which public benefit is embedded in those proposals from the root is really different in different RTOs. And I think the Pathways Initiative has really sought to keep the power of the public benefit that CAISO has really sought to maximize and build it into that governance, that Step 1 and 2 proposals.

One is a really important trust building exercise across the West, proving to California that they could benefit from a regional market, proving to the rest of the West, California really sees value in regional engagement that we really all do share, as President Reynolds said, focused on reliability and affordability as core to our consumers.

I'll leave it at that. Thank you.

CHAIR THOMPSON: Yeah, and I, you know, I look at it and, goodness gracious, you know, thankfully we had someone like Kathleen Staks leading the charge. I mean, she was amazing during this process, keeping everyone in check, you know, keeping the momentum moving forward. You know, they had to, really, they had to start from scratch. They had to build a charter. They had to, you know, set boundaries. They had to set rules, put things in place. You know, and it was -- you know, it's almost like watching the framers of the Declaration of Independence, you know, of how do you create something that hasn't existed in the West?

And to see the process that they went through, you know, really, you know, building from the ground up and taking, you know, Step 1, which was really, you know, the framework of, you know, ensuring that there's market independence while still allowing CAISO to have its balancing authority, I mean, that was a big deal. And, you know, there was a lot of back and forth between states that didn't want CAISO, you know, in the mix. But, you know, to see at the end of the day where it landed, you know, where CAISO is a partner at the table, is a big deal.

And having, you know, the stakeholder group get together, the Launch Committee come together, and really build this framework from the ground up was exciting to watch. And it think it's something that, you know, it's built on a solid foundation. And so I can't wait to see where we move beyond Step 2 as we start getting into Step 3 and seeing that process move forward. I think they've done amazing work and I’m eager to see how far they can take it and see this come to fruition. I think it’s a good thing for the West.

MR. LINVILL: Thanks, Chair Thompson.

Chair O’Connell?

CHAIR O'CONNELL: Yeah, just to follow on to what Commissioner Thompson just said, for me it was really a proof of concept. You know, the process you described, Carl, you know, we wrote the letter and then realized, hey, we’re not an implementation group but a group of Commissioners.

So this Launch Committee formed very quickly. They quickly raised their own money. It grew in size. So the idea of, hey, let’s pursue the broadest possible footprint was clearly a popular idea. So then, again, as you described, Carl, there have been efforts to create a better regional market several times before across the West. So I’m sitting here thinking, well, are we just the latest déjà vu? You know, have we seen this bull before?

But the Launch Committee not only was popular, it proved and gave itself some credibility by creating this Step 1. So the value has already been created.

And then, again, as Commissioner Thompson said, getting to the vision of the letter is going to require moving beyond Step 1, but what Step 1 did was show, hey, this is a popular concept, and it is being pushed by folks who are getting stuff done.

MR. LINVILL: Thank you.

Commissioner Doumit?

COMMISSIONER DOUMIT: Yeah, similar, similar words, I think. You know, I'm a lawyer by background and training. And when the idea came up and the letter was signed, it was like it was urgent, like, hey, we can sign and get a contract with you, you know. Let's get this tariff, you know, segmented out. And (indiscernible), you know, they want to see government change up here. Let's get going.

Carl, I credit you, actually, and my fellow Commissioners, but particularly you in saying, hang on, this -- we -- you don't understand the history, the trust issue. This has to be built up correctly, properly, you know, as has been mentioned, with a foundation, broad, I believe you said, broad engagement. And, yeah, I just saw that, the reasons for that as this went along.

And I've said this before, this group have been around in the government and private sector for a lot of years. I've never seen a group come together with such sort of commitment to the cause, collaboration, hard work, you know, talent, experience. And I was watching this happening, basically watching as the others were, you know, doing on this. I'm just, you know, starting out and kind of watching this unfold, and I think it was just an incredible sort of effort and continues to be.

And so I think, as Pat said, you know, they started -- the group started to build its own legitimacy. And as Step 1, that commitment to the project, in turn, bringing commitments back, you know, big ones, important ones, you know, utilities. And so the muscle was being built that allowed the continued work into Step 2, and we'll talk about the Formation Committee, what I know will be continued success there.

So really, that trust building, as Letha said, is, you know, it's just infused, I think, in this now. So the benefit of Step 1 is certainly to get that step on paper. The bigger picture for me was just this bunch of folks can get it done and will get it done.

MR. LINVILL: Thank you.

Commissioner Tawney, are you okay? Are you?

COMMISSIONER TAWNEY: I am.

MR. LINVILL: Yeah? Okay, great.

COMMISSIONER TAWNEY: Thank you.

MR. LINVILL: So, yeah, but, so bringing it back, back to you, I want to talk about Step 1. It's an important, as I think Chair O'Connell said, trust building exercise, tangible outcome, tangible improvements that built some additional support for this whole Pathways concept. But Step 1 is an interim place. It’s not what’s necessary in order to achieve that maximum footprint in the West. And independent governance is a necessary part of getting to that.

So if you could talk just for a moment about why Step 1 is useful, but we really needed to move to Step 2, and what in your mind is Step 2 achieving? What is it taking us to?

COMMISSIONER TAWNEY: Let me start by saying, where we were in 2023, having been engaged in governance in the CAISO context, having worked really extensively on governance in the Markets+ SPP context, where we were in 2023, despite the great efforts of a lot of really dedicated folks, was a world where, because we couldn’t figure out how to ensure California customers had the same protections as outside the California customers, that everybody’s customers were, were similarly situated vis-a-vis the market, we were kind of towards a world where a lot of value for customers was going to leave the table. And folks were going to move or were weighing their options about shifting.

And we see some folks have chosen Markets+, Chair Thompson pointed out, despite the economic modeling. But in 2023, it looked as though California was going to be fairly isolated. And a lot of value as a result for Oregon customers, a lot of its increased cost for Oregon customers was likely to happen.

We have to really shift the board, the landscape that we're making decisions on. Because what it does, by moving the decision making to the RO, the California balancing authority becomes the same as all the other balancing authorities in the region and can choose to leave the market. My utilities can choose to leave EIM today if they think that their interests are no longer being served. And that's the case in all RTOs. This conversation happens constantly in RTOs. There's a lot of conversation about flux.

California, as a balancing authority, the CAISO as the BA was not in a position to ever leave. Everything was always being done to it, as a regional -- as regionalization was happening.

By changing to Step 2, you actually create more protections for California customers because they can choose to leave. Now, I would hope that they never would, that we would find a way through whatever challenges were in front of us because the value to customers is so profound. But that shift, so that all customers are on equal footing as decisions are being made in the market, is central to being able to build that trust, create that foundation to get that value over the long term.

I really want California to be in a market with Oregon. That means Oregon customers and California customers need to be on equal footing. That's just how it has to be to have the partnership work and so we have to build that, a step to create the way to build that. It doesn't ever, in any way, say that CAISO failed. CAISO has been profound in their success. But we have to shift how the customers are positioned vis-a-vis the decision making.

MR. LINVILL: Thank you.

Commissioner -- or Chair Thompson?

CHAIR THOMPSON: Yeah, I think, you know, as the, you know, as the Launch Committee moved from Step 1 to Step 2, it was a really important transition; right? Because you were going from a framework now to trying to figure out whether you're going 2 or 2.5. You know, are you going, you know, keeping the momentum going, obviously, with Step 2? But, you know, are you going with an RO that has the ultimate oversight responsibility or are you going to more of a vendor-type model of oversight responsibility?

And I think ultimately, you know, they went, they really were looking at Step 2, which was the more of the vendor, so you have more of a regional council with CAISO, you know, being, I guess, you know, the primary so CAISO has a seat at the table, and then everyone else is kind of regional. And I think that’s what really kind of, you know, upset some of the utilities, at least those in Arizona, because they looked at it and said, wait a minute, why does CAISO get to be a standalone at the table as a vendor, whereas we are grouped in as a region, you know, with New Mexico and Utah and Nevada and so forth. And there was, I think, a little bit of heartburn there.

But, you know, I think as the Launch Committee starts moving from Step 2 to Step 3, you know, they’ll be working through some of those nuances. You know, for me, the important thing is keep the momentum going, you know, don’t take your foot off the pedal, keep the momentum going and let’s work through these issues. You know, the utilities are at the table. They get to have part of this conversation, as well. But, you know, continue to move through Step 2 and let’s see where Step 3 takes us and try to work out the differences as we move along.

I mean, nothing’s going to be perfect. There’s going to be, you know, hiccups along the way. There’s going to be, you know, barriers here and there that we have to, you know, figure out how to get around, to get over and get through, removed. And it’s not an easy task. Again, this is something that was built from the ground up. You know, it would have been too easy to follow a PJM model or the other models invoked in the East. And so, you know, we’re not PJM, we’re not the East, we’re the West, and we’re unique in that.

And so, I think as we, you know, as the states continue and the stakeholders continue to work through Step 2 and move to Step 3, I think you’re going to see a lot of the details work themselves out.

That’s why, you know, I’m committed to staying on and seeing this through, because I, you know, I think Arizona’s utilities, you know, jumped the ball a little bit. I think they jumped out there ahead of their skis and, you know, and I asked them if they would just allow this to work itself through and see where it ends, you know, because this could be the next best thing since sliced bread. You won’t know if you don’t see it through, and that’s why I’m committed to seeing it through.

MR. LINVILL: Thank you.

Chair O’Connell?

CHAIR O'CONNELL: Yeah, thank you. And it will be interesting to count how many times the word value gets used in the answer to this question. But really, I see Step 2 as how to grab the value that we were talking about when we wrote the letter, you know, that Step 1 is valuable. The value of trade really gets achieved if we get to Step 2. So, you know, solving the governance issues so that we can have the broadest regional footprint, and then the amount of money that's contained in the day-ahead market versus an imbalanced market is orders of magnitude different.

One of the things that I got to commend my fellow Commissioner Aguilera, he created a workshop process that we ran through over the last year as our utilities were struggling with, hey, what do we do? And, you know, we've allowed a good conversation on, well, you can look at it very narrowly within your control room, or you can look at it in terms of what New Mexico has to offer.

As part of that conversation, the utilities brought forward a lot of the economic studies that Commissioner Tawney was talking about. And one of the things that sang through for the New Mexico utilities is connecting New Mexico with the utilities in the Pacific Northwest, like Oregon, was going to create value for both of them because of the diversity in the resources and diversity in the weather, diversity in all that kind of stuff. So that was really the backbone of the value we can create by moving the day-ahead. And then you add California to that, and it's like a turbocharger.

So I agree with Commissioner Thompson, it will be interesting to see if we can overcome this governance issue, how well decisions of the folks who have jumped in outside of the broadest footprint, how well those decisions will age. But as the economic studies suggests, not well.

MR. LINVILL: Thank you.

Commissioner Doumit?

COMMISSIONER DOUMIT: Well, thanks for letting me go last, you know, because I can -- sometimes I follow Ann Rendahl on the Commission. And when Ann speaks and I listen, I have said this numerous times, yeah, everything she said. I just adopt for the record what Commissioner Rendahl said. That's my stance. And so I can say the same thing today, just adopt for the record what my colleagues have said.

But, no, I think Step 2 is really the crux; right? You know, this is, you know, assuming the Formation Committee gets this work done, and it will, and legislation, this will create that independent governance. And then for me, right, and I know in my state, governance is weighted heavily, right, against other factors. But if you can take that off the board, then you're really looking at value for the consumer, okay? That's the choice then that participants, potential participants are left.

I would say, we don't have the ability to, you know, dictate where or approve the decision where this goes. But we do have the ability to judge prudence, you know, in the public interest. And we will, at a time, you know, ask that the decision be justified, you know?

Now, our, unlike in Arizona, our IOUs up there, PacCorp (phonetic) has obviously made its choice. Avista and PSC (phonetic) have told us that they're continuing to let things play out, just as Commissioner Thompson, you know, said. And that appears to be, you know, what's happening.

They've also said in the public record, though, that they -- you know, it looks like where Bonneville goes, that will be -- that will end up being for them what is the best interest of our consumers. And we'll see on that.

But at this point, you know, I really feel like this is so critical to continue the momentum to get this Step 2 taken care of so that that issue of governance becomes a non-issue. And then we're truly measuring consumer benefit here.

MR. LINVILL: Great. Thank you so much.

It's time to start the engagement of the panel with, first with the dais and then with questions. I'm going to turn it back to Jake here to take care of that.

MR. MCDERMOTT: Thanks, Carl.

So I think what we can probably do is turn directly to the Vice Chair and see if you have any direct questions for the panel, then kind of go through the rest of the folks on the dais.

VICE CHAIR GUNDA: Yeah, thank you, Jake and

Carl.

I just want to begin by just, you know, recognizing, Carl, your contribution. When we started this, you know, about 18 months ago and, you know, recognized the need for an independent, trusted partner and facilitator in the West that everybody can listen to and feel comfortable to have, you know, be an honest broker, and I don't think we can find a better person. So for your incredible contribution, thank you so much for all your work.

Also, Jake, who just presented, thank you for your presentation, Jake. Jake comes from PUC, California Public Utilities Commission, but before that from the Public Advocates Office in California. So he does represent a lot of different stripes now, bringing all the wealth of knowledge here. So thank you, Jake, for your participation.

And before I thank my Commissioners from the West, I also want to just give a shout out to Grace Anderson, who's in the audience, a long-term, you know, staff member at the CEC who has spent so much time in the West building the trust, which has been such an important part of this panel.

So I just, you know, extend the thanks from the dais here to Commissioner Tawney, Commissioner O'Connell, Commissioner Thompson, and Commissioner Doumit. For me, you know, this last 18 months working with each one of you, as you summarized, is really around defining the clarity of purpose and goals, making sure that we all understand what is it that we are striving for.

And Commissioner Tawney, many of the times, too, you reminded, you know, how can we take emotions out of the process a little bit to really kind of think through, you know, how to build trust and how to think about facts and how to organize ourselves around, you know, objective, you know, strategies? So thank you for your leadership. And as Commissioner Doumit said, I would always say whatever you said, so thank you for being here.

So I think we have one question from the dais. So I'm going to go to Commissioner McAllister. And then we'll go to the public because we want to take as much time as possible from the public.

COMMISSIONER MCALLISTER: Thank you, Vice Chair Gunda. And I'll just sort of reinforce and lift up your comments of thanks to everyone, particularly Grace, who's just been a stalwart at the Commission for so long. And I really appreciate her educating me as I've come, you know, into these issues at the Commission and many others.

And just thanks to all four of our panelists.

Just let me just build briefly on what Vice Chair

Gunda just said. I've just been really impressed and learned a lot from all of you, and really the whole group, just as a model of collegial respect, just being -- you know, not being afraid to sort of challenge ideas and poke at things and stress test different perspectives and really try to look at all of this from as many perspectives as we can bring to it to make sure that the proposal is strong and moves forward in a way that really works for everyone, and just so we understand all of its facets and can really work through them.

And I think the group, just the professionalism and just the collegiality and the rigor, is just amazing. I think it's really a model process. And a lot of it has to do with the people that are at the table. And as that group expands, I think that model really helps, you know, as things move forward to putting in -- going into, you know, the next phases. I think the example that's been set and really that the expectation of how this whole conversation operates is just at a super high level of professionalism, which gives me a lot of hope. So thanks, just thanks, to all of you for just all of that that you're bringing to the table.

So my question is actually for Carl, and I'm sorry to put you on the spot. But, you know, you went through the development of the RO and its structure and kind of described how it ended up at a high level. And you sort of ended by saying this really could be considered best in class in terms of its structure. And I wonder if you could sort of, you've got so much experience in this sort of thing, maybe just put a little more color on that? You know, I think a couple of unique, sort of the consumer orientation and that accessibility to public scrutiny, I think is part of that, but there's a number of elements. And I just wanted to do this, maybe just go a little, run deeper on that, just a step deeper on that.

MR. LINVILL: Sure. I'll be brief because -- but I'll say, you know, first of all, this Office of Public Participation is unique as far as I'm aware. You know, the recognition that staying engaged with the states as policy develops, as tariff proposals or tariff revisions are considered, is really important to make sure that there aren't unintended consequences for one state or another along the way. Nobody wants to be caught by surprise by a rule change that ends up making it harder for you to meet your goals than what you thought. So that's one example of that public participation advisory function.

Another interesting piece is the stakeholder process. There was a whole separate work group devoted to developing a stakeholder process. There was a broad engagement of stakeholders, utilities. And I just think it is positioned to be the most accessible, open process that one can imagine for an RTO, or in this case a regional organization entity.

If, you know, if you go around to different RTOs, it's pretty easy to find frustration on the part of stakeholders that, you know, I -- my view is not in the mix early enough, I'm locked out somehow. I think there was a real effort in the development of that stakeholder process to provide accessibility to the broadest group possible, including, you know, non-traditional stakeholders. Some RTOs are far more focused on market participants to the exclusion of others who have an interest but may not be direct participants in the market. This stakeholder process, I think, you know, achieves that.

So there's a couple of quick examples. We could go on to others. But I do think there -- and there's a very intentional effort to consider the public interest to offer -- to ensure that promoting the public interest as states define that, because it's not uniform across all states, defining what it means to protect consumers, what it means to protect the public interest, that those differences, those nuances are recognized and allowed to coexist.

Anyway, those are a few examples. We could -- the slides have more detail and there's far more detail than that, but I hope that helps.

VICE CHAIR GUNDA: Thank you, Commissioner McAllister.

Before I go to Jake for any questions from the public for the panel, Commissioners from the West, I know it's been an absolute honor to work with the four of you over the last 18 months and get to know you and get to know how to do public service in the West.

So I have just one question. I mean, given how much me and President Reynolds and others in the dais have been involved with the details of the work, I'm going to stay away from Pathways, but just want to ask you a broader question.

In terms of moving forward, you know, given, you know, the -- one of the observations I took away is, given the diversity and given the history in the West, it seemed that doubt and sometimes fears are easier to flourish than trust and kind of that good faith in each other. And that opens up a lot of fears on the risks for each of us in the States as we continue this path.

I wanted to kind of see if you have any guidance/input to not just California, but for the West on, you know, how to continue to solidify working together, no matter which choices we might make and what markets we might join?

COMMISSIONER TAWNEY: Thank you for that, Vice Chair Gunda.

I would start with the premise -- I think the 2000 and 2001 energy crisis demonstrates this in spades, unfortunately -- we can all pretend that we can somehow take our ball and go home and protect our customers and act as islands. And that is false. That's a false sense of security.

The WECC is structurally uncompetitive and deeply intertwined with each other. We are reliant on each other, no matter what. You choose to invest in batteries, it has a direct impact on the prices that show up at the mid-sea (phonetic) market hub I have for my customers and my power cost cases. If I make a choice to invest in wind or to figure out transmission, like Gateway South, it has a direct impact on what's available to California.

Because that is the reality of the WECC, our customers are better served if we are in dialogue with each other and honestly trying to ensure the maximum value for each other. We can retreat into the fear but it will only serve to hurt my customers. They will only end up poorer if I fall into that mindset, because it can't truly predict.

And so building a governance structure, building a set of partnerships where we can surface issues, we can dialogue about them, we can bring a fact set to bare on those issues will serve our customers as they face really rapidly emerging risks and really try to adapt in real time to a rapidly changing landscape, even if we made no additional resource changes in the West, just hoping with the heat events alone and the opportunities brought by the re-onshoring will stress us. And we'll do it better together than pretending we could go be on our own island. And so I appreciate the effort to work together.

CHAIR THOMPSON: You know, I think for me, you know, the biggest signal came of the Western cooperation, I think, when CAISO sat at the table and said, we understand that things can't be how they've always been, that we're going -- the CAISO of tomorrow is not the CAISO of today. And to me, that was kind of like that AA moment of recognizing, you know, that there's a problem.

And to me, that was kind of when the light went off that there seems to be more cooperation now, more than ever. I think, you know, I'm looking forward to seeing what the California legislature is going to do with the bill, you know, and what the future CAISO governance is going to look like. You know, the devil will be in the details on that.

But again, moving to, you know, moving on to beyond Step 2 and into Step 3, I mean, you know, to me, it’s there seems to be so much more trust now than there was even prior to June 2023. I think there’s more recognition amongst the Western states that there’s a greater collaboration that’s taking place.

And so, again, I go back to our utility. I think they jumped the gun. I wish they would really slow their role and pay attention to what’s happening because I think, you know, the change is in the wind. And again, I think it all happened when CAISO sat at the table and said, we know that the CAISO of tomorrow is not the CAISO of today. And to me, that was an eye-opener.

And so, you know, I’m looking forward to the great things that are going to come. I think there’s a lot of collaboration across the West. I mean, even Idaho is at the table now, involved in the conversations where they weren’t before, didn’t want to be before, but now they’re at the table. And so you’re seeing a lot more conversations taking place, a lot more structure, I think, between all the West.

And, you know, really kind of -- I mean, I personally have developed a bond with all of you, you know, that I’m going to miss when, you know, when my time is done on the Commission. But, you know, I’m grateful that I’ve formed the friendships and the time that we’ve been together. And I look forward to continuing that. And that's a trust that we've built amongst ourselves by being involved in this, you know, the relationships and so forth.

So that's my perspective.

CHAIR O'CONNELL: Yeah, I think we're just in this moment of change, and change is scary. So, you know, that's kind of on a macro current, you know, especially on -- and then if you take that, the world is changing to the electric grid, we've talked about it, it's growing, there's new loads coming, there's new ways to supply load developing, so all that can be scary and disorienting.

So I think a bit of it's a leadership question, so events like this help. I'm always going back and reminding folks that your electric service would be horrifically much more expensive if you tried to build everything you need by yourself. So just trying to reinforce those messages, you know, show that we're working together for everybody's benefit. I'm maybe a little Pollyanna here, but I'm hopeful that that pays off in the long run.

COMMISSIONER DOUMIT: And I guess I'd just close, Vice Chair Gunda, by returning, you know, your words. It's been an honor to work with you and your California colleagues, so authentic and so empathetic, you know, as well. It's really been a pleasure and interactive, you know, more to the point.

But you want to not talk about Pathways. I'm just going to come back to that for a minute because I have the good fortune of now being one of the BOSR representatives to the Formation Committee with one of my good friends, Darcie Houck from California, and John Hammond from Idaho.

And I attended my first Formation Committee meeting earlier this week. And it was like -- let me ask, do folks remember the Moody Blues, the band, the Moody Blues? Because I was in a meeting the other day in Seattle at a table and all these high-level people from these companies, I said, talking about Dr. J., Julius Irving, nobody -- blank stare, nobody remembers. So Moody Blues is farther back, you know, than that even.

But I remember seeing an interview with the Moody Blues guitarist and saying, look, what's it like after you haven't been in the studio for a lot of years -- or, excuse me, a lot of months or some time and then you come back? "Yeah, I'm always worried about that. But then we play and all of a sudden there it is. There's our sound."

So I want to tell you that at Formation Committee, there was a sound, the same thing, the same work ethic, the same, you know, collaboration, the same spirit there. So I am fully confident that, just like the work that happened before, this Formation Committee will come in on time, on budget and with a robust product. I have total confidence in that.

So I would just leave you there.

VICE CHAIR GUNDA: Thank you so much, Commissioners.

With that, I'll go to Sandra for any public input in the room, and then to Jake.

MS. NAKAGAWA: All right, we're now going to open it up to audience Q&A. For those in the room, please use the Zoom Q&A feature if you're able to. If you're not able to, you can fill out a yellow question card at the back table and return it there. So go ahead and grab that yellow question card if you want to do that and we will return to those questions after going to the Zoom one.

So I'm going to turn it over to Jake to moderate our Zoom Q&A here.

MR. MCDERMOTT: Thanks, Sandra.

So we have a couple of questions I'd like to kind of go through.

The first, which I think I'm going to turn over to Carl for, is, "There's a slide on governance that says that the RO will have a seven-member board from any state nominated by committee. What committee is this and who approves these nominees?"

MR. LINVILL: Goodness. I think I might defer this to Jim Shetler, who's going to speak a little bit later, but I'll just briefly say that there is going to be a Nomination Committee. And the definition of that Nomination Committee and so forth is in the charter. And he's the most familiar person with that charter and so I think he would be the best person to answer that question.

MR. MCDERMOTT: Sounds good. We can come back to it later in the day.

I'd like to combine two of the items we have remaining into one. I think I heard Commissioner Tawney earlier speak about the provisions that sort of respect, right, the sovereignty of the participants and the states in particular and their different public policy priorities.

So there's kind of two questions here, which is, the central question is, essentially, how does this initiative and this work and the RO envision the protection of Western interests when interacting with FERC and other federal interests?

COMMISSIONER TAWNEY: We understand the challenge. The rest of the West outside of California has some very -- has some specific doubts about engaging with FERC or BPA, certainly just very hesitant to do anything that would increase FERC jurisdiction.

I think what is critical to understand is that the CAISO is under FERC already, and that what many things can be just and reasonable under the FERC standard, and you see a very strong difference in how different things happen, how different proposals, how different problems are solved in the U.S., those differences are shaped by the governance of stakeholders, such as both (phonetic) of those RTOs.

And as I have engaged across governance questions over the last six years across the West, what gets developed as a proposal in response to a directive from a federal agency, and ensuring that that response really addresses the interest and the public benefit of the participating states, is the responsibility of the region and is a product of the governance of the institution. If you have an institution that sets out key stakeholders, sets out large minorities, then you get solutions that are not as inclusive. And I think what we've seen and where, Carl pointed to best in class, is an effort to build a governance. A

We'll face hard decision. No one -- there will be times when folks swallow some bitter pills, but have proactive solutions that address more interest than risk, particularly those around public policy and public benefit, that those are centered in the policy proposal, just like they are today.

MR. MCDERMOTT: Thank you, Commissioner Tawney.

I think with that, we will probably move to the next panel. Is that right, Sandra?

MS. NAKAGAWA: Yeah, we're going to just take about a two-minute break to transition here. And if we could have Julie, Mark, and Marc come up, we will get them set up.

And thank you so much, Commissioners and Carl, for facilitating this last panel.

VICE CHAIR GUNDA: Thank you, Commissioners Tawney, Thompson, O'Connell, and Doumit. Thanks for being here.

CHAIR THOMPSON: Thank you and have a great day.

COMMISSIONER TAWNEY: Thank you so much. Take care.

(Pause)

MR. MCDERMOTT: All right, I think we're now back.

Let me quickly introduce Julie Halligan. So Julie is the Manager of Electricity Planning and Policy at the Public Advocates Office at the California PUC. I've known Julie for a number of years. I was lucky enough to work on her branch once upon a time. Super thrilled to have her moderate this panel. So this is going to be a panel on diverse stakeholder perspectives asking -- we're going to hear from some folks across the landscape on their organizational views on regional electricity markets and coordination.

And with that, I will turn it over to Julie.

MS. HALLIGAN: And first of all, I just want to thank the Commission for having us here and giving me the opportunity to participate in the workshop today.

And I'd also like to thank the regulators, again, for your letter that started this process that we've all been working on. It's a pleasure to discuss the Pathways process in a different forum and actually meeting some people in person that I've only seen online through Pathways.

I will let -- the panel this morning is three Marks. I have to apologize if there's any other Marks, I missed you. Otherwise, I would have included all of you. But I'll let each of the Marks, we have Mark Specht online and the other two here. I'll let you introduce yourselves first.

Why don't you start, Marc Joseph?

MR. JOSEPH: Thanks, Julie. And thanks to all of you for engaging in this discussion, which is really important and really will set the table for what's coming for the next year.

My name is Marc Joseph. I am a lawyer. I'm a counsel to the firm of Adams Broadwell Joseph & Cardozo.

In this context, I represent the Coalition of California Utility Employees and the California State Association of Electrical Workers, collectively in short, the IBEW.

MS. HALLIGAN: Thank you.

Mark Padilla?

MR. PADILLA: Hi. Good morning, everyone. Mark Padilla. And I do want to express my gratitude being here and being invited to speak.

I'm from L.A. Water and Power. I'm representing the public utilities. And I'm an engineer by trade. I did a lot of work from the field work, from working at the power plants, design, but also now the manager of the Emerging Markets in Energy Settlement, so water and power.

Thank you.

MS. HALLIGAN: And then Mark Specht?

MR. SPECHT: Hey, everyone. Thanks for having me today and thanks for hosting this event. I'm Mark Specht. I'm the Western States Energy Manager at the Union of Concerned Scientists. And UCS is a -- we're a nonprofit advocacy organization nationally. And our mission is to put rigorous, independent science into action, developing solutions, and advocating for a healthy, safe, and just future.

And just the other thing I'll note is I was one of the public interest organization representatives on the

Launch Committee that developed the Pathways proposal.

Thanks.

MS. HALLIGAN: Thank you, Mark.

Yeah, most of you, I mean, well, at least two of our Marks, have been members of the Launch Committee and -- but we've all spent a lot of time discussing the ideas and providing guidance in Launch Committee meetings and in working groups over the last year. And I would dare say we're all pretty encouraged by the progress that's been made in Step 1. And we look forward to the potential benefits in reliability, affordability, and emissions reductions that are offered by West-wide coordination in Step 2.

The Launch Committee includes a diverse group of stakeholders, including us. And we've all had to think about what the structure and the process that are most important to us in a regional organization, that are most important to our constituents. For the Public Advocates Office, our current directors on the Launch Committee, our former director, Matt Baker, was on the Launch Committee. But for the Public Advocates Office, that means a structure and a process that would result in actual benefits while protecting ratepayers. Ultimately, the ratepayers are going to be funding this regional organization. So we want to make sure that we are, you know, protected.

I think it’s safe to say, also, that while we all came into the effort with real different priorities and goals and we had to work through many meetings and drafts to create a proposal that attempts to meet or come close to meeting each of these goals, we were really able to identify areas of common ground. As President Reynolds and others noted, the CAISO has already cleared a path for us and demonstrated, you know, a successful model of working together with other Western states through EIM. And we look forward to similar success with the implementation of EDAM.

And now, you know, we’ve seen launch of Step 1, and we have the current Step 2 final proposal for a new independent regional organization that can offer coordinated West-wide electricity market services without relying on just one -- the actions of just one state or just one balancing authority.

Given where we are, I’ll start my questions with Marc Joseph. You’ve kind of been here before, and previously, the labor organizations, IBEW, that you represent have been opposed to prior regionalization proposals. And can we hear from you? What has changed with the current proposal, and why do your labor groups support it now?

MR. JOSEPH: Thanks, Julie. You’re correct to note that in 2015, 2018, and 2023, we opposed bills that would have regionalized all of the CAISO’s functions. And we think that was a bad idea then and it’s a bad idea now. We haven’t changed.

What has changed is the proposal that’s on the table. The Pathways proposal is fundamentally different. This is not your father’s regionalization.

If we could put the slide up?

So you saw an abbreviated version of this slide earlier when Carl was making his presentation. This is a more detailed slide.

The first three times that regionalization was proposed, it would have taken that top box, the California ISO five-member board, appointed by the governor, confirmed by the Senate, and eliminated that and replaced it with an independent board. And all of the functions in those six boxes below the top box, from transmission planning and selection all the way through balancing authority functions, energy market operations, energy market rules, all of those would have gone with the new regional organization -- oh, sorry, a new RTO. It would have been independent, a new independent RTO. And California would have been giving up all of its control over all of those functions with no idea what was going to happen to them and no chance for California to go back if we didn’t like the outcome. Commissioner Tawney pointed this out as one of the problems with the past versions that we're trying to solve this time around.

And the California legislature was asked three times before to effectively, you know, mortgage the farm with nothing more than trust us as collateral. This is a particular problem for labor because California's entire RPS structure is anchored in the CAISO balancing authority area. If the CAISO became the RTO for the West, if that it would be -- was the balancing authority for the entire West, then all of our RPS structure and most of the jobs that will be created by it would not have happened. It would have been meaningless. And the really effective RPS program that we've established would have been in real danger.

The Pathways proposal is entirely different. Instead of making the CAISO the regional organization, we're creating a new regional organization with control over the market rules. The CAISO and its balancing authority area remain intact.

So if you look at the slide, we're creating this thing in the middle, this new regional organization with a seven-member board that's independent from any state. And we're taking just one of the CAISO's functions, the energy market rules, governance over those rules, and moving that to the regional organization.

And then the extra detail here is important to recognize too for the overall context that functions across the bottom are all the -- or many of the functions, not all the functions, many of the functions of the California PUC, and those remain all untouched.

So we see that with this proposal, it's a much more modest proposal. It's much more focused. It leaves the CAISO's functions entirely intact except for governance over the energy market rules. That's what goes to the new regional organization. And by doing it like this, we can get the benefits of optimized dispatch with savings for customers, we can get improved reliability during the stress times, we can get greenhouse gas reductions, all while preserving the RPS structure and all the other functions of the CAISO.

And that, this different structure, is why we fully support the Pathways proposal and why we're going to be sponsoring a bill to implement Pathways proposal for the CAISO and the California utilities.

I would take issue with one thing that one of the Commissioners said earlier. I'm very pleased with the work we did. And I'm incredibly impressed with my colleagues on the Launch Committee. I wouldn't liken our work product to the Declaration of Independence. A little more humility might be in order. This is a good product, not quite that good.

MS. HALLIGAN: (Indiscernible) take that position, because I feel like it is important to take things -- I mean, it’s been called a stepwise process, and I think that step-by-step element is important. This does take on a very manageable next step, and it will give -- allow the entities that do participate to continue to work together, build the trust, and think about the next steps. And that sort of cautious approach really resonates with Public Advocates Office, so I really appreciate that.

Next, I’ll ask a question for Mark Specht. Your organization, the Union of Concerned Scientists, advocates for environmental issues. What is the environmental case for the Pathways Initiatives and the expanding membership in the extended day-ahead market? How might it relate to the state’s ability to meet its ambitious climate targets in the electricity sector?

MR. SPECHT: Yeah, thanks for the question, Julie. And I think when I think about this question, I think about it in the shorter term, and I think about it in the longer term.

So just focusing on the shorter term, really one of the main goals of the Pathways Initiative has been to develop a new structure that makes more utilities in the

West comfortable staying in one big energy market together, staying in the EIM, staying in EDAM. And with a bigger market, that bigger market footprint, we've heard a little bit of this already, you get more efficient dispatch of resources, you get reduced renewable curtailment, and those two things will lead to reduced costs, reduced emissions. And we've already seen some of that in the Energy Imbalance Market that the CAISO is operating.

In the shorter term, we, also, when you have a bigger market, we also see some reliability benefits from that. You can reduce the overall amount of capacity that's needed on the grid to operate the grid reliability, and so that could even allow some fossil-fueled power plants to shut down earlier than they might have otherwise. And having more participants in a bigger market also improves grid operations during grid emergencies, as well. And we'll hear more about all of this later on in the afternoon, about the costs, emissions, reliability benefits, when we hear more about the Brattle in Stanford studies.

So that's sort of the shorter term, like these are the near-term benefits you can get from having more participants in one big energy market.

But I do also think it's worth reflecting on the longer term and like what kind of situations the Pathways

Initiative could help set up. And so just acknowledging that the clean energy transition is going to require a really large build-out of new, clean resources across the West, West-wide coordination on that build-out would really help ease the transition.

And so, for example, something like having regional cooperation on transmission planning could really help plan a grid that's optimal in terms of meeting electricity demands with the least-cost clean energy resources. And we're not there yet. The Pathways Initiative is not about transmission planning. But I do think there's something to be said about keeping all these utilities and balancing authorities in the West working together in one big energy market and preserving the option later on to build on those energy markets, add more services to help -- that could potentially help ease the transition to clean energy later on.

So that's kind of where I'm coming from with some of those shorter-term benefits that are pretty clear, pretty easily quantifiable, but then also these longer-term potential opportunities that the Pathways Initiative helps to set up.

MS. HALLIGAN: Thanks, Mark.

Now, I'll turn to Mark Padilla.

Mark, the Los Angeles Department of Water and

Power is the largest publicly-owned utility in the state of California and has been focused on preserving and expanding its independence over the years. LADWP has been engaged and supportive of the Pathways Initiative, and I'm wondering why that is. You know, are there concerns about governance and losing independence that still remain?

MR. PADILLA: So we do have -- we do enjoy our independence, we do enjoy our autonomy, but we are open to collaboration and I think Pathways is key as far as being engaged in the discussion. We've seen it in the EIM. We've seen it as far as the flexibility and, also, for net benefits. And like what we mentioned, we just joined the EDAM.

And so as far as just walking through Pathways, we see that the incremental steps, the step-wise approach from Step 1 to Step 2, and being engaged during the stakeholder process is important for the DWP. And I think one of the Commissioners mentioned that it's the trust, and so making our grid reliable and affordable.

So one of the key elements for us is our ratepayers. And our ratepayers, they're very, very important to us, our Board, Commissioners, and also our City Council. So our autonomy is important. But just seeing the Pathways progress and keeping the West together in the market is also something that we want to be a part of, and also want to be able to see how it moves forward in a step-wise process.

MS. HALLIGAN: Great.

So as Marc Joseph noted a little earlier, the Pathways proposal really does take on, you know, a narrow set of changes, not the whole thing, but it deals with the biggest one, well, the biggest initial stumbling block, which is independent governance. So by creating this RO with an independent policymaking board that has sole authority over the real-time electricity market and the extended day-ahead market, it's not appointed by the governor.

I'll ask Marc, you know, with this RO setting the rules for the energy markets, what protection does California have to ensure that its interests are still protected?

MR. JOSEPH: Thanks for that question, Julia.

And, Commissioner McAllister, you asked a similar question, sort of, I would phrase it as, what are the guardrails to be sure that California's public interests and the interests of all other states, as well, are protected with an independent body which does not owe its allegiance to any state?

The Launch Committee worked really hard on this question. We knew this was a key question, and it was going to be a key question for the legislature to be able to answer in the affirmative, yes, we do have guardrails here. And so we count seven of them.

First, the RO's governance documents will have a corporate obligation to respect the authority of each state to set its own procurement, environmental reliability, and other public interest policies, so it will be embedded in the corporate documents of the RO itself.

Second, I'm particularly fond of this one, the RO Board will have a Public Policy Committee that will be tasked with engaging with each of the states, the local power authorities, and the federal power market agencies to be sure that any tariff changes don't adversely affect their policies. They have to go out and actually engage with each of the entities out there that set the policies for their states and their local entities and be sure they understand before they take an action, does -- will this have an adverse effect on any state policies?

So there shouldn't be any accidental problems, and they should be developing these consciously with state policies in mind. And we've also built in an early check-in in the stakeholder process. So this committee will flag anything early in any development of any changes in the stakeholder process so they can be considered in the development of any tariff changes along the way.

Third, the RO Board itself will be seeking input from the body of state regulators. This is an existing body. Everything I hear is that it works really well and it does a really good job of surfacing the interests of each of the participating states. And so we're going to take advantage of that and be sure that the RO Board seeks input from the body of state regulators.

Fourth, the RO will provide tariff-based funding for a consumer advocate organization so that the state's consumer representatives will be able to effectively engage in the RO's proceedings. It's hard to keep track of what this other entity is doing when you've got a day job working at your own commission and being informed about, informed of and informed about those things. And having the opportunity to have joint representation before the RO Board should facilitate and enhance the ability of consumers to be represented and heard. And this is a, you know, distinct improvement on the current situation, at least at the CAISO.

Fifth, the regional organization will maintain an Office of Public Participation so that the public will be able to better engage in the RO's proceedings. And this, we're thinking, will be modeled after FERC's existing Office of Public Participation, as well as that of a number of other states, including California, that have, entities like that. We have it both for the -- at the PUC, we have it at the Energy Commission, and there are a number of other states that have that, as well.

Sixth, the regional organization will have access to independent market analysis so that the impacts of the market, either ongoing or changes in the rules, will be understood and fully understood, and fully understood what the impacts of those will be on end-use customers. Because, Julie, as you said, ultimately that's who's paying all of the bills. And so the board needs to understand exactly what those effects are on end-use customers, and they'll have that information.

And finally, we want to be sure that the market data will continue to be available to the California PUC, to the Public Advocates Office, and to the commissions and public advocate offices in all of the other states as well.

So with that set of guardrails, we feel pretty confident this will be a substantial improvement in the development of rules that govern the energy markets over what we have today.

MS. HALLIGAN: Thanks, Mark. And I do appreciate the mentioning of the Consumer Advocates Office and the tariff funding, because it's critical for all consumer advocates, but particularly those in states where their offices are very small. And we struggle in Cal Advocates just to cover the commission’s proceedings and the CAISO stakeholder initiatives. And in a state where they just have one or two individuals covering their area, this will be key to allowing them to be represented.

But even with all that, there’s still, you know, a level of risk that we have to accept. You know, Cal Advocates, when we went into this, some of the things that we were concerned about were the need for transparency, the access to data, like you’ve mentioned, how to ensure that the decision-making process is fair and impartial, and during the stakeholder work groups, a particular concern that the stakeholder process, whether it could be created in a way that it wasn’t dominated by or, you know, heavily weighted in favor of what we in Cal Advocates would call sort of rent-seeking parties, simply because of the sheer number of those parties or the resources that those parties have. That was a big concern for us and spent a lot of time in the stakeholder process work group to try to put in some guardrails there to improve that.

I’ll ask Mark Specht, from your perspective, you were also in some of those work group meetings, for the Union of Concerned Scientists, what were the threshold risk issues for you? What do you see as the potential risk for your organization in this type of change, and how has the Pathways Initiative addressed those risks, or has it?

MR. SPECHT: Yeah, I think UCS definitely shared some of the concerns that you mentioned, Julie, about the potential for industry stakeholders to really dominate stakeholder processes. And I think as Marc Joseph very thoroughly mentioned, there are a number of different protections in place to make sure that the public interest is really -- the public interest and California's interests are really respected in this new organization.

I would point to a couple things here. I do think that the way that the Pathways Initiative has structured the stakeholder processes, the consumer advocates organization Mark mentioned, the Office of Public Participation that was mentioned, as well, I think all of those will help ensure that stakeholders are able to engage with the organization meaningfully and have input into decision-making processes.

I think, at least in terms of risks, I think there's always a risk of deviating from like the vision of the Pathways Initiative and what that group has really -- what the Launch Committee has laid out in the proposal. But I think the structures, as long as we abide by the structures and the spirit of those recommendations, I think the stakeholder processes, the decision-making processes, the governance structures we have set up, I'm quite optimistic that those will function how we have envisioned and intended for those to function.

MS. HALLIGAN: Thanks, Marc.

And I'll go back to Marc Joseph with one more question before we turn it over.

Just from your perspective, how do you expect ratepayer -- how do expect participation in a regional organization to impact utility rates? I mean, especially for residential, you know, folks that my organization presents, you know, will the proposal -- do you think it will be able to meet the sort of do no harm objective that the Western Consumer Advocates Group set?

MR. JOSEPH: The Pathways proposal's initiative, this will reduce consumer costs. This will be better than do no harm. This will do good. I think we'll hear from Brattle this afternoon about some attempted quantification for that. You know, I think it's possible that one could disagree with some of the assumptions, the analysis, but the universal result from all of the analysis is that the arrows are all pointing in the right direction. This will reduce consumer costs.

You can just think about for California consumers right now, California consumers have signed, their utility had signed on their behalf, power purchase agreements for lots and lots and lots of solar. Some of that solar is being curtailed, it's being run into the ground, and it's just being utterly wasted. To the extent that we can sell that to customers in other states, it’s cheap, zero marginal cost energy for other states. It’s also more revenue, which will flow back to California customers.

So just from that alone, forget all the optimized dispatch, but just reducing curtailment will have benefits for customers both financially and climate benefits.

MS. HALLIGAN: Thanks, Marc. And we look forward to hearing more later.

I’ll turn it over to Jake.

MR. MCDERMOTT: Thanks, Julie.

I think now we’re going to move into questions from the dais. I’ll hand it directly to Vice Chair Gunda, if he has any initial questions he’d like to ask the panel today.

VICE CHAIR GUNDA: Yeah, thanks, Jake, and thank you for the panel, Julie, Marc Joseph, Padilla, and Mark Specht, the three Marks of the day.

So I, you know, I think, Julie, you kind of covered kind of really digging down into understanding the risks, you know, as we go from the visioning exercise to kind of developing, you know, some sort of guardrails and how we go from the vision to the implementation.

I just wanted to, I know, Julie, kind of -- you are here, too, just wanted to ask you, as well, along with the other panelists, as we think through, you know, step-by-step process of vision through implementation, are there some, you know, any open things, you know, that we should be focusing on as we think through implementation and, you know, those elements of the implementation phase that you think we should really pay attention to?

MS. HALLIGAN: Yeah, there are quite a few. I mean, for the consumer advocates organization, the one that's close to my organization, you know, obviously developing that organization, creating the 501(c)(3) organization and getting that up and running, but also continuing to work on the stakeholder process to make sure that -- there's still a lot of questions that were open. The question of sectors and seats went back and forth before we came up with a final proposal. So I think that's still an open question that could use some additional refining.

But I think, yeah, I think there's also -- there were several proposals that Cal Advocates put forward that were not taken. We are still interested in looking at how the -- you know, whether or not the regional -- the board has any oversight over CAISO's staff selections. That seems a little odd to us because they are going to be two separate entities.

So there's things like that. There's quite a few. If I were to go through our comments, I think I could list probably about 10 things that still need work, but I'll save you all from those because our comments are public.

MR. JOSEPH: I would answer this in two ways. One is, one of the later panels, you're going to have some people on Launch -- on the Formation Committee who are already deep into that. And so I would ask your question to them, as well, because they're, they've got a list of to-dos.

Beyond that, I have every confidence, based on the past year, that the work over the next year by the Formation Committee, we'll be able to successfully address the next level of detail to realize the Pathways proposal as a real thing.

I have to repeat what some others have said. The talent of people and the experience and the dedication and the amount of work that people put into this is really unbelievably impressive. And, you know, it's just a delight to have six or seven hours of standing Zoom meetings a week with them.

MS. HALLIGAN: Hopefully it's not going to take the same level of commitment for the next year.

MR. PADILLA: Well, I do agree. I think we're, as on the L.A. side, we're seeing how the Formation

Committee addresses this. I think it’s -- we’re very much engaged and we’re going to be part of the stakeholder process. So, yeah, we’re just looking forward to that.

MR. SPECHT: And I’ll just add, I definitely agree with Julie on some of the details, smaller details that still need to get worked out with the stakeholder process and the Stakeholder Committee in particular. I think there are still some questions about the role of that group and what kind of processes and decisions they have authority over. And I’m looking forward to working through those issues and developing that robust and inclusive stakeholder process that we’re all envisioning.

VICE CHAIR GUNDA: Thank you.

Just want to see if anybody from the dais have any questions? Okay.

So with that, I will go to you, Jake.

MR. MCDERMOTT: Thank you, Vice Chair.

I think we have just one question currently on the Zoom. So it will be, primarily, I think we can start with Marc Joseph, but then folks on the panel are welcome to jump in as well.

So as we know and has been discussed, this will require legislative action from the California general assembly. Like all legislation, whatever gets filed will change throughout the legislative process. Marc Joseph, I think, discussed the guardrails, but are there clear components of the legislation identified of what must be included in the legislation and what must not be included in the legislation to ensure what is passed accomplishes that goal of independence and fair market design?

MR. JOSEPH: So, Jake, as I said initially, we will be sponsoring the bill. The ultimate contents of that bill belong to the 120 people who get to vote on it. And I am not one of them. But I would envision that the bill would include in it reference to each of the guardrails that I identified. And that, like most bills, it will improve through the process as many people get to weigh in and identify issues with the language, and there will be opportunities for fine tuning it.

But as a basic core structure, I expect that the bill will be identified -- it will be, sorry, authorizing CAISO and the California electrical corporations, California IOUs, to participate in energy markets governed by a regional organization that have the characteristics that were identified in the Pathways proposal. That's the core of what the bill would do.

MR. MCDERMOTT: Any other thoughts from folks in the panel? Okay.

I think we have one more question that I see in the chat so far, so it's a general question. It just says, "Will the stakeholder group include representatives from climate and environmental groups?"

I might turn to Mark Specht initially for his thoughts on this.

MR. SPECHT: Yeah, so I'm not completely sure which stakeholder group the questioner is referring to, but I can say a bit more broadly about the stakeholder process that the Launch Committee has proposed for the new regional organization. And, basically at the core of it, stakeholders are divided into different sectors. And one of those sectors is public interest organizations within which environmental groups would fall. And there are processes and opportunities for any organization to comment on proposals or anything that comes before the regional organization. And then there are additional opportunities to actually vote on those proposals.

And so with that sector for public interest organizations, I think of that as the home for environmental organizations in particular and other public interest organizations. And with those opportunities for comments, with the voting opportunities, I think those are some of the most robust ways for organizations to participate.

And the last thing I'll just add there is, Carl mentioned and Marc Joseph mentioned the Office of Public

Participation, which is something that public interest organizations were really interested in having included in the Launch Committee’s proposal.

And I think that’s going to be an important element that really enables, especially, under-resourced organizations to participate in stakeholder processes and decision-making at the regional organization, and really just breaks down barriers for participation, since it’s often quite complex, very difficult to understand the decision-making processes and how to actually have your voice heard in these processes. So I’m also hopeful that that Office of Public Participation will really better enable stakeholder engagement at the new organization.

So hopefully that covered it.

MR. MCDERMOTT: I think so. Thanks, Mark.

I think now, I mean, we have one more question, which I think we can answer later in the day, but the question is, “What will be the representation from the community choice aggregators?” We’re going to hear from Evie Kahl later in the day from CalCCA and she might be the best person to kind of talk through that.

but in the meantime, I’ll turn back to Sandra for any in-room, Q.&A.

MS. NAKAGAWA: All right. Thanks, Jake, and thank you all the panelists and Julie for facilitating.

If anyone would like to make a question of the presenters, please use one of the yellow cards at the back. I’m going to actually pause and see if anyone wants to raise their hand or grab the card.

I don’t think we have any in-room questions at this time, so we will be breaking for lunch here in a couple minutes, so just a few FYIs on lunch.

The Zoom will remain on, but it will be muted and it will resume at one o’clock sharp. Attendees can either remain on the Zoom or log off and then come back using the same link you used to join in the morning session.

For those that are invited to join lunch at the CEC offices on the third floor, we’ll need you to go to the security desk. So exit here, head towards the entrance on P street. And we will need to have folks sign in with their government ID there.

And also just want to make a note about those who are hoping to public -- make public comment later in the day. There is public comment scheduled at the end of today’s workshop. If you’d like to comment, we’re going to need you to grab a blue card from the back table and start filling that out now so that we know that, to expect that comment there.

And with that, we will take a break for lunch. Thank you, everyone.

(Off the record at 11:41 a.m.)

(On the record at 1:00 p.m.)

MS. NAKAGAWA: Good afternoon, everyone. Welcome to today's Integrated Energy Policy Report, or IEPR, Commissioner Workshop on Regional Electricity Markets and Coordination. I'm Sandra Nakagawa, Director of the IEPR here at the CEC.

So in our morning session today, we heard from Western regulators and another panel on stakeholders who are engaged in the Pathways Initiative. Going into this afternoon, I'm really excited, we're going to have a, first-off, roundtable with market participants, and then we're going to turn to a panel of researchers looking at assessing the benefits of Pathways for California.

So as a reminder, this workshop is being held as part of the CEC's proceeding on the 2024 IEPR update. We are doing a hybrid workshop, meeting in-person here at the CNRA Auditorium and via Zoom. For those in person, restrooms and water refilling stations can be found outside the auditorium to the right.

Also, this workshop is being recorded, and there will be a link to the recording available on the CEC website shortly after the workshop.

To follow along, the schedule and slide decks have also been docketed and posted on the CEC's website, and there's going to be an opportunity for you to ask questions of the presenters for each panel. We'll have a few minutes afterwards. We won't necessarily be able to get to every question, but if you would like to submit a question, use Zoom's Q&A feature.

In-person attendees, we would also encourage you to use the Zoom Q&A feature. So if you are unable to do that, there's a table at the back where you can find yellow question cards. You can also upvote questions that appear in the Q&A. Those with more votes, that have that thumbs-up icon for upvoting, will be moved to the top of the queue.

All right, and then lastly, attendees will have an opportunity to make public comment at the very end of the day. Please note that we will not be able to respond to public comment, and those comments are limited to a maximum of three minutes per person, with one person per organization allowed to comment.

All right, so we're going to turn it over to Jim Shetler, General Manager of the Balancing Authority of Northern California, who's going to be facilitating our next panel of market participants.

VICE CHAIR GUNDA: Thank you, Sandra. I'm not Jim. I'll pass it to Jim in a second.

Just wanted to acknowledge, Commissioner

Houck is with us from PUC, joining for the rest of the afternoon.

And I also just want to note that I have to step out between 2:00 and 3:00, and Commissioner McAllister will be leading the workshop during the time.

With that, to you, Jim. Thank you.

MR. SHETLER: Thank you. First of all, on behalf of the panel, I want to extend our appreciation for you inviting us here today. As noted, we represent a range of market participants. And we also represent participation in the Launch Committee. Each of us were Launch Committee members, and there are two of us here who are on the Formation Committee. So I think we bring a set of unique perspectives on this subject and we look forward to sharing that with you.

First of all, maybe we'll do some quick introductions. Again, my name is Jim Shetler. I'm the General Manager for the Balancing Authority of Northern California. I represent the POUs on the Launch Committee. And, as well, I'm a member of the Formation Committee.

Randy?

MR. HOWARD: Yeah, I concur. Thank you, Jim, and thank you for having us here today. Randy Howard, General Manager of Northern California Power Agency. We're on the Launch Committee together. We've gone through, I think as

Mark earlier, mentioned it's multiple hours per week working on the activities of the Launch Committee to come up with the recommendations.

NCPA currently schedules about 86 generating resources into the Cal ISO. We're adding three more in the next couple months. So the Cal ISO and the market are very important to NCPA, and we look forward to sharing a little bit more of our interests in the broader market and some of the issues that have taken place over the years.

MR. SHETLER: Evie?

MS. KAHL: I'm General Counsel and Chief Policy Officer for California Community Choice Association. And CalCCA represents the interests of 25 CCAs that are load-serving entities serving the consumers in their community. And the operations are overseen by local government authority, whether it's a city, a county, or a joint powers authority, which makes it unique. Unlike the POUs, however, we don't have wires. So the energy market is a much larger part of our business focus for that reason.

Today, the CCAs are about 37 percent of the load in the IOU service territories. On the CAISO, we're about 32 percent of that load that's scheduled in every day, and 26 percent if you count in all of California's load. So we have a very large interest, and we're happy to be here today.

MR. NELSON: Good afternoon. Jeffrey Nelson from Southern California Edison. First, I'd also like to thank you for inviting us here today. It's a very important topic, and it's a great opportunity to talk about why it's so important to us.

Southern California Edison is the single largest scheduling coordinator of load, the last I checked, within the ISO's balancing authority. We represent a total load north of 20,000 megawatts, so we have a very strong interest in doing what we can to be as efficient as possible for our customers.

I've been a member of the Launch Committee, and before that, the Governance Review Committee, that was sort of the preamble to this, and I had the honor of being appointed to that by the ISO's Board.

So we really look forward to discussing this today. It's a very important topic.

MR. SHETLER: I thought I'd kick off with a series of questions for the panel, and then, obviously, we'll open it up for more.

So in the past, some of you on the panel have opposed moving the ISO under an independent governance structure. What in your mind has changed to allow Pathways to move forward with a stepwise governance proposal?

And Randy, I'm going to kick off with you on that.

MR. HOWARD: It's because I partnered with labor and opposed the last three efforts of moving into an RTO, and for some of the same reasons you heard earlier from Mark's presentation, but also for some other reasons.

And some of the other reasons were, certainly we didn't want to just hand over the entire -- the keys and the facility and all the resources that we've invested in for all the years of the Cal ISO to the broader West and not have an ability to pull back if something wasn't working where everyone else had that ability. So that was a really challenging concept for us in the previous efforts.

But we also struggled at the time because we had invested a lot in generation facilities. We owned and operated those generation facilities and we built them to California's environmental requirements, meaning we had done lots of additional emission controls. We used reclaimed water. We had preserves for butterflies, for garter snakes. We did a lot of activity. And what it meant is our facilities probably weren't very competitive in the broader West-wide market. Our facilities probably would have been stranded under some previous years.

A lot has changed since then. And resources are tight in some cases and in other times they're not. But this effort is certainly different. The way the structure has been laid out, the way it's being proposed is much more to the level that we would like to see where we phase it in, we work together, we build that trust similar to what we've done in the WEIM activity. We think that's the right approach. And we think what's been proposed takes a good balance of that going forward.

MR. SHETLER: Jeff or Evie, anything you want to add?

MS. KAHL: Yes, I'll add that CalCCA was neutral last time around in 538, and that was because the CCAs couldn't come up with a unified position. But since that time, I think there are a few things that have moved us in the direction as an organization of being very supportive of this.

And the first one is affordability. It's one of our biggest issues in California, one of the biggest problems we have. And we all talk about the fact that there's no silver bullet for affordability and we're going to just have to put together a number of measures that gradually bring down rates. And we think, based on the results we've seen from the WEIM, that this will have substantial benefits to consumers. And in fact, it may be one of the biggest affordability measures out there. So that's been very, very influential in our thinking.

It's also been an education process and focusing on the new design, as Randy said, of this measure rather than the old design, you know, the whole-hog approach to regionalization.

So I think those two factors have really brought us around as an organization to support.

MR. NELSON: Since a historic position is a little more complicated, we have been supporters of trying to find a way to get a larger regional market, even all the way up into an RTO, from way back in the process, because we recognize not only the efficiencies of our design, but particularly in contrasting to how the prior to EIM or WEIM, how the outside world operated and the tremendous inefficiencies in sort of the contract path scheduling, and I call it a series of toll roads, to get anywhere.

And we saw the great efficiencies that were being added through the ISO's market of, I'll call it, an open interstate highway where you could travel anywhere for free. And we wanted to see that happen larger within the region. So we've been pretty supportive of regionalization efforts.

Then it got a little more complicated as governance started to evolve with the EIM, that there really was a disparity or a disparate situation between some of the people that were joining the market voluntarily that had the chance to just say, well, I tried it, I didn't like it, versus those that were institutional in it or part of it where this is it, this is our home, we live in this market, we can't just leave. So that made us be a little more concerned on how governance was evolving to make sure that we represented different constituents properly.

But the whole time we've been very supportive of finding ways to get as big of a market and good governance, a good treatment as we could. I made a presentation way back when, even before EIM started, we realized the difficulties of as we're transforming our grid to the new sort of resources, you can't do it alone. You can't integrate all this renewable energy on your own. You need a bigger footprint. And I quoted Benjamin Franklin, that, "Either we'd hang together or surely we'll hang separately." And that's still our belief. The benefits we get from integrating all sorts of the new resources we're doing, the reliability we get, the environmental benefits, of course, affordability is top of the list, but we want to do it in line with our policies.

So this is a great breakthrough. This is a way of getting that structure, getting everyone the benefits, getting proper governance, recognizing that California is uniquely situated in certain ways, and recognizing that our partners out there are uniquely situated. So it really feels like we found the answer. We cracked the nut. We have a way of moving forward with this. So we're really, really excited about how we've got these breakthroughs.

MR. SHETLER: Thank you.

So my next question is this. So as denoted in the prior discussions, the Launch Committee was made up of a fairly diverse and broad group of stakeholders with very differing views on what independent governance might look like and what the end shape of a regional organization should be. What did you view as the glue that kept this diverse group together and focused on a consensus recommendation?

And Jeff, since you ended, I'm going to start with you.

MR. NELSON: I think, as I was describing, all the members of the Launch Committee had that common vision that we are stronger together, that we will all benefit. If we work together, we are all going to benefit and the region is going to benefit through our cooperation. And people were sincerely committed to that from all these different angles. Every study we see says that's going to provide the benefit. We see it operationally. We hear, time after time, stories where having this diversity has allowed the grid to find ways out. It's led it to see how the flows are really working and sort of showing that it really is a superior way than that old basis that’s used.

So there’s a true commitment by everyone. They saw the benefits. They believe the benefits and we’re committed to find a way forward. It’s a great cooperation.

MR. SHETLER: Evie?

MS. KAHL: Yes, I think another factor was the backdrop of the regulators. They got the ball rolling and really were guides throughout the process and that helped keep it all together. There were regulators from many different states, and so that was a good part of the glue.

But one other part from our perspective was we realized this is probably the last chance. If we don’t land at this time, we may not get another chance. We failed in California to do any kind of regionalization over the past 10 years, you know, other than what the CAISO has already done with WEIM and EDAM. But if we don’t get it done now we can put it to bed for the next 10 years.

You know, it’s a trust matter. And I don’t think the rest of the West will trust us if we can’t get through this. And so I think from the California side, there was a real dedication to making sure we landed.

MR. SHETLER: Randy, anything you want to add?

MR. HOWARD: Sure. From my perspective, I was just so humbled being with the group because it was an extremely talented group of individuals, so diverse in their backgrounds, diverse geographically. Many, I had worked with over the years, some sitting on the same side of the table, some sitting on the opposite side of the table, but extremely talented.

And so I think I personally valued inputs from everybody, but it was a push-pull all the time. We didn't totally agree on approach but I think we defined our boundaries, as well, pretty early on. So we kind of knew where those boundaries were but stayed focused on the end game and tried not to go beyond those boundaries too much because we recognized that there was specific interest.

So, again, it's just an extremely talented group of folks. Many that had made attempts in the past. We've worked through a number of issues and so took all that learning from those efforts. As well, I think there was a good study early on looking at other RTOs and what was good and what wasn't good in those, what we liked and didn't like, and trying to bring some of those concepts forward to say, here's a better way to do it or here's where they've shown how it's being done, that we kind of like that example. And so just trying to utilize what we could out there, as well, I think made it very, very helpful.

MR. SHETLER: Thank you.

So some of you have touched on this already but interested in understanding from your perspective, what are the benefits that you think your constituents will see of public independent governance over the WEIM and the EDM?

And, Randy, I'm going to pick on you on this.

MR. HOWARD: So for the constituents I represent, which are primarily POUs, so I was also a representative of the POU and the co-op community, we kind of combined those efforts, I serve both within our organization. It's a joint powers organization. So some of the immediate benefits I think are that market efficiency that has been discussed multiple times.

But from our perspective, we keep bringing on additional renewable facilities, primarily solar, some solar and battery, and we're getting curtailed frequently. I mean, I have plans in place to curtail my geothermal power plants because paying negative prices doesn't make sense for any duration of time. So that's not a good thing.

And so, and it's impacting the affordability to all of our ratepayers because our ratepayers are paying the price of a PPA. Whether you use it or you curtail it, they're paying for it. So the extent in which we can take those resources, we can find an additional or incremental market for those, even if we might not get full value but get additional value, we're going to reduce the cost to our ratepayers.

We know that as we continue to build up to get to 100 percent emission-free grid, that at least 30, 35 percent of our resources on an annualized basis are going to be accessed to the needs of our members. If we can better share those around the West, we're going to reduce the costs. We're going to be able to get there faster. It's going to make more sense in the pace that we move. And it's going to change some of the decisions we make on the types of resources. So for us, we see right up front some real impacts on affordability to us and just the efficiency of the market.

What we attempted to do in this process, too, was what are we currently doing in the WM? What are these tools that we could continue to use? How could we continue to use the resources, the expertise of the Cal ISO in this new RO, but still ensure that everybody thought it was still independent in approach? And so we knew starting an entire market from bottom up was years and years out. But I think the team really said, what can we use based on what we have today and use it differently in this new approach?

MR. SHETLER: Evie or Jeff?

MS. KAHL: Sure. We looked at it as four buckets of benefits, which is, I think, a pretty standard way to look at it. And the first one is the cost savings from dispatch. And I think we've mentioned that already.

And then, also, the cost savings from reduced curtailment. CCAs have renewables contracts. When those contracts are curtailed, our customers, as Randy mentioned, pay twice. And in an affordability crisis, that's not acceptable. So the curtailment savings were a driver.

Reliability is a huge driver, as well. I mean, we're constantly struggling with reliability in this state right now. And, you know, it's been touch and go a few times. But thanks to the ISO, we've managed to stay out of trouble. But we want to continue to stay out of trouble.

And we think that having this broader market to draw resources from will be really advantageous because now you have geographic diversity, some weather diversity that you'll be able to take advantage of, and it will keep the CAISO in a position where you're not dialing for megawatts when you're in trouble; right? They will be in the market and available to dispatch when we need them.

And then the last one is the environmental benefits. And CCAs have been out there for a long time pushing our way toward, you know, reduced carbon emissions. And one of our focal points has been gas; right? It's a complicated factor in looking at the climate change equation. And we think, and we may hear from Brattle one way or the other shortly, but that there will be some reduction in the operation of natural gas plants within

California, which also moves toward our objectives.

MR. NELSON: I'm going to take a slightly different angle, but I agree with everything that's been said.

What do I see as the benefit for independent governance? It is the key enabler to allow the entire Western United States to operate within a single market. It is the single key to unlocking that potential. And that actually gets multiple things done. Everything that's been said gets better the bigger our footprint is, and every study shows that. So this is the enabler to let that footprint get as big as possible. And I'm still optimistic we can get there. I know some people are in flight with decisions. I still believe that is the vision. And I still think we can get there.

It also makes sure that we're all operating in, I'll call it, the new world efficiency of optimal dispatch. We're talking about some of our renewable goals. I've seen numbers estimating that for California, just California to meet its renewable goals, we're going to have to build effectively 7,000 megawatts of new capacity for the foreseeable future, probably for the next two decades. That's just us. We have a lot of other folks that may be adopting similar policies that are going to have to do similar build.

We absolutely owe it to ourselves as too light of a word. We must have the most efficient mechanism of utilizing those resources that is available. And the way we can do that is enable a larger footprint using an optimal dispatch. That's the best way we're going to be able to integrate all these resources that are coming. And then that leads to the cost benefits, that leads to the reliability, that leads to the environmental benefits.

It also is going to lead to just greater cooperation to the region as we jointly decide how we're going to manage this electric grid 2.0 for the next, I don't know, 50 years.

MR. SHETLER: Thanks everybody. Maybe I'll just weigh in a little bit.

BANC was the first public power entity to join the WEIM. And as the quarterly reports from the ISO show, we tend to be up on the top of the financial benefits. And I think that's true. We would acknowledge that. And that does help with the affordability.

But I think probably the more important issues for us, or at least equally important, are the reliability aspects of this. WEIM has been critical to help us manage in the tight hours in both ways, because we're seeing our units being economically dispatched to support the ISO when they need it, and vice versa, and then we're also seeing the environmental benefits of better dispatch and the renewables, less curtailment of those renewables. That's important to our ratepayers, as well.

And so when I look at independent governance, as Jeff mentioned, it's the key to making sure we had the broadest footprint possible. And that broader footprint will bring the benefit to all our customers. So that's why we are really committed to this.

Well, moving on here, some have raised fears that the Pathways proposal will be detrimental to California's interests and will detract from California being able to manage its own energy policies. And those of us sitting down here know, we took great pain within the Launch Committee to ensure that individual states retain their policy decision rights and that the governance that we propose with respect to those rights. I'd be interested in your comments as to why you think the fears that have been expressed about impacting our ability to manage our own destiny might not be appropriate.

And I'm going to turn to Evie on this one to start.

MS. KAHL: Yeah, I don't think it's any secret that CCAs are constantly worried about maintaining their authority, given their odd position in the constellation in California. So it was one of the most important issues to us and probably one of the greatest questions we get from our electeds and our staff at the CCAs is how will this affect our autonomy?

And like you, Jim, I feel like we really worked hard on that question in the Launch Committee to make sure that we covered it. And the RO will have an obligation to make sure that it doesn't do anything that's contrary to the interests of any of the participating states. So I think that's a very positive measure, even if it's just a principle that we use as a guide.

And in addition, you saw the slide this morning from Marc Joseph's panel that showed all of the jurisdictional items that are not going to be controlled by the RO. The RO is going to control energy markets, that's it. The CAISO retains all of its other authority over other functions.

And then if you were looking at that bottom line, it's the panoply of different policies that California has that are, you know, administered by the California Public Utilities Commission that the Energy Commission works on, whether it's renewables, it's the cap and trade, it's NEM, it's, you know, go through the whole list, energy efficiency, all of those things remain within state jurisdiction, as do rates, which is another important factor. So some of these are just naturally state jurisdictional and won't be affected.

So I think the combination of those facts got us comfortable with moving forward with this, understanding that, you know, not much will change for us in terms of our autonomy.

MR. SHETLER: Jeff, anything to add?

MR. NELSON: Well, again, I really had my thunder stolen with the Marc Joseph slide, because that really tells a lot of the story. The core things remain with the PUC. The PUC still determines or California determines what sort of resource mix we want to have, still has control over GHG programs. All of that remains in California. And all the core reliability and operating still remains under the Cal ISO's board; right? So they stay the same.

But I think in addition to that, Marc Joseph also was able to, off the top of his head, to talk about seven different benefits. But one of those benefits, because I can't remember all the seven, was stakeholder process. There's still going to be a very -- even under the new market rules, it's not like California is gone. We're going to be very active under the RO and the market rules. And, again, we talked about our unique policy objectives and making sure that's not interfered with or undermined unintentionally the process that we built in there. We still serve a lot of load and we're still going to have a voice in that process.

The market is pretty mature right now. We've got a solid, solid foundation and multiple floors built and we're not going to level that or dig it up, we're going to build on that. So we're talking about incremental changes to the market and we will need them. Things are changing. We will need incremental changes.

But I'm confident that things that are not clearly under California's jurisdiction, but are a part of the RO's jurisdiction, there's a good process in there to make sure our voices are being heard.

MR. HOWARD: Yeah. Many people know I came from Los Angeles Department of Water and Power after 30 years. And I came to Sacramento on a frequent basis and said, leave us alone, local control. So we took that, similar to Evie, into the Launch Committee and really put some focus as to ensuring that each party that participated could continue to have some of their own rules and processes. And we weren't going to try to control that within the RO. There was going to be that autonomy. It's a voluntary market. And if folks don't like something, they're going to have the ability to leave. That's the overall.

But, also, having been engaged with the WEM governing body over the years, and I currently chair the

Nominating Committee for that group, they're viewed in the West as a pretty independent group. And if people are fearful of this next step, I mean, you just look at what we've been able to achieve with this governing body and the savings and the benefits to the ratepayers throughout the West. This is really that next incremental step. We've been taking these steps safely and incrementally. We're not talking about jumping off a cliff here. We're talking about moving to the next natural evolution to get us to this day-ahead market and continue to build the benefits throughout the West with a larger group of folks.

So I just don't see that fear. And, again, take a look at what's going on with current market activities.

MR. SHETLER: I think I'll just maybe add a little bit to what Randy had to say.

I think from our perspective, one of the things we pushed very hard was the voluntary nature of this market and the fact that it's evolutionary change and that each entity will still have the ability to decide what they want to participate when they want to participate. And I think that's a key feature of what is being proposed by the Pathways Initiative.

The next question I had, I think maybe we've kind of addressed, which is, do you think California issues will continue to be heard and addressed? But I don't know whether anybody wanted to add to that.

Evie?

MS. KAHL: Yeah, I thought about that a lot. CalCCA participates in some of the CAISO stakeholder processes and has felt heard. You know, CAISO doesn’t always agree with us, but I think we very much feel heard. And I think the stakeholder process that we’re building for the RO is going to be every bit as robust and, you know, may push further than that. So I think the stakeholder process will ensure a voice.

But I think the one thing I want to say is, if we are successful in all of this, we are going to have to share. We are going to have to dilute our voice, if you will, to some degree. But I think there’s confidence that the benefits are out there and there is a great working group together in the region to try to advance the interests of consumers. And that trade, a little dilution for the significant benefits, is well worth it.

MR. SHETLER: Jeff or Randy, anything you wanted to add?

MR. HOWARD: I do get concerned sometimes of I know how much time and effort we put into the CAISO stakeholder process. And I think, oh my goodness, here we go, we’re going to have a much larger, bigger playground that we’re going to have to utilize resources and participate. And if you look at the RTOs across the country and the amount of stakeholder processes that go on, it can be a little overwhelming for an entity to think about.

But, again, I think, as Evie pointed out, there's going to probably be some gives, but the benefits appear to us to far outweigh some of those potential gives. And, again, I think the way it's been established, California will be able to preserve a lot of the things that we've been working hard towards and actually accelerate those because of the benefit of that larger, broader market opportunity.

MR. NELSON: Let's talk about sort of a case example in the development of EDAM. So here where we're trying to make the market much broader, and an issue came up about how is transmission going to work and how is it going to be paid for? And the issue on the table was that currently some entities outside of EDAM, they market their transmission, they have access, they sell it.

And the concern was, well, if we join EDAM, we're going to lose that sale. And California had a parallel issue. When we're exporting from our grids, we're paid for that. And if we join EDAM, are we going to lose our export revenues?

So it's sort of a case of like, well, is

California's voice going to be preserved within this dialogue? And this is without even the stuff we've done, just sort of an illustration of hearing each other out. And both sort of sides, if you will, recognized that the other side had a very valid issue. And the ISO came up with a mechanism to basically, basically, sort of a freeze our make-whole payment for those sort of lost transmission revenues so that we could sort of take that out of the table, not let it interfere with the efficiency of the market, interfere with the access to transmission and make sure that people outside the ISO weren't harmed by participating in the market and California wasn't harmed by expanding the market.

So that's just one example of voices. Legitimate issues need to be talked about and there's ways of finding our ways through this.

MR. SHETLER: My last question for the panel. What do you see as the greatest challenges in realizing the future frame by the Pathways Initiative?

And, Evie, I'm going to pick on you first.

MS. KAHL: So when I look at all the technical and mechanical issues that we've been through in the Launch Committee, and I look what's on our plate for the Formation Committee, none of that scares me. We get through it, we work through it. I haven't seen anything that we haven't been able to work through successfully. So it’s not the content of what this RO is or what it will do.

I think the biggest struggle is some outdated perspectives on what’s going on here from a regional standpoint. I think there’s a lot of fear that’s probably unnecessary given how the process looks and how well we’ve all been coordinating. And it’s putting that away and enabling us to add even more to our voice as we move forward. So I think it lies more in education and getting us all to a common place of understanding than anything.

MR. SHETLER: Randy?

MR. HOWARD: Well, I think my biggest fear is really that we’re not able or successful in bringing the entire West together and we start fragmenting the Western grid and having to deal with significant seams issues between transactions.

California utilities, many of us, have invested a lot of money, say in wind facilities along the Columbia Gorge or other places up in the Pacific Northwest, and then in the Southwest, as well, and having to deal with large seams issues and the complexities that would go with our transfer of some of those resources back to California. I get concerned that if we do not move or move fast enough or with enough structure of that independence that we’re going to handicap ourselves and our utilities. And that goes right down to our consumers.

So that's probably my greatest concern right now, is I think we've laid a good framework, I have faith in the team that's working on these final details, but if we're not able to move quick enough or if we start seeing more fracturing in the West, I think we have some bigger challenges.

MR. SHETLER: Jeff?

MR. NELSON: The key to enabling success is independent governance. It's a key. And the key to enabling independent governance is legislative reform. So that is just, to me, that is the only hurdle. We must clear that hurdle. And then once we have cleared that hurdle, none of the technical issues scare me.

I do agree with the hopefully others will adopt a mindset of seeing that this is the right thing to do, t he change is legitimate, the change is permanent, and as far as we set up an RO, it's a real entity. And we will be able to keep the grid together once we cross the hurdle of getting to independent governance.

MR. SHETLER: Maybe I'll close out. From my perspective, I look at the challenges in front of us. And I agree with Evie. I think the technical part is challenging the easy part.

I think the issue for us in California and the rest of the West is how do we rebuild the trust and the confidence in each other? I think we've come a long way from where we were three or four years ago, but there still is that lack of trust, the uncertainty. And I think one of the challenges we have is how we in California can prove to the rest of the West that we're willing to reach out and we're willing to do our fair share in this to make this happen. Legislation is a key piece of that. But I think it's also showing our willingness to move forward with this initiative.

And with that, I think we're open for other questions.

VICE CHAIR GUNDA: Thank you. I think I have just a couple of questions from, you know, from the dais here. And I'm guessing we might have other questions.

But given that this keeps coming up, especially in terms of the importance of it around the autonomy of the states in defining their policies, I just wanted to ask, you know, President Mainzer, how does CAISO within the services of markets today, and also the day-ahead markets within California, how does CAISO currently ensure the autonomy of the participants today?

PRESIDENT MAINZER: Well, I think first and foremost, just looking at the statutory basis in California, I mean, all of the vested authorities for long-term load forecasting, for integrated resource planning, for resource adequacy administration, for procurement, they are vested by statute either in the California Public Utilities Commission, the Energy Commission, or other local regulatory authorities.

And I think when I, I know just the last few years, recognizing the importance of this issue, and remember coming in from more of a public power context where local autonomy, local self-determination, local control were always so important to my previous role, I recognize this is exactly, almost, the very same thing here in California and in other states.

And so, as you know, Siva, we've worked closely together in the last few years through the Memorandum of Understanding to really codify as clearly as possible those requisite roles, responsibilities, and statutory authorities. And then to the extent to which we have responsibilities for market administration or transmission planning, we just really explicitly honor those things and recognize that there's state-level jurisdictional issues. And our -- and as we talked, we're really -- it's becoming a little bit of a colloquialism, but, you know, the Department of Physics and Economics, right, that's our role. We're going to -- we're basically going to efficiently dispatch these resources.

And I guess I would conclude by saying that same basic principle also applies not only over the last 10 years, as we've built out the Western Energy Imbalance Market, remember, this is a market now that covers another 11 states and a Canadian province, and we've been able to successfully operate that market and create over $6.5 billion of benefit for consumers without having any level of determination of the resource choices of any of those other states either.

So that's the principle. And I think Alice said it early, you know, I think as you guys in the regulatory community really sat down, you said, boy, we all have these common shared interests, reliability, affordability, and self-determination. So we just really honor that, I think, in the day-to-day operation of the system.

VICE CHAIR GUNDA: That's great. Thank you. And I think it's important, as we think about the development of the RO and the importance of that, some of those principles are currently honored and then we continue to take them into a more independent stance.

I think a couple of kind of a compound question, I think, for the panelists.

And before I ask the question, thank you for your time today. And thank you for your time on the Launch Committee. Again, Randy, Evie, and Jeff, I got a chance to become, I guess, friends now. I know, Jim, we all get to call each other and talk about important topics more so. And those are some of the intangible benefits of these kinds of work when you get to know each other and solve other things as a part of that.

So I think the compound question is, you know, one of the things we're hoping to do today as in this forum is to openly put out, you know, what our kind of perspectives are. And especially given some of you have looked at this differently, given the changes in the proposal and then coming to this in a more supportive manner, if we could, for the record, you know, put together like, you know, your comments on what do you think are the benefits and risks? You already said that, you know, but just even on the risk side, what are some of the risks you see and how do we ensure that we manage them and make sure that we voice them as we go forward in this process?

And two, given that, you know, one of the benefits of the markets is resource optimization, how do we think about continuing to build; right? So like we ensure building those diverse resources and adapting our build rates as we go forward. So I'd love to hear from you on both these pieces.

MR. SHETLER: Jeff?

MR. NELSON: Well, risks, I think the biggest risk is that we're not able to move forward with independent governance. And that will, in my mind, guarantee fragmentation of the markets within the West. And that has a compounding downward effect on -- I think that would inevitably lead to the demise of the EIM because people, I think more and more people, believe they need to be in a marketplace. Very much the largest risk I see, if we're not able to move forward, we move backwards.

And then, I'm sorry, the other one was, how do we incorporate this within all the build-out that we're doing? I think that was the question. I'm not prepared to answer that one. That's, yeah, I'm pretty technical, but that's the real planning and modeling thing. But having the market that efficiently dispatches physics and economics is a precursor. We have to have that under any situation. And then at least we have both physics and economics to help guide us in those decisions.

MS. KAHL: So I'm going to say one of the risks out loud that everyone talks about, which is what if the federal government does something crazy? How does that affect our situation as California in the RO? And we've given that a lot of thought because that question comes up internally, as well.

And I think the first point is the CAISO is regulated by FERC and the federal government today. So this isn't new, that we are facing federal regulation. The RO, like the CAISO, will be a federal creature. So there's really no change when you look at it from that perspective.

The other thing that gives some comfort is every RTO or every market has some type of withdrawal right. And if you engage in the market and something goes crazy, your state will have the right to direct withdrawal by certain market participants. So it's not like you have no remedy if things do go crazy. There is withdrawal. It's a right that exists today. It's a right that will exist in the RO governance documents.

So I think that gives me comfort, as well, that we're all afraid of what might happen, but there are some remedies available.

MR. HOWARD: So of my membership, I have members that have their assets within BANC. I have members and assets that are within the CAISO. I have a member that's in NV Energy. So three different balancing authorities.

As I was talking to Commissioner McAllister earlier, you know, an immediate opportunity, too, is, you know, we have an opportunity here. We're going to take all the various balancing authorities of California and potentially bring them into a common market. And that's pretty incredible in itself, right, because it's still voluntary in nature and years of fighting to prevent that have taken place. So incredible opportunity for us going forward.

And the risk is if we don't get this moving, you know, the POU community and the other balancing authorities don't have the same restrictions as to their ability to join a market. And I can guarantee you that they will move to a market if we're unable to do one jointly with the CAISO. And so I'd hate to see that happen. And that's probably one of the biggest risk right now is if we're unable to move quickly enough that some of the other balancing authorities, even within California, will choose to move.

MR. SHETLER: So from my perspective, probably the biggest risk is doing nothing. I think we've sat around and talked about how do we regionalize, how do we work together better, for decades. I've been around too long. I've seen too many of the permutations. So I think that is the biggest risk and my biggest fear.

As far as building it in, I think in my mind, one of the answers to that is, as we on the Formation Committee are working with the ISO and talking about how do we structure this going forward, and what is the working relationship between the RO and the ISO, we need to build that thinking into that and how that would work together.

VICE CHAIR GUNDA: Thank you.

Anybody else from the dais before we -- okay.
Jake?

MR. MCDERMOTT: Thank you, Vice Chair.

So anyone in the room who would like to ask a question to the panel, please use the Zoom Q&A feature or pick up a yellow question card from the table at the back of the auditorium.

In the meantime, I have a couple of questions here that we can run through.

The first is, I think for Evelyn, this kind of came up on the earlier panel, but can you talk to us a little bit about how CCAs are represented in Pathways and on the Launch Committee and kind of what the role is of the CCAs in this process, writ large?

MS. KAHL: I think I want to start by saying CCAs in this process are not a lot different than the IOUs in the sense that they have the same interests. We're all around this table, load-serving entities with customers to serve reliably and at reasonable costs. So there, you know, there, our interests aren't that different, particularly the POUs.

And I have been on the Launch Committee. So CCAs have been represented through CalCCA on the Launch Committee. CCAs will be represented through CalCCA on the Formation Committee, as well. I think today, we participate in CAISO stakeholder initiatives and we'll continue to participate in RO stakeholder initiatives.

So I don't have -- we also have a -- within the stakeholder process, there are sectors and we will be a part of a sector that has four seats and those four seats will include POUs, CCAs, co-ops and PUDs. So we will be sharing those four seats, but there's certainly room for everyone there. So I don't have any concern that we won't be included or represented in any of this.

MR. MCDERMOTT: Thank you.

The second question I have is also from earlier today. So there was a question in the chat around a slide from Carl Linvill's Intro to Pathways presentation. I wanted to kind of kick it to this group for an answer.

There's a slide on governance that says, "The RO will have a seven-member board from any state nominated by committee. What committee is this and who approves these nominees?"

MR. SHETLER: So the committee we're talking about is a Nominating Committee. It will be a representative from each one of the sectors that Evie mentioned. Each sector will have a representative on the Nominating Committee. They will identify a slate of candidates, depending on how many seats are up for election, that will be turned over to the board, the RO

Board, and the RO Board will have the final say as to seating that panel or not.

This is not a new concept. This whole process of a Nominating Committee and using sectors is what's done at WECC. It's what's done at the Western Power Pool. It's what's done with the WEM governing body and other entities throughout, other similar entities throughout the West. So we tried to draw on existing structures and programs for doing this.

MR. MCDERMOTT: Thank you.

I think that's all I have for questions at this time. Do you have any questions from the dais?

MR. SHETLER: I might -- I do remember one or two from this morning, so if you don't mind me just throwing out there? Okay.

There was a question raised about as we go through the Formation Committee process of the stakeholder process and how will that be managed? And so I want to let people know that the Formation Committee is well aware of the fact that we still have more work to do on the stakeholder process. And right now our vision is that we would reform that subcommittee or work group and work with the stakeholders on finalizing what the stakeholder process should be and bring forward more final recommendations.

MR. MCDERMOTT: I think with that, we will probably end this panel a little bit early.

I think we're going to take a little bit of a -- maybe a five-minute break to a transition between this panel and the next panel.

COMMISSIONER MCALLISTER: Jake, I propose that we just start the next panel sort of time certain as planned and take a little bit of a longer break now.

MR. MCDERMOTT: Sorry. Say again?

COMMISSIONER MCALLISTER: Take a little bit of a longer break now and start time certain the next panel.

MR. MCDERMOTT: Oh, yeah.

ADMINISTRATIVE LAW JUDGE LOCKER: Yeah.

MR. MCDERMOTT: Then let's meet back at, I think it's 2:15 is the start of the next panel. Thank you.

(Off the record at 1:55 p.m.)

(On the record at 2:16 p.m.)

MS. NAKAGAWA: All right, we're just about ready to get started. Just a reminder, we are going to have public comment period scheduled for later today. And if you do want to make a public comment, please, raise your hand on Zoom, or if you're here in the room and cannot access zoom for some reason, you can use a blue card and recording in progress. The CEC staff are seated at the back table, and that will let us know in advance that you would like to comment. And just since we started the recording those on Zoom, when we get to the public comment period we will be using the raise-hand feature.

All right, I'm going to turn it over to Jake McDermott to facilitate our next and final panel.

MR. MCDERMOTT: Thank you, Sandra.

Hi. Welcome back folks. So we're going to have this last research panel, where we have our consultant from the Brattle Group, along with a presentation from Stanford University. Each will take about 20 minutes.

So first we'll hear from John Tsoukalis, who's a principal at the Brattle Group, whose team has done some phenomenal research on modeling a lot of these questions around markets throughout the West.

So without further ado, John, I'll pass it over to you.

MR. TSOUKALIS: Hi. Thanks for having me. Thanks, Jake, for the introduction.

Let me share my screen. All right, well, thank you. Let me go ahead and jump right in.

This is our preliminary markets impact study that we conducted on behalf of CEC. I say preliminary here because, you know, we're offering this today with the hope of getting feedback and input on, you know, the assumptions we used and what we analyzed so that we can refine this in the coming weeks, potentially, if CEC feels like they want to do that.

So kind of jumping right in, we heard a lot today about markets and the impacts and benefits that they have, but I want to take a moment to just talk through kind of the dynamics we anticipate to see when markets either form or expand and what kind of outcomes those have for customers. And ultimately, you know, why are we doing this study? Why do we analyze this question?

And the key reason here is that, you know, we anticipate benefits will depend on the size and diversity of the EDAM footprint. So as more entities elect to join the current participants in EDAM, we anticipate, you know, accessing more benefits through the market for customers in California and the other parts of the EDAM. And as we know, right, there's other market options in the West and folks have, you know, been studying those and looking at what options they have. So the kind of drive to expand the EDAM to a larger footprint is likely going to create benefits for California customers. And that's what we're trying to assess here is how do benefits grow as the market footprint potentially grows.

We calculate 2032. So, you know, a question we commonly get is, you know, what study years do we look at and why? We calculate 2032 with an eye towards looking at a year that's, you know, close enough into the future so that we’re not really speculating on resource mix or transmission that’s getting built; right? We have a pretty good sense, given the utility planning cycle and building cycle, how long that is in our industry, we have a pretty good sense of what 2032 is going to look like. And we use forecasts from, you know, the latest CAISO TPP and utility IRPs from across the West to inform our modeling assumptions based on that, as well as load forecasts in those IRPs.

So as markets grow, you know, what are we actually -- what are kind of the dynamics that we see playing out and how does that impact customers?

So the first thing, you know, that we often talk about is that a larger market means a larger and more diverse pool of transmission and generation resources. And what that means is, you know, because we have a larger pool and a more diverse pool, the market is able to more effectively shift from less efficient resources to more efficient resources; right? That is what the market does; right? It finds the lowest cost resource that can serve load in every given hour. And that leads to production cost savings for customers. So that’s a kind of a clear efficiency gain that’s going to, you know, positively impact customers and create a savings for them.

It also creates a potential environmental benefit. And I say potential here because, right, the market finds, like I said, the lowest cost solution. It doesn't necessarily find the cleanest solution. So there are going to be instances where, you know, markets, you know, may or may not reduce emissions. I think it's often just assumed that markets will do this, but that's not their purpose necessarily.

Emissions reductions in the West will be driven and continue to be driven by resource planning; right? Retiring fossil fuel resources and replacing them with clean resources is what will mostly drive emissions. I think markets can help slightly, and they will also affect the distribution of emissions on the system, but they won't necessarily drive emissions reductions on their own; right? You need that resource planning and that, you know, retirement of thermal assets to do that.

Better management of extreme weather events, we've heard that talked about today. That's the reliability benefit of markets. By having a larger and more diverse pool of transmission and generation resources under a single market, the market is able to clear resources and schedule transmission in a way to minimize the impact, both financially and from a reliability standpoint, of these kind of extreme events or unexpected events. And we already see that happening today in the

WEIM; right? The regional market in the West today on a real-time basis already helps move power around the system across the entire West when there are these kind of extreme events. And EDAM will just kind of deepen the market's ability to do that.

But we also see certain things, right, the revenue streams that will potentially decline or dry up in markets. I heard on the last panel, Jeff from Southern California Edison was talking about, you know, export revenues and things like that. We don't want to be blind to potential market revenues that may be adversely impacted if you join a market.

One of those is short-term transmission service, potentially; right? Today, utilities sell short-term transmission service to third parties and to other entities to execute transactions. If that transmission is donated to a market like EDAM, you may be able to sell less of that revenue in the future. That's offset by the EDAM TRR settlement, which we can get into the details of, and we do account for that in our study, but it may not be fully neutral for load. And so, that may actually be a cost increase that you experience from joining a market.

The next kind of big dynamic we see in markets, of course, is reduced curtailments. We've heard a lot about that today. And that's, again, driven by the, you know, adding more transmission to the system to allow to access, you know, the market to access that transmission. Adding more diverse load to the market helps the market reduce curtailments. That, of course, translates to an environmental benefit; right? If you can avoid curtailing renewables and dispatch fossil generation less, there’s a clear, you know, unambiguous environmental benefit to that. But also, of course, there’s a lower power cost for customers; right? Renewable energy that’s curtailed is just wasted, whereas if it’s avoided, the curtailment, we can utilize that zero variable cost energy.

But also, we heard about this in the last panel, too, right, there’s a kind of -- by reducing curtailments, we also create a better investment environment for renewable projects in the state and in the broader region. So, you know, through contract arrangements that help some of that, you know, benefit flow back to customers, or as new projects come on the system, we see, you know, potentially better, you know, prices for customers negotiating new contracts for new resources. So that kind of better investment environment also creates customer savings, you know, either in the near or long term.

Then lastly, we see a lot more trading between market entities; right? So as the market grows, we see trading volumes increase. And we, again, have already seen that in the WEIM today, but in EDAM, we anticipate that that will get, you know, deeper and broader and larger. So that increased trading between members does mean that you're going to be doing less bilateral trading; right?

So selling power at Palo Verde today, for instance, or other points across the West, we see that that reduces as the market forms because the market finds more, you know, efficient trading inside of its own boundary. And so you do lose some of that bilateral trading revenue; right? That's some of the export revenue that I was just talking about. So we do account for that in our study as well. We want to see, you know, if the impact of losing some of that bilateral trading revenue is larger or smaller than the efficiency gains and the production cost benefits that we get from the market itself.

And then lastly, because of the increased trading volumes inside the market, we do see increased market congestion and transfer revenues. Today, any member of the EIM collects congestion revenues, you know, or the CAISO collects them, I should say, and allocates them to members. In the EDAM, we anticipate those revenues will be much larger; right? Just because of the volume of energy that's cleared day-ahead and sold into the day-ahead market, we anticipate a much larger congestion revenue collection and allocation back to members. So that's a customer increase or cost savings that you see in a market that you don't see if you're just executing a bilateral transaction.

So this kind of gives you some sense of the dynamics that we see happening in a market and how that, you know, directly relates to customer outcomes. But it's not a comprehensive list. Of course, there's just a few things to get, kind of set the table for why we see benefits, but there's lots of other things that go on in the market. But it does highlight kind of the three pillars of benefits, which are, you know, customer savings, environmental, and reliability that we're going to talk about throughout the rest of the presentation. We're going to look at each one of those benefits throughout, you know, in the next 10 to 15 minutes.

So we looked at four different possible market footprint scenarios. We simulated four different cases in modeling terms. And kind of going from left to right across the slide here, you know, we see an increasing kind of of EDAM footprint across the first three scenarios. The first one, what we call our baseline scenario or baseline case, just includes the approved EDAM entities. So that's what the dark blue circles here on the map represent. Those are the entities that already have signed implementation agreements with the EDAM. And then everyone else that's in light blue here, they're just in EIM, as they are today; right? And the yellow is kind of the RTO West, SPP's RTO West, and the SPP's Energy Imbalance Market, which is called the WEIS. We represent those, as well, although they're quite far from California, so their impact is minimal.

And then you can see as we go to the baseline-plus case, right, we add in the dark blue circles here the entities that have announced that they are going to join EDAM. But they have not yet, you know, implemented an implementation agreement. That may be because they need to seek approval or other process or they're still kind of, you know, executing the last approvals they need. But there are folks that have announced that they're going to come to EDAM, and that includes Idaho Power, NV Energy, and Public Service New Mexico.

And then the next case we call our expanded EDAM case, which is meant to represent kind of the maximum EDAM potential, which is what if we got almost all of the West to join EDAM with the rest of the entities that have already announced.

And then, of course, the last case is what we call our split market case. The orange circles here represent folks that choose to go to Markets+ in this scenario. So this is the case where we have fragmentation in the West. And I will say, this is a tough case to kind of simulate because a lot of the impact on customers in this case will depend on how the two markets interact and how efficient trading across the market seam is going to be in a case where we end up with two markets.

I will say, for our study here, we have assumed a relatively efficient seam, you know, even more efficient than a bilateral trading seam that exists today. So we do see, you know, a significant amount of economic transactions happening across the market seam. And we'll see how that impacts the results in a couple slides.

But this is an area where we're certainly welcome to a lot of feedback. I know that there's a, you know, debate about how much, you know, cooperation on seams there will be between the markets and that we haven't really gotten there yet in the conversations in the West. It could range all the way from, you know, true company-optimization of the seams to something that is, you know, less, let's say, less cooperation and coordination between the markets that makes it really cumbersome to trade between the markets. And, you know, that kind of extreme outcome would have an adverse impact on customers in both markets, including in California. And we haven't really simulated that case where there's minimal cooperation and trading between the markets.

So let's jump into benefits. The first slide here with benefits across the bottom, I'll draw your attention to the arrows across the bottom, where we indicate the dollar amounts, that we see as we go from our baseline case with just the kind of approved and signed EDAM commitments case, to our baseline-plus case, to our expanded markets case.

We can see that going all the way from baseline to expanded markets case creates almost $800 million of benefits for California customers. So these come from the efficiency gains from the market congestion revenues offset by the losses we talked about a few slides ago. When you net all of that together, you get an increase of about $800 million per year for California customers. If we're just looking at kind of the baseline-plus case, which has the likely EDAM commitments relative to the expanded markets case for expanded EDAM case, it's almost $700 million in benefits per year.

One thing I would point out here is neither of these numbers is really an estimate of the benefits of EDAM forming because, keep in mind, in our baseline case, we have EDAM already, right, so we have a small EDAM footprint, right, just the folks who have signed agreements, but we still have an EDAM case. So I would make sure folks understand here that when we see this $800 million per year number, we shouldn't interpret that as the benefit of EDAM forming to California. It’s the benefit of EDAM expanding from what we simulate in the baseline case to what we have in the expanded EDAM case. So the total benefit of EDAM forming is a different number and presumably larger number than the $800 million we have here.

And then looking at that split market case, what we’ve done is we compared it against the baseline-plus case. And the reason is because the EDAM footprints remain the same between those two cases; right? The only difference between the baseline-plus case and the split market case is that we have Markets+ forming in that split market case. And what we see is there is a slight benefit actually to California customers from Markets+ forming, but it is about $500 million less than the expanded EDAM case. So what we’re seeing here is there’s about a half a billion dollars that’s lost relative to growing the EDAM footprint across the West when Markets+ forms.

And I know a lot of folks will see the result of, you know, an actual -- a slight benefit from Markets+ forming, and they might find that counterintuitive. And I say a couple of things to that. I think, as I talked about, the biggest driver as to why we see that result is the assumption we’ve made about how the markets -- you know, how efficient it is trading across the markets and how costly it is or cumbersome it is to trade across the market seams. So that's one of the big drivers of that result. If we were to test a scenario in which trading across the market seam was much more, let's say, costly or inefficient or cumbersome to do and execute transactions, meaning fewer transactions actually happen, we might see a different result for California customers.

And there are other assumptions we think, too, that drive some of that benefit, you know, which we have listed here. And those are all good, I think, you know, areas for thinking about potential refinement of this work or sensitivity tests down the road. So those are economic benefits.

You know, the other thing we don't talk about here, like I said, we haven't touched on, yet, environmental or reliability benefits, so we're going to switch gears and talk about that now.

From an environmental perspective, we do see, like I said, I want to reiterate what I said at the beginning, right, emissions are ultimately driven, you know, and the trend for emissions across the West will ultimately be driven by resource, you know, investment decisions. And I should point out the emissions we see in all four cases we simulate, right, regardless of what market footprint we have in our four cases, our emissions in our 2032 simulation are significantly less than they are today, right, because the trend in the West is for lower emissions as more renewables come on the system and thermal resources are either retired or, you know, dispatched at lower amounts. So we see in all four of our cases emissions are significantly lower than where they are today in the West.

But as we move across market footprints, the distribution of those emissions reductions that we see relative to today will change. And I have three charts up here to kind of point out three different things in our simulations that we see.

The first one on the left here, the big dark green bar that we see below the zero axis represents gas generation. And you can see, we're comparing here the expanded EDAM case to the split market case. The expanded EDAM case, we see a 30 percent reduction in gas generation inside of California. So this chart is just showing California-wide generation relative to the baseline-plus case. So by expanding the EDAM from that baseline-plus footprint to the expanded EDAM footprint, we see a 30 percent reduction in gas generation inside of California.

And I can tell you that that generation reduction from gas resources is kind of, you know, broadly distributed across the state. We don't see certain pockets go up while others go down. Pretty much every gas unit, except for, you know, tiny little, you know, anomalies here and there, but pretty much every gas unit across the state falls. And particularly some of the bigger ones, we see their generation fall by quite a bit in that expanded EDAM case. We do see generation, gas generation in California fall in the split markets case, but by about half as much, okay?

The middle chart shows curtailments. And the third bar here is our expanded EDAM case, so you can see from baseline to baseline-plus, there is a tiny reduction in curtailment. But the real movement we see is when we get that expanded EDAM footprint. And then we see about a 10 percent reduction of curtailments in California. So California wind and solar resources are curtailed about 10 percent less because of the growth of the EDAM footprint.

And then in the split market case, we see it go back up to roughly where it was in the baseline case, actually even a little bit higher. So curtailments are slightly higher in that split market case than they are even in our baseline case and baseline-plus case.

And then lastly, we look at CO2 emissions. Again, we're comparing expanded EDAM on the left-hand side and split markets on the right. The dark blue bar is California emissions, and then the light blue bar is West-wide or WECC-wide. So we actually do see emissions tick up slightly in both of these cases relative to the baseline-plus. But you can see the distributional effects are different. In the expanded EDAM case, California emissions fall by about 11 percent relative to the baseline-plus case, even though system-wide emissions tick up by about 1 percent.

In the split market case, California emissions do fall because we see that gas drop on the first chart. But they fall by about three percent, while across the West, they tick up by about two percent. So we do see a West-wide -- you know, it's a little bit skewed relative to the EDAM case.

I also noticed while I was preparing this that there's a typo on this slide. This should say, you know, rise, emissions rise in the WECC, not fall. So we'll get that fixed, but I wanted to point that out if that was causing any confusion.

So this is kind of our emissions story; right? We do see a fall in gas generation in California, a reduction in curtailments, and a reduction in emissions in California with the larger EDAM footprint. But there is kind of this distributional impact where we see emissions rise in the rest of the West as a result, just slightly, about one percent in the kind of expanded EDAM case and about two percent in the split market case.

So the last benefit we wanted to talk about is that reliability benefit. I want to be very clear, as we’ve talked about this a lot with the CEC and staff that we’ve been working with on this, you know, this is not really a reliability study. Production cost modeling is not the right tool to really assess reliability. But we wanted to think about something we could calculate from our study that would help speak to this, to the ability of a market to manage these unexpected events.

And one of the things we can see in our model is how supply cushion or excess capacity in every hour of the year changes with the different market footprints. So what we’re getting at here is, you know, how much additional capacity or how much additional generation resources does the market have to help manage unexpected outcomes with a larger footprint relative to the smaller footprint? And that’s exactly what this supply cushion metric looks at; right?

And we only look at, I should say, firm dispatchable capacity. So we assume renewables are not part of the supply cushion because, you know, they’re variable. We assume hydro is not part of the supply cushion because hydro resources, you know, have other restrictions on them. They may not be able to respond as much. So we're really only looking at firm dispatchable capacity here. How much more excess capacity does the market have to help deal with extreme conditions in the larger footprint?

And what we find is that it's about 20,000 to 25,000 megawatts of additional headroom or supply cushion in the expanded EDAM case relative to the split market case. So by having that larger footprint, we give the EDAM about 25,000 additional megawatts of capacity to help manage unexpected outages or unexpected ramping down of renewable resources, things like that, that can be re-dispatched and brought to serve load in those kinds of conditions.

Of course, transmission constraints on the system and all of that doesn't mean that, you know, this 25,000 megawatts is completely fungible. But it does, you know, it does give a sense of what additionally the market can tap into when it has more members in it. And particularly, we looked at kind of the top 10 hours in the summer when things are usually the tightest in, you know, in our simulation are the tightest, and we found that the result is consistent; right? It is in those top 10 percent of the hour -- or I should say top 10 hours of the year when supply cushion is tightest, there's still about 20,000 additional megawatts in the expanded EDAM footprint than there is in the split market case that the market can use to help manage and serve load in those top hours of the year.

So those are the three benefits we looked at, right, economic, environmental and reliability.

I want to state, I heard someone say this in the last panel to that, you know, simulated benefits like this are often understated and conservative. And we think that's true for various reasons. One of them is that, you know, it's hard to really capture the inefficiency of bilateral markets in a simulation like this. We do a lot of things to try to mimic kind of the inefficiencies of bilateral markets. But we often, you know, find that we just can't -- we don't do it or fully, largely because, you know, we don't capture unexpected volatility in load or fuel prices. You know, gas prices can be very volatile day to day. Not all of that is captured here.

Similarly, like we talked about, right, the seams, market seams and how the inefficiencies and frictions we see at market seams may not be captured. And so we tend to find that our, you know, market benefit estimates are low compared to actual benefits. And when they were doing, you know, EIM estimates relative to the ex-post actual benefits that that members have realized, you know, it was multiples higher than the simulated benefits. And so I think you would see something like that here, too, where actual benefits from a larger market probably will be much higher than what we calculate in this study.

And then my last slide, I just wanted to touch on a couple of things. You know, we've been brainstorming about how to possibly refine this work. As I said, I think the four cases we have simulated do provide really significant insight on the impact of an expanded market for California. But they also raise really interesting questions that could drive some refinement and further analysis. One of them is just the footprints that we've simulated; right? We picked those four different market footprints to simulate.

One thing is we haven't simulated a true status quo. Like I said, our baseline case includes the EDAM, so we don't actually calculate the benefit of EDAM formation from where we are today. So that could be one thing to do is to think about doing a true status quo case.

Also, we calculated that expanded EDAM footprint and a split market footprint. But there's obviously a lot of intermediary footprints that could happen between there. Those two cases kind of represent bookends, if you want to think about it that way. And we could test, you know, different configurations and see how that impacts

California and maybe, you know, isolate which members or utilities in the rest of the WECC have the most impact on California, depending on whether they join EDAM or not.

I already talked about market seams assumptions, but that's one thing we're looking for feedback on and can, you know, certainly refine in future analyses. How effective trading is across the market seams is a big driver of, you know, the potential benefit or loss to California customers from, you know, fragmentation in the West. And then, of course, resource mix, load forecast, fuel price assumptions.

And then lastly, like I said, you know, we don't fully capture the volatility that we see on the system today. So there are ways we could, you know, refine our model or improve it to be more weather reflective, looking across, you know, looking across many years of historic weather variability. And that could get us closer to, let's say, a true estimate of market benefits that would be higher than what we have here today.

So those are just thoughts about where we could take this analysis, but obviously looking forward to questions and feedback. And I'll stop there and pass the baton.

MR. MCDERMOTT: Thanks, John.

Before we go to Q&A, we're going to hear from

Michael Wara at Stanford on his team's recent research on some questions related to reliability. So Michael Wara is the Director of Climate and Energy Policy at Stanford University, and I'll pass it to him.

DR. WARA: Thanks very much, Jake.

(Off mic colloquy)

DR. WARA: Should I show my own slides? Okay, great. Thanks.

Mike Wara, Director of the Climate and Energy Policy Program at the Woods Institute for the Environment. The work I'm going to show today, I just want to give credit where credit is due. Mareldi Ahumada-Paras and Mike Mastrandrea are my co-authors but, really, Mareldi deserves the lion's share of the credit. She's the one that did the hard work, and I want to just give her that shout out.

So I'm going to talk about grid regionalization in the West and really focus on reliability benefits from increased cooperation. This is work that we did because of generous support from the Energy Foundation.

Next slide, please.

I'm not going to spend too much time on this slide because I think we've had a lot of discussion today about the role of grid operators in the West and balancing authorities.

I'll just note that extreme events, like some that I'll discuss from 2020 and 2022, place enormous stress on Western operations, and we're seeing more of those. And for different reasons than we used to. We had an event a few years ago where the California-Oregon Intertie was shut down because of wildfire smoke. We've had really significant challenges with multi-year droughts and hydro availability that have placed new and unique strains on Western balancing authorities, including the CAISO. And we're going to explore in this study what different footprints for electricity markets might provide in terms of enhanced reliability during these sort of stress conditions.

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So, again, not going to spend too much time on this given who's on the dais, just to note that grid reliability is a particular challenge because demand and supply need to be balanced on a second-to-second basis. Deviation from a balanced system can lead to or does lead to, unserved customer demand, and that the Western coordination situation as it stands today is quite complex with 37 balancing authorities managing that problem, of course, in coordination with each other, but responsible for maintaining supply-demand balance within their footprint.

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Also, just worth noting what we are talking about today and what we are not talking about today, and I think it's important to be clear on that. Balancing authorities are responsible for this balance of supply and demand within their service territory. Of course, there are different timescales over which demand and supply need to be balanced, ranging from decades to years to hours, minutes, and seconds.

And this discussion is really about that hours-to-seconds operational challenge and really planning in the day-ahead market, and not in any real way about transmission planning or resource adequacy, which are separate issues from the Pathways Initiative and where state authority really remains the primary driver of decision-making.

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So why might reliability be a greater challenge today than it has been in the past? Why might it be important to think about regional cooperation as one of the responses to changing reliability today, maybe when it wasn't as big a concern in earlier years?

We've been through a number of relatively extreme events during the last five years that really make a point on how climate change and sort of broader changes in the West are really driving a new need to think about greater coordination and cooperation.

In 2020, there was a West-wide heat event that led to significant challenges within California and really across the West in terms of grid reliability.

In ‘21, as I mentioned, there was a significant heat wave, and at the same time, the Bootleg Fire was burning in Oregon. Smoke from the fire, particulates in the -- create potential for faults between wires on transmission lines, and so the COI had to be shut down. Luckily, California was not particularly hot at that time, and so load in California was low. But, you know, you can’t rely on luck as a plan. And certainly, we are seeing much greater wildfire activity across the West, and that is putting at risk connections that we once thought of as kind of certain, particularly during fire season, which happens to be the hottest part of the year when demands are also high.

And then, of course, the 2022 event where a demand record that had not been broken since, I believe, 2005 was broken in CAISO, and that’s despite the deployment of enormous quantities of rooftop solar, and yet we saw a peak load record in CAISO of above 52 gigawatts.

So there’s a pattern here that involves increased stress, you know, combined with extreme weather events. We see growth in demand. And I think it’s fair to say we’re likely to continue to see growth in demand. A lot of this work really precedes the thinking that’s been emerging about the growth in load associated with data centers. We’re beginning to see some load growth associated with EVs and building electrification, as well. All of this is happening in a context where the integration of renewables makes grid management different than it has been in the past, where we’re managing a variable resource. And then, of course, across the footprint, there are an emerging set of relatively diverse climate policies that create the need for coordination, as well.

So there are two efforts. You know, we've talked about them a lot, the West-Wide Governance Pathways Initiative, and then SPP’s Western RTO Initiative.

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So we’re going to, in the work that I’m going to show, we’re going to talk a lot about -- we’re going to use a power system model. And as was discussed in the prior presentation, these models are not really well designed to simulate what actually happens when a grid operator, like the one sitting on the dais in front of me, faces a Stage 3 Alert. You know, when demand and supply are tight, the assumptions in these models are not actually very valid. And that’s something we observed, in particular, using the power flow model that I’ll talk about in a second.

But essentially, the model assumes, first of all, economic rationality of all trades, that the electricity goes where it's needed and that those needs are weighed equally across all balancing authorities. It's sort of assuming the presence of a market that we actually are talking in the room today.

Secondly, and I think this is very important, the models assume perfect information. They assume that the operators in the CAISO, the big room with the screens in Folsom, know where every available asset is in the Western United States that might be available to meet California load. They assume that all the other balancing authorities have all that information, as well. That is implicit in the design of the energy models that we use to evaluate power flow.

And that assumption, I'll just say based on many conversations with different balancing authorities in the West, fails substantially during these shortage events. As multiple balancing authorities get close to their -- you know, as their available resources get close to peak demand, they tend to want to hold on to resources because they may suffer an unplanned outage that would put them out of balance. And so that, the question of economic rationality there, is called into question. And also, the idea that everybody knows how many megawatts everyone else has is, I think, not borne out by the lived experience during these relatively tight periods.

Another assumption in these models, which I think is important and is false during these events, is that the barriers to trade across the balancing authorities do not change during stress events. So the typical power flow models assume some sort of hurdle rate across the seam. It’s kind of invariant, no matter what the overall situation is in the grid.

And I’ll just say that that is also -- you know, the reluctance to trade is not constant. Under average conditions, balancing authorities are more than happy to see actors within their footprints trade energy across seams. There may be some sort of, you know, cost associated with that trade. You have to have deliverability. You have to have transmission rights. That’s not necessarily true if the entity responsible for maintaining balance fears that they may run into an event where they would have to shed load.

So we see these three assumptions in the models as making it particularly challenging to simulate reliability. But they also are a clue to why an initiative like Pathways could be very important in terms of improving reliability. Because what a regional market will do is, for the grid operator that governs that footprint, the market operations within that footprint, will create, first of all, visibility into all of the assets that are available and their status. In addition, by the use of an optimization algorithm, optimize security-constrained economic dispatch across the entire footprint, as opposed to just within their footprint. And we'll manage transmission constraints in a way that optimizes cost for all ratepayers across the footprint.

And so what we're trying to simulate in this study is the difference between normal operations assimilated in power flow models and the reality. And I think it's not fair to call it dialing for megawatts. That's obviously an oversimplification, but I love it when I can put up, you know, old AT&T phones in a slide. But the reality is that it is a human interaction during these stress events.

There's a tremendous amount of operator experience that's brought to bear and relationships that are brought to bear to try to gather as much information as possible about available resources that might be called on. And that may mean that things are missed. It may mean that resources are not offered across seams that a model might dispatch optimally.

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So studies prior to our work, and I should say, you know, none of us have seen the Brattle work until today, and I'm really excited to see that they're also thinking about reliability and approaches to estimating reliability benefits from greater regional coordination in markets, but prior to our work, other studies had focused on economic benefits from increased cooperation through expanded day-ahead markets rather than this reliability benefit. And those benefits appear to be real. And as we just saw, potentially substantial depending on the scope of the footprint, but they're also occurring in a context of a very large electricity market across the West.

And I'll just say that our own experience leads us to think that these questions around market structure and its impact on reliability during stress events may be as important or more important than the money saved on an average day in the WECC.

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Oh, I just want to say one more thing before we move on, and that is that I think I told you how power flow models are not well suited to these kinds of reliability studies. It's challenging to tease insights about reliability out of a model that can fully simulate different footprints in the West. And so I want to just emphasize that our results, we view them as illustrative and directional rather than emphasizing their quantitative nature. So this is about, you know, giving you a feel for what may happen for reliability, how the market, an expanded EDM footprint managed by a new entity, might experience a reliability shortage, not to tell you precisely how much load shedding there might or might not be under a particular set of demands, supply, balance circumstances.

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So we use the PLEXOS WECC zonal dataset and the PLEXOS model in the work. We use a zonal model. So that's, right there, telling you this is also -- that adds a sort of more qualitative nature to the work. We didn't feel that there was a reason to strive for great precision in this work because, like I said, we're trying to tell you something qualitative. And so a zonal model was adequate.

We used the September 2022 data. So this is kind of the grid we have, not the grid we will have in 2032, as was in the Brattle study. And we were simulating a month of operation in the work. And the goal in this study was to simulate kind of an absolute worst case scenario to take the event that occurred in 2022 and go significantly further than that, because we actually don't think that's the worst case. That event was a situation where California was experiencing a pretty extreme heat wave, but other parts of the West were not; right? So there was available energy to move across seams into California to support the California grid.

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We simulate three cases that are sort of analogous to what we just saw. One that is a kind of small footprint, maybe analogous to, somewhat analogous to, the existing EDAM footprint. We didn't have PNM in it at the time. A case two that is sort of an expanded EDAM. And a case three that really is a West-wide market, where even the SPP, the region is currently committed to SPP, decide to come into a single market.

And we also simulate three levels of stress demand that are significantly -- that vary in size relative to the reported demand for the September 22 heat wave. We put some pretty strong assumptions into the model. And I want to emphasize, this is also where the directionality is really created, rather than a sort of real quantitative estimate of a reliability benefit. And the strong assumption we make is that there isn't electricity interchange between subregions.

So, of course, in the real world, subregions trade energy even during extreme events. They do that because of existing contracts. They do that for -- you know, on the day when resources are found and are available to move energy into the regions that are under stress. But what we're trying to do here is to sort of draw out of a power flow model what reliability impacts might be.

And so that's a strong assumption, I want to acknowledge that, but also maintain that we think that we can draw inferences about reliability, even given that strong assumption.

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So what do we find? We have two metrics that we use. One is hours at risk, which is the percentage of hours when a system operates in stress conditions. And that's really telling you something more about when the system is at a price across the market that is the value of lost load. And then a sort of more stringent metric, which is unserved energy, which indicates a portion of time when there's loss of load, where we have actual load shedding in the market in order to maintain balance on the system. And what we find quite clearly is that as you move toward a larger market footprint and you impose extreme stress on a system, all of these metrics for reliability improve; right?

So in the figure here, we have the worst-case stress event depicted and different sizes of a regional day-ahead market. And what you can see is that there are significant changes, both in hours at risk, so that's telling you something about prices across the market and the prevalence of very high day-ahead market prices, and then significant, significant decrease between especially the smaller EDAM footprint and a somewhat larger EDAM footprint in unserved load, unserved energy.

And so what we would emphasize about this work is that this should tell regulators, legislators that are considering potential, you know, governance changes to allow development of a regional market, that there is a significant reliability benefit here. It’s hard to precisely quantify what that is because we don’t have the tools to do that precise quantification.

However, given the tools that we have, we can see pretty clearly, as it shows, as shown in our analysis, shown in the Brattle analysis you just saw, that there are potentially significant benefits to the grid operator in California and across the West from greater regional market operation.

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So what have we shown? The study illustrates the potential reliability benefits that could be achieved as we move toward an expanded day-ahead market footprint in the West, and under stress conditions. I think that’s really important to emphasize. There are benefits that will accrue from an expanded EDAM if under average conditions, under conditions that occur during the spring and fall when curtailment is highest.

And then there are effects of a market footprint like the ones that we're contemplating in this study that will be more important during the hot summer evenings when the sun sets and we're managing net load under very difficult conditions. Larger footprints under the purview of a single electricity market create reliability benefits during those extreme hours.

Restructuring into a West-wide electricity market requires obviously resolution of multiple challenges that many of the people in this room have been working on for a long time, governance, cost allocation, stakeholder participation, attention to state policy goals. But one thing to bear in mind, even though it can be difficult to quantify, is that the reliability benefits, which are hard to price or to value but I think can be very significant, appear to be large from this kind of a change.

And I would just emphasize, you know, in closing that when I think about our state policy goals, the goal, the SB 100 goal, the AB 32, SB 32, AB 1279 goals, the thing I worry about the most is what might happen under one of these stress conditions. I worry, you know, observing what happened in Texas after hurricane -- or sorry, Winter Storm Elliott, I thought a lot about what if we had to load shed in the way that Texas, that ERCOT, was forced to load shed because of very difficult circumstances associated with extreme weather.

And I think in our context, it would be hard to avoid political consequences for especially the SB 100 goals. And that's an important reason, I would argue, to support these regional efforts, that we need to do everything we can to buttress our reliability so that we never have to have a conversation about why California's commitment to clean energy potentially threatens keeping the lights on.

Thank you very much. And I guess we'll take questions now.

MR. MCDERMOTT: Thanks, Michael.

I'll hand it to the Vice Chair to start with questions from the dais.

VICE CHAIR GUNDA: Thank you, Jake.

And John, thanks for your presentation.

And Dr. Wara, thank you for being here and your presentation.

So let me see. I want to first go to President Mainzer, and then Commissioner McAllister.

PRESIDENT MAINZER: Well, thanks. Well, both of you just put some, I think, really, really important information on the table. I really, really appreciate that.

And I was going to maybe respond in reverse order, first of all, to Michael. Appreciate your statement about, you know, sort of putting yourself in the position of the grid operator and thinking about the situation on a very, very intense, stressed day. And I think not only did -- your analysis and your intuition really ratifies the actual lived experience that we have of that illiquidity in the market and the day-ahead basis. And when you get into these stressed days, like September 2022, from the perspective of grid operation, you can literally feel the amount of reliability value that's being left on the table by not having that day-ahead optimization available to you.

And what happens is folks are holding on to capacity. There's less liquidity. You're more likely to have to declare an energy emergency alert or an EEA watch. And you have to wait until you get into that real-time market to really know what's going to show up. So I think you've really accurately characterized that.

That also fits in and segues because that real-time market that has been built over the last decade, you know, the WEIM, has actually created a significant amount of real-time liquidity; right? We tend not to have to be doing a lot of dialing for megawatts in real-time because that machine is actually optimizing the system quite effectively on that short-term basis.

And I think that really gets to John's point when he talks about the split case. I really appreciated it. And I think the Brattle work also, I think, very intellectually honest work as we typically see from Brattle, I think they've been able to capture a lot of the dynamics. But as John acknowledged, it's very difficult to try to quantify with the existing modeling tools or to characterize in a single hurdle rate the loss of efficiency you have from the degradation of the EIM footprint.

And so, in that split case, what's happening is you're effectively migrating entities who are currently in EIM out of EIM. And actually the case that's modeled there is roughly equivalent to the footprint for EIM that we saw back in probably, I think, in 2017. And if you go back and just look at the quantified EIM benefits back in 2017, they were about, for California, they were about $100 million a year, which is about $400 million per year less than what we just have seen now with everybody still in.

And so as John suggested, and I really appreciate that as he's acknowledged the difficulty of quantifying that kind of the real-time loss of efficiency and how efficient that seam might be, I think that's an area where some additional sensitivities are going to be helpful. And I would say we definitely look forward to supporting that in any way we can with some of the historical data and support the real-time field.

So I just wanted to thank you for that work. And I think the way that you have characterized the sort of intuition of the reliability benefits is a real value, while also acknowledging it's hard to put two or three decimal points on it. So thanks for the work. And hopefully going forward, we'll be doing less dialing for megawatts in the future. Thanks for your work. Really helpful.

COMMISSIONER MCALLISTER: So similar thoughts, although Elliot is always more articulate than I about this and through hard-won experience, obviously. So I really enjoyed both presentations. Thanks, John. Thanks, John. And thanks, Michael.

I guess just along the lines of reliability, you know, both your presentations, you know, I think they complement each other really well. You know, the difficulty of managing seams, and I think, John, you acknowledged, you know, repeatedly that that's an area of future work, and so, really appreciate that. I think we have to work hard to sort of scenario that out and sort of see how different levels of complexity or, you know, different levels of sort of barriers to navigate those seams that has cost implications and could change the analysis some.

But it also seems really related to reliability. Like if you do have, you know, a tempering down of cross-seam transfers, that limits your options for when you do have a stress event and you're going to have reliability implications. So it just seems really important to be able to quantify reliability. I mean, I heard both of you say, you know, it's really difficult. But what would a methodology look like to sort of begin to assign -- you know, I mean, production cost modeling does it in sort of dollar terms, just in terms of like pricing, you know, and sort of, okay, let's just count those dollars. But it seems like there's much more to reliability than just that.

And I guess I'm wondering if you've been thinking about, you know, what sort of creative or different approach might be to quantify the reliability costs that different scenarios might imply so that you could actually, you know, sort of incorporate those into these scenarios and we can look at those numbers?

MR. TSOUKALIS: I can take a quick pass at that. And then, Michael, I don't know if you have other thoughts?

One thing we've actually been testing here at Brattle and have been toying with is, right, how do we build in that hoarding behavior in the production cost simulations; right? That's basically what Michael described. And we see it all the time. And we hear it from clients all across the country is -- and we saw it in the Southeastern U.S. during Winter Storm Elliott; right? People just don’t want to sell to each other when these extreme events happen because they’re risk averse, right, you know, irrational or risk averse, whatever you want to call it.

But so we have -- I think there are ways to build it into production cost simulation. Basically, you know, we’ve been toying with the idea of like when supply cushion gets too tight in the market, we shut down trading in the model and there’s ways to do it. But I don’t think any of those tools are perfect yet. I don’t think anyone has a perfect tool to do this.

I think it’s always going to be about how do we just get, you know, incrementally closer to being able to quantify it. Because that hoarding behavior is not -- it can’t be described by an algorithm; right? It is, in that sense, it is not -- it’s disassociated from what I would call like a behavior you can describe in a program; right? It is human behavior. It is literally someone at a utility saying, I don’t want to sell you this power because I’m afraid to do so. How do you quantify fear; right? Like that’s what we’re trying to do here.

So that’s my thought, is we’ve been thinking about ways to build it into our production cost modeling to some degree to try to capture part of it. But I don’t think you’re ever going to get that perfect or at least, you know, maybe not in like I can see a way to get it perfect.

I don’t know, Michael, if you have thoughts on that, but --

DR. WARA: We thought a lot about this, as well. And I guess our conclusion, you know, one of the things we did not do, mainly because we’ve looked at the level of effort and thought that it would be more like someone’s PhD thesis than like something we could do in a timely way to be here today, would be to estimate the deviation from what a model like PLEXOS predicts, like, you know, relative to reality on these days where -- and try to develop a calibration for the deviation from an optimal dispatch. And, you know, that is an idea. I think it would take -- and then you could start to basically adjust hurdle rates within the models to reflect that deviation.

So, you know, and we toyed initially with the idea of just adjusting the hurdle rates, you know, across seams but that -- we didn’t have a way to estimate how big that adjustment should be. And we didn’t want to be just totally arbitrary.

So I think that the thing would be to say, look at September of ‘22, look at what the model says should happen on a day like that, and then start playing with hurdle rates at the seams until you get a result that looks more or less like what actually did happen. And that would be one approach. It's not the only one.

And I agree with John that what we're really trying to do here is simulate human behavior. And that's hard because the people matter. The relationships matter. The degree of risk aversion matters. And that's not usually what, you know, optimization algorithms are good at handling.

MR. TSOUKALIS: Yeah. One thing I'd add to that, too, is that the hurdle rate, this is exactly what we're thinking about and testing at Brattle and trying to get our heads around, is it's a hurdle rate that's a function of something else; right? Hurdle rates in models are usually very static; right? The hurdle rates we use to simulate seams are static. So in every hour of the year that we simulate, it's the same cost to trade across the seam.

But really what we're talking about here is a hurdle rate that rises exponentially under certain conditions on the system; right? So you have to have a hurdle rate that is a function of a million other things going on in the system. But maybe it could be a function of, you know, the supply cushion in the market. Maybe it could be a function of outages or whatever it is. But that’s really where this has to go to even start to get to it a little bit, is you have hurdle rates in the model that are functions of other things.

DR. WARA: I think the other challenge that we encountered there is we were thinking along exactly these lines, what should the shape of that curve be to adjust the hurdle rate? But then you also get into some pretty involved computational constraints with these models. And so it’s not so simple to have a dynamic hurdle rate that’s changing through a day as you’re optimizing. It gets quite involved computationally.

And that would be another piece of the PhD thesis, is figuring out how to get to a solution on that where we don’t need the entire Stanford cluster running the model.

VICE CHAIR GUNDA: Yeah, thank you. It was a great conversation.

President Reynolds?

PRESIDENT REYNOLDS: Sure. I just have a quick question. And I want to echo that last comment. This is a really great conversation. And I appreciate having both of you here to talk about two different approaches. And I also appreciate the descriptions of what went into the analysis and the uncertainties, the knowns and the unknowns. And it really helps us understand the results.

And so thank you for both of you for all this work on it. It's really helpful and will move the conversation forward.

I had just a fairly minor specific question for John on one of the slides that showed the arrows up and down on benefits to customers and environmental benefits. And there was a -- and the customer benefit, the arrow that went down, related to transmission. I think it was transmission rents. Could you walk us through that a little bit? I just was interested in hearing a little bit more about, you know, following, walking through where the dollars flow and how you get to the negative result for customers. Thank you.

MR. TSOUKALIS: Yeah, I should point out that that's kind of -- that slide illustrates typical directions, but it doesn't necessarily actually have to be negative. And in fact, some of our simulations in other areas have shown joining a market may actually increase your revenue from transmission. But typically we see a decline, so that's the reason for the arrow.

And the dynamic there is, you know, the whole premise behind these regional markets is that all of its members kind of donate transmission to be used to the market. And part of that donation is we're not going to charge you a fee to use our transmission on a short-term basis. So today, if someone wanted to sell power from

CAISO into NV Energy, you've got to pay the wheel-out fee from CAISO. But on a day-ahead basis; right? In the EDAM, you wouldn't pay that wheel out fee. So that revenue that CAISO collects for that today is not going to be collected in EDAM.

There is a mechanism in the EDAM, the TRR settlement, to make transmission owners whole, but there's also a fee to pay into that. So for certain entities, that may turn out to be a loss on a net basis. Especially, you know, if you're someone today that is selling a lot of the third-party transmission on a bilateral basis for other entities to execute, you know, transactions, you may lose some of that revenue when you move into a market.

So does that answer the question? Does that give you the explanation?

PRESIDENT REYNOLDS: Yeah, that was great. I just wanted everyone to hear a little bit more detail. Thank you.

MR. TSOUKALIS: Great.

VICE CHAIR GUNDA: Commissioner Houck?

COMMISSIONER HOUCK: I just wanted to thank you for the presentations and all the work in detail. There's a lot here. This is really informative. And I don't think I have any additional questions that I want to ask right now, but again, I really appreciate all of the work on this.

VICE CHAIR GUNDA: Great. So, yeah, I have just a couple of questions.

But before we go into that, John and Dr. Wara, just really thank you for your presentations. I think it just kind of -- to take it from you, Dr. Wara, much of this information could really provide us directional insight into the potential magnitudes of different benefits and risks. And, you know, it's a good starting point to then kind of continue to think through how to make the quantification better and better.

So, John, maybe kind of starting with you, first of all, big thanks to you and your team. We've put you through some intense time there trying to get this work done before the workshop after the Step 2 was completed, and we had some insight into, you know, what the Step 2 proposal was. And really thank you to you and your staff for working through the holidays to get us, you know, results to kind of start thinking about what next to do.

And I also want to recognize that this is going to be a phased approach. And the Energy Commission is going to continue to work with Brattle on thinking through the input from this workshop and enhancing the results as we move our work further.

So, John, maybe one question is, you know, we discussed early on to try and keep the methodology and the constitution of the analysis as consistent as possible with the rest of the studies that you have done across the West, you know, before we deviate from that. Could you kind of just share, you know, as you look through the results of all the work that Brattle has done, similarities, differences that you've observed, any insights that you might want to provide here?

MR. TSOUKALIS: Yeah, I do think one consistent takeaway is, you know, as I said at the beginning, larger and more diverse footprint generally means more benefits. You know, I can't think of a specific instance where that's not the case.

So, you know, as you think about additional entities joining EDAM, you know, the ones that bring, you know, transmission connectivity and diverse resource mix to the pool are the ones that are likely going to drive, you know, increased benefits for California customers.

So that's, I would think, maybe the broadest takeaway across all the studies we've done for various entities. So, yeah, maybe I'll leave it there. I think that's probably the headline of all of them.

VICE CHAIR GUNDA: Thank you, John. And maybe this is a question for Dr. Wara, and John, if you want to take a shot or two.

Just as we kind of think through the economic benefits and the reliability benefits, how do each of you see others' work; right? Like, you know, and what do you think is the story of the narrative around markets that your studies show? And, you know, what do we have to do to really make sure that the work we are doing has that objective transparency for policymakers to really kind of lean in and say, look, this analysis is helpful, useful, and we can rely on?

DR. WARA: Well, I think of the Brattle work as some of the best work simulating markets and the actual operation of the markets. We've done a number of calls with the team at Brattle, and they've been very helpful in explaining their work to us. And, you know, it's hard to simulate all of the detail in the West and the complexity and the market structure that exists today. And then to layer on top of that, you know, changes to that market structure. And so I look at the Brattle work as being some of the most credible for what the economic costs and benefits might be from a change like this.

And so seeing the results today and thinking about the broader context in California where affordability is job number one, to me, I look at this and I think this is an important piece of the puzzle for solving that problem. Like we need to put downward pressure on rates, we need to bend the curve. Wildfires are not going away. The need to invest in utility safety is not going away.

So this is one thing that California could do among a slew of other, you know, basket of things that we need to do and manage to do collectively to manage affordability. And I think that the Brattle work today really shows that this could be an important piece of that puzzle. And that makes me, as a person who works in California energy policy, hopeful because we need lots of pieces like this. There's not going to be one silver bullet. And so that would be one sort of big take-home I would have.

And then it's encouraging to see that a very different approach to thinking about the reliability benefit comes up with some similar, you know, qualitative answers. I would have been surprised and a little depressed if their analysis using a different method said, nah, not much benefit. But 25 gigawatts of additional capacity is a substantial benefit on a hard day.

MR. TSOUKALIS: Yeah, I would say the thing that struck me the most from your presentation is you said that you thought, you know, these kind of reliability benefits during extreme events may be just as important, if not more important, than the economic benefits. And I agree with that. And so I'm really glad to see that Michael and your team at Stanford are thinking about how can we try to put some numbers on it.

And, yeah, I look forward to more conversations about that in the future with you and others, because that is that -- I think you're right. That's exactly right. You know, people, especially you talked about the political ramifications of lights going out. You know, we see that every time lights go out for customers, there are ramifications in one way or another. And the cost of that is just grossly underestimated in kind of every model. You know, any type of value of loss load estimate, I think, is grossly understating the real value there.

So I'm really, you know, glad to see that you're thinking about how do we try to put numbers on this reliability benefit, specifically in those kind of stressed conditions. So I was excited to see the work. Just like you, I hadn't seen it until you presented it just now. So it was great to get a look at that.

VICE CHAIR GUNDA: Great. Thank you. So I think, John, we'll have a lot of comments from this workshop that, you know, would be helpful in designing the next phase of the work and continuing to sharpen some of the quantitative numbers.

You know, for the record, I haven't finished my PhD. It's been about three months away for 10 years now from completion. So I may take you up on, you know, trying to understand, you know, the hurdle rates of non-linearity. But, yeah, three months.

So, but, anyways, I just want to send a big sense of gratitude to both of you and your teams for the work and look forward to continuing work on that.

MR. TSOUKALIS: Thank you.

MR. MCDERMOTT: Thank you, Vice Chair.

We'll do about five minutes of questions based on what we've received in the chat on Zoom and in-person.

So for John, this comes from someone in the room. "Did Brattle look at impacts to other balancing authorities? If yes, does any balancing authority have lower costs on the split market compared to the expanded EDAM scenario?"

MR. TSOUKALIS: Good question. We didn't look at anyone outside of California in this study. So we haven't done that yet. Again, if that's something the CEC wants us to take a look at, we are happy to do that, but -- and we can do that with the cases we have simulated, but we haven't done that yet.

MR. MCDERMOTT: And then I think there's a related follow-up from a different person on the Zoom, which is, "Are those benefits to California at the expense of the other member states?" So can you talk a little bit about what the numbers say or don't say about benefits to other folks in the West?

MR. TSOUKALIS: Yeah, that's a great question, and we get that a lot in these market studies. I think the key point here is market benefits, it's not a zero-sum game. It's exactly the opposite; right? It's a compounding game where the more one entity benefits, the more likely its neighbor will benefit; right?

Sono, there is no -- we've seen -- I can't think of an example in the kind of dozens of market benefit studies we've done over the last 10 years where that type of dynamic exists, where one entity's benefit was another person's loss. You know, there's this common misconception that markets only help folks who are net sellers, and so if you're a net buyer, you don't benefit. That's not true. That's exactly the opposite. If you're able to turn off your expensive resources and buy cheap power on the market, you're benefiting your customers by doing that.

So, it's not -- again, we haven't looked at any benefit metrics for folks outside of California, but I have no reason to believe that there would be cost increases outside of California from an expanded market or any of these markets.

MR. MCDERMOTT: Thanks, John.

I'll turn to Michael for a clarifying question on the Stanford study. It’s on the assumptions. “So do your reliability results demonstrate the benefits of just long-term generation planning, or do you also need to assume expanded access to transmission planning to get the results, meaning, are you studying the benefits of an RO on its own, or do we need an RTO to get the results shown?”

DR. WARA: We specifically did not include the kinds of things that would accrue to an RTO, because we don’t view that as something that’s under consideration in the West right now.

So this is the -- the way I think of this is, I think Don Rumsfeld might have said this at some point, you know, you go to war with the army you have, not the army you’d like to have. And that is the job of the grid operator on the day. They take the resources they have, not the ones they’d like. And that’s both true of generation and transmission.

MR. MCDERMOTT: Thank you, Michael. I’ll do maybe one more for John before we move to public comments.

So the slides, John, that you presented, they’re focused on, you know, the footprint and the operations of EDAM, indicating that emissions go up in the rest of the West under the expanded EDAM and split market cases concerning. Would this trend be the same, or would there be a net emissions reduction when we shift from EDAM to a sort of long-term market where there’s more of a focus on expanded resource sharing of new generation?

MR. TSOUKALIS: Well, I’m not sure what kind of long-term market is envisioned there or what -- you know, yeah, so I’m not sure I can answer that question directly.

But what I will say is I’ll go back to what I said in my presentation, which is that, you know, emissions reductions are ultimately going to be driven by, you know, resource investment decisions, retirements and building of new assets that don’t emit. Markets can help by picking the more efficient assets and re-dispatching away from expensive things, which is correlated to emissions, but it’s not the same thing as emissions.

So I’d go back to that answer. I think if we’re talking about a long-term market in that question that, you know, captures the environmental benefit of lower-emitting or non-emitting resources and therefore investment in those go up, then sure. But I’m not sure what kind of long-term market is envisioned there.

MR. MCDERMOTT: Understood.

I think we can move into the public comment, Vice Chair. Sure. Yep, absolutely. Yeah. So a few more questions that we can kind of go through.

I think this could be both for Michael and for John. So kind of talking about these stress conditions;

right? "So can Michael and John talk about the potential for refining our current state of the art in modeling and assessing the value of full Western grid optimization during stress conditions?" So I guess saying this a different way in kind of my own words, you know, what's kind of the next frontier for modeling, especially under these sorts of stress conditions?

DR. WARA: Well, I'd say, you know, we talked a little bit about this; right? I mean, I think having dynamic hurdle rates across seams would be one approach. That is computationally intensive, you know, and these models are already not super efficient at solving. But I think that would be the next frontier.

And then calibrating that, how those -- you know, essentially, that's like transaction costs. How much does it cost to go to the market? And if on a very hot summer afternoon when it's -- like if you're in Las Vegas and it's 120 degrees outside, you might think it's very expensive to go to the market, to walk down the street to the supermarket. But on a day when it's like today in Las Vegas, where it's maybe 50 degrees outside, you wouldn't think twice about throwing a coat and walk to the market. And that's what we're trying to measure is that transaction cost.

And so I think there's two sides to this. One is building the model that can actually incorporate variable hurdle rates. And the other is measuring the variability, measuring, trying to develop quantitative estimates of the impact of human behavior on the operation of the electric system. And I think there are clever ways to do that, but it would take time and effort.

MR. TSOUKALIS: Yeah, I would echo that, just basically what we talked about before; right? It's about trying to create a dynamic transaction cost or friction costs. And I think that's kind of the next frontier. And that's what we're thinking about at Brattle. Not only is it computationally difficult and time consuming, but it also introduces, I think, then potentially, you know, another layer of assumptions that may drive outcomes; right? So the function that you assume, you know, drives the relationship between hurdle rate and shortage conditions or whatever on the grid. You know, that's going to be assumption based.

And so you've got to -- the calibration part of it that you were talking about is really important. And every event is different, so calibrating it is really tough. It's not like calibrating it to a full historic year. You've got to calibrate it to specific events that have happened.

So it's a really challenging, challenging topic.

But it is a fruitful topic for future dissertations and just thinking. So hopefully, we'll make progress on that. But, yeah, I think that's kind of where things are headed.

MR. MCDERMOTT: Great. A couple more I think I can tick through very quickly.

One is on coal plants. So, John, can you just talk a little bit about what would prevent coal plants from selling their power at a loss to keep running and forcing renewables to curtail?

MR. TSOUKALIS: So there is -- I guess, you know, we see that in certain other markets, right, where coal plants self-schedule into a market, and so they effectively become a price taker. But I will say that that, in the eastern U.S., particularly SPP, MISO, PJM, where we have a lot of coal resources, that behavior has declined over time as the economic consequences of it become real to the folks who operate those coal plants. You know, usually that type of behavior happens if a coal plant has a long-term contract for coal, a take or pay contract. And so it basically, you know, it's economically rational to offer your resource in as a price taker because you need to use the coal. But as contract structures have changed and people get more comfortable with markets, you know, over longer periods of membership, we've seen the amount of self-scheduled coal decline in markets.

So I think you might see some of that kind of stickiness as you first transition to a market. But over time, like that is going to be tremendously costly to that coal operator, right, just self-scheduling in to burn coal and take the price in the market, even if -- you know, that's going to end up hurting that entity a lot. So regulators, if it's a regulated entity, regulators will start to notice that. If it's not a regulated entity, customers will start to notice it.

So I think the economic kind of driving force there is that it will push people to think about it more rationally and be more price responsive.

MR. MCDERMOTT: Thank you, John. I think with that, we will now head into public comment. I do want to just thank both Michael and John for taking the time to talk to us today. Really appreciate it.

MS. NAKAGAWA: All right. Mona Badie, our Public Advisor for the Energy Commission, is going to begin the public comment period now.

MS. BADIE: Good afternoon, everyone. The Commission, the CEC, and its partners from today's event welcome public comment at this time. And we're going to start with folks in the room, and then we're going to transition over to Zoom, online and by phone. And we've asked folks to use the blue cards, and I'll use that one first, and then we'll also take some raised hands in the room.

And for the in-person folks, if you could please come up to this podium and make sure the green light on the mic that's on the podium is on before speaking.

And we are also asking for folks to state and spell their name for the court reporter. There's going to be a timer on the screen because we're asking for comments to be three minutes or less.

And the first commenter will be Meghan Loper. If you could please approach the podium.

VICE CHAIR GUNDA: As we have the commenter coming up, I think there's a number of questions, Jake, that we got. We can't obviously answer all of this Q&A. Love for us to kind of, you know, have a record of them and see if we can communicate back with answers to those questions.

MR. MCDERMOTT: Sounds great. Thank you, Vice Chair.

MS. LOPER: Good afternoon. My name is Meghan Loper. It's M-E-G-H-A-N L-O-P-E-R. I would like to make my comments this afternoon on behalf of my client, Kathleen Staks, the executive director of Western Freedom and co-chair of the Pathways Launch Committee.

Kathleen's very sorry that she couldn't be with you in-person this afternoon, but she was listening earlier today. She’s actually presenting about Pathways at another conference today. But she did want to be sure to thank the CEC for hosting this workshop, particularly Vice Chair Gunda, President Reynolds, Commissioner McAllister, Commissioner Houck, for your engagement on the Pathways Initiative from the beginning.

Kathleen also wanted to be sure to thank the panelists and facilitators, many of whom were also Launch Committee participants, for their time and efforts over the last several months to make this effort a reality. And as you heard emphasized by several of the speakers today, there was countless hours spent together brainstorming, negotiating, laughing. And Kathleen really did want to express her gratitude to all that had been involved.

It’s very exciting to see the culmination of this work of a very diverse set of stakeholders, including the state regulators, the consumer advocates, large customers, labor, environmental organizations, investor-owned utilities, public power, and others that presented today.

It’s also really encouraging to hear the results from the last panelists, both from the Brattle Group and the reliability study from the Woods Institute for the Environment at Stanford. You know, hearing that the positive benefits for affordability, reliability, and climate for California as the result of this potential expansion of the day-ahead market and the continued momentum from Pathways is exciting.

It's rare to have an effort that touches on three priority areas for California. And we look forward to continuing to work with those stakeholders, including those that participated today, those who are interested in joining the conversation moving forward, and of course, the members of the legislature to fully achieve these benefits, so thank you very much.

MS. BADIE: Thank you.

And if there's no other commenters in the room, we're going to transition over to Zoom. So if you're joining us by Zoom online, you'll use the raise-hand feature on your screen. It looks like an open palm. And if you're joining by phone, you'll press star nine. That will let us know you'd like to comment.

And the first commenter we have, Nancy Rader, I'm going to open your line. You'll unmute on your end. We're asking for comments to be three minutes or less. And just a reminder to please state and spell your name for the record before beginning.

MS. RADER: Uh-oh. There we go. Good afternoon. My name is Nancy Rader, N-A-N-C-Y R-A-D-E-R, with the California Wind Energy Association.

CalWEA is supportive of the Pathways Initiative, which is an elegant solution to various concerns related to creating a West-wide RTO. And we really appreciate the enormous efforts that have gone into it. But in the fine-tuning department, we wanted to caution that the state may need to revise its RPS eligibility rules pertaining to RPS product content, Category 1, which was very carefully crafted in the context of our current market situation. It shows that all EM resources are in a pool and won't be tracked with the eTags that we now rely on to track PCC1 renewables.

So we may need to adjust the RPS eligibility rules to ensure that we continue to require that PCC1 renewables outside of the California's balancing authority areas actually deliver to those entities in a way that can be tracked. We'll be putting our ideas forward for how we think we can accomplish that.

Thank you.

MS. BADIE: Thank you.

Next, we're going to hear from Fred Heutte. Apologies if I've misstated your name. And if someone could help me open Fred's line? I seem to have lost my permissions.

Fred, just a reminder to please state and spell your name for the record. And we're asking for comments to be three minutes or less. There will be a timer on the screen.

MR. HEUTTE: Hi there. First, just to make sure you can hear me?

MS. BADIE: Yes.

MR. HEUTTE: Okay, thanks. It's Fred Heutte, spelled H-E-U-T-T-E. I'm in Portland and representing the Northwest Energy Coalition.

This is a really good session today. We really appreciate the presentation. It's a very thoughtful discussion.

A couple comments. I'm the one who asked about, you know, how we advance the state-of-the-art -- your assessment? And I just want to mention one thought, which is, you know, we do different kinds of modeling for different purposes. Not everything will need a fully -- you know, the full nine yards of a big production cost or power flow modeling approach.

One modeling approach I think might help address the kind of scarcity situation in stress conditions, there's work that's been done at Iowa State over the last decade with Jim Mccauley, Lee Tesfatsion, and their students and colleagues. They did some studies of MISO that are quite interesting in looking at market behavior, you know, kind of our conventional view of that. And then with an agent-based approach, you get some more nuances, especially on things like, you know, kind of short-run behavior. That won't be enough to answer all the detailed questions we have. But I just want to suggest that maybe there are some new options for looking at these questions.

The second thing, again, building on the stress condition issue is we've had, as has been mentioned, we've had multiple near misses in the last several years. The July 9th, 2021, Bootleg Fire, you know, happened here in Oregon. But that event was actually a little worse than was described.

Most of the AC intertie was shut down because the fire actually went under all three of the AC lines. Each of them have a separate owner, but they're managed as a group by Bonneville. So they relayed out over 4,000 megawatts. And another 1,500 megawatts, half of the DC intertie, also shut down to prevent system instability at a time when it was actually quite hot in California. And my recollection is that there was a brief period where CAISO, I think CAISO at least, went to an Emergency Level 2. So we were really close in that event.

And again, just a year ago in the big freeze up here in the Northwest, had it not been for the Energy Imbalance Market at a couple of key moments during our event up here, the lights -- we had big distribution outages here in Portland and the Willamette Valley, just from wind and ice loading and so forth. But we were so close to losing the grid in the Northwest. There were also constraints on gas delivery at a couple of points in our system. And we have very high demand. Had it not been for the Western Energy Imbalance Market, we would have had major loss of load in this region without that in a time when the weather was 20 degrees below norm and really, really challenging conditions.

So the stakes here are, I just want to underscore, for all of us, not just for California, the stakes are really high.

So I just think, again, reflecting on all the great presentations today and discussion, I've been thinking a lot recently, you know, what can I do? But I think even more, my sense is now the real question is: What can we do together? And I think that the development of the EIM, now the EDAM, and the Pathways Initiative gives us a really good place to start building that kind of future where we really do work together in the West.

Thank you.

MS. BADIE: Thank you.

And I think we have another commenter in the room before we go back to Zoom. If you can approach the podium? And then just a reminder to please state and spell your name for the record.

MR. COLVIN: Hi, good afternoon. Sorry, I wasn't able to get my blue card in on time, so apologies about that. My name is Michael Colvin, C-O-L-V, like in Victor, -I-N. I'm with the Environmental Defense Fund.

I first just wanted to commend what a really fantastic session this was today. It was really great. Seeing that we've been here all day, I want to make certain that I'm brief, So I just wanted to make three really quick points.

First, I wanted to emphasize that, at least in my opinion, the public protections that were talked about this morning that are going to be in the Pathways market are amongst the strongest of any organized energy market in the country. We've heard some discussion back and forth of ways that they could still be further improved and I'm all for trying to figure out how we have that conversation. But I wanted to at least recognize the proposal and the consensus that was brought forward is really kind of a gold standard. And we should be thinking of that as our floor, not our ceiling.

Second, I wanted to really shout out how incredible the Brattle analysis was for really trying to advance some of the conversation, especially on some of the emissions numbers. This is hard to figure out; right? And it's hard to get directionally right, but I think there's some really great stuff there.

I'd like to offer up that they were just presenting CO2 emissions numbers and they weren't thinking about the local emission air quality impacts. They weren't thinking of all the other GHG emissions that were out there. They just sort of did a quick CO2 equivalent. We'll make a public comment -- we'll make a written comment on this as well, but I think we should be thinking through what are the regional impacts of all emissions.

And last but not least, and this might be the most sophomoric thing you've heard all day, but the Energy Imbalance Market and the day-ahead market are going to be fantastic tools and are fantastic tools for optimizing existing generation and the existing market. But some of the conversation that we're having today is about how do we optimize new generation built and think about how are we going to expand that and do the resource sharing that we need to do?

And I think there's a lot of power in thinking through the scenario analysis that the IEPR is going to have to do anyways, combined with what's going on in the IRP, of what are the new generation resources that we want and why and think through, how do we have a new market to build the new generation for new resources that we don't have on the system yet, things like what the central procurement entity was thinking through? And how do we pair the megawatts for offshore wind or long duration storage or other things with the Pathways market to open up those resources to the rest of the West?

And so I think that there is those two conversations happening in parallel right now. And I think eventually we need to think through, how do we stack them in the right way?

With that, I thank you so much for your time.

MS. BADIE: Thank you.

And next, we will go back to Zoom and hear from Brett Garrett.

Brett, we're going to open your line. Please unmute on your end. And just a reminder, we're asking for comments to be three minutes or less, there will be a timer on the screen, and to please state and spell your name before beginning. Brett, your line should be open.

MR. GARRETT: Sorry, I thought I unmuted myself, but I just -- can you hear me now?

MS. BADIE: Yes. Thank you.

MR. GARRETT: Okay. Now I'm good. Okay. Yeah, I'm Brett Garrett, B-R-E-T-T G-A-R-R-E-T-T. I'm in Santa Cruz, California.

I'm very concerned that Pathways will

dramatically reduce the ability of California to control its energy/our energy future. I'm concerned that the new regional organization will sidestep the public interest projections that were put into place in California after the Enron energy scandal and the energy crisis that occurred in 2000 and 2001.

I am concerned that California could be forced to abandon our clean energy goals and we could be forced to purchase coal from states like Wyoming, being in, you know, in this cohort of states that includes coal states.

A regionalized ISO is very vulnerable. Your good intentions could be overruled by Trump's FERC with no accountability to our governor and legislature or CPUC. Labor has often opposed regionalization because it undermines requirements to build renewable energy infrastructure here in California, not in other states where it might be cheaper to build.

Please don't force California to pay for transmission infrastructure throughout the West. Don't cede California's energy governance to the Trump-controlled FERC or to coal-producing states. Don't allow the CAISO algorithm to run rampant, possibly increasing rates without the existing protections.

I believe there's no need for CAISO regionalization. California already trades electricity with other states, but currently we do so subject to California regulatory control. Once we give up that control, new projects will be built in other states where it’s cheaper, increasing the need for more transmission lines, increasing the risk of wildfires, such as the current disaster in Los Angeles.

So I’m basically opposed to the Pathways Initiative as I understand it. Any changes in our system must take strong steps to maintain California’s existing protections that were established in the wake of the Enron scandal. For example, incorporation in California, not Delaware. It’s important to comply with California’s public interest requirements for not-for-profit organizations. We need transparency and accountability, appointment of the board by the California governor and confirmation by the California State Senate. Accountability to California end users and ratepayers, the obligation to serve, accountability to uphold California energy and environmental policies.

I’ll mention that I’m really excited about the prospects for distributed battery resources, especially with SB 59 requiring electric vehicles to be equipped for bidirectional charging. Electric cars will probably have 10 times the amount of batteries that the CEC has said we need.

Distributed energy storage where people are. Build resources on rooftops and parking lots. Please don't promote a system that increases California's reliance on transmission infrastructure in other states. And please don't put California at risk for another Enron type scandal.

Thank you.

MS. BADIE: Thank you.

Next, we're going to hear from Scott Ranzal. Scott, we're going to open your line. Another reminder, we're asking for comments to be three minutes or less. There will be a timer on the screen. And to please state and spell your name for our court reporter before beginning.

MR. RANZAL: Great. Just want to make sure you can hear me before I start?

MS. BADIE: Yes. Thank you.

MR. RANZAL: Excellent. My name is Scott Ranzal, Scott R-A-N-Z-A-L. I am with Pacific Gas and Electric Company that serves Northern and Central California. I am also a member of the Launch Committee and the now Formation Committee that exists for the pathway initiative.

I wanted to first start, like many before me, and say thank you, not only to the leaders from CARB, CAISO, CPUC and the CEC that joined us today, but the many people that have dedicated an enormous amount of time to seeing this effort get this far.

I want to encourage. I was very encouraged by the results both from the Brattle and the Stanford study. They support what we already believed to be outcomes that we thought would take shape and have the ability to help the West move itself forward.

I will comment that one of the things that was brought up today is this idea of step-by-step incremental movement which has been a very productive process for the West, not only in logically moving forward and allowing the states and the markets to achieve what they need, but also to establish and build a trusting culture that allows us to move forward as a Western United States to serve all the customers across the West to protect the state's rights and authorities that already exist to ensure that consumers as well as public interests are also protected. These were front most of importance to many on the Launch Committee and continue to be. And I look forward to the continued progress and effort moving forward.

Thank you.

MS. BADIE: And I'm not seeing any other raised hands.

Just another reminder that written comments are also welcome. There's instructions in the notice for today's event of how to submit. And the deadline is February 7th.

I'm going to hand the floor back to Vice Chair.

VICE CHAIR GUNDA: Thank you, Mona.

And thank you to all the commentators, Meghan, Nancy, Fred, and Brett, Scott and Michael, you know, and really appreciate, you know, the comments, both in terms of, you know, the support and opportunity, but also concerns. And I think that's an important part of having a public discourse and thinking that through.

I also want to just take a minute to think the CEC staff. You know, Sandra, thank you, from the IEPR team, Mona, Jake here who has been a big part of the conversation today, and David in the back there. So thank you so much for all the work you've done to set this, set the table.

I also want to thank Jane Park from our office who has been a part of the regional work over the last year. Jane, thank you. People like you more than me, so that's really helpful to have you in our office.

And just all the panelists who have taken the time today to be a part of this conversation and help us move the overall conversation forward, and the dais here, thank you, everybody.

I look forward to getting comments. Part of the reason we held the workshop is to showcase the progress, promote awareness of what's happening, you know, share the preliminary results of the Brattle study. Really look forward to the input so we can make the study better, but also any other feedback we have as we go into this year.

I also want to call out our Chief Counsel's Office who has been an important part of this conversation in the back, and all the Launch Committee members.

So with that, I will pass it back to you, Sandra, for any closing things.

MS. NAKAGAWA: That's all we have. Thank you so much.

Again, the deadline to submit public comment is February 7th at 5:00 p.m. And instructions to do so can be found on the workshop notice.

Thank you, everyone.

(The workshop adjourned at 4:02 p.m.)

CERTIFICATE OF REPORTER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 10th day of March, 2025.

Martha L. Nelson

MARTHA L. NELSON, CERT**367

CERTIFICATE OF TRANSCRIBER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

I certify that the foregoing is a correct transcript, to the best of my ability, from the electronic sound recording of the proceedings in the above-entitled matter.

Martha L. Nelson

MARTHA L. NELSON, CERT**367

March 10, 2025