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BEFORE THE

CALIFORNIA ENERGY COMMISSION

In the Matter of:	)	Docket No. 17-IEPR-07
	)	
2017 Integrated Energy Policy Report (*2017 IEPR*)	)	Integrated Resource Planning

Joint Agency Workshop on 2030
Greenhouse Gas Emission Reduction Targets
for Integrated Resource Plan

CALIFORNIA ENERGY COMMISSION
HEARING ROOM A, 1516 NINTH STREET
ART ROSENFIELD HEARING ROOM
SACRAMENTO, CALIFORNIA

THURSDAY, FEBRUARY 23, 2017
9:30 A.M.

Reported by:
Kent Odell

APPEARANCES

CEC Staff Present
Heather Raitt, CEC, IEPR Program Manager
Robert B. Weisenmiller, CEC
Karen Douglas, Commissioner, CEC
Janea A. Scott, Commissioner, CEC
Liane Randolph, Commissioner, CEC
Jason Ortego, CPUC
Garry O'Neill-Mariscal, CEC
Michael Sokol, CEC

Also Present

Michael Picker, President, CPUC
Rajinder Sahota, CARB
Jason Houck, CPUC
Susie Belrin, NCPA
Ranya DeRivi, SCPPA
Shana Lazerow, Communities for a Better Environment
Ray Williams, PG&E
James Barner, L.A. DWP
Justin Wynne, CMUA
Adam Smith, SCE
Nick Zettel, REU
Tim Tutt, SMUD
Kevin Woodruff, The Utility Reform Network
Dawn Weisz, Marin Clean Energy

I N D E X

I N D E X

P R O C E E D I N G S

February 23, 2017 9:35 a.m.

MS. RAITT: Good morning. Good morning and welcome to today's Joint Agency Workshop on the 2030 Greenhouse Gas Emission Reduction Targets for the Integrated Resource Planning. It's part of the IEPR Proceeding for 2017. I'm Heather Raitt, the Program Manager for the IEPR.

Just, I note we still have some seats available today, but if we do get full there is overflow seating in the -- across the atrium in the Imbrecht Hearing Room. I'll quickly go over some housekeeping items.

We have restrooms outside the doors. If there's an emergency and you need to evacuate the building, please follow staff to Roosevelt Park, which is across the street diagonal to the building. Please be aware that today's Workshop is being broadcast through our WebEx Conferencing System, and that it is being recorded.

We'll post an audio recording in a couple days and we will also have a written transcript that'll be posted in about a month. We will have an opportunity at the end of the Workshop today for public comments, and we're limiting comments to three minutes per

person, please.

For those in the room who'd like to make comments, please fill out a blue card, and you can give it to me or the Public Adviser who's in the back of the room. When it's your time to speak we'll call on you and ask you to come to the center podium to make your comments in the microphone.

It's also helpful to give the Court Reporter your business card. For WebEx participants, you can use the raise your hand function in WebEx to tell our coordinator that you'd like to make a comment during the public comment period, and then we'll either relay your comment or open a line at the appropriate time. And we'll take the phone-in participants only at the end.

And for anyone who is in the Imbrecht Hearing Room during the public comment period, we'll ask that you do come into here to make comments. The Imbrecht Hearing Room is only for listening to the Workshop and seeing the presentations.

Materials for this meeting are available on our website and also at the entrance to the hearing room. Preliminary comments are requested February 21st, and final comments we're requesting by March 9th, and all written comments will be part of the public

record for this IEPR Proceeding.

The notice to this Workshop provides instructions for how to submit comments, and with that I'll turn it over to the Commissioner for opening remarks. Thank you.

CHAIRMAN WEISENMILLER: Good morning. Chair Weisenmiller. I'd like to thank everyone for coming today and their participation. I would remind everyone, I think the Governor's terminology is that climate change is the existential threat to us at this stage.

And obviously, one way to deal with that is decarbonization of our society, and basically, the ARB through the Scoping Plan has been struggling with how to basically come up with a plan to, between now and '20, start this movement to decarbonize our economy.

And as part of that they're coming up with allocations. They have a draft at this point -- certainly, we recommend everyone's participation there -- but a draft that goes through the allocations across our various sectors.

Today, we're looking at the implications on the power side, and certainly welcome the participation of the ARB and the PUC. The challenge for the PUC and the Energy Commission is, given the targets for the

power sector, how are we going to get there by 2030.

And the way we're doing it in techno speak is Integrated Resource Planning, and certainly, what we need to come up with is not just a target for the power sector, but then allocate that between the IOUs, which are regulated by the PUC, and the PUC, and the POUs, which are regulated, although in a much different fashion by the Energy Commission.

And so in issue is what's the target. What's the allocation between the responsibility of the two agencies, and then ultimately, we're going to have to look at the allocation among the IOUs, CCAs, all the various power entities in the state, and come up with the plans on how between now and 2030 they're going to meet our goals.

So again, it's a significant undertaking, but very, very critical to the state, and I'm sure as we go into it we're going to find all kinds of issues on accounting and everything else as we try to come up with the optimal way to make these reductions. Mr. Picker.

PRESIDENT PICKER: I think this is a very primary point of discussion for the three agencies who are concerned with the Governor's goals around reducing greenhouse gas emissions in California. We've

patiently been rebuilding the CPUC as the agency that provides the infrastructure that helps us to drive carbon out of California's economy.

In that challenge we will have to address the fact that the electric industries are roughly 20 percent of the carbon emissions in California's economy. Use of gas in buildings and industry, for example, for heating and cooking in people's homes, is 30 percent, but 40 percent of the carbon emissions here in the State of California come from transportation.

So from that the importance of today's discussion is that our first choice of fuel in these industries will rapidly become clean electricity, clean electricity for transportation, clean electricity for meeting people's needs in buildings and industry and that all starts with a number.

We need that number to focus on which infrastructure is primary to the task. We need that number to figure out how we use all of the technologies that are tactics. Renewables are themselves not a goal. They are simply a tool that we use to drive down carbon in the electricity industry so that we can provide that clean fuel in these other industries.

How do we actually make it work? What are the best choices to have a reliable system that actually

provides that clean, electric fuel to help replace the use of carbon driven fuels in other industries? And how do we actually determine cost-effectiveness?

Without that number we can't get started. I don't think that the challenge is to litigate this forever. I think the challenge for us is to decide the adequacy of the data before us to actually make a decision. So I look forward to your comments today. Thank you.

COMMISSIONER RANDOLPH: Thank you. I'm Liane Randolph, from the CPUC, and I just wanted to follow on Chairman Weisenmiller and President Picker's comments by talking a little bit about process. We have been asking a lot of our participants in the IRP process and the Scoping Plan.

Y'all have put in a tremendous amount of work and will continue to put in a tremendous amount of work in helping us work through these challenging issues. The three agencies, the PUC, the CEC and ARB, have been working very closely to try to define the right process to come up with these targets.

We need to coordinate in a manner that leverages our unique expertise in our respective jurisdictions. And so it's been challenging working through that process, but we're making some good

progress and this Workshop today I think will move us quite along the way of getting to the point where we are able to give more specific guidance about our targets and how we're going to get there.

Before we can define the targets or the rules that apply to specific entities, we need to develop an understanding about what planning targets are appropriate for the electric sector as a whole. And so the goal of this particular Workshop is to help us explore what targets in the IRP are reasonable for the electric sector over time.

And so we have this -- as you look at the Agenda we have it kind of broken up into two key questions: What electric sector greenhouse gas planning targets should serve as the basis for our IRP processes, and, how should the PUC and CEC divide up the sector targets as we each work through our respective IRP process for our regulated entities.

So we appreciate your work and diligence and participation in this Workshop and look forward to the discussion.

CHAIRMAN WEISENMILLER: Thank you.

MS. RAITT: Great. So our first speaker is Rajinder Sahota, from the California Air Resources Board.

MS. SAHOTA: Good morning, Chair Weisenmiller, Commissioners, President Picker. I just want to thank CPUC and CEC for inviting us to be here this morning and participate in this Workshop. I'm here representing ARB. I know a lot of the folks in the room.

We've been working on the Scoping Plan together, or the Cap-and-Trade Program for several years now together. But I'm also seeing some new faces, and we will all get to be very close friends over the next year or so as we work through the IRP process.

So there are two main topics that I'm going to talk about today, and that is really the interagency process that Commissioner Randolph alluded to, and then the Scoping Plan Update. The Scoping Plan Update is timely for today, because there is a proposed plan out on the street.

We are soliciting comments on that right now and I would encourage folks who haven't seen it to go to our website. So what does SB 350 require? It clearly requires ARB, CPUC and CEC to work together to reflect a electricity sector target, a planning target, and individual LSE targets.

I know that we at ARB have been getting lots

of questions about, what does this mean, what does it mean when CPUC or CEC puts out a document to solicit input on the IRP process and how does this all come together.

And so I'm hoping that over the next few slides I can help illuminate some of that. A key part of this is that ARB has to have some kind of approval process, and the ARB process requires public workshops, a formal proposal for our Board to consider with formal comment periods and then some kind of ARB Board action.

And so as we read SB 350 and as we've been working through this language with CPUC and CEC, we do believe at this time that there is a requirement for ARB to take some kind of formal action at the Board level.

So on the interagency process itself we want to recognize that all three agencies are going to have significant and equal roles here in establishing the sector target and the individual LSE planning targets. The statutory language clearly puts all three of us in there together.

We each have different expertise to bring to the table and different input that we can provide here. We also recognize that ARB has a very specific statutory process. CPUC and CEC have very particular

processes that they need to adhere to.

To streamline all of this for everyone that's participating as an audience member or a potentially regulated entity, and just to make things easier for ourselves, we will be trying to facilitate a joint, informal public process.

That would avoid duplication of workshops, comment periods, materials, and it streamlines the process for agencies and the stakeholders. As we go off through this process and each of the agencies may host workshops, we expect all three agencies to be present in some capacity.

We may not all be presenting or talking at those workshops, but we will be there in some capacity to either observe, take notes or help inform on the materials that are to be presented. Those workshops may not be noticed as joint workshops.

Today's Workshop was noticed as CEC and a CPUC Workshop. Clearly, ARB is here today. So I know that there's been some concerns by some folks when they see workshop notices by CPUC or CEC that somehow ARB is not part of this process.

I want to alleviate that concern. We definitely have been coordinating quite a bit on this and we will continue to do so. We will collaborate,

like I said, on public materials, jointly review any comments that are received together, as appropriate.

And on ARB's own website we will also have a dedicated page for the SB 350 IRP process. We will like to PUC's and CEC's websites as appropriates, and at some point when we move to the ARB formal process we will post our materials on that website. So that is forthcoming.

So now, I'm going to move on, into the Scoping Plan itself. Chair Weisenmiller identified that, you know, this is something the ARB has been working on. We've been working on it together with all of our sister agencies. So it's not just been an ARB process.

It's been a joint process, and it started in the fall of 2015 with a kickoff workshop at Secretary of State. Most of the folks here were at that workshop. And so what is the 2017 Scoping Plan? Well, it's to chart the path to get to 40 percent reductions in greenhouse gases by 2030 compared to 1990 levels.

It builds on our existing infrastructure and policies that are already reducing emissions to get to the 2020 target. And it aligns California's climate ambition with the rest of the country's and in certain sub-national regions that are looking to take a more active and leadership role in reducing climate change

impacts and mitigating greenhouse gas emissions.

The proposed plan draws on the lessons learned from previous plans. There are two previous Scoping Plans out there, one from 2008 and another one from 2013. We, in the plan itself, in this one, we propose to continue our major successful programs.

Some of that is in statutory requirements. The RPS Program, which currently requires 33 percent by 2020 now is asking for 50 percent by 2030. We have the low carbon fuel standard. So some of these programs that are already in effect are looking -- we are looking to enhance those programs, whether through other mechanisms or as required by statutory requirements.

We want to continue to serve as a model for other states and jurisdictions around the world. An RPS program in some capacity has already been adopted in many states and regions. And so the things that we do here in California are being noticed an emulated, and it continues to show our leadership in this area.

The proposed plan achieves the greenhouse gas reduction target and continues to make our communities and economy more resilient and equitable at the same time. There is an EJ, environmental justice, aspect to all of the work that we're doing.

In SB 350 there are several provisions that relate to environmental justice, and so we're going to be trying to be true to that requirement, as well, and you will hear from a panelist here later today that will specifically represent some EJ perspective.

The other part is that the Scoping Plan and the IRP process are really separate. We have been working on the Scoping Plan for over I think 18 months now. The IRP process is commencing publicly now. What we said in the scoping plan was that the work that we've done there can help inform the IRP process.

The Scoping Plan did not lay out any requirements and it did not lay out any structure for the IRP process. What we want to do is leverage the work that's been done by the sister agencies together in the Scoping Plan process to help inform what the IRP process looks like. But they are very two distinct processes and we want to make sure that that's clear for folks.

So there are some objectives in the Scoping Plan. First and foremost, we need to achieve the 2030 target. We want to get greenhouse gas emission reductions in state, provide air quality co-benefits. Obviously, as we move away from fossil fuel combustion and go to non-combustion sources of power or combustion

manufacture -- or non-combustion manufacturing, that helps there.

We want to minimize emissions leakage, which is really a movement of activity outside the State of California where on our accounting for California it looks like the emissions have gone down. All we've really done is push those emissions outside the State of California, and from the perspective of the atmosphere, nothing's really changed.

We want to support climate investment in disadvantaged communities; protect public health; again, facilitate sub-national and national collaboration. President Picker alluded to cost-effective and flexible compliance.

We as good regulatory agencies all want to make sure that we are doing that. And right now, as of today, as far as I know, there still is a Clean Power Plan. And so we want to support the Clean Power Plan and other federal action as it exists or remains to exist in the near future.

And when they're ready to move again we want to make sure that there's a model here in California. So here is the proposed Scoping Plan summary. These are the main policies and measures that we're including to get to the 2030 target.

Of course, SB 350 is one of the big ones here for the 50 percent RPS, the doubling of energy efficiency savings, and the IRP is a mechanism to help achieve those targets that are required in statutory language.

There's SB 1383, which is the Short-Lived Climate Pollutant Reduction Plan. Those are proposed plan that's out for comment right now. I think the ARB Board is hearing that this March at the Board Hearing.

There's the Mobile Source Strategy, which is really about advanced clean car vehicles, heavy duty vehicles becoming zero or non-zero, and that's really something that we developed to help achieve our air quality standards in relationship to health-based standards at the federal level.

We are proposing to continue the low carbon fuel standard and enhance it from a 10 percent reduction in carbon intensity in 2020 to an 18 percent reduction in carbon intensity by 2030.

Sustainable Freight Action Plan. This was an effort that was led out of the Governor's Office. That was a multi-agency effort. Right now we are proposing a new refinery measure, which is to try and achieve 20 percent reduction in greenhouse gas emissions in that sector by 2030 from current levels.

And we are proposing to continue the Cap-and-Trade Program with the trading mechanism and the offset usage limit of eight percent. And the asterisks indicate programs that are known commitments and what we figure -- what we are calling known commitments are the things that have to be in any proposal that is proposed by staff to our Board for achieving the 2030 target.

They're either statutory requirements or they're underway or they're programs that we feel we have the ability to extend and enhance today. The reason that you're seeing the new refinery measure is because in AB 197 there's a requirement to try and get more direct emission reductions at distinct sources within the state.

That includes refineries and other sources like power plants, but right now, the only sector that we're identifying is the refinery sector in the Scoping Plan. The Cap-and-Trade Program, this is one that's very contentious with some of the environmental justice community members.

We've been asked to look at alternatives and we know that the Legislature is actively discussing alternatives, and we want to make sure that we do our due diligence in showing what alternatives are possible

and how the Cap-and-Trade Program actually addresses all the objectives that we're trying to achieve in the Scoping Plan, in conjunction with all these other measures.

So in modeling in the Scoping Plan for the energy sector this slide provides some of the inputs that we included. Obviously, it's the 50 percent reduction for the RPS standard, the doubling of energy efficiency savings in natural gas and electricity end uses by 2030.

It's the decrease in methane emissions by 40 percent by 2030, the behind the meter solar, energy storage procurement and electrification of the transportation sector. So this is just a high level discussion of some of the inputs that we used to model the energy sector emissions towards 2030.

On ARB's website there is a very detailed document that talks about all the inputs and the modeling. We actually have the PATHWAYS E3 Model on our website, and I know some folks have been able to download it and play with it and look at some of the detail assumptions and output files from that model. If you're interested I encourage you to go to our website and do that.

This table is something that is included in

the proposed plan, and what it does is it looks at the Scoping Plan sectors. So we've got the main sectors here, agricultural, residential, commercial, electric power in the red box, et cetera.

And what we have are the 1990 levels for those emissions. What we're seeing in the Scoping Plan and the proposed plan is that we can achieve potentially a 61 to 43 percent reduction in electricity sector emissions from 1990 levels.

The range represents all of the known commitments in the energy sector, if they perform perfectly, they're able to start on time, there's no technical challenges, no cost barriers and there's no additional statutory requirements; but we're able to begin those immediately then we would achieve the maximum that we're seeing in the model, which is a 61 percent reduction.

We identified the potential for some uncertainty. There may be some measures that may not be deemed cost-effective. There may be some technology barriers. There may be some technology that doesn't phase in as quickly as we anticipate.

And so the lower range represents the uncertainty. And in the modeling documents for the Scoping Plan you can see what the uncertainty

assumptions are for each of these policies and measures. And what you see here is a 61 to 43 production reduction in the electricity sector, and then the other large sectors.

But second from the bottom is the Cap-and-Trade line. None of those sectors above actually reflect any contribution that may be achieved in reductions due to the Cap-and-Trade Program. We obviously can't guess today where there might be other opportunities for cost-effective reductions across the sectors that are covered by the Cap-and-Trade Program, but I just want to note that there is the potential for that 40 to 85 million metric tons in 2030 to be distributed among the sectors above that are covered.

So what you're seeing really in the electric power line here is just the known commitments without consideration of any benefits of Cap-and-Trade. So this is the schedule for the Scoping Plan and for the IRP process from ARB's perspective.

This is our current thinking and it's subject to change, but the Scoping Plan we currently have a CEQA comment period that's open through March 6. We are having workshops and through March. There was a February Board Hearing that was I think last week. It seems like a blur now.

We are hoping to release the final plan this spring and take it back to our Board for a final consideration this spring. As far as the IRP process goes, CPUC, CEC, ARB will be holding informal processes, letting the processes complete through CEC and CPUC, and then transitioning into the formal process by which ARB's Board would take some kind of action on a sector of planning range and then individual LSE targets.

That concludes my presentation. I'd be happy to take any questions from the Chair, Commissioners or President Picker.

PRESIDENT PICKER: So I'm curious as to the overall flexibility of measures that are deemed and adopted in the Scoping Plan. I'm just going to point to the Short-Lived Climate Pollutant Plan for purposes of illustration.

Some of the elements of the Short-Lived Climate Pollutant Plan seem to have vastly, at least on first examination, underestimated the costs, for example, of renewable gas, or overestimated the potential carbon reduction benefits.

So as the agency that has the responsibility for implementing that particular measure, what's our flexibility if we discover that the costs or the

effectiveness don't meet expectations? Do we have flexibility to shift to other targets that have more -- that are more efficiently achieved, that have lower cost or that have superior benefits?

If as we have this number, how do we -- do we have the tools that we need to actually achieve the outcome versus being hung up on the specific tactics?

MS. SAHOTA: Well, that's a great question and I think I have a two-part response to that.

PRESIDENT PICKER: Very pertinent.

MS. SAHOTA: First of all, the SB 1383 targets for the 40 percent reductions in high global warming gases and methane are statutory requirements, but SB 1383 doesn't say exactly how to achieve those targets.

PRESIDENT PICKER: Could be easier to change statute than it is to change the Scoping Plan.

(Laughter)

MS. SAHOTA: Well, it is still just a plan, and I think the Legislature recognized that when you're doing a plan, and we've been saying this, we have some information available to us today. We're setting out down a path which we think is the right or the best path to get to where we need to for 2030, including all of the different sources.

In five years or maybe even less than five

years, if directed by any additional statutory requirements, we will be revisiting the plan. As we get more information we have an opportunity to update the Scoping Plan and to maybe adjust how we get to different targets and goals, or maybe identify additional needs if the statutory requirements remain in place.

PRESIDENT PICKER: Yeah. I'm just trying to understand the role of the ARB here, because as you're primary proponents of SB 1383, as well as the folks are deeming it as a measure and a requirement in the Scoping Plan. So I'm just trying to figure out how we're going to navigate this path.

And I'm using that as an example simply because it comes to mind because we're wrestling with the issues right now.

MS. SAHOTA: So in particular, on the methane issue or just overall?

PRESIDENT PICKER: Overall. I'm just -- just you know -- one area where I believe the evidence suggests that the costs are undercounted is methane. The area where I think the benefits are over-counted is in forestry biomass and fire fuel reduction.

MS. SAHOTA: So the Scoping Plan, again, you know, is just a plan. I think as we get additional

information or we move beyond the Scoping Plan and try to implement things we will get more information, and that will feedback into any updates and new work that needs to be done.

I think from ARB's perspective in particular we're trying to reflect something that is consistent with statutory requirements, consistent with were our sister agencies feel we can be, but ultimately knowing that we have to go back in, talk to all of our bosses over at GO, I think it's going to have to be a continuing, shared conversation. I don't think ARB can make some of these decisions on its own.

CHAIRMAN WEISENMILLER: Actually, let me raise the other big issue, because obviously, Michael point out that transportation's 40 percent of the greenhouse gas emissions. When I look at the chart we're talking about roughly 30 percent reduction there.

And so the question, which is certainly relevant dialogue among the three agencies, particularly with the PUC, is how to -- and with the utilities in the IRP process -- is how do we accelerate the electrification of the transportation sector and reduce the transportation emissions, with obviously a lot of implications we'll certainly dive into later on the accounting issues, if -- presumably if we do that

big shift, reduce transportation and increase basically the electricity sector, how does it all work?

I don't know if you have any reaction on that, particularly given the Governor's goal for the 50 percent petroleum reduction.

MS. SAHOTA: So one of the things that we didn't put into the Scoping Plan was that under the proposed plan we see about a 45 percent reduction in on-road gasoline and diesel fuel by 2030. That's without the Cap-and-Trade effect.

So we're almost there to the 50 percent that the Governor identified in his pillars, in the speech. I think when it comes to electrification there are multiple programs that can help support and incentivize electrification of the transportation sector.

Certainly, in our low carbon fuel standard we have a crediting mechanism, as folks get away from fossil combustion for on-road traffic and moves towards electrification. In the Cap-and-Trade Program we're trying to help quantify what could be an additional loan burden, an additional compliance obligation under the Cap-and-Trade Program, and allocate for those potential emissions so that that cost to support that transition is somehow compensated for in the context of an additional burden for the Cap-and-Trade Program.

So I think there are some -- there are recognitions of this need across multiple programs and we're trying to align all of those to send those signals that we do want to see enhanced electrification of the transportation sector.

COMMISSIONER SCOTT: I have a question for you. On the -- let's see -- the chart on page 9 is kind of a follow-on to the Chair's question.

CHAIRMAN WEISENMILLER: Right.

COMMISSIONER SCOTT: So if we envision that a portion of this transportation reductions are going to come because it's electrified, so we've increased the demand in our electricity sector, is that counted -- accounted for in the electric power line that you have there?

MS. SAHOTA: Because we're using PATHWAYS and it's an integrative model there are some interactive impacts that are picked up. So the more you increase the ZEV, the more it's reflected in the electricity sector.

COMMISSIONER SCOTT: Okay.

MS. SAHOTA: So there are some feedbacks in the model itself that accommodate and get to that interactive question.

COMMISSIONER SCOTT: Good enough.

MS. SAHOTA: Interactive impacts.

COMMISSIONER SCOTT: Thanks.

MS. SAHOTA: Initial [sic] questions?

CHAIRMAN WEISENMILLER: Thanks.

MS. SAHOTA: Thank you.

MS. RAITT: Thank you, Rajinder. So I'd like to invite our next -- our panel, first panel to come up, and there's seats at the table for you with nameplates. And also, then I wanted to let folks know, a reminder, that we do have overflow seating in the Imbrecht Hearing Room, which is directly across the atrium from this hearing room and you can hear the presentations from there and the discussion.

So if we have everybody, can take their seats at the front table, and then we can go ahead and have our presentation from Jason Ortego, from the California Public Utilities Commission.

MR. ORTEGO: Good morning, Chair Weisenmiller, President Picker, Commissioners. My name is Jason Ortego, and I'm an analyst with the CPUC, IRP Team in the Energy Division. I'll be speaking today, just a few minutes to introduce the topic and to briefly summarize the issues and the options and the questions that were presented in the Joint Agency Staff Discussion Paper on Setting Greenhouse Gas Planning

Targets, which was released on February 10th, and then I'll hand it over to Jason Houck, who will be moderating the Panel Discussion.

So as Rajinder explained, the CPUC, the ARB and the CEC are working together to define and to establish the GHG planning targets for the IRP process. This is a three-step process, the first one being to define the electric sector target, which is the subject of this first Panel Discussion, and the second step being to apportion this target between the CPUC and the CEC's respective IRP processes.

This is particularly important for the CPUC, which needs to specify a CAISO-wide GHG planning target for IRP modeling purposes. Staff would need this number by May of this year to develop its reference system plan, which will represent an optimal mix of resources needed to achieve the state's goals.

And then the third step is to identify and specify entity-specific targets, in the CPUC's and CEC's respective IRP processes in coordination with ARB. So both the CPUC and the CEC plan to issue guidance this fall on those targets, and on what needs to be contained in the IRPs.

And for its part, CPUC Staff did release last November a white paper outlining four different options

for establishing LOC specific targets and the form and the magnitude of those targets and how they could be represented in the IRP process.

But to get this process started the agencies need to agree on a common electric sector target for the IRP process. So the first option that we listed in the Staff Discussion Paper is to use the electric sector share of the statewide 2030 emissions specified in CARB's Scoping Plan.

So the Scoping Plan is a natural fit for defining the electric sector target, although it's not automatically the target for IRP. It might be the best option, but it's not the only option. If we decide to go with the Scoping Plan target, the Scoping Plan specifies an electric sector range for 2030.

The range is 42 to 62 million metric tons in 2030. If we go with this option we would need to specify whether we use one or the other end of the range, or some number in between. For Option B, Option B is based on ARB's inventory of GHG emissions, based on the year 20 -- sorry -- 1990, which serves as a basis for setting the 2020 and 2030 goals.

So under this option you would take the 1990 GHG emissions, which were 431 million metric tons, and to go with SB 350 you would take 40 percent below that

number to get to 260 million metric tons. Then you would take the most recent inventory, the 2014 inventory, a GHG inventory by ARB, which shows that the electric sector share of California GHG emissions comprise about 20 percent of the total economy.

And then you would take 20 percent of that original 2030 target of 260 to get to 52 million metric tons, and this is conveniently the midpoint of Option A. So these aren't necessarily the only options, but we thought that we would use this Panel Discussion to talk through the pros and cons of these two options, and to see if there's a better option.

So here are a few questions to help facilitate the discussion. First, what are the pros and cons of Option A? This is the Scoping Plan option. If we pursue this option, which end of the range should be used?

Two, what are the pros and cons of Option B? This is the inventory option. If we go with this option, I think it's a single number. The third question is, are there any other options that should be considered besides these two, and fourth, do these options adequately account for the increased load anticipated from the transportation electrification. And if not, how should that be addressed?

So with that I'll hand it over to Jason Houck.

MODERATOR HOUCK: Thanks. My name's Jason Houck, and I'm an Adviser to Commissioner Randolph at the CPUC. I'll be helping to moderate the discussion. But rather than introduce all of our panel members, I'd like to invite them to take three to five minutes to introduce themselves, and to focus on explaining to the Commissioners and the public your perspectives on which of the options that Jason was just discussing might be best to help the agencies decide on what emission target is appropriate for IRP.

And if there are other options that you have in mind that Staff hasn't presented, feel free to bring us those. And if you can, focus on some of the questions that Jason has kind of teed up here. How well do these options account for interactive effects between different sectors of the economy?

And so feel free to come share your views. I'd like to just start by -- not to put you on the spot, Susie, but you can go first, though, or -- okay. Tanya, take it away.

MS. DeRIVI: Thank you very much. This is Tanya DeRivi, Director of Government Affairs for the Southern California Public Power Authority. I was asked to go first, so I am pleased to do so. What we

have tried to do is both answer some of the questions, and then I was also asked to convey to the Commissioners what our top two priority issues were.

So I've just structured our comments around that. First, wanted to recognize that the Public Power Utilities are making significant strides towards trying to achieve California's ambitious climate change goals.

This includes investments, renewable energy efficiency, energy storage, transportation, electrification towards achieving the 2030 GHG emissions reduction target, which will be a monumental undertaking, both operationally and for potential cost implications.

So our first main takeaway would be recognizing that SB 350 gives the Air Resources Board the responsibility of establish the GHG targets, and we also recognize that for the electricity sector that the CEC and the CPUC both are to be coordinated with on that one.

And we certainly welcome the interagency coordination towards studying that energy sector target. We thought this made the most sense because the Air Resources Board has the relevant expertise in GHG emissions reductions programs, both Cap-and-Trade and the mandatory reporting role, and the Scoping Plan,

as well.

So soon after SB 350 was enacted in October of 2015, SCPPA asked for a meeting with Air Resources Board's Staff right during the week of Thanksgiving of 2015 to ask how this was going to be undertaken. And the questions we had then included, what would the process be for setting the targets and how will POUs and the local governing boards be involved in that process.

What factors would be considered in economic modeling scenarios? How would grid reliability requirements be accounted for, and the big one, how will increases in load due to transportation electrification be accounted for and how will any crediting developed to account for that shift of missions fund the transportation sector to the electricity sector be accounted for, as well.

SCPPA was concerned, then, that the 2030 GHG targets may be used as mandates in other regulatory or administrative proceedings as quantitative hard targets, and we were concerned about that because -- as opposed to using a reduction forecast based on the performance of a variety of climate change programs, both at the ARB and the CEC, for example, as well as our own local governing, planning boards.

We recommended then that ARB clearly articulate that any percent reduction be a planning goal, which leans me into our priority issue number two, is that is to set soft targets under the 2030 Scoping Plan.

SCPPA strongly supported ARB Staff's initial suggestion back in 2015 to treat any newly established SB 350 targets as nonbinding, soft targets, most likely outlined as part of the 2030 Target Scoping Plan.

We also encouraged ARB to establish reasonable compliance flexibility mechanisms, such as allowing fair and reasonable off ramps and adjustments, or a list of issues, reasons why a target may not be achieved by utilities.

This would be similar to the cost limitations for the RPS Program. For example, transportation electrification initiatives could be a key contributor for utilities increasing energy demand, which may not necessarily align in the interim towards a reduction in emissions for utilities.

And given the state's overarching, multi-industry goals under an economy-wide Cap-and-Trade Program, setting a hard single industry-specific target only applied to the utility sector, we're also concerned may raise issues with unintended market

manipulation exposure in the Cap-and-Trade market for utilities.

We also believe that targets should be based on the end 2030 goals. This is particularly important for SCPPA members because we do have some key presumed turning points going forward towards the 2030 Target Scoping Plan.

For example, for SCPPA members that are locked into long-term, out-of-state, coal-fired contracts there will be a certain date in the near-term future where we will see substantial improvements after those contracts are divested up early, but that might not reflect in the interim progress for GHG emissions reductions until we get to that point.

So we didn't want to see our members subjected to undue costs that might pressure utility rates upwards when we saw those turning points actually be achieved. We also had issues, we wanted to insure that local governing boards were involved in this process, as well.

Our members are directly regulated by a variety of locally elected and appointed officials who have a fiduciary responsibility to act in the best interest of all of our ratepayers. So any rate increases must be considered and approved by locally

elected officials, which can be quite challenging, because they have to go through an open, multi-step, very transparent process for the utilities, especially if any proposed rate increases going forward are significant and become more frequent.

Also wanted to recognize the difference between the Public Power Utilities and the investor-owned utilities, and that we also have to meet certain proposition requirements as open public agencies, and many of our members are in long-term contracts because we did not divest of our generation resources during deregulations.

We also use tax exempt municipal bonds, which may be, hopefully not, but cut back or scaled back in the 115th Congress, which we will certainly be fighting against because we use municipal bonds to finance a number of our projects. That goes beyond just renewables.

As far as options for defining the sector-wide target, we would strongly oppose using ARB's EDU allowance allocation to do so. As the basis for setting these GHG targets, we have expressed numerous issues during the Cap-and-Trade Regulatory Proceeding at the Air Resources Board that began at the end of 2015, I believe.

We believe that these allowance allocations must be based on cost burdens. There are also stark contrasts between Southern California utilities and the Northern California utilities on the allowance allocations going forward post-2020.

Whereas, our members take a 77 percent hit on allowance allocations between 2013 and 2030, and these are our large members that are subjected to the SB 350 IRP reporting requirements, we -- PG&E takes a 55 percent hit.

So we take -- and some of our individual members, our larger ones, take upwards of over 80 percent hit on allowance allocations going forward. So we have raised a number of concerns with the cap adjustment factor, RPS assumptions, how transportation electrification can be accounted for under the Cap-and-Trade Program, and how doubling of the EE goal can be met, especially if our consumers don't actually uptake energy efficiency measures going forward.

So these are concerns we're currently working with on ARB, which is another reason why we believe there need to be soft targets most appropriately set as part of the Scoping Plan, although we haven't seen details worked out yet through the Scoping Plan, but hope to do so if indeed that can be done this time

around.

We also understand as far as the GHG Emissions Inventory, which I believe is Option B in the Staff paper, we've heard that there may be some data accuracy issues with the GHG Emissions Inventory that need to be corrected.

So we would certainly welcome stakeholder based input on that one to insure that that inventory is actually accurate, if that option does go with. But we again support the Scoping Plan option more-so. We have discussed with our members, both for the greenhouse gas working group and our regulatory working group, issues on how to set these targets, and it's just indicative of the number of issues we have to work with and how complicated it can be.

Some of the questions our members have raised, based on reviewing this paper and in preparation for this presentation, was how would cost-effectiveness and cost burdens be measured and considered, particularly as it relates to rate increases that impact low income customers disproportionately, mindful that public power do not have shareholders, so all costs must be borne by ratepayers as approved by locally elected officials.

How would regional differences be accounted for? How would reliability implications be accounted

for? How will targets accommodate year-to-year variability, hydro being a key issue on everyone's mind right now? What would the GHG target applied to emissions, either at the first importer basis or on entire portfolio for utilities?

For those of our members in the Cal ISO how is it accounted that we don't have control over dispatching our resources? And then will certain of our members be held responsible for emissions associated with the unexpected state mandate where we are required to procure a certain portion of 125 megawatts of biomass under SB 859, where we are now required to procure energy from emitting resources that are three to five times more expensive than other renewable resources that don't emit emissions that we would have otherwise procured?

And what if utility customers choose not to alter their behavior? This is particularly important for energy efficiency and conservation measures, and how do we deal with that in the accounting going forward, as well as, of course, transportation electrification.

We just wanted to recognize the Energy Commission for helping us in developing some sort of methodology that would estimate transportation

electrification issues that we can get credit under the Cap-and-Trade Program, pursuant to SB 350, which was something that SCPPA had strongly supported be included in that bill going forward for a Cap-and-Trade Program. With that, Susie's going to --

MODERATOR HOUCK: Actually, before we continue I just wanted to clarify. I think you raised a lot of really important issues. I think a lot of those are probably going to be dealt with within the CPUC and the CEC's IRP processes, as we -- as the agencies kind of work through, how do you take these GHG goals that we're talking about today and then turn them into energy specific targets.

So maybe for the rest of the discussion if you can focus mostly on the question of setting a high-level target, what are the best options for doing that, and then I think the deeper and probably much more difficult question is about how do you take that and translate it into an IRP kind of planning target.

I think a lot of that would be dealt with in future workshops that each of the agencies carry out. So maybe just to kind of narrow the conversation, if you can focus -- the rest of the speakers can focus on this -- you know -- the topic of this panel, which is the High-Level Sector Target for IRP, that would be I

think most helpful.

MS. BERLIN: Thank you. This is Susie Berlin, for the Northern California Power Agency and Special Regulatory Counsel for NCPA, who represents publicly-owned utilities. I wanted to -- two points. I have the easy role, because NCPA agrees with the issues that were raised by SCPPA.

So I'm going to not reiterate all those same points. There may be some duplication, but I try to insure that I'm not saying the same things over. But we share the same concerns that are raised by SCPPA. And as a preliminary matter, because it's reflected in the comments, we're making Jason respond, I know we're talking about how to set the sector-wide overall number.

But as we go, Part 1, Part 2 and then Part 3 is the LSE-specific target, we need to know with absolute certainty what elements are being addressed at what stage, so that we don't get to Part 3 and say, oh, well, that should have been included in Part 1, and -- or it is included in Part 1 and it's not.

So we are looking at the bigger picture, but we have to also keep in mind what the final determination is going to be, at least to some extent, or else we can't answer questions one and two. So I

guess that NCPA is a joint powers agency.

And NCPA and its members are committed to doing their part to help the state meet the 2030 GHG reduction goals. We've taken aggressive actions and will continue to do so, but we also need to be able to insure that we can provide affordable, reliable and clean electricity to our businesses and members, and we appreciate the nod to cost-effectiveness as we go through this entire process.

It's also important to note that the electricity sector is already doing what many might call more than their fair share to meet the statewide target, and under the Scoping Plan there are considerably more emissions reductions going to be sought from the electricity sector than many other sectors.

And added to that, there's the implications from the need to increase electrification to meet the state's overall target. So one of the starting points from NCPA's perspective is to accurately define the role of the IRPs, and meeting -- resource planning with the intent to getting to the GHG reduction targets is one of the many elements that's included in the IRP, and so it needs to be considered and looked at within that context.

The requirement to prepare the plans do not alter or change any of our existing mandates and we think that the IRP process should not supplant or otherwise change the GHG emissions accounting that we're already doing under CARB.

There shouldn't be a separate GHG accounting program under the IRP. So key considerations are also that the IRPs are planning tools. The statewide projections are aggressive, but they're uncertain, and so we need to be able to adapt to changes.

We need to focus on the 2030 target and not incremental or interim steps. The GHG reductions, like I said, are only one component of the overall IRP and flexibility in developing the IRPs is imperative.

And from the POUs, that goes back to many of the points that Tanya raised with regard to the local government input and feedback from the governing boards that set up the planning for the utilities. And so we agree also, something that was originally raised by CARB and something that Tanya said, that the GHG targets must be used as planning targets. They shouldn't be separate mandates through the IRP process.

Going to the role of the -- how to set it, CARB has the ultimate responsibility for setting the statewide target reduction. And so we appreciate that

there is this joint CPUC and CEC process that must be taken in close concert with what CARB is doing.

The Scoping Plan as the basis is a good place to start, we believe, but as the Scoping Plan notes, it sets out a range of reductions for the electricity sector. And those numbers then need to be translated into planning targets.

So it's not necessarily accurate to say that that range is already the scope of the planning targets. The IRP and the Scoping Plan do serve very different functions, and appreciated hearing Rajinder say that, and we must be able to align those functions when we determine what the ultimate number is.

The objection -- excuse me -- the Scoping Plan needs to be -- the targets in the Scoping Plan need to be reviewed further, because we don't think that they include all of the elements that would impact what needs to be set to come up with a utility planning target.

If used, their emissions reduction targets need to account for the extent to which the reductions that are projected in the Scoping Plan cannot be attributed directly to the utilities. For example, the doubling of energy efficiency; there's going to be some third party involvement, something that's already been

acknowledged in the other separate Scoping Plan docket with -- excuse me -- separate IRP docket with regard to assigning how those emissions reductions and how the doubling of energy efficiency will be accounted for.

There must be greater understanding of the interactions from other sectors. Will any of the projections be feasible? I mean, we're talking about known commitments, but again, there are known commitments that are also incumbent upon interactions from other sectors, transportation electrification being the biggest one, and I go back to energy efficiency, as well.

Also, from the publicly owned utilities' perspective, local agency interaction and the extent to which local communities are going to be changing under the scoping plan and their mandates might further put pressure on electrification that when you're in a POU service territory will have a direct impact on what the planning is for that local community.

So these are issues that we think are not fully addressed in the context of the Scoping Plan with enough detail to take that projection and turn it into a planning target at this point. So we appreciate the, like I said, the recognition that those two items serve separate purposes and that we need to talk more about

all these nuances to fully define what that number should be.

So flexibility is key. The Scoping Plan can serve as the basis to start this discussion. The range of reductions is a good place to start when we talk about setting the planning targets, but we're going to need to insure that there's flexibility in implementation.

We're going to need to insure that any targets are indeed soft targets. Cost-effectiveness must be maintained and the guidelines in general, we need to remember that we are talking about plans, and plans with a focus on 2030. Thank you.

MODERATOR HOUCK: Shana, do you want to go next?

MR. WILLIAMS: So I'll round out the utilities here. My name is Ray Williams. I'm Director of Long-Term Energy Policy at Pacific Gas and Electric. For the last several years I've been very much involved in both state and federal greenhouse gas policy.

And regardless of the disposition of the clean power plant and what you may think, by 2030 I think we might expect that there could be some kind of federal regulation, because these issues are not going away.

In terms of PG&E's -- and I'm going to confine

my comments, there's a lot to talk about here, but I'm really going to limit my comments to setting the electric sector target. In terms of PG&E's planning and procurement for our bundled portfolio we look to assemble a reliable, affordable and compliant portfolio, while driving down greenhouse gas reductions.

I'd like to highlight three topics here. First is the uncertainty inherent in PATHWAYS to meet the state's target, as illustrated by the Draft Scoping Plan. The second is the prospective and expanded use of electricity to help meet the state's 40 percent reduction goal, and third, really, is the issue that the Chairman had alluded to initially. It's the weedy issue of how do you count toward the target.

So I'll just provide a couple of examples there. In terms of uncertainty, the legislature has already codified key programs through 2030 in the electric sector with the passage of a 50 percent RPS and ambitious energy efficiency targets.

In addition, the ARB plans, as you heard earlier, to extend transportation sector programs such as the Low Carbon Fuel Standard and Advanced Clean Car Programs. These electric and transportation sector complementary measures alongside a Cap-and-Trade

Program will drive substantial GHG reductions in these sectors, and also highlight the prospect of increasing electrification to drive emissions statewide, as President Picker highlighted earlier.

PG&E is on the record as supporting this approach; that is, the ARB Staff's preferred alternative in the Scoping Plan, as the best overall strategy to help meet the 40 percent goal. Now, in terms of uncertainty, the Draft Scoping Plan highlights uncertainty with respect to complementary program emissions reductions.

You'll see that in Table 3-1 of the Scoping Plan, Draft Scoping Plan. It also shows a related cost uncertainty in Table 3-2, and that provides a wide range of dollar per metric ton estimates for current and proposed measures. And you can also refer to Table 3-3 in the Draft Scoping Plan.

Recognizing this wide range, flexibility is needed to take advantage of the experience gained through implementation of the complementary measures in Cap-and-Trade Program, perhaps with updates to the Scoping Plan more frequent than every five years.

I think we would certainly recommend something, a shorter cycle than that, and adjust course to emphasize measures that provide the most reductions

at lowest cost. These adjustments may involve more emphasis on the electric sector versus other sectors, or vice-versa. I think we simply don't know today.

While the exact path to achieving the 40 percent reduction goal is uncertain, there is little question that reducing the carbon intensity of electricity and then expanding the use of electricity in other sectors is critical to meeting the state's target.

You can look at all kinds of alternatives. You can look at PATHWAY alternatives, but that's really a common theme. The electric sector target represents -- best reflects -- I'm sorry -- electric sector target range best reflects the uncertainty in the expanded role the electricity will play, and supports the flexibility needed to adjust course, as we learn more about what actual measures bring in terms of reductions and the relative cost of those reductions.

Okay. Now, I'm going to turn to counting. Whenever one sets a target or a metric, one needs a counting protocol to measure the progress toward the target. So there's a lot here, but in the few minutes that I have I'm just going to mention a couple.

So the first, really, is line of sight from seller to buyer. One example of that is the utilities

that go into the wholesale market for purchases. You know, through this power pull operation it's very difficult to match buyer and seller, and given that, there'll be some sort of attributed emissions rate that will need to be set for those purchases.

And you know, that lends -- that also creates a situation where you're not, you know, you're not really certain -- once you set a target you're not really certain exactly how you're going to count toward that target.

And of course, this is more of an LSE issue, but the dispatch of plants is on an ISO basis, and then when you move toward a particular LSE they're not necessarily in control, nor should they be, of the generation because they're not dispatching it against their own bundled portfolio. They're dispatching it in a wider market.

The second is related to renewables related over generation. This may not be too much of an issue today, but modeling certainly shows that it will become more of an issue over time. You know, unmitigated renewables over gen may be substantial.

Mitigation measures that we know about today include storage, load building, including electrification where you may otherwise see

curtailment, and hopefully, enhanced regional coordination, particularly with the Northwest.

Again, you know, these are -- that may be more of a long-run goal today. Nonetheless, an economically optimal solution will probably involve some curtailment, because any of those things generally will involve a dedication of capital.

So how you account for this curtailment can have a significant impact on the electric sector attributed emissions. Okay. I think that's weedy enough for now, but you know, there's more to talk about there.

So in conclusion, as quantity target, certainly, there's other ways you can look at this, but as a quantity target we recommend use of the ARB's 2030 Scoping Plan emissions range. Agencies can use the interim values reflected in Table 2-3, that's the 42 to 62 million metric ton range, until the ARB adopts a Scoping Plan with final values.

Of course, you know, as entities who may be subject to those targets, we prefer to have an opportunity to review those final values before implementation. And really, to build upon, you know, something that Susie said, these utilities are going to go through and submit their own IRP plans, and that's

going to be a, you know, pretty involved process for POUs and IUs.

It might be interesting to sort of roll up those plans once they are in place and see how it compares to the 42 to 62 target, and kind of go from there. So that concludes my opening comments and I'm happy to answer any questions.

MS. LAZEROW: Good morning. I'm Shana Lazerow. I'm a Staff Attorney at Communities for a Better Environment, and I represent the California Environmental Justice Alliance in the PUC's 2016 LTPP, the IRP Planning Proceeding.

So I really appreciate the opportunity to address this Joint Panel this morning. You have a lot of power in this room. And so CEJA is an association, a group of grassroots environmental justice organizations statewide.

We organize in low income communities of color, some of the communities most impacted by -- am I too close to this mic? No. Good -- most impacted by environmental pollution, air pollution, toxins, major stationary sources.

The transportation sector has a tremendous impact on community members at Communities for a Better Environment, where I work, both in East Oakland and in

Wilmington in Southeast L.A. We have members who live near gas-fired generating stations.

We have members who live near refineries, and from the perspective of environmental justice communities, this represents, this, you, this group in this room represents a tremendous opportunity. You're charged with implementing laws that put disadvantaged communities at the center.

And so I want to, you know, kick off this morning by making three critical points -- I think three is a good number -- that I haven't heard from the speakers who came before me that communities have to be at the center of this planning process.

And I'm hopeful that by the end of this process when utilities talk about their goals for IRPs and for GHG reductions, they will always start by talking about impacts on disadvantaged communities, on California's environmental justice communities, and what each utility's and each association's plans for addressing existing impacts and directing benefits into environmental justice communities.

And this not just a hope at this point. It's in the law. AB 197 says that while greenhouse gas reductions are critical for everyone, they're especially critical for the state's most disadvantaged

communities, as those communities are affected first and most frequently by the adverse impacts of climate change, including increased frequency of extreme weather events, such as drought, heat, and of course, now we're seeing flooding.

The state's most disadvantaged communities are also disproportionately impacted by the deleterious effects of climate change on public health. And when you visit some of the communities, we had a joint agency task force with Cal EPA in East Oakland last week, visiting one of our elementary schools near the 880 and near some pretty impactful stationary sources, and the asthma rates in that school are off the charts.

It's really beyond dispute that we need systemic change, and regulation of greenhouse gases is where this is landing. The second point that I want to make is that this needs to be a very transparent process.

AB 197 says that the reductions that we're seeking, that we will achieve, have to be transparent and accountable. One of the concerns that CEJA has is we're starting with a Draft Scoping Plan that doesn't show it's work.

So we have a range proposed from 42 to 62. That's a huge range, and when we look back to try to

find which scenario results in 42 or 50 or 60 or 62, we can't find that. In its prior draft CARB provided, basically showed us its work, but since the most recent draft was released we haven't been able to find it on the web.

I was interested in the CARB discussion this morning saying that it was available on the web. I've looked everywhere. I've emailed one of our EJC contacts and she wasn't able to find it for us. So we need -- so CEJA does advocate starting with the Scoping Plan range, the 42 to 62, assuming that there is transparency in where we get those numbers.

And I do want to point out that those are different numbers from what we saw the last time around. CARBs in November made a presentation showing that we would need to see more like a result of 30 or 32 from the electricity sector, which again, is pretty different from 42 to 62.

But we think that SB 350, we think that the statute is pretty clear that this is going to come from CARB, and we like to be guided by the statutes. So that's what we are recommending.

My third point, again, is to I think disagree with my colleagues on this panel with the degree of flexibility to which the regulated entities can be

given. These laws have mandatory language. We aren't at liberty to come in and say, these are some ideas, these are some potential targets that we'd like you to try to achieve, but if it doesn't look like that's going to work out with your long-term contracts, then we'll revisit it.

And we certainly understand that there are unexpected events in large sectors of the economy, but SB 32 specifically says that it requires that CARB insure achievement of statewide greenhouse gas reductions. It's not a planning exercise. We have to get there.

And we have to do better because we have to be on the trajectory to 80 percent. And so that concludes my opening remarks. I believe we -- are we going to have time to talk re the specific questions?

MODERATOR HOUCK: Yeah, let's go ahead. We can take questions. I think we have one speaker, James Barner, from LADWP, who's participating via phone and WebEx. So James, if you're there, feel free to speak up.

MR. BARNER: Yes. Hi. This is James Barner. Thank you for letting me speak today. I want to thank Tanya DeRivi at SCPPA for her comments, which we definitely agree with. LADWP is taking a leadership

role.

We've recently adopted a resource case, achieve 65 percent RPS by 2036, and we're considering investments to get to 100 RPS in the future. And so that effort's underway. My role is in the Integrated Resource Planning.

I've been supervising the group for the last seven years. We produce an IRP every single year, and we have a very extensive public outreach effort to evaluate different resource cases every other year. I've been very involved with production cost modeling, modeling greenhouse gas forecasts for LADWP.

We've produced over the last seven years, seven different forecasts for 20-year forecasts for GHG. So I'm very familiar with the main aspects of it. Our current projection for LADWP in 2030 is 5.8 million metric tons of greenhouse gas emissions.

So we have a very good handle on what those -- what that represents in terms of resources. That 5.8 million metric tons represents 55 percent RPS, 15 percent energy efficiency and charging -- putting the charging infrastructure in place for 580 EVs.

We also have 1654 megawatts of energy storage in that 5.8 million metric tons. That includes 1250 from our existing Castaic Plant, and 404 megawatts of

future planned energy storage. We also have 610 megawatts of net meter solar, which equates to about 3.7 percent of renewables, in addition to the 55 percent.

I want to just comment on Table 1, direct my comments there. Option A, that uses the PATHWAYS model. It has a range that we consider that is too wide; 42 to 62 is 20 million metric tons. That has cost implications of billions of dollars for our customers.

It also represents a range of renewable portfolio standard from somewhere in the range of 50 to 60 percent of the 62 million metric tons to somewhere I believe in the 80 to 90 percent RPS in the 42 million metric tons.

I don't believe that the PATHWAYS model is suitable for accurately determining electric sector emissions. It is not an economic dispatch model. It uses inputs from other sources. Option B uses a 2014 baseline. That's clearly moving the goalpost from the current law, SB 32, which requires 40 percent below 1990 levels.

So that's increasing that reduction from 40 to 52 percent, although we're not opposed to aspirational goals whatsoever. We would recommend a soft target,

consistent with SB 32, of 65 million metric tons, which is 40 percent below 1990 levels.

Anything below that level should be considered aspirational and include crediting for electrification. We must recognize that energy efficiency and customer net metered programs are beyond the control of the utilities.

And so there should be some off ramp to adjust for that. I would suggest that any target consider a three-year average from 2029 through 2031 to account for variations in renewables and hydro impacts.

I would also recommend that before we set a target that we convene a working group of -- from the seven largest -- or from the seven balancing authorities in California. The balancing authorities each have production cost modeling capability, I believe, and together we can come up with a number that is much more accurate.

So that effort I would recommend strongly. I think POUs should be given an opportunity to model their emissions in their IRPs and present those to the CEC before considering lower goals than the 65 million metric tons.

And overall, I believe that the appropriate target should be backed by consideration of multiple

sources, not just one source. And that concludes my comments.

MODERATOR HOUCK: Thanks, James. Before I ask any questions, if the Commissioners want to meet with any questions for the panelists.

CHAIRMAN WEISENMILLER: Sure. Let me start with a few. It seems like one of the challenges we have is we have an emissions inventory from the ARB, and we need ultimately to connect that in your resource plans to what your baseline is.

And I suspect if we -- you know -- so I want to start the process of getting from the utilities what they perceive their baseline is, this comes back to Ray's question, so that before -- as we're moving forward we need a consensus of the baselines and sort of what your targets are, as opposed to each of you coming up with your own methodology, or for that matter, the Energy Commission or PUC coming up with a methodology that's not consistent with the Air Board or the Air Board's inventory.

So and again, part of that is I have no idea in terms of the solidness of your baseline now versus, you know, 2010, versus 1990. But we really need a pretty concerted effort to pin down the baselines that are going to be part of your planning processes.

And I was going to just look at Ray in terms of, how comfortable are you in terms of knowing PG&E's baseline, given some of the issues you identified?

MR. WILLIAMS: Well, that gets to the structure of the mandatory reporting requirements, and Rajinder or Craig might be able to help you there. I remember that initially, the reporting was done both on a source basis or a generator basis, and on a LSE basis.

I'm not sure whether that LSE requirement is still in place or not. And I'm getting -- it's a no that it's not.

CHAIRMAN WEISENMILLER: Yeah, so.

MR. WILLIAMS: And so you can have reasonable data I think for the electric sector as a whole, but as you try to go down to particular portfolios, whether it's a CCA or whether it's a utility with its bundled portfolio, it becomes, you know, again, almost an accounting exercise, as opposed to a market exercise, because you know, again, you have all the generation in the state, whether it's utility owned or whether it's independent, it's going to dispatch against an ISO or other balancing authority, you know, load.

CHAIRMAN WEISENMILLER: Right.

MR. WILLIAMS: Right. So you know, for

example, just thinking out loud here, you know, for PG&E one way you could do it is you could say, here's our demand. We can subtract out our renewables, we can subtract other non-carbon generation.

You can deal with behind the meter generation in some fashion, and then you know, what's left over is essentially, you know, fossil relative to that demand. But that's not necessarily PG&E's fossil, whether its own generation or it's what we have under contract. So it's just -- you know -- it gets

CHAIRMAN WEISENMILLER: Yeah. I guess I -- yeah. I'd asked everyone in their comments file to come up with their estimate, something on the methodology.

MR. WILLIAMS: Yeah.

CHAIRMAN WEISENMILLER: So we can -- again, we're not going to resolve it today.

MR. WILLIAMS: No.

CHAIRMAN WEISENMILLER: But somewhere between now, and you know, when decisions come out.

MR. WILLIAMS: Yeah.

CHAIRMAN WEISENMILLER: Or when we're in implementation [sic], we need to pin it down. So let's at least start the discussion.

MR. WILLIAMS: Okay.

CHAIRMAN WEISENMILLER: I think the other one to start the discussion --

MR. WILLIAMS: Just another place you could look, I think, is you know, when you go through the IRP process for each LSE, you know, what does that show, and then maybe try to impose some kind of a consistent counting protocol on those plants and see what you got.

CHAIRMAN WEISENMILLER: Yeah. Again, as we go into the planning, the baseline -- again, I'm looking for consistent accounting.

MR. WILLIAMS: Right.

CHAIRMAN WEISENMILLER: You know, and the baseline and trying to figure out how we do that. And you know, obviously, there's going to be hydro variations or other things. But going forward that's one of the key things we need to pin down.

I guess sort of another, sort of big picture is you know, CBU mentioned how they're going to participate in the PUC proceeding. I'm trying to figure out, who's participating in the POU proceedings and is there a way to facilitate that.

And I'm looking in part to SCPPA and NCPA, but what we ended up doing in, you know, the 1368 stuff, is we had an Energy Commission website which said, you know, pretty much, this is the proceeding so that if,

say, CBU wanted to know where, you know, an IRP proceeding was going on in the state, they could just look to that and follow, at least be alerted to what was going on.

Or again, we can do it, you can do it. But somehow, I think, again, so one I'm seeing on transparency, the other on participation, you know, how to facilitate participation by the environmental justice community in the POU proceedings.

Again, our role is going to be much different from the PUC, and as they pointed out, a lot of it's going to be local decision-making. You know, I think we're going to be pulling together and trying to stay on top of how consistent or inconsistent or how close are we, but a lot of the decision-making will be at that level.

MS. BERLIN: This is Susie Berlin and I'll just touch on that briefly. Yes, the decision-making will be at the local level, and part of the local processes, many that are already in place, and that's why I was emphasizing that the setting the GHG planning target and coming up with using that element as part of your IRP is just one part of the IRP.

There are a number of different aspects that also need to be addressed, your renewables, you're

looking forward to what energy efficiency needs to be done, looking at how you're going to enhance your bulk transmission system, how that's going to affect the communities in general.

Those are all other elements of the IRP that will be part of the broader discussion outside of just, you know, after we set this GHG planning target. So that goes back to some of the comments that Tanya was making about the local communities.

When you're dealing with a POU you're dealing with, a lot of times, a less diverse community. Not always. You know, some of them are smaller and some of them aren't. LADWP is an example, but the decisions are made at the local level based on the specific needs of the communities.

And even communities that may not meet the disadvantaged community definition under the Cal Enviro Screen may be considered disadvantaged within the POU communities that they're serving because of the socioeconomic statistics in that area.

So yeah, we encourage participation at the local level when these things are being worked out, but it goes beyond just looking at the GHG planning target. It's part of the Comprehensive Integrated Resource Planning.

CHAIRMAN WEISENMILLER: Okay. Again, if both -- if all three of you can think about ways to facilitate EJ participating in your proceedings and your comments, that would be good. Another question was just, at one point we got a letter from SCPPA on the Scoping Plan.

And I was not pushing you. I just -- my inclination at this point is to post it in this proceeding, realizing that your thinking may well have evolved over time, but certainly happy for your reactions there.

MS. DeRIVI: That's the Energy Principles letter that we sent?

CHAIRMAN WEISENMILLER: Yes.

MS. DeRIVI: Sure.

CHAIRMAN WEISENMILLER: Okay. Also, in terms of broad question for everyone is just, well, how does Cap-and-Trade influence your decision-making? You know, at this point there's not a specific for any sector, but at least for this sector, which is a huge sector, how does Cap-and-Trade influence what you're doing in terms of -- and how should we think about accounting for it in the IRP process?

MS. LAZEROW: I'd be happy to go first. This is Shana Lazerow, on behalf of CEJA and CBE. I think

it would be a mistake to structure plans or anticipate that Cap-and-Trade is going to exist in its current form after 2020.

I think that we need to design a greenhouse gas reduction system and a more holistic energy system, obviously, around the assumption that we're going to have direct reductions at the electricity production facilities.

And I think that we may end up spending a lot of time passing assumptions about what a trading system is going to look like around, and I think that it would be a much more useful exercise to talk about how we're going to make actual reductions at the facilities where GHGs are being admitted.

MR. WILLIAMS: So you know, we've been very much on the record as supporting Cap-and-Trade as a market-based system to help, you know, given a cap that we support, to find the -- you know -- across multiple sectors to find the lowest cost reductions.

Thank you for giving me a little bit of time to compose my thoughts here. So and I'm thinking about today's situation versus maybe a future situation. So you know, today for a utility in its efforts to reduce emissions in its final portfolio, you know, we focus on meeting the energy efficiency goals as laid out by the

Public Utilities Commission.

We focus on complying with the RPS. You know, it's state law, and you know, that frankly drives -- is going to drive the majority of the reductions, I believe, for PG&E, just as it does statewide.

And you know, today we're looking at allowance prices in the $15 or so range. So it doesn't feel -- I haven't spent that much time with the commercial part of our group, but it doesn't feel like there's a real active tradeoff between buying an allowance and doing something beyond our compliance responsibility.

It doesn't feel that way. But if you think, you know, between 2020 and 2030 and you may see allowance prices move up quite significantly once you've got a plan in place and the market has confidence in that trading regime, then you may be in a position where there's a lot more active engagement in terms of what are we going to do inside our portfolio, versus the purchase of allowances.

But you know, I don't know for sure, but I don't see too much of, you know, that kind of consideration today.

CHAIRMAN WEISENMILLER: Okay. Well, again, I wasn't intending to have the debate here on the precise --

MR. WILLIAMS: Yeah.

CHAIRMAN WEISENMILLER: -- measure, just as much as saying, okay, in the IRP process.

MR. WILLIAMS: Yeah.

CHAIRMAN WEISENMILLER: Assuming there is something, Cap-and-Trade, carbon tax or something, how do we incorporate that thinking into the IRP process? And again, I'm certainly happy to, you know, in your comments --

MR. WILLIAMS: Um-hum.

CHAIRMAN WEISENMILLER: -- you know, you have more time to reflect, certainly.

MR. WILLIAMS: Yeah.

CHAIRMAN WEISENMILLER: Encourage more conversation on that question.

MS. LAZEROW: If I might, I was just looking back at PG&E's 2012 bundled plan and how it interacted with purchase and compliance mechanisms for greenhouse gases and there was no conversation about first reducing greenhouse gases prior to purchase of offsets. So I think that that's the model that we have now and it definitely needs changing.

CHAIRMAN WEISENMILLER: Well, one of the things that -- yesterday, we had another workshop here, but it was on demand forecast. And one of the parts of

the demand forecast was we had chart -- expected high-low, expected cases for the, you know, carbon numbers.

And you know, over time, you know, they go from the low number that Ray points out. As we get closer and closer to 2030 they can be relatively significant. So again, just that's sort of one of the things to look at and think of as you do your comments.

MR. WILLIAMS: You know, I think we'll have -- I'm not that familiar with the IRP. So we'll have, you know, folks weigh in on that who are really working on that. As another benchmark you can think about the USEPA's social cost of carbon. That's an interesting benchmark. I'm sure there's others.

CHAIRMAN WEISENMILLER: All right.

MR. BARNER: This is James Barner, from LADWP. So to answer your question, we integrate it into our dispatch of our units at our Energy Control Centers. So for a vertically integrated utility like ourselves we're already seeing the Cap-and-Trade carbon cost adder being included in the dispatch of our units.

We also replicate that in our modeling, reduction cost modeling that we show the output in our IRP. So our greenhouse gas forecast and costs and rate impacts all include the Cap-and-Trade greenhouse gases cost in it.

CHAIRMAN WEISENMILLER: Thank you.

COMMISSIONER RANDOLPH: I had a question for SCPPA and NCPA. Ray and Shana were a little more direct about their discussion of Option A versus Option B. And you know, one of our challenges is trying to sequence this process, because we have a statutory mandate to get started on the IRP process, but at the same time, you know, we have ARB's Scoping Plan time line.

So I guess I just wanted to ask a little more directly your -- recognizing your concerns about the Scoping Plan generally, going with the range option, what's your kind of comfort and discomfort with that, recognizing that we need to get moving with our guidance.

MS. BERLIN: Thank you for the question, Commissioner. This is Susie Berlin. We believe that starting, like, by looking at the Scoping Plan range is a good place to start. But we think that there needs to be more work in between.

Like I said, even, you know, Rajinder had mentioned that the Scoping Plan and the IRP do not serve the same purpose. So we need to be sure that the numbers align. What we look for, you know, PG&E characterized as uncertainties, and we agree.

The information, we need more information to back up the numbers in the Scoping Plan in order to translate that range of potential reductions into planning targets. So using that as a basis is a good place to start the discussion, but it's not the -- not where the discussion should end.

MS. DeRIVI: Tanya DeRivi, for SCPPA. I'll second that. We thought that the Scoping Plan was on a two-month delay to June for adoption. We also agree that there needs to be more data assumptions and underpinning assumptions released for evaluation, especially if the 2030 targets are going to be set in that proceeding or in that planning document going forward.

This includes being able to see some economic assumptions, modeling assumptions, what modeling assumptions have been used for the utility sectors. Getting all of that information for us to take a look at would be pretty important before we were to be fully comfortable with using the scoping plan, as well.

So also understanding there are multiple processes moving forward at the same time between ARB and CEC for us, as well, which also complicates the process for us, as well.

COMMISSIONER RANDOLPH: Okay. And then I

wanted to follow up on the question of planning to the target, planning to the 2030 target. I'd be interested from any of the panelists sort of, if that were to be the case what would you -- what do you think that the Agency should be looking for in terms of interim reporting in IRPs.

In other words, if you are planning for certain contracts, you know, you have long-term contracts that are going to be ending at a certain point, kind of circling back to the show your work point.

Like, you know, how much should we expect to show -- how much should we expect the utilities to be showing their progress if we are not asking for interim achievement of targets?

MS. LAZEROW: I can go first, not being a regulated entity. Shana Lazerow, on behalf of CEJA. This actually hits on one of the real barriers that advocates for environmental justice communities have been facing, which is lack of access to concrete data about -- and easy access to concrete data about dispatch, dispatch order, degree to which different units are running, the building blocks that make up the emissions that we're trying to tackle.

And so I know that the different balancing

authorities obviously keep track of when units are dispatched, and that's part of their processes. I would think that all of the agencies who are regulating LSEs would want to be seeing the data presented in actual data format so that you can see how much gas fire generation is being triggered.

And I would think that that should inform the contracting, both the bundled plans and the long-term plans, so that it would be on the two-year cycle of IRPs, that it would constantly be informing the upcoming IRPs, how the actual dispatch is progressing, how that informs progress toward achieving target.

MR. WILLIAMS: Yeah. I probably would start with what you already have today. You've got a lot of source-based emissions reporting through the mandatory reporting requirement. That can be certainly aggregated or made available, maybe more visibly than it is today.

You have certainly the reports related to compliance with various targets for the IOUs, and I presume for the POUs, as well. That's for renewables and energy efficiency. I'm expecting they'll be something related to, you know, EVs over time.

So you've got a lot of emissions report by sources. You have a lot of reportings on the actions

that individual, at least utilities, I'm not sure about all load serving entities, are doing. And then, you know, the question about, well, how does that translate into a quantity emissions amounts, you know, a quantity of emissions.

That gets into a counting protocol that you would need to adopt, recognizing its limitations. And I think, you know, for PG&E the notion of a consistent counting protocol that could be applied would be -- you know -- it would be very helpful in terms of looking across particular LSEs.

But there are things certainly out of our control. It could be, you could have a dry year. You could have, you know, large unit outages. There's various things. You could have higher demand than you might have expected.

So there's a number of things, you know, in a market and just in the economy that may cause these numbers to move up and down. But you know, I would kind of start with what you already have in play at the various agencies and maybe try to assemble it and get a consistent counting protocol.

MODERATOR HOUCK: A lot of the issues you folks raised touched on flexibility and uncertainty, and I think we need to also have a discussion about

that. But before we do I think there's a threshold question that I want to explore and that kind of touches off something that Ray said.

I think maybe the unspoken premise of this Workshop is that at the end of the way when the agencies have, and the utilities have LSE-specific targets, it'd be nice to add them all up and to compare how they -- and to assess how they compare to one statewide target or a statewide range.

And I think after hearing Susie and Tanya I wasn't quite clear if some of the concerns you had also were with this whole notion of creating some sort of standard or a single measure like a range that we would hold all -- basically, to allow us to compare how each of the entities are doing, even though we have two agencies with very different jurisdictions trying to tackle this one issue.

So is that something that you think is a worthwhile high level goal that the Agency should be working towards? Or I mean, I guess, do you have concerns with this notion of even just picking a target for the electric sector and then working through how to set LSE-specific targets based on that.

MS. DeRIVI: Tanya DeRivi, with SCPPA. I guess one of the issues we have with the number itself

would be what is included in the number. Is it only load serving entities for utilities, or does it also include, for example, the state water contractors as part of that, as well.

So that's one of the issues that we need to figure out, which I guess goes into the second panel of how this gets split up, but starting out with a number and how that gets developed and what's included or not included.

I imagine it might be an issue also for the IOUs, because of the large CCA movement, as well. So I guess we need to better understand and work through those issues. We'll be happy to try to address that in our comments when we can discuss it with all of our members.

MS. BERLIN: And I think -- not sure if this is exactly responsive to the question. Maybe it goes a little bit more back to Commissioner Randolph's question, as well, and this is Susie Berlin, for NCPA. The Scoping Plan targets are based predominantly or a large part on known commitments.

And the known commitments are also elements that are included in the reporting, the IRP overall RPS meeting the mandate, getting to the energy efficiency, you know, how that number is allocated. Those are the

kinds of things that will be reflected in the IRPs overall.

They'll be reflected in the progress that the utilities make, like Ray said, when you submit your reports for compliance. So to the extent that you're meeting the known commitments, to the extent the utilities are already complying with the various statutory mandates, that will help track the progress towards meeting the overall reduction, because they all work together.

MODERATOR HOUCK: One thing we haven't talked about is this, you know, the idea of IRP is that, I think, and this is from the statute, that it's sometimes reiterative. And so at the very beginning of the process we're living in a world of a lot of uncertainty.

Things should become clearer over time, but right now, we have kind of imperfect information and very complicated time lines to deal with between the agencies. So you know, Shana, you were kind of erring on the side, well, we have uncertainty and you've acknowledged that, but you want to have -- you think it's better to focus on setting really hard targets and kind of constraining the flexibility that we allow LSEs.

And utilities I think were saying, well, we have uncertainty; therefore, we need a lot of flexibility to kind of account for the fact that we don't know what the future's going to look like. And so I wonder if the panels can talk a little bit about that balance between -- the tension between uncertainty and flexibility.

And even though the Scoping Plan does have a really wide range and there's a role for the agencies to kind of interpret, you know, what to do with that range, is there -- and you may have, you know, concerns with how the Scoping Plan is, you know, the modeling that's being done -- but is there enough wiggle room in the numbers that we've seen there be, recognizing that the process isn't done yet, to kind of, you know, satisfy some of your concerns about flexibility in setting targets for IRP.

Ray, do you want to go ahead?

MR. WILLIAMS: Sure, bravely. So and first, there's a range and then let's think a little bit about process. There's a range in today's Scoping Plan. There's certainly a compliance responsibility for the state overall.

It's a 40 percent reduction in emissions by 2030. So that's a given. We know how we get there is

going to be uncertain, and one would expect, as you gain experience across all sectors, not just the electric sector, that that will be reflected in the next Scoping Plan.

And from how that's captured in the next Scoping Plan, one would expect that that will have some effect on the IRPs for individual load-serving entities. So there's, you know, there needs to be probably a relatively tight cycle around that so that we can adjust along the way.

So you know, in that context I think a range today certainly makes some sense. And in terms of, you know, we certainly do see it as a planning target, as opposed to something more like another mandate, for a number of reasons.

I could get into those, if you like. You know, three as an example. One is, you know, there may be, you know, a snow pack that diminishes over time and less hydro generation, you know, through 2030. There's certainly uncertainty around that that's going to affect emissions.

Another is, that we've talked about, is the amount of electrification in the transportation sector. Certainly, we're going to move toward low carbon transportation. It's probably primarily electricity,

but there's hydrogen and other fuels.

So there's uncertainty there, and you know, you want to have I think the flexibility to operate in a Cap-and-Trade market. And once you've moved through the compliance obligations, both the electric and the transportation sector, and potentially other sectors, you really do want to have the ability to find the lowest cost reductions by using the Cap-and-Trade Program.

MS. DeRIVI: Tanya DeRivi, SCPPA. I'll add to the list of uncertainties, unknown changes in state law. That includes both a post-2020 Cap-and-Trade Program, if there is one this year per the Governor's budget proposal with a two-thirds majority vote.

Unknown changes to the RPS Program going forward, as well. There's also a number of other unknowns like the Biomass Mandate that we hadn't expected at the end of the legislative session, which would result in increased emissions, which we have to procure, at least some of our members have to procure under state mandate, which we would not otherwise have done. So those are -- I'll add that as a big list of -- to the list of uncertainties on why we need flexibility.

MODERATOR HOUCK: Shana, please.

MS. LAZEROW: Thanks. I think that's a really important question. So the range of uncertainty historically has been borne, the impacts of that uncertainty has been borne by environmental justice communities.

So when we need more polluting or gas-fire generation we see it sited in environmental justice communities. The dirtiest peakers tend to be in more heavily impacted communities. And I think the law is pretty clear that it's time to shift the burden of uncertainty from disadvantaged communities.

And so I think we would object to a wide range like that. The actual target is 40 percent by 2030 and going down to 80 percent. So I think that we need to see a hard target for the electricity sector. And there's a lot of room for play.

Many of those uncertainties that were just identified should actually result in over-performance. I mean, Ray brought up the impacts of over generation. Electrification of the transportation sector is a tremendous opportunity to address the concern about over generation, which we're hearing from CAISO.

We're hearing in all of these planning spaces that over generation is a real concern. It's not a concern with you have 1,000, a million, 100 million EVs

on the roads that can soak up your over generation and smooth out those curves.

And that's the direction that we're headed. I don't think that we should assume that it's -- that all of these uncertainties will result in failing to achieve targets. I think we should set targets that really drive, really drive planning and actual performance of our electricity sector.

MODERATOR HOUCK: And how about the notion of innovating over time? So if -- I think a lot of the, you know, the POUs have expressed discomfort with, you know, some of the detail and the numbers that exist now.

You were kind of expressing that, you know, well, we should set a hard target, but we don't know -- things may change in the end. So the 40 percent target is for the economy-wide, not necessarily for the -- we don't know how that translates yet to electric sector target.

So let's just say that the agencies were to set a hard, you know, enforceable target this year, but we have different information in the future that would lead us to believe that it may be more reasonable to set a different target.

Did you think it's, you know, reasonable to

kind of keep considering that over time and, you know, revising a target as more information becomes available, and building in flexibility even if, you know, you advocate for something that's, you know, hard and fast now?

I mean, it's a planning, you know, Cap-and-Trade is, you know, a number, but IRP is more planning. So how do we kind of build in -- is there a role for flexibility in your vision for IRP?

MS. LAZEROW: There's definitely a role for flexibility in IRPs. The IRPs are resulting in procurement plans. And when I was thinking through the interactive approach, each procurement plan needs to be informed by the performance toward the target.

And so the Commissioners sitting in this room have a tremendous amount of say about what resources get procured and whether it's demand response, whether it's storage, whether they're authorizing procurement of gas-fired generation.

This is the space where the iteration and the system performance needs to really have information. And so if a utility -- I mean, I think that the CARB doesn't anticipate that the electricity sector is going to hit 40 percent, that every sector is going to hit 40 percent.

We need to really perform better than 40 percent in the electricity sector, and I think that there's a tremendous amount of opportunity in this moment to do that, that the benefits are going to be society-wide, and just the pace of technological advances is tremendous.

And so to assume that the way things looked a decade ago determines what we can do in the electricity sector would be a mistake.

MODERATOR HOUCK: We only have a few minutes left for Commissioners or panelists. Do you have any last questions or points you'd like to make?

CHAIRMAN WEISENMILLER: I think, again, one thing I'd encourage people in their comments was just, following up on Commissioner Randolph. We have from the ARB the schedule for the Scoping Plan at this stage, and at the same time everyone's been pushing both of us, I think, for more clarity and for starting to move the IRP process.

And so at least my theory is that we're going to launch something and eventually we'll have to true it up with the Scoping Plan, as opposed to waiting for the Scoping Plan to be final. But certainly, again, to the -- you know -- if people can think through that implementation detail and come up with ideas on how to

do this, because a lot of what we're doing now is setting frameworks.

MS. BERLIN: This is Susie Berlin. May I ask a question, then, in that regard? The Scoping Plan has laid out this initial range, and Rajinder said that this Joint Agency Working Group is going to be addressing this separately to look deeper at these issues, many of which we've raised today.

So maybe this is a question for Rajinder. Is approval of the Scoping Plan going to be the actual approval that is envisioned for CARB? I mean, I think that the time lines were different. Or can these further issues be addressed concurrently, but not necessarily be contingent upon the Scoping Plan?

CHAIRMAN WEISENMILLER: That's a good question. Certainly, again, I'm looking for people's feedback on just the realities of the time lines, you know. I mean, certainly, 350 sets a time line for us on what we have to implement.

The ARB has a time line for the Scoping Plan. I think all of our experience in these issues is things tend to happen later, as opposed to sooner, and somehow we have to mesh them. But again, realizing, I think certainly Staff's been pretty clear, you know, this is like the first IRP -- there's going to be a number of

IRP processes between now and 2030. So I'd be amazed if we get everything right the first time.

MODERATOR HOUCK: Well, thanks to all of our panelists for your insightful comments and I don't know if we're going to take another break or --

MS. RAITT: Yeah. If I could just thank you and ask you to go ahead and take your seats and then I'll bring the next panel up and it'll just be just a minute in transition here.

(Pause)

MS. RAITT: So if folks will go ahead and take their seats, that's great. So our next presentation is Garry O'Neill-Mariscal, from the California Energy Commission Staff. Thanks.

MR. O'NEILL-MARISCAL: Hello. My name is Garry O'Neill-Mariscal, with the California Energy Commission, Supply Analysis Office. I'm a Supervisor for Electricity System Modeling Group. I provide the presentation summarizing or giving an overview of the Panel 2 Discussion.

And the previous panel discussed options for developing an Electricity Sector Planning Targets. The next panel will discuss options for splitting that sector target -- sector-wide target between CPUC jurisdictional entities and the POUs. And as we also

heard earlier, there may be some consideration for other LSEs.

To frame the discussion, Staff, with the Energy Commission and the CPUC, developed three options, which were posted on February 10th, 2017. The first option, which was described as Option A, proposes a method similar to ARB's Allowance Allocation Method.

Under Cap-and-Trade, ARB bases allowance allocations on three factors: each utility's expected emissions between 2013 and 2020, cumulative energy efficiency investments and early investments in renewable energy.

To set the GHG targets for the IRP process, the electricity sector target from Part 1 would be proportioned based on the allocation allowances between the PUC jurisdictional entities and the POUs. This option has the benefit of reflecting the utilities' resource mix.

However, this allowance allocation is expected to change for post-2020 allocations, and also, there will be additional adjustments needed to account for emissions associated with CCAs and ESPs.

Option 2 is a somewhat simpler option that is expected -- simpler approach which divides the electricity sector targets based on electricity loan

served in 2016. This option uses retail load forecasts as a proxy for LSE and POU GHG emissions for defining planning targets.

Additional adjustments would also be needed in this method to allocate for individual LSE and POUs, which would be deferred to the PUC and the CEC during further processes, it's been called. Option C has been called a bottom up approach.

Under this method each retailer seller's demand would be estimated based on the latest CEC demand forecast. An estimate of the renewables and zero low carbon emission resources owned or contracted will be made for 2030 based on existing contracts and ownerships, as well as, and assumptions made for a 50 percent RPS in 2030.

The remaining emissions would be assumed to be met with natural gas-fired generation. The final target would be determined by scaling up or down emissions estimates proportionately until the aggregated statewide emissions are achieved, emission targets are achieved.

So that is a summary of basically what was in the white paper for the Panel 2 Discussion. Before I turn it over to the Panel Discussion I wanted to allow the dias an opportunity to comment before the

discussion continues. Anything? Okay. So with that, I will turn it over to Michael Sokol, who will introduce the Panel Discussion.

MODERATOR SOKOL: All right. Thank you, Garry. And so thank you again for the panelists for, you know, coming up here to say a few words. I think we heard a good discussion this morning on the first panel for methodology on establishing the target, and then this panel's really focused on the sketching of dividing the target between the CPUC and Energy Commission's separate processes.

And so you'll see, if we go to the next slide, you'll see that there were some guiding questions that are sort of summaries of what's in the posted white paper. And really, I'm going to ask each of you, we'll just go around and do some introductory comments, but in framing those comments please try to focus on those first two questions there.

So of the three options that we outlined in the options paper that was posted, which is the preferred, or is there another alternative methodology that would be preferred? So I think we'll go ahead and just start here with Justin and then try to keep it to about three to five minutes. Given the size of the panel, we want to make sure there's enough time for

discussion.

MR. WYNNE: All right. Thank you, and thanks for the opportunity to speak today. My name's Justin Wynne, and I'm here on behalf of the California Municipal Utilities Association. And just quickly, initially, I wanted to indicate our support for the comments earlier from NCPA, SCPPA, L.A. and others.

I think we share, in particular, the concern that it needs to be clear that this exercise is for planning purposes and it's going to drive the long-term resource procurement decisions, and that the actual compliance and enforcement is separate, particularly for RPS and the GHG reduction targets.

It's clear that those have very comprehensive compliance and enforcement regimes, and that we need to make sure that this process doesn't evolve to the point where we're seeking to have enforcement through the IRP for the reasons that have been mentioned earlier.

So for the questions before this panel, CMUA at this point doesn't have a clear preference for any of the options. I think we're still evaluating. I think we have a lot of questions about some of the assumptions and the purpose behind this part of the questioning, the exercise of dividing between the 16 POUs and the CPUC entities.

And I guess my first question would be, it's not clear that this exercise is necessary. Looking at the statutory language, there's parallel statutory provisions that direct ARB to set an electric sector target and then to identify entity-specific targets.

Presumably, if you did those two tasks you could aggregate up from each of the entities for the 16 POUs and the CPUC entities, and then that would give you the division between the two different agencies.

And so given that that's what mandated under the statute, I think we need to understand what is Staff's intent, what is the purpose behind having this intermediary step where we are dividing before we move into the entity-specific targets and how those relate to each other.

I think, so related to that, is then what is the relationship between the methodology and the assumptions we're using here for this effort of dividing this target, and then the ultimate entity-specific targets, because I think there's different consideration.

So if the methodologies and assumptions we're using here are going to drive what we can do for the entity-specific targets, I think that leads to a different consideration than if this is a completely

standalone activity where we're just dividing up, and then the choices we're making here have no impact or no effect on the actual entity-specific targets.

If this does drive and have a big impact on the entity-specific targets, I think the option that we are picking has to look at the individual utilities, has to insure that there's enough flexibility in the methodology that it's recognizing the starting point, the resource mix, unique characteristics for the individual utilities and making sure that we're not disproportionately burdening one community of ratepayers over another in reaching these targets.

If this is a standalone exercise and it has no other impact, I think the consideration then is at an aggregate level. So we would need to look at the 16 POUs, their resources, their characteristics as a group, versus the CPUC entities as a group, and make sure that this methodology is appropriately balancing the obligation between those larger groups.

So understanding what the -- the impact at the next level I think will help guide what the considerations are for this question. So my final point, then, is that it is not clear to me that the electric sector target or range that's identified in the ARB Scoping Plan is aligned with the group of

entities that have to file an IRP.

I believe it is a broader group than what is here. And so I think to -- before we are taking a number and splitting it up, we need to make sure that it's the right number. And so what I think we need to do is identify all of the entities whose generation is factored into the electric sector target and come up with a methodology to have assumptions for the reductions for any entity that's not filing an IRP under one of these, and we need a methodology to net that out.

Potentially, it's the same methodology for splitting. I think depending on what the entities are it may be different, but I think we need to better understand the universe of what is under that target.

I think one clear example is that there are 24, roughly, POUs that don't have an IRP obligation. And by my rough math, I think thereabout, that represents about 1.7 percent of the statewide load. And so I think we need to be careful that when we are dividing up the target we're not taking any assumptions for the emissions from those utilities and assigning that to this other group.

And so there needs to be as a part of that a methodology to have assumptions about their reductions

and then make sure that gets netted out before there's a splitting. And just to clarify, if there's any concerns, I don't think that that means that there won't be emissions reductions for those utilities.

One, there is still -- whatever the methodology the ARB's going to adopt to achieve the statewide emissions reduction target, that will still exist, regardless of this IRP process. And so whether or not the small, 24 POUs, are a part of the IRP process doesn't impact meeting the statewide target.

Additionally, those utilities themselves have a lot of pressures that will reduce their emissions. There's the 50 percent RPS. There's energy efficiency and a host of other mandates that are going to drive down their emissions.

And so I just want it clear that it's not that they won't be achieving this or that the state's going to be short by netting those utilities out. But it is clear that we need to be accurate in what we are actually splitting up.

So just, I would just note that of the three options it does appear that Option C is moving in the right direction because it is taking into consideration the starting point and some of the resource of the existing portfolio of these utilities.

But like I was saying, I think we need more information and we need more understanding before we can state a preference for how we split this up. Thanks.

MR. SMITH: Hi. This is Adam Smith, with Southern California Edison. I'm the manager of Climate Policy. I actually agree with quite a lot that was said before. So I'll try to keep it new. Just to kind of briefly sketch out Southern California Edison's position on the previous panel, I'll keep this very fast, because I intend to stay within my three to five minutes, we do have a strong and early preference for Option A, which would be to utilize that range.

We believe it's a modeled approach, which is helpful to kind of get a general sense of where our electric sector needs to be in the year 2030, if the state as a whole is going to achieve its goals. Now, that said, those two specific numbers, the 42 and the 62 million metric tons, may not necessarily be the right and the final numbers that we think we should use for that range for some of the reasons I think you just heard.

I think in my mind the three ways why those numbers may not be the precise right numbers to use for that range, I mean, number one, there is a little bit

of uncertainty and that's how you get the range in the first place, as to the ability of complementary policies to actually achieve emission reductions. There's one kind of realm of uncertainty.

There seems to be in my view an additional kind of wiggle room for those two numbers where you start looking at the entities that either are in or out of that calculation and how does that map directly onto the folks who have to file IRPs.

And I think the third, and it was I think briefly mentioned in the panel before, is there's some things that are firmly within the control of the electric utilities. There are things we can do to reduce emissions, and there are some things we can help, but we can't do all on our own.

I mean, you think about energy efficiency, in some senses, even transportation and electrification. So with those kind of three maybe caveats I think we believe Option A is the best way to proceed, because it does utilize that model of approach and gives us a sense of kind of where we think we should end up.

And now to transition to I guess more directly to the topics of this panel, and I'll try to address the questions as they come up there. Southern California Edison has a strong preference for utilizing

Option C, that is, the bottom up methodology.

We like it for a number of reasons. We think it mirrors the way that the California Resources Board determines the anticipated emissions for the utilities and their allowance allocation methodology.

That is not to be confused with the actual allocation we get, but the way that they determine the anticipated emissions from each of us that then goes on to inform the allocations which we receive. We think that something like Option C sort of mirrors that calculation.

And also, I think something that was mentioned previously, this bottom up methodology in a way kind of sidesteps this difficult question about how to divide up that range or any kind of specific sector-wide GHG target.

Instead of being a kind of question to be answered or a decision to be made about how that split occurs, instead, I think it, if you take this bottom up approach, it's more like a ratio that is revealed.

And so in that way we think it maybe helps to kind of stop some of the more difficult discussions up front and you kind of hold steady that range you know that's where you need to end up. And if you start building from the bottom up you get a sense of where

you actually think everyone will be, which is I think a kind of helpful way to just start the kind of discussion.

There's also the opportunity under Option C to utilize existing data sources, at CARB and at the CEC. So we think that that makes it a little bit easier. Everybody kind of has the opportunity to start kicking around some of the data sets and we're all pretty familiar with them.

If I could transition probably to the -- I guess it would be the fourth question down the list, because I think for number three, I think that some of the data that is needed for Option C is already pretty readily available.

Hydro variability is a kind of unique question, because I think that the way that -- at least in the near term -- California Air Resources Board kind of projects hydro production in the allowance allocation methodology is probably useful and it's a good place to start.

What they, in short order, they basically kind of average the 2013 and 2014 year and just kind of pancake that out across the rest. That may not be where we end up and I'm very aware of that.

That may not be the best kind of assumptions

to be making about what hydro production in the state looks like, because I've sat at this table and have been in this room and have had the opportunity to tell a number of you about SCE's climate adaptation work.

And we recognize very clearly that the hydro production that we've relied upon in the past may not be the kind of hydro production we can rely upon in the future. So as an interim solution and kind of getting to the iterative nature of the IRP we think that maybe the way ARB averaged those two years and kind of utilized them as a nice average may be the best way to go in the near term.

And finally, I'd just like to take a brief minute or two to talk about transportation electrification. Transportation electrification obviously incredibly important to achieving the state's overall GHG goals, and you guys are all pretty familiar with this.

It's also -- I mean, you guy shave read SB 350 the same way we have. We are directed to bring forth applications to further the state's electrification goals. And so that's something that we're, you know, enthusiastic about doing.

We've done it already, as I think some of you have seen one of our applications so far. And I think

going forward in this IRP process we need the ability to just to feel comfortable with the fact that if load does increase significantly and if we need to utilize natural gas resources or other resources, if our emissions have to increase in the electric sector to achieve that societal good, we need to insure there's some kind of after the fact crediting mechanism, or this TE load needs to be baked into the initial forecast which we're using.

I think at this point we're thinking that because of some of the forecasts we've seen, the TE adoption forecasts we've seen, maybe an after-the-fact crediting mechanism, a way to true up our goals, our GHG targets, if we can demonstrate there's a significant amount of transportation electrification occurring on the ground due to our actions or market forces, we think that something like this after-the-fact crediting mechanism would be useful.

We're, you know, suggesting that the same thing occurs in the Cap-and-Trade Program, and we think that that's also applicable in the IRP process. So with that I'll finish my remarks. Thank you. I'm sorry.

MR. ZETTEL: Yeah. This is Nick Zettel, from the City of Redding Electric Utility, probably the

smallest. I think I am the smallest POU that has to file an Integrated Resource Plan. So for just, given a scale, we're about a tenth of SMUD's load. So which we're probably PG&E's distribution losses on any given day, equivalent.

(Pause)

MR. ZETTEL: But nevertheless, we're in California and, you know, we're an electric utility. We will meet the goals that are laid out in front of us. So now that we have kind of a perspective of the size, I want to give a perspective of Redding that's in a very low income community.

So there's disadvantaged communities for emissions and other reasons. There's also -- you know -- Redding, obviously, it's very beautiful up there, clean air, lots and lots and lots of water right now, but very low income.

And so as a POU we are tasked with transitioning to where California's goals are, while maintaining rates and affordability for our customers to get there, and not having one override the other, because we don't want to have a crash course.

And so being a POU, all the major actions take place at the City Council, and it's a very, very local process, and a very, very public process. And the most

exciting events are typically rate hearings. Those get very exciting.

And we have to explain all this to a City Council that also deals with police and fire and many other issues, and this is not just Redding. It's Roseville and all the other cities, which puts the onus on the POU to explain in terms the public can understand what California's trying to achieve, what are the goals, what are the time frames, what are the competing EVs and SBs and the regulations.

So just to give a quick example, and I'll get to the questions and the preferred option. I think as a quick example, what Redding's been up to, even as a very, very small POU, in this calendar year we are terminating our long-term agreement with a coal project in the Southwest.

However, the debt service maintains through 2023. So no more power, but we still have to pay the mortgage on it, right? In the meanwhile, we've been procuring our PS resources to stay on target. We've deployed a tremendous amount of energy storage for our size.

We are currently deploying a transportation electrification program for both our customers and to start electrifying the city's fleet. One advantage is

being a department of a city is you can also reach the other departments of the city.

We've been also supporting solar in the service area, all the while maintaining reliability resources, as Susie mentioned, the bulk transmission, our, you know, our natural gas-fire combined cycle generation, and in the meanwhile keeping emissions low with that and meeting all of our permit requirements.

All of these efforts at the end of the day all focus on a greenhouse gas reduction for the future. And it takes time and it takes funding. It takes money. And so I think from Redding's perspective, speaking for small POUs, especially in a rural area with low income, we're getting there.

We're turning the ship and we're taking the actions that we need. We probably can't get there as fast as some of the other higher-income communities that can afford -- absorb some of the stranded asset and things.

But you know, we may be trailing a little bit and I hope through this process there's an understanding of that, and maybe knowing that not every utility and every Californian is at the same socioeconomic level to get to this new, you know, social goal that we're trying to get to.

So given what I've been speaking to, time is of the essence for this process to develop an IRP. The Workshop this afternoon to talk about the guidelines, talk about when we would be submitting, when it would need to be adopted by our boards or our councils, which means that's when we would need to know the greenhouse gas reduction target, which would then help define, you know, the energy efficiency goals.

Do we need to do more renewables over the RPS percentage? Do we need to reduce gas generation and other things. So I know that everybody is aware time is of the essence here, but we can't get lost in trying to nail down the exact number when this is a 13-year-long goal and it will have three more IRPs involved, a lot of iterations.

So from what I've heard from the first panel and so far on this panel, given the level of uncertainty involved with either the information in the Scoping Plan and the emission estimates from there, or the baselines as -- that have been talked about today, I think we should probably focus on an initial step and just be willing to be flexible to change it.

And I don't mean flexibility as a scapegoat to not meet the goals. I mean flexibility so that we can actually get this done. If we take a hardline stance

too early and work towards a number that isn't achievable I think we might have some frustration and some push-back.

Given that, I'll talk about what option I think Redding recommends. To kind of echo what Justin has said, we don't -- this has happened pretty quick. So we really haven't dug into the details, but if we had to choose or lean towards an option, it would be Option C from a bottoms up approach.

I think to put a little bit more meat to Option C would be actually say, what is an emissions intensity under Option C. So in 2030, given demand forecasts for POUs, IRUs or CCAs and the like, what would be the pounds per megawatt hour of emissions intensity, and then compare that to the estimate megawatt hours it would be in 2030 from a demand forecast.

Then do a bottoms up baseline and say, okay, these LSEs are at the expected emissions intensity for 2030. These may be under. These may be over, and then you could actually start defining targets. And then folks that have taken early actions could see those early actions materialize in the target.

Folks that are still working towards it could at least see the gap between where the mean or the

average emissions intensity would be in 2030 and where they would be. And it just -- I think it would give everybody some more clarity on it.

Otherwise, I think Option C, as Adam spoke to, best recognizes the process being used in the Scoping Plan and the allocation of allowances in 21 through 30. I don't exactly know how that worked, but I know there was some talk about S2 forms and other things out of the IEPR, which leans me to believe it was a load and resource balance, which is what Option C leads to.

I think that there needs to be some recognition for entities that have been working towards reducing greenhouse gases earlier than later, and taking on debt load and other costs and trying to maintain rates and do that.

So if we can go with Option C or something, a variant of it, I would like to see some form of early action mentioned or a way that we can see what's been going on. Redding's been working very hard to do that, and it's not free and it's not easy.

And so you know, we're definitely a part of the future here and I appreciate your time. Thanks.

MR. TUTT: Good morning. Tim Tutt, from the Sacramento Municipal Utility District. And I'd like to just briefly go back to the ARB presentation this

morning of the Scoping Plan. I think we're all stakeholders here of one kind of another, engaged in a grand project of trying to achieve that 40 percent below 1990 levels by 2030.

And we have lots of tools to do that, lots of parts to put into the picture, including all the complimentary measures, the known commitments that Rajinder talked about, the RPS for the utilities, energy efficiency doubling emission performance standard, which prevents new coal from being brought to the picture.

But the thing that really insures that we meet that target as a state is the Cap-and-Trade Program, and that program in itself has some of the flexibility to find the least cost -- most cost-effective measures to get there, but it insures that we do get there.

And I feel kind of like a contractor on a project that's been delivered a part here that doesn't quite fit into the picture, because the Cap-and-Trade structure works when there's minimal targets on individual sectors within it, or individual entities within it.

It allows those entities to trade back and forth and sectors to trade back and forth. So in that context I think we've been given this goal of having

these electric sector and individual LSE targets, but we need to take that and make it as flexible as possible to avoid -- minimize any disruption in the Cap-and-Trade market.

And for that reason I liked the range concept, maybe not the exact numbers, because I don't believe that ARB intended in that modeling that these would be the electric sector target numbers. I think that's a process that still is coming down the line at ARB.

And then given that, I would like to see that range flow through the process all the way down to the individual targets so that there's flexibility for all of the LSEs, as well. I don't think in the first panel that you need to ask the question or answer the question, shall we choose the high end of the range or the low end of the range. I think you can just use the range, whatever it ends up being.

With respect to the questions on this panel, I do think, again, SMUD thinks that Option C is probably the best, given the amount of time we've had to look at it. You know, allocations are not necessarily a good way to do this division.

The oil companies will tell you that allocations don't mean obligations, very clearly. The second option of using the, you know, 2016 load, I

believe there's still too many differences between the emissions intensities and emissions of each individual utility in 2016 to make that not a great way of dividing between the CPUC and CEC jurisdictional entities.

And so a bottoms up approach is what I would recommend, and I think, as well, that as we look at this approach the idea from Nick of looking at an intensity is a good one. It helps to minimize the disruption in the Cap-and-Trade market, as well, if what we're shooting for is a intensity in a target, a range of intensities, perhaps, rather than a mass based target, because there's too much danger that in a mass based target somebody will say, that's what you have to actually be held to in your Cap-and-Trade, you know, structures.

So I would prefer an intensity target and I think that helps with some of the questions that you have up on the board, how to -- accounting for hydro variability. If you have some variation in hydro you're still maintaining a pretty constant intensity.

Whereas, your mass based emissions will be going up and down significantly. It helps with the vehicle electrification if you have an intensity target. Again, it's going to -- as you add more load

you can maintain your intensity target.

Whereas, you'd have to sort of adjust your mass based target, perhaps. I do think that we need to look at the effects on the transportation and try to understand if -- in terms of our IRP processes and any targets that we have what kind of credit gets provided to the reductions in the transportation side, because they don't have a target.

But if the electric sector is out there electrifying transportation then we're doing a lot that would not necessarily be -- well, actually, it would be counterproductive to our own mission. So we need to try to understand how to take that into account.

And I guess finally I'd say, we don't -- there is a lot of uncertainty that's been talked about from a variety of things, including technological uncertainty and uncertainty as to how fast the consumers will adopt some of these new technologies we're all talking about.

I read somewhere that the percentage of new vehicles sold in I think it was Denmark last year was 29 percent. And so imagine if somehow our consumers here jumped on the electric vehicle bandwagon to that extent, much more than we're anticipating.

That scenario certainly would imply that there's a lot more of emission reductions coming from

the transportation sector than the modeling in the range of numbers in the current Scoping Plan, which is just modeling the known commitments, basically.

So I think we need to take that into account and just, these have to be planning targets and ranges and intensities that are good things to consider when we're looking at it. Thank you.

MR. WOODRUFF: Should I proceed?

MODERATOR SOKOL: Yeah, go ahead, Kevin. Thank you.

MR. WOODRUFF: Kevin Woodruff. I'm a consultant for TURN, The Utility Reform Network. Thank you for inviting my client to participate in this panel today. With regard to the main topics of this panel, again, we don't have a particular preference at this point, A, B or C.

They each have their charms and their fairly obvious drawbacks. A, the nice thing is the numbers are done. Of course, they're dated by several years and things have changed a lot in a few years. B is probably the simplest and most transparent, and you know, could arguably be a very -- some would argue a fair allocation.

Perhaps they don't look at the individual circumstances as much as Option C potentially could.

And it seems the four utility reps before me seem to be saying, we kind of like Option C, depending, because there are some details to be worked out.

The major issue I wanted to raise in this particular panel is down under the third bullet, if you do proceed with Option C is, and I believe on the slide -- you don't need to move it -- but slide five on the second bullet says, "Account for POU LSE zero or low carbon resources."

We want to be very careful in how we define those. It's one thing for SMUD to count the upper American River Project as a low carbon resource because you've got it, it's there and it's zero carbon.

But I'm concerned about purchases of hydroelectric power from out of state within the WECC as counting zero carbon resources or renewable energy credits from existing resources located in states that don't have a carbon compliance obligation.

Those may count -- be considered as zero carbon resources and I believe they are for, as I understand it, for CARB compliance. But they -- you know -- buying hydro from out of state just transfers the -- it moves the sort of California count for GHG generation, reduces that, but it may well increase the GHG impact of generation out of state within the

Western Electricity Coordinating Council footprint.

That to me is the major issue that I think needs to be addressed, will need to be addressed at this stage and going forward through the whole -- this whole process, is not -- you know -- is making sure we count, make sure we understand the full WECC-wide impact of zero carbon energy and whether or not you're actually -- what we count as a zero carbon resource actually is a zero carbon resource across the WECC footprint.

That's really my major observation on these questions. I'm happy to talk further on the subject if prompted.

MODERATOR SOKOL: Thank you. Dawn.

MS. WEISZ: Great. So I have a few comments. Really appreciate the opportunity to speak on this topic. Just a couple of comments regarding setting GHG targets. I think the first point I wanted to highlight is GHG planning targets really should be implemented in a manner that utilizes the, you know, existing structures that are in place.

From an efficiency standpoint MCE really prefers that the CPUC set targets based on emissions intensity. I think there's a lot of agreement here on the panel around that, and also consistent with the

implementation of AB 1110 at the CEC.

I think that those -- the processes need to be aligned there so that we're coming up with simple solutions that agree with each other and not multiple paradigms that might conflict. So I would encourage alignment on that.

I think the benefit of aligning with the AB 1110 implementation process at the CEC is that it would efficiently produce data that could be used by all bodies to assess progress towards targets and performance annually.

As you may know, our boards actually have a planning process now to meet state regulations, and to replace that with a different process would remove a lot of the value. CCAs are already doing a lot to reduce greenhouse gas emissions.

And I wanted to, you know, agree with the comments that Shana made with Communities for a Better Environment, that states and most disadvantaged communities are disproportionately impacted by climate change, and the regulations really need to be a transparent process that's driven by the community.

Our communities have really driven us and our elected officials to set a portfolio that is 75 percent greenhouse gas free today. And also, we have a

trajectory in our Integrated Resource Plan to be 100 percent greenhouse gas free by 2025, and our low income communities have been leaders in this effort.

The last point I want to make before moving onto the questions is that in setting targets I think it's important to keep in mind that CCAs also have energy efficiency and electric vehicles programs, as well as local MEM incentives and local low income solar incentives, and we really viewed RPS as a floor in determining how much renewables to get into our portfolio and will likely view any greenhouse gas targets as a floor, as well.

As far as our preference to the -- among the three options, we have a slight preference for Option B. We see that really as the most straightforward and transparent method for determining greenhouse gas targets for individual LSEs.

We think Option B, you know, because it uses the 2015 IEPR load forecasts, which are also used by CARB in developing its Scoping Plan, using that same data source to determine the GHG compliance targets provides consistency and predictability, and that's helpful when we're all, you know, going out and doing our procurement.

I think the accounting in Option B really

should align with the best practices in the market for greenhouse gas accounting, and ultimately align with the CEC process on AB 1110, as I mentioned. And you know, I think the simple goal of using the intensity -- emissions intensity makes a lot of sense here.

I'll say a little bit, there were some comments about Option C. I have thoughts on A and C, and I won't go into A unless folks have questions, because it sounds like no one's really gravitating towards that one. I see a number of deficiencies on that.

With Option C, you know, I think that there could be hope for using that as an option, but I think that the methodology as described thus far is pretty complicated and would be difficult to implement.

I think the methodology is based on old assumptions about natural gas and other resources that aren't really accurate today and it's likely to lead to inaccuracy and potentially illogical outcomes.

The other concern I have around Option C is that it seems to mix up the difference between point source emitters and retail providers. And I think that's a really important distinction that needs to be thought about carefully throughout the conversation that we're having today, because when you mix those two

up you end up with double-counting.

CCAs don't own generation yet. You know, eventually that may be happening. Our reporting is as a retail provider. We report on the power content label. We report what our retail greenhouse gas emissions are using the climate change methodology and we use the Center for Resource Solutions to verify our Green E 100 percent renewable products.

But we do not -- we are not a point source emitter. And so we need to be careful that we're not lumping those two things together as we're developing guidance here. My other concern is -- with Option C is that it appears that the methodology would lead to penalizing entities that have taken early action on greenhouse gas reductions, and I don't think that that's an outcome that any of us are looking for.

You know, I think I understand and acknowledge that maybe prior to AB 32 or maybe shortly thereafter, you know, that some contracts were entered into, long-term coal contracts, and you know, because of that there may be a need for some flexibility regarding the timing of implementing, you know, moving towards the targets.

You know, I think if we give coal a pass, obviously we're not being honest about greenhouse gas

reductions. You know, but if we give those with long-term contracts lighter treatment up front and then have a steeper increase as you get closer towards the end of the target, maybe that would be a way to address the issue.

But I still think there should be incentives in place for folks to be able to exit those contracts and make different choices going forward, to the extent that they're able to.

And the last comment I wanted to make is just to respond to Commissioner Randolph's question from the last panel about how to track progress towards GHG goals, because I think that's really important, and it's important for MCE and I believe for other CCAs to kind of know ahead of time so that we can procure according to the outcomes that are expected.

I agree with Ray with PG&E and he responded to that question saying, you know, you can and should be using the existing structure to see how we're doing and measure performance. So you've got the CARB MRR reporting for point source emitters.

You've got the RPS for retail suppliers and then there's also EE reporting. And I think a consistent accounting protocol is really necessary for all load-serving entities, and it keeps things simple

for CARB, the CEC and the CPUC.

MODERATOR SOKOL: All right. Thank you. I think we heard some good opening comments here that highlight some of the pros and cons of the different options. Before we go on into the particular questions I want to turn it over to the Commissioners if they have something to add.

CHAIRMAN WEISENMILLER: Yeah, I've got a couple. I mean, first of all, I was going to encourage everyone and it's probably a homework assignment, to comment on A, B and C. You know, obviously, you can take a duck today, but you know, we need in writing where you stand on it.

Other thing is, certainly, I would encourage NCPA, SCPPA, CMUA, all of you chime in on this question, and obviously vetting on the others, but on the non-IRP POUs, you know, just how are we going to deal with that.

And you know, obviously, we're going to need some adjustment there, and I guess I'm suggesting you guys propose adjustments so we can start getting a record on how to handle that, as opposed to just punting it to us. We'll decide, obviously, one way or another.

There's been a lot of comment back and forth

on mass balance energy intensity. I guess I would also, you know, ask the basic question of, the ARB has a compliance plan with a clean power plan, and one of the things which we also have to connect to is that compliance plan, which again, has certainly certain features on that sort of tradeoff.

And again, that's got to be factored into this process as we go forward. And last general point for people is the proverbial, what is CCFS now. Is it a CCA? Is it a POU? Is it a mixture? But you know, does it get to participate in both of our processes? You know, one of the processes? Which one?

I mean, again, just trying to clarify things as we're going forward on where they are going to come. So but again, sort of thinking back, I mean, you know, at this point, look, we got a couple of specific POUs on the panel.

What's your suggestions right now, if you have one, on how to deal with the non-IRP POU?

MR. WYNNE: This is Justin Wynne, for CMUA. So I think the clear point is that there needs to be an assumption for what the GHG reductions is as far as the overall target, what is assumed for those utilities and those need to be netted out.

And I think what we were saying earlier is

that we need to take the entire electric sector target and identify all the different elements and maker sure that we're only dividing up the amount that is attributable to entities with an IRP obligation.

And so in that process there'll need to be a methodology to net those entities out. And I think one potential option would be whatever the methodology we use to divide between the POUs, we could use the same methodology to assign an assumption for the non-IRP POUs and just use that to net it out.

I think the complicating factor is if there are other entities in the mix I don't know if it necessarily makes sense, because they may not be electric utilities in the same sense. So I think in the exercise of identifying what's in there we could use the same -- potentially the same methodology could be used to net them out of -- before there's a splitting.

MR. ZETTEL: My guess is the amount of data that would be required to figure out the intensity or the emissions through Option C for them wouldn't be that much. I know a lot of the non-IRP POUs are either members of SCPPA or NCPA, and some may be members of the power pool already.

So one concept if we went with an Option 3

type concept doing a bottoms up is you could do a quick bottoms up for them, maybe through a data request, and then as Justin alluded to, net them out of the IRP process.

CHAIRMAN WEISENMILLER: And obviously, there's going to be some question about how do we/ARB, track their compliance over time. So again, whatever the ultimate goals are going to be, again, trying -- obviously, we're not trying to elevate that to an IRP process, but just, how do we keep a handle on that. And again, you can sort of respond now or in writing later.

MR. WYNNE: So I guess my understanding of the primary purpose of the IRP is that we have these very difficult to achieve, aggressive targets of greenhouse gas reduction and RPS and then other elements, and that we need to make sure that we are taking the actions now, because there may be long lead times on the actions we're needing to take.

And so this exercise is making sure that we're taking the actions now to meet those long-term targets, not to insure compliance. We'll insure compliance with the target through the plan that ARB sets out, and so particularly for these smaller utilities.

Some of them are tiny. I don't think the IRP

process is necessary to insure compliance with the GHG reductions.

CHAIRMAN WEISENMILLER: No. That's why I got --

MR. WYNNE: Okay.

CHAIRMAN WEISENMILLER: -- it pulled out of the legislation on the IRP part. So we don't -- not arguing about that. I'm just saying, how do we have something other than non-IRP process to address them.

MR. TUTT: Well, Chair Weisenmiller, in terms of some of the particular goals what were put into SB 350 for the IRP obligated utilities, these smaller POUs are involved in RPS compliance. So you can track that through that process.

They are involved in, to the extent they have resources that emit carbon, they're involved in MRR compliance. You can track that through there. I don't see necessarily a need to set up another mechanism, other than those two and IEPR, to keep monitoring those smaller utilities.

CHAIRMAN WEISENMILLER: Okay. But actually, let's rip to the heard of the question. There's been a lot of discussion here about, you know, how do you recognize that some entities would move faster than others when we get into the allocation?

Now, that's a huge issue between the IOUs and POUs, you know, I mean, when you look at it. So again, how -- so you know, obviously, Redding's taken action, but I mean, Edison, you know, sort of got rid of its coal plants long ago, if -- you know.

So and some entities like SMUD didn't really get into coal plants. So again, you know, how do we sort of deal with that sort of in that allocation between IOUs and POUs that the IOUs are probably cleaner by most standards than the POUs are at this stage.

MR. WYNNE: And I think part of my response to that would be, it depends on the question I was asking earlier about the purpose of this splitting exercise, because if this has no relation to the entity-specific target setting aspect, then I think one of the things we would need to do is just run the numbers and see what the actual split it, because when we're looking between Option B, Option C and maybe other options it's hard to take what's been presented and put it into real world numbers.

And so I think one of the -- before we can get into whether it's appropriately balancing between the POUs as a group and recognizing the different starting points, I think we need to understand how this decision

fits into the next, the Step 3 that will be done separately, because if it is just standalone and it has no impact, then I think that it's maybe a simpler question.

CHAIRMAN WEISENMILLER: You probably in your comments should make some -- state your position on Step 3. Anyone else?

MR. TUTT: Well, I guess what I would say is a lot of us supported Option C, which involves a bottoms up kind of calculation and an estimation of individual -- it's starting with individual obligated utilities, or LSEs or POUs, presumably, to get to the bottoms up structure.

And there's certainly going to be ways to take into account early action and differences amongst the POUs and IOUs in that bottoms up process. I don't think, like, that necessarily then leads to a need to, one, divide up between IOUs and the POUs as groups, because you're already doing a bottoms up to look at each individual entity's range.

And I guess I'd say I don't think that there's necessarily a need or a requirement that all of these individual targets, however they're structured, add up to the electric sector target, where there's a bunch of other entities.

As Justin has mentioned, the smaller POUs and other water contractors that are part of that electric sector target perhaps. They don't -- you know -- the individual things don't need to add up to the total. We can keep track of it all, understanding that there's some little bit that's left over.

MODERATOR SOKOL: Okay. So we have about 10 minutes left. If the Commissioners have any other questions we can defer to them or we can run through some that we have here.

COMMISSIONER RANDOLPH: No, I don't have any questions. Do we want to start public comment now, or do we want to finish this panel by 12:30? What's your time line?

MODERATOR SOKOL: Yeah. I think we'll finish in just a few minutes.

COMMISSIONER RANDOLPH: Okay.

MODERATOR SOKOL: And then we can go to the public comments.

COMMISSIONER RANDOLPH: Okay.

MODERATOR SOKOL: I just wanted to highlight, as the Chair said -- oh, Commissioner.

COMMISSIONER SCOTT: Yeah. I did have one more, maybe it's not necessarily a question, but potentially an observation here for folks to think

about on the -- I think on the math balance intensity question, and I was kind of reflecting on what President Picker opened the meeting with, and really, where we're trying to go is it actually is a number of greenhouse gas emissions in the atmosphere that we need to meet, because otherwise we won't be solving the problem.

And how do we kind of keep that overarching goal in mind if we're thinking about trying to use a greenhouse gas intensity measure? So I don't -- I'll let Michael ask some questions, but that's just something we should -- I'd like for us to keep in mind, especially as you put your comments together that you give back to us. Thanks.

MODERATOR SOKOL: So does anyone want to take a stab at answering that now? And if not, we can --

CHAIRMAN WEISENMILLER: Or actually, if anyone -- I was going to ask Rajinder if she has a comment on that tradeoff.

MODERATOR SOKOL: Sure.

MS. SAHOTA: So being a state agency, we like consistency and we have mass targets for the state and the CPP has mass targets in the proposed Compliance Plan. But we also recognize that an intensity target can provide some flexibility, and I think we need to

carefully work through the amount of flexibility and the appropriate flexibility that is required in this process, and whether or not a mass-based target or a flexibility intensity-based target is the right approach.

So I don't think we have a position for the IRP process. We like consistency in state programs, but we are recognizing that each individual entity serves a very different mix. The demands are going to grow very differently for loads in these regions and there has to be some way to recognize and account for that.

MODERATOR SOKOL: Okay. So again, I just want to highlight what the Chair mentioned, that we really could use some written comments to fill in this conversation here, which has been a very good start to this.

And I also wanted to highlight that the questions you see here are really summary level, but the options paper highlights in more detail the specific questions that we would hope you respond to in your written comments.

And again, so I want to go ahead and thank all the panelists for participating here, and I think at this point we can go ahead and open it up for public

comments in just a moment.

CHAIRMAN WEISENMILLER: Great. Thanks again.

MS. RAITT: So if anyone did want to make public comments in the room, go ahead and fill out a blue card and give it to our Public Adviser in the back.

(Pause)

MS. RAITT: Sounds like, so far, I'm not aware of any blue cards and I'm not aware of anybody on WebEx that has raised their hand to make a comment. Sounds like we don't have any public comments.

CHAIRMAN WEISENMILLER: We -- she's coming up with one blue card, I believe.

MS. RAITT: Okay.

CHAIRMAN WEISENMILLER: So why don't we call. Great. So why don't you go introduce yourself and give your -- to the Court Reporter and go ahead.

MR. HENDRY: Good afternoon. May name's James Hendry. I'm with the San Francisco Public Utilities Commission. I just wanted to respond to your question, Chairman Weisenmiller, about what the San Francisco was.

And I think for purposes of this and most other proceedings, really, the Clean Power with San Francisco, and San Francisco is a publicly owned

utility, really should be considered as two separate entities.

They're under completely different jurisdictional rules and different sets of rules and you really can't, you know, sort of combine the two, really. So really, it's kind of two separate rules. Being involved in *16:19:44 each side, that means it's twice as much work for us, but I think that's the point of it.

And in terms of our internal accounting, we're also trying to make sure that separation's there, just as we don't want our captive customers subsidizing our Community Choice Program, we also don't want it the other way around.

So I think they're kind of like two separate programs and they need to be treated that way for jurisdictional issues. So thank you. I just wanted to clarify that.

CHAIRMAN WEISENMILLER: That'd be great. I guess the one question is, obviously, we have a series of questions were asked, other broad questions we're asking for responses to. And again, obviously, you get to decide whether you have one or two responses to those, but certainly hoping that both parts, you know, can, you know participate fully in this discussion.

MR. HENDRY: Right. We'll coordinate. We're going to address it both as -- on both sides of the issue, yes.

CHAIRMAN WEISENMILLER: Okay. Great. Thanks. Anything else? No one in the room? Anyone on the line? Okay. So this meeting is adjourned. I'll just say, I'll certainly as Commissioner Randolph if she wants the last word on anything.

COMMISSIONER RANDOLPH: I don't have any further comments. This was a really useful discussion. So thank you.

CHAIRMAN WEISENMILLER: So again, thanks. And could you remind people when public comments are due?

MS. RAITT: Right. So for the IEPR process period the comments are due March 9th, and information on how to submit comments is in the notice, and there's also information if you wanted to submit informal comments to the CPUC process is also in the notice that's at the table and the Energy Commission's website. Thanks.

(Adjourned at 12:28 p.m.)

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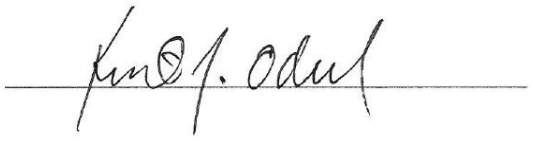

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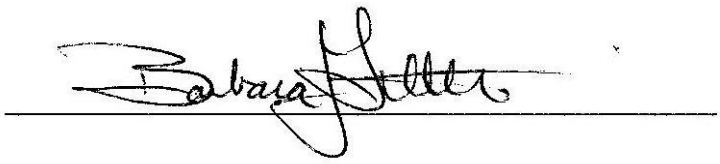

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