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COMMISSIONER RETREAT 2023

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FRIDAY, MAY 12, 2023

11:00 A.M.

Reported by:

E. Hicks

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Siva Gunda, CEC Vice Chair

J. Andrew McAllister, CEC Commissioner

Patty Monahan, CEC Commissioner

Noemi Gallardo, CEC Commissioner

PRESENTERS AND SPEAKERS

Mona Badie, Public Advisor, CEC

Helen Kou, BloombergNEF Clean Energy Markets Update

Jason Harville, Energy Data

Damien Mimnaugh, CEC Operating Budget

Drew Bohan, Recruiting the Best and Brightest to the CEC

Jennifer Martin-Gallardo, Federal Funding Overview

PUBLIC SPEAKERS

(None.)

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P R O C E E D I N G S

11:00 A.M.

FRIDAY, MAY 12, 2023

CHAIR HOCHSCHILD: All right. Well, welcome back to day two of our Commissioner Retreat. Again, this is an offsite retreat, which we've typically done once a year. We will not be taking any action on any voting items today. This is just for sort of deeper and longer conversations, and we want to welcome everybody back, and we'll begin with public comment. So, on over to you.

MS. BADIE: Good morning. This is Mona Badie, the Public Advisor of the California Energy Commission. This is the public comment period for the Commissioner Retreat, second day, 2023, and this will be the only public comment period for today's event. So, if you would like -- let's give it a minute, here.

Let's go back to you, Chair.

CHAIR HOCHSCHILD: Okay. Great. Well, we're going to start with Helen Kou from Bloomberg Energy Finance, and, Helen, you and I

1 (indiscernible). You're my wife, right? Is that
2 right?

3 MS. KOU: Yes. Yes. Yes.

4 CHAIR HOCHSCHILD: Five years ago, then?

5 MS. KOU: Five years ago.

6 CHAIR HOCHSCHILD: Yes, yes, yes. And I
7 just want to just express my gratitude to
8 Bloomberg. It's been some time we've had this
9 contract with you guys, and just have really
10 appreciated the insight on global energy markets,
11 and really has contributed to our policy work.

12 And so thank you for being here, and over
13 to you.

14 MS. KOU: Yes. Thank you so much,
15 Commissioner Hochschild, and it is wonderful to
16 kind of be back at the Energy Commission. Five
17 years ago, probably to this day, I was an energy
18 fellow here, so it is very cool to come back,
19 instead of the intern, but as a presented.

20 So, kind of just to begin the
21 presentation, would you like me to stand or is
22 there --

23 UNIDENTIFIED SPEAKER: It's up to you.
24 You may sit or you may stand.

25 MS. KOU: I'll speak, then. So, just to

1 give a brief introduction, so my name is Helen
2 Kou. I'm a senior associate at BloombergNEF, and
3 for today, I have a presentation on global trends
4 in clean power.

5 Now, before I actually jump into that
6 presentation -- next slide -- I want to give just
7 a brief overview of BloombergNEF. So
8 BloombergNEF is a market insight and research
9 division of Bloomberg LP, and we cover global
10 commodity markets as well as the technologies
11 that drive a low-carbon energy transition.

12 Our analysis looks at the various
13 pathways for the sectors in this chart and how
14 they can help adapt to a low-carbon energy
15 transition, and we help commodity trading
16 companies, corporate strategists, financial and
17 policy professionals like yourself navigate this
18 change.

19 Next slide for more. All right. So one
20 more slide.

21 So, when I was creating this
22 presentation, just all the major global trends
23 have been compared. Like you mentioned earlier,
24 there has been a lot of different movements that
25 have been happening within our industry, and over

1 the next few minutes, I will be presenting a lot
2 of data based on charts from (indiscernible) that
3 are going to show various information, and the
4 way I tried to kind of come up with, like, an
5 analogy or some type of framework for how these
6 different pieces of research come together comes
7 down to the singular question that you see on the
8 slide, which is, buffeted by competing forces,
9 where does momentum lie?

10 So all the data I'm going to show over
11 the next few minutes, I want you guys to think
12 through, like, what type of forces are pushing
13 deployments further, and what type of forces are
14 pushing deployments back.

15 I think there is a lot of movement that's
16 been happening, and in the industry right now,
17 we're in this really big, massive tug of war
18 between things that push deployments forward and
19 things that pull deployments back.

20 I'm going to jump into the very first
21 section, which is climate ambitions. So, over
22 the past few years, climate ambitions have
23 reached an all-time high.

24 Next slide.

25 What you can see is that we've seen this

1 kind of period of unending increases in ambitions
2 for decarbonization. You can basically draw a
3 line from the release of the IPCC report on 1.5
4 degrees warming in 2018 to -- next slide -- the
5 first ever net zero targets in the UK and in the
6 EU in 2019, and, next slide, to the alignment in
7 kind of changing demographics and political
8 sentiments that increased government ambitions
9 across the world.

10 Next slide.

11 So you can see that increasing government
12 ambitions through this chart here today. So
13 these two pie charts show the share of global
14 emissions covered by some regional, national, or
15 state-level net zero target, and at the start of
16 2021, which is the first pie chart there, 55
17 percent of global emissions were covered by some
18 net zero target that was either in force or under
19 discussion, and in just two years, in January
20 2023, that number has grown to 91 percent. So we
21 know that all global emissions across the world,
22 there is some type of legislation for it to reach
23 net zero over time.

24 Now, on the back of all of this growing
25 global commitment -- next slide -- we can see

1 that investments in the energy transitions have
2 kept reaching new record highs. So this chart
3 shows energy transition investments in 2018 to
4 2022, and you can see that, in 2022, BNEF tracked
5 1.1 trillion dollars invested. So this is the
6 first time we've exceeded a trillion dollars as a
7 global community, which is a 31-percent
8 year-on-year rise from the previous year.

9 So let's put that into perspective
10 with -- next slide -- fossil fuel investments as
11 well. Here you can compare the energy transition
12 investment to fossil fuel investments, and "glass
13 half-full" perspective is that, for the first
14 time, energy transition investment has finally
15 kept up with fossil fuel investments, in 2022.

16 The "glass half-empty" perspective is
17 that there is still a long way to go, and there
18 is a clear disconnect between what our climate
19 ambitions show versus actual investments for
20 energy across the global economy, but we are
21 making strides, and let's dig into the specifics
22 of investments within the energy transition.

23 Next slide.

24 So this chart shows global investments in
25 the energy transition by various sectors, so it

1 shows the same investment bar charts, but just
2 for the energy transition, broken down by where
3 the money is going.

4 Next slide.

5 You can see that clean power investments
6 remain extremely strong. You can see energy
7 storage, nuclear, renewable energy combined made
8 up more than \$500,000,000,000 in 2022 -- next
9 slide -- but you know, we know, that
10 electrification is what's actually driving the
11 acceleration, and a lot of that -- next
12 slide -- comes from passenger vehicles.

13 So we can see that around
14 \$380,000,000,000 were invested in passenger
15 vehicles in 2022, coming, really, from electric
16 transport spending, but then electrified heat is
17 also making some major strides. So global
18 investment in heat pumps by region, which is the
19 right chart, you can see, reached \$64,000,000,000
20 in 2022, with the Americas making some additional
21 investments of \$24,000,000,000.

22 Now -- next slide -- we also know that
23 less mature technologies are starting to scale,
24 so investments in both hydrogen in CTS, although
25 they're very small slivers of that bar chart

1 today -- next slide -- you can see that they've
2 made some major jumps in investments in 2022, and
3 it's critical because they are essential parts of
4 a low-carbon economy.

5 So hydrogen investment jumped to 1.1
6 billion dollars in 2022, which is the first time
7 they've reached a billion dollars, and carbon
8 capture storage investments increased to roughly
9 6.5 billion dollars in 2022.

10 COMMISSIONER MONAHAN: Can you stop there
11 for a second? This is all electrolyzers?

12 MS. KOU: Yes, globally.

13 CHAIR HOCHSCHILD: (Indiscernible.)

14 COMMISSIONER MONAHAN: So this is clean
15 hydrogen? It's not hydrogen writ large?

16 MS. KOU: It's hydrogen at large.

17 (Indiscernible.)

18 COMMISSIONER MONAHAN: Because most
19 hydrogen is from fossil fuels, but, anyway, we
20 don't have to (indiscernible).

21 MS. KOU: No, I can fully understand. I
22 think, with hydrogen, like, obviously, like there
23 are different sources for electrolyzers, but the
24 point of this chart is ideally to show that there
25 are rapid investments that are moving into the

1 industry, and the goal is that showing the uptick
2 into an activity shows how the financial
3 institutions are looking at clean power
4 (indiscernible).

5 COMMISSIONER MONAHAN: Maybe if you could
6 give us, like, a follow-up on what's included in
7 this. There's a lot of (indiscernible) by the
8 fossil industry right now.

9 MS. KOU: Yes.

10 COMMISSIONER MONAHAN: So this must be a
11 subset of the (indiscernible).

12 MS. KOU: Completely. I am happy to
13 (indiscernible) with the data on (indiscernible).
14 Yes.

15 COMMISSIONER MCALLISTER: So, actually, I
16 have a question as well. Could you go back to
17 the heat pump slide?

18 MS. KOU: Yes.

19 COMMISSIONER MCALLISTER: Maybe the next
20 one up. Yes, that one right there. So, global
21 investment, does that mean sort of industrial
22 players in manufacturing and things, or is that
23 like -- does that include retail, what it
24 installs and all that?

25 MS. KOU: So, to ensure that we're not

1 double counting, we're looking at investments
2 into, like, specific either activity or policy
3 and deployment. So we're looking specifically
4 based on deployments, and then the cost to deploy
5 that, so fundamentally retail, yes.

6 COMMISSIONER MCALLISTER: Thank you.

7 MS. KOU: (Indiscernible.) So I just
8 showed a whole bunch of bar charts that just go
9 up towards the right, and the point of these bar
10 charts is basically to showcase that there is a
11 lot of momentum that is going into the industry.
12 We see massive amounts of investments off the
13 back of kind of clear and consistent climate
14 ambitions, but, at BNEF, something that we
15 notably do is look at how those investments could
16 translate into a net zero economy.

17 So, next slide.

18 At BNEF every year, what we do is we
19 conduct a new energy outlook, and what it is, is
20 our view of how the energy system will evolve
21 through 2050, and in this analysis that we did
22 last year, kind of what we did was we looked at
23 whether or not we can actually achieve net zero
24 by 2050, and the main takeaway from this report
25 is that a net zero future is still within reach,

1 but what is essential is electrification, green
2 power, and new technologies. We need those
3 things to actually drive to a net zero economy.

4 Next slide.

5 So we've taken a sector-wide approach
6 into kind of analyzing kind of a net zero
7 scenario, and we've divided these sectors into
8 three major groups. So the first group is a
9 cost-competitive pathway. So, in this
10 cost-competitive pathway, the sectors that we
11 know will likely decarbonize the quickest is road
12 and power, so transport and power. The next is a
13 group known as, like, "known technologies," and
14 known technologies, this includes buildings as
15 well as rail.

16 In these sectors -- next slide. In these
17 sectors, we know what the solutions likely are to
18 decarbonize the sectors, namely, electrification,
19 but they are often hard to implement.

20 The last bucket of sectors that we've
21 thought about is hard-to-abate sectors -- next
22 slide -- and these sectors include steel, cement,
23 shipping, aluminum, and aviation. In these
24 sectors, we've noted that emissions are still
25 actually fast-rising under a net zero scenario.

1 For example, we can see in the chart
2 aviation, which is the bright green dotted line.
3 Emissions still increase past 2022. A lot of
4 that comes following the recovery of the
5 pandemic, and this year, in our market outlook,
6 we've done deeper dives into the options for
7 these type of industries to decarbonize.

8 So we've compiled all of these different
9 sectors, from competitive sectors to
10 hard-to-abate sectors, and compiled them all
11 together to try to figure out, like, what would
12 it take to reach net zero?

13 So, next slide.

14 This chart summarizes that pretty nicely.
15 So the top black line of the chart to your left
16 shows our emissions forecast under a
17 no-transmission scenario by 2050, so, if we
18 continue with our economy as today, like, what
19 emissions will look like by the end of 2050 from
20 a global sector perspective, and that is roughly
21 50 gigatons of carbon dioxide per year, and the
22 area chart shows the sources of abatement needed
23 to reach a net zero pathway.

24 Now, we see there's a really important
25 role for the rise for carbon capture, as well as

1 hydrogen, so we know that there needs to be a 4X
2 increase in carbon capture between 2030 and 2050,
3 a 5X increase in hydrogen consumption, final
4 hydrogen consumption, to be precise, between 2022
5 and 2050, but really, like, if you look at that
6 area chart, what you'll see is a swath of blue,
7 and that swath of blue comes from the
8 electrification of various sectors, as well as
9 clean power production. So we expect we need a
10 7X increase in primary clean power production
11 between 2022 to 2050 if we are to reach a net
12 zero scenario.

13 Now, next slide.

14 All of the solutions play out slightly
15 differently depending on industries. So, here in
16 this chart, you can see the final energy mix by
17 sector under a net zero scenario for industry,
18 transport, and buildings, and what you can see is
19 that, actually, electricity is going to be really
20 essential here.

21 So, from an industry perspective,
22 industry energy consumption, we expect, will
23 continue to grow, so less energy efficiency, in
24 this sector, and it will rise through from the
25 mid-century onwards to 2050 even under a net zero

1 scenario.

2 However, the energy mix is expected to
3 change significantly. We know that this is where
4 hydrogen is going to make the most significant
5 impact across all the various industries you see
6 in this chart, but what's really clear is that
7 electricity consumption must increase
8 drastically, and expect a decrease in coal and
9 gas consumption.

10 Next slide, and one more slide.

11 Next one is transport industry. So
12 transport energy demand actually changes
13 drastically due to widespread electrification.
14 So, by moving away from combustion vehicles to
15 electric vehicles, you can see that energy demand
16 completely plummets, and the reason why is
17 because electric vehicles are just more efficient
18 vehicles, and, as a result, what you can see by
19 the end of 2050, oil consumption and transport
20 effectively vanishes, while at the same time
21 total final energy consumption drops nearly
22 halfway from 2022.

23 The final grouping -- next slide -- is
24 buildings. So, in the building sector, energy
25 demand continues to grow throughout the

1 mid-2030s, but we do actually see a little bit of
2 energy efficiency taking into effect. But we
3 know that rapid electrification is still very
4 much needed in that sector, and we expect that,
5 as a result, most of gas and coal consumption
6 completely decreases in this industry. I think,
7 hopefully, from these few charts, what is very
8 clear is that electrification is key to
9 decarbonized growth.

10 Next slide.

11 So, with electrification, the power
12 system must grow, and these two charts show
13 electricity demand under two basic scenarios we
14 have at BNEF. The first one is the economic
15 transition scenario, which is the chart to your
16 left, and the chart to your right shows our .,net
17 scenario.

18 So, under the economic scenario, we
19 expect that, globally, we'll need 40,000 kilowatt
20 hours of power generation by 2050, which is 60
21 percent more than (indiscernible) hours, which is
22 about the same amount of power we use in energy
23 systems today across all demand sectors.

24 So let's actually begin --

25 COMMISSIONER MONAHAN: That's a

1 shocking --

2 COMMISSIONER MCALLISTER: That's a
3 shocker.

4 COMMISSIONER MONAHAN: That's a shocker.

5 MS. KOU: Yes.

6 COMMISSIONER MCALLISTER: So, at some
7 point, will you help us -- so those three
8 sector-specific charges were super interesting.
9 So it kind of seems like it would be good to map
10 that endpoint, that mix, onto the different
11 sectors, and sort of unpack, just to be aware of
12 what's driving all that high demand.

13 MS. KOU: Yes.

14 COMMISSIONER MCALLISTER: Is that mostly
15 industry?

16 MS. KOU: If you go back to the previous
17 slide --

18 COMMISSIONER MCALLISTER: It looks like
19 there's a fair amount of hydrogen in buildings.

20 MS. KOU: It's --

21 COMMISSIONER MCALLISTER: No, I'm sorry.
22 (Indiscernible.) I'm sorry.

23 MS. KOU: A lot is -- yes.

24 COMMISSIONER MCALLISTER: So it's
25 industry and some transport. The lighter green

1 on top is hydrogen, right?

2 MS. KOU: Yes, it is the lighter green.
3 It is mainly for industry, and, like, because of
4 the way -- assuming that we would use clean
5 hydrogen, you would need so much more electricity
6 production to seal that hydrogen production.

7 VICE CHAIR GUNDA: Okay. Just to ask a
8 question on the transportation hydrogen. Like,
9 what are the use cases there that you guys are
10 modeling?

11 MS. KOU: So, for transport, I believe
12 that includes shipping and aviation. So, for
13 hydrogen, like, hydrogen is likely not going to
14 be used for, like, passenger, like, vehicles.
15 It's mainly going to be used for, like, much
16 harder, long-haul-use cases. Yes.

17 MR. BOHAN: Is industry dominated there,
18 that wedge that grows (indiscernible) in the
19 first chart you've got there? Is that dominated
20 by high-heat applications? You know, have you
21 guys considered whether electrification is
22 suitable for some of the really high-heat
23 applications?

24 MS. KOU: That's a really good question.
25 I think I'd probably need to follow up with you

1 on that, but, assumingly, like, within industry,
2 we have multiple different sectors, of which,
3 like, where electrification is applicable because
4 it's like the least cost-effective option, that
5 is the first primary-use case we utilized, and
6 then from there is when we built out our
7 expectations of energy consumption, but I will
8 follow up with you on that. Yes.

9 VICE CHAIR GUNDA: I'm sorry for
10 (indiscernible.) I'm just going to ask a couple
11 more questions, I think.

12 MS. KOU: Okay.

13 VICE CHAIR GUNDA: Maybe the previous
14 slide, where you have -- one more slide back.
15 Sorry about this. Okay. Wonderful. Yes, right
16 there. Yes.

17 So, you know, we have a chart now, a
18 charge to think about petroleum transition,
19 right, in California. So, when you're modeling
20 this, what are you considering? Are you looking
21 at -- I mean, looking back from our goals, net
22 zero, kind of the things that need to happen,
23 like techno-economic variables to get there, and
24 how much do you take into account the
25 implementation barriers or constraints in kind of

1 laying these scenarios out?

2 I'm just kind of thinking out loud of,
3 under a petroleum scenario, how are you guys
4 thinking at BNEF on the actual, you know,
5 on-the-ground transition, right? So you
6 have -- one of the things we're thinking about
7 is, you have refiners, and the refiners are
8 slowly going out of business. You know, how do
9 you -- or have to evolve to some of the cleaner
10 fuels. Are you considering those kind of market
11 issues (indiscernible), or just modeling one of
12 "This is what has to happen"?

13 MS. KOU: Yes. That's a very good
14 question, and I'm assuming you're framing this
15 from -- like, for the net zero scenario in
16 particular, right?

17 VICE CHAIR GUNDA: Yes.

18 MS. KOU: So our outlooks are basically,
19 like, outlooks or models that kind of
20 (indiscernible) views on, like, what needs to
21 happen.

22 VICE CHAIR GUNDA: Needs to happen.

23 MS. KOU: On the energy transition
24 scenario, it's a least-cost, like, deployment
25 expectation, so, like, given current costs and

1 current expectations of future costs of these
2 various technologies, like, how would things
3 deploy?

4 When we look at net zero, we say, "Okay.
5 We know that we're adding a constraint that we
6 have to reach zero emissions by the end of 2050.
7 How do we reach that despite -- without thinking
8 about a least-cost scenario?"

9 So we don't necessarily take into account
10 policy within these views. We really only think
11 about it from a perspective of, like, what then
12 ends up being kind of the least-cost perspective
13 to deploy to net zero given an emissions
14 constraint? One of the outputs of our analysis,
15 actually, then, is, like, what is the cost needed
16 to do so?

17 VICE CHAIR GUNDA: Right. And what is
18 it?

19 MS. KOU: Off the top of my head, I
20 cannot recall, but I will definitely follow up
21 with you on that.

22 VICE CHAIR GUNDA: Yes. I think it's
23 interesting that one of the questions that came
24 up in our discussion yesterday was, what is the
25 totality number that we are looking at, right, in

1 terms of the overall transition, and, you know,
2 how do you secure that funding, and what part of
3 it comes from, potentially, state incentives,
4 federal government, and then how much comes from
5 the private investment?

6 So it would be nice to have kind of a
7 ballpark of the transition number, and how BNEF
8 is thinking about the transition (indiscernible),
9 right? Like, how does this work? I mean, how
10 does the snapshot work in reality, from an
11 implementation standpoint? I'd love to hear your
12 thoughts, not today, but I would like to hear it.

13 MS. KOU: (Indiscernible.) Actually,
14 we'll get into implementation. It's part of my
15 slides and (indiscernible).

16 COMMISSIONER MCALLISTER: One thing that
17 I just want to tee up, like, in one of the
18 slides -- sorry (indiscernible), but what are the
19 financial models to actually make this happen,
20 right? Like, you know, where -- really we're not
21 finance people, and, you know, clearly, you know,
22 (indiscernible) depends on, like,
23 (indiscernible).

24 So, you know, in terms of
25 (indiscernible), for example, how far does that

1 5,000,000 (indiscernible) low- and middle-income
2 families that are going to need to invest in
3 their buildings and don't have the cash
4 (indiscernible)? Where is that capital coming
5 from, and what are those (indiscernible) that are
6 going to kind of enable private capital to step
7 in (indiscernible)?

8 So, I mean, that's a -- I don't think
9 there's a silver bullet there, but I think
10 (indiscernible) could probably help us think
11 about that.

12 MS. KOU: Yes, completely. I think those
13 are conversations we're having within BNEF as
14 well, is kind of, as we -- a lot of, like, kind
15 of the net zero scenario is really framed around
16 the fact that we know that there is policy that
17 is pushing us and compelling us towards, like,
18 totally the net zero scenario. Like, where
19 (indiscernible) the private sector play into that
20 is something that we're definitely, like, having
21 conversations about as well.

22 COMMISSIONER MCALLISTER: Like, the rest
23 of the world thinks that just having a goal is
24 going to get us there, and we're trying to figure
25 out, okay, how do we actually march towards that

1 goal in practice? So that's where some of this
2 is coming from.

3 VICE CHAIR GUNDA: I promise I won't ask
4 more questions until you finish the presentation.

5 COMMISSIONER MCALLISTER: Really?
6 Really? (Indiscernible.)

7 VICE CHAIR GUNDA: I just wanted to
8 frame, again, as you're going to think -- as
9 you're going to walk through -- as you're
10 considering different sectors and decarbonizing
11 each sector, right, within the modeling you're
12 doing, what are the tradeoffs on how you are
13 pushing one sector decarbonization versus the
14 other? Is it mostly economically driven,
15 technology availability, feasibility? You know,
16 it would be really helpful to kind of think about
17 kind of going to this point of now we know the
18 goal exists.

19 MS. KOU: Yes.

20 VICE CHAIR GUNDA: It's very clear where
21 we're going, and we want to go there as fast as
22 we can. How do we ensure the cost-effectiveness,
23 the reliability, and all those pieces, and how do
24 you think about that, right?

25 MS. KOU: Yes, yes.

1 VICE CHAIR GUNDA: We would love to kind
2 of -- any insights you have based on the work
3 today would be helpful (indiscernible).

4 MS. KOU: Yes. Man, I wish had put in
5 methodology slides, into the slides, but I think,
6 like, just a high-level explanation. So the way
7 we do our forecasts for a new energy outlook
8 fundamentally, historically, has been based on an
9 economic transition, so looking at, like least
10 cost, based on, like, the cost of a technology or
11 future potential cost of a technology.

12 Within, like, power, we do take into
13 account, like, reliability needs, given, like,
14 the power load profiles of the different markets
15 we analyze, but as, like, you've mentioned, like,
16 the actual execution of deployments is becoming
17 more critical, and, like, in our upcoming
18 iterations of, like, our new energy outlook,
19 we're now going to take into account grid costs.
20 We're going to think more deeply about, like,
21 beyond just, like, a least-cost scenario, like,
22 how do you take into account the additional
23 constraints that are coming within the industry?

24 Yes. Cool. I will continue on.

25 COMMISSIONER MCALLISTER: I'm going to

1 (indiscernible).

2 MS. KOU: Next slide.

3 COMMISSIONER MCALLISTER: In the
4 confidence that Commissioner (indiscernible), I
5 will not ask any more questions.

6 MS. KOU: It's totally fine. I'll answer
7 more questions.

8 So, as power demand grows -- so this
9 chart actually -- what it shows is our power mix
10 that we're going to see under that net zero
11 scenario. We know that power demand is going to
12 grow, but, beyond just the power demand growing,
13 we expect the power mix to also change globally,
14 it's fundamentally what you're going to see, it's
15 going to supercharge renewables.

16 So this (indicating) is the power mix
17 under a net zero scenario, and, as you can see
18 from these two charts, so fossil fuel generation
19 under a net zero scenario and low-carbon
20 generation under a net zero scenario, that wind
21 and solar is going to dominate that growth.

22 Although, like, wind and solar will make
23 up roughly three-quarters of total power
24 generation, we know that nuclear is also going to
25 be playing a pretty essential role, especially

1 beginning in the 2030s.

2 We also see a major shift in the types of
3 low-carbon firm capacity out there, which
4 includes energy storage, hydrogen, and nuclear,
5 and we know that, overall, low-carbon firm
6 capacity will be roughly equivalent in size to
7 existing fossil fuels today by 2050, but what we
8 know is that these new low-carbon firm capacity
9 are running at a very low-capacity factor,
10 usually sub-10 percent after the 2040s, which
11 requires policymakers and market kind of people
12 to rethink the role of firm capacity in a power
13 system. All right.

14 CHAIR HOCHSCHILD: Can I -- sorry.
15 You're never going to get through your
16 PowerPoint --

17 MS. KOU: No worries.

18 CHAIR HOCHSCHILD: -- but I just want to
19 observe, you know, one of the things I'm really
20 interested in is, you know, what I call the
21 "market transformation effect," you know,
22 renewables, as you get to scale and get these
23 huge (indiscernible), which is not true for
24 fossil at this point, because it's stale, right?
25 And if you go back 15 years or so, you look at

1 the projections of the International Energy
2 Agency, the Energy Information Administration.
3 You know, they were terribly, terribly wrong.
4 Okay?

5 Their projections for the growth of
6 renewables was, like, off by an order of
7 magnitude, because they didn't foresee the market
8 transformation effect, and we've had, like, with
9 storage, solar, and wind, basically, like
10 90-percent cost reduction over the last, you
11 know, 12, 15 years.

12 MS. KOU: Fifteen.

13 CHAIR HOCHSCHILD: And so, you know --
14 and we're not done with that, but I guess one
15 question I have, like, now that we have learned
16 that lesson, and you're looking at it
17 more -- like, what is the available, you know,
18 additional cost reduction you're foreseeing, I
19 mean, when you try and look at those
20 (indiscernible)?

21 You know, when I was in solar industry, I
22 remember we were developing a module -- this is,
23 you know, 15 years ago. We had a little
24 celebration when we hit 70 watts, okay, "Yay."
25 (Indiscernible) 600-watt modules right now, I

1 mean, a totally different order of magnitude.

2 You know, when we started working on
3 offshore wind, the largest, you know, turbine on
4 the market was often seven megawatts, and now
5 we're at 18, right? So, like, all these things
6 (indiscernible). Like, when you're looking at
7 that, how much more cost reduction are you guys
8 foreseeing? So, for solar, wind, storage, those
9 kind of --

10 MS. KOU: Yes. That's a good question.
11 So I lead our energy storage market outlook, as
12 well as our cost outlooks, within BNEF. So I can
13 give, like, probably the most nuanced perspective
14 for energy storage.

15 So, I mean, the way we kind of forecast
16 cost is -- and there's like a near-term kind of
17 expectation in which we utilize our cost survey
18 and surveys we do with industry participants to
19 kind of gauge where costs are in the near term,
20 but, in our long-term expectations, it's based on
21 a learning rate, and the learning rate is based
22 on historical data of where costs have gone.

23 A lot of what impacts learning rates is
24 also the potential scale of deployments, and I
25 think that's why, at BNEF, we've always had

1 pretty aggressive cost curves, going downwards.
2 It's because we also have very aggressive
3 deployments, like, moving forward.

4 I think, given these near-term kind of
5 (indiscernible) constraints, we have adjusted our
6 learning rates, and taken into account for
7 near-term ups and downs in commodity cycles, but
8 I think the reason why we continue to use
9 learning rates in our long-term cost forecasts is
10 because we know that, due to economies of scale,
11 the more you deploy, the more efficiencies you'll
12 get in manufacturing and in innovations that will
13 push deployments downwards.

14 I think, especially within battery
15 storage, for example, like, if you're looking
16 at -- like, a lot of web clients will tell us is
17 that, from a technology perspective, maybe
18 there's not necessarily a whole bunch more you
19 can push down on lithium-ion batteries for an
20 energy-storage system, so it wouldn't make sense
21 for us to have such aggressive postures, but,
22 like, we know that there is lots of innovation
23 within the battery space.

24 Like, we know that sodium-ion batteries
25 are something that, like, the industry is testing

1 out and could potentially deploy in the future,
2 and that will drive costs further down. So,
3 like, what learning curves, like, really help us,
4 like, kind of assess is, like, it takes into
5 account changes in innovation that we may not
6 necessarily currently see right now.

7 CHAIR HOCHSCHILD: Yes. I would
8 definitely contest that notion that we're kind of
9 capped out on lithium, and just the stuff that
10 we're funding, you know, QBERG, Sepion, Coloshell
11 (phonetic), (indiscernible) current, but the next
12 generation of lithium is we're looking at, you
13 know, 40 percent improving energy density
14 (indiscernible), and also looking at cobalt-free,
15 nickel-free chemistries, which all will help
16 with, you know, cost as well. So, yes, but, I
17 mean, that does -- like, I understand that does
18 dictate a lot of -- like, how big a future we see
19 for nuclear, I think, depends in part on what
20 happens with storage, if we get another
21 15-percent cost reduction in storage, right?

22 MS. KOU: Yes.

23 CHAIR HOCHSCHILD: Like, I'm just --
24 that's why I'm trying to drill down, like, how
25 are you guys looking at those cost

1 (indiscernible)?

2 MS. KOU: No, completely. I agree. I
3 think, like, when we do our net zero scenarios,
4 we definitely need to, like, pick what type of
5 cost codes we're going to be inputting into our
6 models, of which, like, you're completely right.
7 Like, we could see much more aggressive, like,
8 reductions in costs for energy storage, but we
9 also know there are, like, plenty of innovations
10 both in the nuclear industry, that, like, also
11 has a (indiscernible) perspective.

12 So, within BNEF, like, within our
13 sectors, sector analysts will provide
14 probably -- like, will provide us a view of,
15 like, what is the cost curve that is most likely
16 going to happen within X, Y, Z, different
17 regions, and that's what then gets implemented
18 into our scenario analysis.

19 COMMISSIONER MCALLISTER: Right. So it
20 would be really interesting to have, like, a
21 methodology conversation about this, because,
22 like, learning curves, you know, they're not
23 always mainstream.

24 MS. KOU: No.

25 COMMISSIONER MCALLISTER: You know,

1 they're not -- they can be controversial, and,
2 like, technology (indiscernible). Those learning
3 factors, you know, are, like, subject to lots of
4 debate, and so it would be interesting to
5 understand how you're doing that, like, both
6 within the sector or like sort of the
7 backcasting, and figuring out what the learning
8 curve has been in a given sector, and then
9 comparing that across sectors, like solar and,
10 you know, all the -- you know, because those
11 details really matter in terms of, you know, once
12 you start to, like, you know, have an exponential
13 factor in there, like, little differences in your
14 learning curve really end up in very different
15 places.

16 MS. KOU: Yes.

17 COMMISSIONER MCALLISTER: So, like,
18 anyway, it would be helpful to get -- maybe get
19 our heads more around that.

20 MS. KOU: Completely. Definitely would
21 love to do a methodology call, but, if I do that
22 right now, we may never get through
23 (indiscernible).

24 COMMISSIONER MCALLISTER: I mean, my,
25 like, touch on that has just been doing work in

1 academia, and you guys are much more market
2 focused, and so I'd just like to calibrate.

3 CHAIR HOCHSCHILD: Yes.

4 UNIDENTIFIED SPEAKER: I'm not going to
5 ask what you (indiscernible).

6 CHAIR HOCHSCHILD: (Indiscernible.)

7 MS. KOU: No. I love debate.

8 Next slide.

9 So, actually, kind of -- I want to go
10 back to this analogy around tug-of-war. So what
11 we know is that, like, there's a lot of momentum
12 within the industry. We have a lot of
13 investments going into clean power and the
14 (indiscernible), and we know that there is some
15 pathways to kind of reach net zero by 2050, but,
16 over the past few years, especially throughout
17 the pandemic, I think what we've realized is that
18 there are other forces that have been pushing
19 deployments down, or at least delaying a lot of
20 the onset of large deployments, and that includes
21 supply-chain constraints, rising inflation costs,
22 and, really, like, what we kind of noticed is
23 that -- next slide -- we know that scaling of
24 clean power deployment remains really challenging
25 today.

1 Next slide.

2 Over the past few years, what we've
3 noticed is that there have been major markets and
4 administrations and governing entities that have
5 announced or expanded their ambitious targets
6 around emissions and clean power, yet analysts at
7 BNEF find that meeting these goals can be
8 extremely difficult.

9 Next slide.

10 So I lead our energy storage market
11 outlooks, and the tagline for our most recent
12 outlook is "Ambitious Targets, Ambiguous
13 Outlook," and the reason why is because we've
14 noticed that there have been a lot of various
15 different regions that have set these big energy
16 storage targets, which you can see here on this
17 chart.

18 You have New York's six-gigawatt storage
19 target. You have China's 70-gigawatt target,
20 which is based off of a summation of local
21 provincial targets, India, Turkey, Greece, and
22 South Korea's targets, which are shown in the
23 hashed bar charts to your right, and then you
24 also have what analysts think are the expected
25 deployments within that set target.

1 In most cases and in most markets,
2 analysts believe that we won't hit the storage
3 target. A lot of that deals within execution and
4 implementation. The same is true for wind.

5 Next slide.

6 So here is wind turbine capacity forecast
7 versus government goals. So, in this chart, you
8 can see in the diamond dot is 2030 or 2035
9 targets for various countries across the world,
10 the U.S. estimation, domestic targets, and then
11 the bar chart shows what is the expected amount
12 of wind capacity deployed in that given region by
13 the set target date.

14 What you'll see is that, again, in most
15 countries, like Denmark, the U.K., U.S., India,
16 these countries won't hit their expected targets,
17 and kind of a lot of times what clients will ask
18 BNEF is why, and -- next slide -- what you'll see
19 is that there have been many major challenges
20 that we expect we'll need to overcome within the
21 renewable energy industry to deploy more
22 additional capacity.

23 There are plenty of forces that we can
24 talk through, but kind of the key forces that
25 we've noted include supply chains, particularly

1 vessels. There's rising costs, which includes
2 rising costs of equipment, labor rates, debt,
3 interest rates, as well as grid and
4 infrastructure constraints. So I'm going to go
5 through each one of them, briefly. First is
6 supply chain constraints.

7 Next slide.

8 So we know that pandemic-related
9 restrictions and high demand for products,
10 (indiscernible) goods and services, caused port
11 congestion throughout these past two years, and
12 just like all other kind of goods and services,
13 congestions have left power equipment stuck at
14 ports, causing project delays. So this chart
15 shows the number of ships at the Port of L.A.,
16 one of the world's largest ports, and you can see
17 the chart has an ebb and flow of the number of
18 ships that are in the Port of L.A. through the
19 U.S. lockdown and through different pandemic
20 ways.

21 In September 2021, when port congestion
22 was at its worst, we noticed there were around 84
23 ships at the Port of L.A., and it's, like, these
24 congestion moments that have caused major delays
25 in project deployments across the U.S. for wind,

1 solar, and batteries throughout the tail end of
2 2021 and throughout 2022.

3 Next slide.

4 So we know throughout 2022, as well as
5 2023, port congestion has definitely eased.
6 We're returning to pre-pandemic levels, but even
7 now, in 2023, we notice that there still
8 continues to be a ripple effect from just like a
9 couple months within 2021 that caused project
10 delays, like, throughout 2023.

11 So, even now, like, in our most recent,
12 like, clean energy market outlook, we know that
13 project delays continue to sustain, and
14 throughout 2022 and 2023, and, like, any time you
15 have port congestion, that causes delays in
16 future pipelines over the next few years.

17 Next slide.

18 So rising cost is probably our key
19 concern within the near term for renewable
20 energy.

21 Next slide.

22 I know, first and foremost, what we've
23 noticed is that, across the world, commodity
24 prices for input materials and raw materials for
25 the energy transition have increased

1 significantly. These raw materials or input
2 materials include everything from steel to
3 copper, lithium to polysilicon, and these input
4 materials have all gone up in price.

5 This chart shows price movements for key
6 components, (indiscernible) to one in January
7 2020, and you can see that, particularly for
8 lithium, lithium carbonate, and lithium
9 hydroxide, prices skyrocketed, around 14 to
10 almost 16 at times, January 2020 levels, as a
11 result, and these higher raw material and input
12 prices have translated to higher equipment costs
13 for solar, wind, and batteries, and the impact of
14 this sudden change is likely going to be felt for
15 a while, even as prices have started to come
16 down.

17 You can see on the chart lithium
18 carbonate and lithium hydroxide prices
19 (indiscernible) into January, but, even then, we
20 expect that battery system prices or energy
21 storage system prices will remain elevated
22 through 2023.

23 Now, it's not just raw material costs
24 that have increased. Next slide. Labor costs
25 have increased as well. So this chart shows the

1 average hourly earnings of a utility production
2 employee, so any workers that work specifically
3 on production of utility equipment, and earnings
4 per hours have increased, \$38 per hour, all the
5 way up to \$43 per hour, which really impacts the
6 overall EPC costs that we have within our value
7 stacks for energy storage costs or solar
8 installation costs.

9 So both raw material prices as well as
10 higher labor prices translate to higher renewable
11 project costs -- next slide -- and we know based
12 on data that we collect that, for example,
13 onshore wind turbine price index has increased 30
14 percent compared to pre-pandemic levels, and it's
15 unlikely to come down immediately, because wind
16 turbine manufacturers look to recover those
17 margins that they've lost during the pandemic.
18 The same goes for energy storage.

19 Next slide.

20 So this chart shows historical prices for
21 turnkey energy storage systems for a
22 four-hour-duration storage system between 2017
23 and 2022, and in our most recent cost outlook,
24 we've noticed for the very first time in our
25 recorded history that energy storage prices

1 increased 27 percent, from \$256 per kilowatt-hour
2 to \$324 per kilowatt-hour, between 2021 and 2022.

3 MR. BOHAN: (Indiscernible.)

4 MS. KOU: It's in dollars per
5 kilowatt-hour. Yes.

6 So kind of what we know is that, like,
7 with many of today's contracts supporting
8 projects later in this decade, especially for
9 wind and energy storage, these higher prices that
10 we're seeing today, they're going to be felt for
11 a while. High prices then also translate to
12 higher LCOEs.

13 Next slide.

14 So LCOEs rose for the first time in
15 history as well, due to the increase in costs on
16 renewable equipment, and pressures from
17 inflation, as well as higher cost of debt, also
18 spur that increase overall.

19 So it may look like wind bucks that
20 trend. As you can see, wind, for the most part,
21 looks like it stayed -- or the LCOEs have gone
22 down globally, but -- next slide -- if you
23 actually take out the impact of China in the LCOE
24 benchmark, what we'll see is that wind LCOEs
25 increase as well, when you exclude out China, and

1 so, really, overall material cost increases very
2 much impact the overall cost-competitiveness of
3 renewables.

4 Now, kind of the last key grouping --
5 next slide -- is grid and infrastructure,
6 probably my favorite topic.

7 Next slide.

8 So we know that renewable deployment is
9 kind of cycled by grid connection queues, and
10 this is something we're really seeing across both
11 Europe and the U.S. So there are huge pipelines
12 of projects around the world waiting, and great
13 interconnection queues, and our analysis
14 estimates that renewable capacity equivalent to
15 85 percent of Europe's 2030 renewable energy
16 target is currently stuck in grid interconnection
17 queues of just five countries, the U.K., France,
18 Italy, Germany, and Spain.

19 The U.S. is not doing much better. You
20 can see, based on the chart here, that PJM, the
21 West, MISO, and all three of those regions have
22 more than 100 gigawatts of solar and wind just
23 stuck in interconnection queues.

24 Go for it.

25 CHAIR HOCHSCHILD: I'm letting up. I'm

1 letting up.

2 COMMISSIONER MCALLISTER: Let him go.

3 UNIDENTIFIED SPEAKER: I'll get him
4 first.

5 VICE CHAIR GUNDA: How big is India
6 compared to CAISO?

7 MS. KOU: You can see CAISO.

8 VICE CHAIR GUNDA: No, no, no, in terms
9 of the total load.

10 MS. KOU: Total load. Great question. I
11 know CAISO's off the top of my head, and
12 (indiscernible) peak load can range between 30
13 (indiscernible), so PJM is definitely a much more
14 significant enlarger market.

15 VICE CHAIR GUNDA: So it's like scales,
16 right, but interconnection queue with the load?

17 MS. KOU: Fundamentally, I would say,
18 like, probably not perfectly right now, but yes,
19 like, from a general trend (indiscernible) scale
20 based on load. Yes.

21 COMMISSIONER MONAHAN: So that's a
22 helpful way to have those charts, but have load
23 as a -- you know, have it (indiscernible) by load
24 or something so you can compare, because it's
25 hard to --

1 VICE CHAIR GUNDA: It's hard to put the
2 scale on (indiscernible).

3 COMMISSIONER MONAHAN: Yes, we need the
4 scale.

5 VICE CHAIR GUNDA: (Indiscernible.)

6 MS. KOU: That's a fair point. I'll make
7 that chart. Yes.

8 COMMISSIONER MONAHAN: Can we have that
9 chart when you --

10 MS. KOU: Sure. Yes, absolutely.

11 COMMISSIONER MONAHAN: Would you mind,
12 like, putting (indiscernible), because we're
13 doing a report right now on this topic. I think
14 that should be a good framing about what's
15 happening internationally.

16 COMMISSIONER MCALLISTER: Yes. Also, it
17 frames (indiscernible) probably, in the grand
18 scheme of things, because it's smaller.

19 COMMISSIONER MONAHAN: Yes.

20 MS. KOU: Completely. New York in
21 general (indiscernible) more intricate
22 (indiscernible). They have --

23 MR. BOHAN: Do you have something to show
24 us, like, the time frames, you know, the queue
25 could be a week or the queue could be five years?

1 MS. KOU: Yes. My colleague, Javier
2 (phonetic), has done analysis on, like, kind of
3 the time frames within interconnection queues, as
4 well as, like, based on different resources,
5 what's the likelihood that a technology gets
6 through the interconnection queue? I can
7 definitely send that (indiscernible).

8 VICE CHAIR GUNDA: That would be really
9 helpful. Yes. Super.

10 MS. KOU: Yes. All right. Next slide.

11 UNIDENTIFIED SPEAKER: You opened the
12 gate.

13 So, again, I want to go back to this
14 analogy here. So we know that, in the past kind
15 of few years, we've noticed that there have been
16 a lot of major constraints that have impacted
17 whether or not we can actually deploy the amount
18 of renewables that we need, and a lot of that has
19 to do with the fact that we have a lot of supply
20 chain restraints.

21 Kind of in response to these supply chain
22 restraints, what we've noticed (indiscernible) is
23 that we're entering into a new era of the energy
24 transition, and in this new era, what we've
25 noticed is that many different countries are

1 vying for clean power dominance, kind of as a
2 result of this major (indiscernible). So take a
3 couple steps back.

4 Next slide.

5 We know that China currently dominates
6 clean energy manufacturing capacity. So this
7 chart, what it shows is different specific
8 components of clean power equipment, from wind to
9 different components, (indiscernible) the amount
10 of batteries and solar PV, and the market share
11 that different countries have for manufacturing
12 capacity of those implements.

13 I think what is very abundantly clear is
14 that China dominates clean energy manufacturing
15 capacity to date. That's just all the red that
16 we see in this chart, and there are several
17 reasons for that. You have a huge domestic
18 market in China. You have access just to labor
19 and cheap electricity, years of manufacturing
20 expertise, as well as built-out adjacent supply
21 chains, particularly around raw materials.

22 What that has resulted in has been this
23 dominance, as well as this near-term supply chain
24 constraint we've faced over the past three years,
25 is that -- next slide -- we've seen a lot of

1 international competition, and this competition
2 has been ratcheting up over the past few months.

3 So, as the clean power industry grows, we
4 note that the U.S., Europe, and China are all
5 vying to own a share of the energy transition
6 supply chain, and many of them have been passing
7 legislation that incentivizes domestic
8 manufacturing, and so, here in the U.S., we can
9 definitely talk through how -- next slide -- the
10 passage of the Inflation Reduction Act will then
11 have impacted what we've seen in terms of
12 manufacturing capacity on the ground.

13 So, since the passage of the Inflation
14 Reduction Act -- next slide -- we've seen some
15 massive increases in battery investments and
16 manufacturing capacity in North America.

17 So these two charts show North America's
18 EV and battery investments planned post-Inflation
19 Reduction Act or the passage of the Inflation
20 Reduction Act, and, as you can see from the
21 chart, roughly \$58,000,000,000 in investments
22 have been made for EV and battery storage
23 markets, and that's actually significantly
24 impacted our view on the market share that
25 America will have over time in battery

1 manufacturing.

2 So, in 2022, we have roughly six percent
3 of the market share for lithium-ion cell
4 manufacturing, and by 2030, we're going to have a
5 little bit larger ownership, at around 11
6 percent.

7 IRA has also impacted kind of our
8 expectations around wind as well, so -- next
9 slide -- we know that there have been several
10 (indiscernible) of wind plants that are planned
11 to be opened. So this chart shows a number of
12 facilities of various wind component
13 manufacturing plants that have (indiscernible)
14 since the passing of IRA.

15 Next slide.

16 UNIDENTIFIED SPEAKER: What's in the
17 cell, the first thing?

18 UNIDENTIFIED SPEAKER: (Indiscernible) in
19 the cell --

20 COMMISSIONER MCALLISTER: On top of the
21 (indiscernible).

22 MS. KOU: No worries. Good question.

23 We also know that IRA has (indiscernible)
24 a huge influx of solar module factory
25 announcements as well. So this chart shows

1 various existing (indiscernible) capacity of
2 various solar manufacturers within the U.S., and
3 the striped blue bars represent announced
4 capacity across the U.S. So, if all these
5 companies make true to their announcements, this
6 will increase the U.S. solar module manufacturing
7 by sevenfold.

8 We know that IRA has also significantly
9 impacted deployments as well.

10 Next slide.

11 (Indiscernible) have done a lot of
12 analysis on --

13 CHAIR HOCHSCHILD: I'm sorry. Just one
14 thing. Can you go back one second?

15 MS. KOU: Yes.

16 CHAIR HOCHSCHILD: So I actually thought
17 Hanwha was number one. So First Solar is doing
18 more than Hanwha in the U.S. Okay. That's
19 (indiscernible). What fraction of the market
20 is -- first of all, it's the only one doing film,
21 right, in that whole group?

22 MS. KOU: Uh-huh.

23 CHAIR HOCHSCHILD: What fraction of the
24 market is thin film now? Do you know?

25 MS. KOU: Well, I am not a solar expert,

1 unfortunately. I can definitely follow up with
2 that question.

3 CHAIR HOCHSCHILD: Okay. Yes. I've been
4 curious. Yes. Thanks. Okay. Sorry.

5 MS. KOU: Yes. No worries.

6 COMMISSIONER MCALLISTER: I'm kind
7 of -- maybe you were going to get to this, but, I
8 mean, emissions are still going up, you know.
9 Like, I mean, it's -- you know, turning the
10 deployment piece of this is just -- you know,
11 it's critical. You know, we really need to,
12 like, turn this ship very quickly, so any insight
13 on -- I know you're talking about the timelines
14 that you predict, but, like, policy suggestions
15 about how to make it go faster would be helpful.

16 MS. KOU: Yes. I think -- I mean,
17 these -- the presentation I have for you today
18 just definitely showcases kind of like the trends
19 we're seeing, and just how, fundamentally, like,
20 even just with the passage of IRA, like how much
21 more activity we have as a result, but there's
22 very clear momentum whenever government passes
23 any types of policies, that it create incentives
24 for domestic manufacturing.

25 Next slide.

1 I mean, that's also what we're seeing
2 kind of from a deployment perspective as well.
3 Obviously, IRA includes tax credits for renewable
4 energy as well as battery storage deployments
5 through the production tax credit, as well as the
6 investment tax credit, and our team has done a
7 lot of analysis on how a PTC in a standalone ITC
8 is going to impact storage (indiscernible) in the
9 near term, and what we've accessed is that the
10 increase due to the passage of IRA and these tax
11 incentives will increase deployments of wind by
12 38 gigawatts, storage by 20 gigawatts, and solar
13 by 63 gigawatts, primarily just through a
14 production tax credit and investment tax credit.

15 So, really, like, policies that really
16 incentivize and continue incentivizing
17 deployments really make major waves and major
18 differences in our expectation.

19 Next slide.

20 So, going back to this tug-of-war thing,
21 now, I asked, basically, everyone, like, "Where
22 does momentum lie?" I think, for the most part,
23 in all the charts that I've shown here today, we
24 know that, fundamentally, over time -- next
25 slide -- climate emissions and targets, that

1 really will, in the long term, tell us further,
2 but kind of what are the major countries and
3 nations that will be pushing that (indiscernible)
4 that is publicly where we're still uncertain
5 about today?

6 I am conscious of time, and that's
7 currently what I have here today, but I'm very
8 happy to answer any more other questions.

9 CHAIR HOCHSCHILD: Yes. Let's give
10 (indiscernible). Okay. Questions, and also
11 staff or others besides Commissioners, please fee
12 free.

13 COMMISSIONER MONAHAN: Well, just a
14 comment. This was great. I also know the EV
15 outlook is coming out soon, and my understanding
16 is that, for the first time, it's going to have a
17 California breakout --

18 MS. KOU: Yes.

19 COMMISSIONER MONAHAN: -- which I'm super
20 psyched about, and I'm wondering, is there any
21 broader, like, California breakout potential?

22 COMMISSIONER MCALLISTER: That's a great
23 question.

24 MS. KOU: Well, currently, I'm writing
25 the California power (indiscernible) outlook.

1 COMMISSIONER MONAHAN: So we are doing
2 it. So it's (indiscernible) for all --
3 California is going to be like it's own
4 fourth-largest economy (indiscernible).

5 COMMISSIONER MCALLISTER: I mean, our
6 emissions are on a very different track than
7 (indiscernible).

8 MS. KOU: Yes.

9 COMMISSIONER MCALLISTER: It would be
10 really good to be able to, like, sort of wave
11 that flag. Yes.

12 COMMISSIONER MONAHAN: Yes, yes. I mean,
13 that's something we -- I think I was getting
14 (indiscernible) for a while.

15 COMMISSIONER MCALLISTER: Yes.

16 MS. KOU: Yes. I think, within our new
17 energy outlook, we're still (indiscernible)
18 publicly, like, what kind of frameworks we're
19 going to, like -- or which markets, particularly,
20 we want to do breakout sessions on.

21 So I'll continue to be spearheading
22 (indiscernible) in California, as the one who is
23 a Californian, but, in terms of, like, research
24 specific to California, like mentioned,
25 (indiscernible) a breakout specifically on

1 California as well, and then we're going to have
2 a separate market outlook note, which I'll be
3 leading, that kind of looks at the dynamics of
4 how changes in (indiscernible) power mix, as well
5 as the uptick in (indiscernible) to impact
6 California's market in the near term.

7 COMMISSIONER MONAHAN: That's great. The
8 markets went (indiscernible). I know it's the
9 summer, but I can't remember exactly when.

10 MS. KOU: For EVO, NEO? EVO is coming
11 out near the middle of June, and then our New
12 Energy Outlook is probably Q3.

13 COMMISSIONER MONAHAN: So is it going
14 to -- you know, the International Electric
15 Vehicle Symposium is going to be in Sacramento
16 the 7th of June, and I know that (indiscernible)
17 presents. So is it possible that it will present
18 the EVO findings at the EVS?

19 MS. KOU: Potentially.

20 COMMISSIONER MONAHAN: (Indiscernible)
21 seem well suited for that. It seems perfectly
22 aligned.

23 MS. KOU: I can chat with our transport
24 team to see if that's possible.

25 COMMISSIONER MONAHAN: Okay.

1 MS. KOU: Yes.

2 UNIDENTIFIED SPEAKER: (Indiscernible.)

3 VICE CHAIR GUNDA: Yes. And, first of
4 all, that is an incredibly large amount of
5 information to carry, one person to carry. So
6 thank you for doing that. That's amazing.

7 I think, you know, to Commissioner
8 Monahan's point, I think California-specific
9 information would be really helpful, but, at a
10 30,000-foot level, if you, you know, ask that a
11 (indiscernible) be made, one is what Commissioner
12 McAllister is saying. What is the policy origin
13 that could support this transition to be
14 maximized, right? I think that will be an
15 interesting thing to learn. You know, what
16 policies are we doing that are helpful, and what
17 else do we need to do?

18 The other element that I'm specifically
19 thinking about, the power sector, is the learning
20 curve conversation on a -- you know, what kind of
21 regulatory certainty does the market need for
22 some of these technologies to scale, to really
23 ensure, you know, that that actually happens,
24 right? Because, as well -- so there's R and D,
25 and then how do you scale them, and which -- you

1 know, what is the regulatory certainty that's
2 required for the market for this to happen? I
3 think it would be really helpful.

4 Generally, on the deployment pathway, you
5 talked about the workforce, you know, the cost,
6 which is good, and people are being paid more,
7 but the ripple effects of that, how do we
8 understand that, in kind of (indiscernible)
9 setting the implementation discussion, right?
10 Because my -- the big thing is, I think
11 yesterday's conversation gave us -- we know where
12 we're going, and we want to go there as quickly
13 as we can. What are the regulatory certainties?
14 What are kind of some of the feasibility things
15 we need to understand to maximize these benefits
16 along the way?

17 So, to that end, I would kind of suggest
18 the (indiscernible) outlook on the demand side,
19 right, so they have the tech potential, but then,
20 this particular year, they're coming with, like,
21 a feasibility layer on the top of the tech
22 potential and economic potential. It would be
23 helpful to understand those kind of insights, you
24 know, to drive policy.

25 UNIDENTIFIED SPEAKER: (Indiscernible.)

1 CHAIR HOCHSCHILD: I would also love if
2 you can generate a few slides on lithium, just
3 the market projections and the current pricing
4 and the growth rate. We're just doing a
5 huge -- Commissioner Gallardo has been our lead
6 on Lithium Valley, and I know, at the last
7 (indiscernible).

8 MS. KOU: Yes.

9 CHAIR HOCHSCHILD: So anything you have
10 on the latest lithium pricing and, you know,
11 market potential or projections would be really
12 helpful.

13 MS. KOU: Yes, completely.

14 CHAIR HOCHSCHILD: Okay.

15 MS. KOU: Yes. We do have, like, a
16 battery metals outlook, which we'll have our
17 projections around lithium (indiscernible) and
18 cost, as well (indiscernible).

19 CHAIR HOCHSCHILD: Can you send that to
20 us?

21 MS. KOU: Absolutely.

22 CHAIR HOCHSCHILD: Okay. Thank you.

23 COMMISSIONER MCALLISTER: Yes. And I
24 want to just reiterate that that methodology,
25 that learning curve discussion, I think, is, I

1 mean, (indiscernible), or maybe all of us would
2 like to follow up on that, but I would definitely
3 like to dig into that a little bit.

4 VICE CHAIR GUNDA: (Indiscernible.)

5 COMMISSIONER MCALLISTER: (Indiscernible)
6 something.

7 CHAIR HOCHSCHILD: Anybody else?

8 COMMISSIONER MONAHAN: I have like a
9 (indiscernible) question.

10 MS. KOU: Yes.

11 COMMISSIONER MONAHAN: On the energy
12 storage side, you know, you were showing how the
13 prices, but not all of them -- they were all,
14 like, increasing for years. Now the price of
15 lithium is dropping, but the energy storage
16 prices didn't increase until 2022, you know, and
17 I was like, so there must be a lag between prices
18 increased (indiscernible).

19 MS. KOU: Just to clarify, the increase
20 that we saw (indiscernible) like lithium prices,
21 that happened within a very short time frame. So
22 that happened between Q4 of 2022 out kind of
23 throughout -- or Q4 of 2021, apologies, out until
24 kind of 2022. We saw the -- like, Q1 of 2020, we
25 saw a big surge, and then it's like, you know,

1 going up and down throughout 2022, before
2 dropping right now in 2023. So, in terms of,
3 like, time frames, it's roughly around --

4 COMMISSIONER MONAHAN: The same time.

5 MS. KOU: -- a year, but you are right in
6 that there is a lag between, like, what we see in
7 terms of commodities and raw material pricing,
8 and then actual, like, projects into
9 (indiscernible), because what happens is you have
10 raw materials negotiating with battery
11 manufacturers on contract prices, then battery
12 manufacturers negotiating with storage providers
13 on contract prices, and then storage providers
14 negotiating with developers, and then developers
15 negotiating with utilities. So there's, like, a
16 multi (indiscernible) of contracts, master supply
17 agreements, and these supply agreements vary a
18 lot, so they could be VEX (phonetic) pricing or
19 collar pricing, but, like, there is a lot,
20 because you have multiple entities throughout the
21 supply chain.

22 COMMISSIONER MONAHAN: So, now that
23 lithium is going down, I'm just thinking about
24 batteries for electric vehicles in particular.
25 So it may be not until 2024 that we start to

1 see -- you know, because prices were
2 going (indiscernible), going down, and then they
3 went up.

4 MS. KOU: Right.

5 COMMISSIONER MONAHAN: And now I wonder
6 when we can start (indiscernible).

7 CHAIR HOCHSCHILD: I think it's -- I'm
8 hearing that lithium just hit its low point, and
9 now it's ticked up this week --

10 COMMISSIONER MONAHAN: It's going back
11 up.

12 CHAIR HOCHSCHILD: -- and I think they're
13 now projecting it to go below where it's been for
14 a long, long, long time.

15 COMMISSIONER MCALLISTER: I have one
16 question. So I was really ecstatic to see, like,
17 the heat pump, you know, track, and that's on a
18 little lag from EVs and that marketplace. You
19 know, you really depend on it to get the building
20 side of things. So do you have like a team or
21 lead or, like, to sort of plug into that track
22 routinely?

23 MS. KOU: Yes. Well, I mean, we have a
24 specific team that focuses on heat and
25 decarbonization.

1 COMMISSIONER MCALLISTER: Okay.

2 MS. KOU: So, then, I can definitely pull
3 up a few --

4 COMMISSIONER MCALLISTER: Okay. Great.

5 MS. KOU: -- and the analysts on those
6 teams for a specific thing.

7 COMMISSIONER MCALLISTER: Okay.

8 MS. KOU: Yes.

9 CHAIR HOCHSCHILD: All right. You guys,
10 let's take (indiscernible). We're going to take
11 a two-minute break, and Jason will get
12 (indiscernible).

13 COMMISSIONER MONAHAN: All right.

14 (Off the record at 12:15 p.m.)

15 (On the record at 12:20 p.m.)

16 CHAIR HOCHSCHILD: Thank you, and we'll go
17 to Jason.

18 MR. HARVILLE: All right. Am I live here?

19 UNIDENTIFIED SPEAKER: Yes.

20 MR. HARVILLE: Okay. Great. Let me know if
21 you can't hear me. Apologies. My voice hasn't worked
22 this week until just about now, so I'm taking it for a
23 spin here, and we'll see how it goes.

24 All right. Good morning -- afternoon --
25 we're on the cusp. Jason Harville. I'm a

1 director for Enterprise Data and Analytics.

2 A minor sub-note. You might notice a
3 name change there from "Energy" to "Enterprise."
4 We're doing some restructuring, which I'll talk
5 about a little bit later, and, as part of that,
6 just slightly renamed the office. I think it
7 reflects more, to external folks who I'm working
8 with, and just internally, we are a
9 centralized -- we're focused on enterprise
10 issues, not the nitty-gritty of any particular
11 analysis or even particular data set.

12 Do we have my slides? Great. Okay. So
13 that's me. Next slide, please.

14 So I've updated you all a number of times
15 in a couple of business meetings recently, in the
16 last couple of offsites, and it's been this
17 progression of me laying out our vision, right,
18 the rollout of new infrastructure, modernizing
19 how we handle our data, one of our final
20 objectives of becoming a central hub for energy
21 data in the state, and then kind of our progress
22 along all of these different dimensions.

23 So today I'm going to give you a quick
24 update on the last few areas that we spoke about,
25 to just kind of top those off, and then what I

1 really want to talk about is what's coming up in
2 the next three to six months, because we are
3 finalizing an awful lot of these pieces in that
4 time frame, and at that point, those are the
5 final stages of the modernization effort in terms
6 of building out everything we need, the
7 processes, the technology, (indiscernible)
8 supporting it, the staffing, and then we can
9 really get to work on, you know, making the data
10 available, getting it where it needs to go, and
11 rolling in, as quickly as we can, the rest of the
12 data, because we have all kinds of other smaller
13 but, you know, diverse and important data sets
14 across the organization.

15 So that's number two. I'll focus on
16 that, and then, finally, it always
17 (indiscernible) where we were talking about
18 security and privacy, so I just want to zoom on
19 those a little bit at the end, slightly.

20 All right. Three areas that we talked
21 about last time to catch you up on, here. On
22 data visualization, we talked about the Title O
23 (phonetic) rollout, which is going smashingly.
24 We talked about -- we had 15 public-facing
25 Tableau visualizations at that time up on the

1 website, and a new page to present them all to
2 the public.

3 Right now we are updating that page to
4 include some great filtering and search
5 capabilities to make it more intuitive to someone
6 who's going to try to find information, and
7 that's being necessitated by the fact that we
8 just have so many of these darn things. The
9 demand, the pent-up demand that we anticipated,
10 is definitely realized within the organization.

11 So we had 15 last time we talked. We
12 have five more now, for 20. We have five that
13 are essentially finished and pending your review,
14 Vice Chair, and then there are a number of other
15 ones in development. I didn't put a number on
16 that, because it kind of depends on if you count,
17 you know, two visualizations to be one project or
18 two projects, but we're doing work for
19 reliability, storage, and then a number of other,
20 I would say, kind of niche areas of the
21 organization, so data visualizations.

22 We talked about the data submission
23 portal. This is our new website, to standardize
24 the way that data is submitted electronically to
25 the organization. The overall structure of that

1 is complete, and to just remind you, there's kind
2 of two levels of it. One is the portal itself.
3 This is the website. It's all of the features
4 that apply across all of our different data
5 collection efforts, like user management and a
6 bunch of technical programming stuff.

7 Then there's the actual data collection
8 efforts that we're implementing in the portal,
9 so, for example, QFER. If someone wants to
10 submit QFER, or one part of QFER, even, or
11 submitting under any particular regulation, that
12 would be a data collection effort, and we put all
13 those apps within the portal. So we're currently
14 building out five of those right now. That
15 includes all of QFER, demand and supply side, and
16 the new 1304B, which is the collection of solar
17 and storage.

18 So all five of those are in development
19 right now. They were due to be done in a couple
20 of months. We're pushing that back a little bit,
21 though, to accommodate SB 2. I just want to
22 highlight this for you all. We are going to be
23 able to quickly, in the timeline that the
24 governor has asked for on being ready to collect
25 data under SB 2, to implement collection through

1 the portal, and it won't be the full-fledged
2 solution that we're building out for QFER right
3 now, but it's something we can iterate on.

4 Primarily, it's going to happen quickly,
5 it's going to happen securely, and it's going to
6 be a consistent experience for the users when we
7 do iterate on that and implement all the fancy
8 things I've talked about in the portal that make
9 life easier on the submitters and on our staff.

10 I just want to call that out. I think
11 that's a real success that, this quickly, we can
12 have just a couple of staff implement something
13 like this, and this is because of the strategic
14 goal of the portal, which is to have it modular,
15 to have a standardized way of collecting data,
16 standardized way of implementing these data
17 collection efforts, so that we can quickly
18 develop and iterate data collection in the
19 organization. So that's a big win there.

20 Finally, data. The big one is the
21 interval data under 1353, Title 20. I say
22 "interval data," but I'll remind you that also
23 includes all of the associated data in 1353. So
24 that's billing-level consumption and actual
25 dollar billing. That's natural gas. It's

1 premise information, all sorts of customer
2 information.

3 So we've gone through this kind of
4 stop-and-go process of utilities needed to catch
5 up, because the regulation goes back to the
6 beginning of 2018, submit a bunch of data. A
7 couple of the utilities have gone through
8 technology changes. So, essentially, when I've
9 talked to you, we've never been at the place
10 where the utilities are finally just submitting
11 one quarter of data at a time, and we know it's
12 good, and we're on, you know, the program.

13 We're basically there now, though, with
14 five of the six utilities -- thank you -- are
15 there. The one that isn't there, we're working
16 with them. They have some legitimate technical
17 constraints, and the PUC is also very interested
18 in their data. So the (indiscernible) together
19 are sorting this out, but they're nearly there.

20 MS. ROBINSON: We get to ask him?

21 MR. HARVILLE: You can, if you'd like me
22 to stay now.

23 MS. ROBINSON: No.

24 MR. HARVILLE: And still, even with all
25 the back and forth, we essentially have five

1 years of intervals to count, 2018 through 2022,
2 which is just a massive amount of data. I didn't
3 run the comparisons this time.

4 In the past, when we had less than half
5 of this in, that amount of data more than doubled
6 the entire amount of digital storage that we have
7 in the entire organization. So we have maybe
8 come close to doubling that again. It's
9 gobsmacking, and it's requiring a lot of
10 technology under the hood, and we are making a
11 few changes to accommodate this and drive the
12 costs down for it even further, which I'll talk
13 about in a minute.

14 Slide.

15 Okay. So new things up-and-coming in the
16 next three to six months. We are finally
17 staffing up, bringing on staff to do the
18 day-to-day work, folks on some of the more niche
19 things that we're doing now, like data
20 visualizations.

21 The key thing, I think most important
22 thing here, is we're actually building out a unit
23 inside IT where we can pay IT wages and attract
24 IT candidates for IT classifications, that is
25 focused exclusively on data engineering.

1 So this is all the stuff that I've been
2 talking about, building out data pipelines,
3 implementing the automation, the validation,
4 managing the data inside the data warehouse, all
5 the magic. This will be the team that's doing
6 it, and we're building out a full-fledged unit
7 inside of IT.

8 We're bringing on some project management
9 support for my office, a data visualization
10 specialist who will be in charge of our silent
11 standards for data visualizations, and will be
12 also be a resident technology expert for Tableau
13 specifically, to help our staff. I'm hoping that
14 person will be able to lead some trainings for
15 staff, and take over the role in our review and
16 development process for our visualizations.

17 We also -- to bridge this gap, we brought
18 on some contractor support. We brought on
19 Professional Services, which is like an embedded
20 engineer, from two of our major technology
21 vendors, to help us do some of the new Version
22 2.0 work that I'm about to talk about, and to
23 bridge the gap so we can really still be running
24 while we're bringing all this new staff on, but,
25 at the end of the day, this is six new positions,

1 largely engineering, and potentially two more
2 positions that we've requested under a VCP
3 (phonetic) with SB 2. So that's a lot of
4 engineers. That's a lot of pipelines. That is a
5 lot of work that we will be able to accommodate.

6 MS. ROBINSON: Jason, just to clarify, so
7 the folks in IT will still be under your
8 supervision, even though they're in IT? And how
9 will that work? And then I was curious what you
10 meant by (indiscernible).

11 MR. HARVILLE: Yes. So we have had a
12 recruitment challenge, right? The two engineers
13 that I've managed to hire took eight months to
14 find, and one of them left after a few months to
15 go into an IT classification in another agency.
16 So there's a pay disparity between the IT
17 classifications and the classification that I can
18 use that is closest to the skillset that I need.
19 That's still not a great match.

20 So that's creating a real recruitment and
21 retention issue. The challenge with using IT
22 classifications is that, by DGS policy, any IT
23 classification has to report up to our
24 information -- I'm sorry -- our -- Dennis, the
25 head of IT. His acronym is escaping me. CIO,

1 not ISO. That's our information security
2 officer. All right. Right.

3 So, essentially, what we've had to do is
4 take these folks out of my office. I mean, this
5 is the work that my office is doing, but we need
6 to recruit the best folks that we can, and we
7 want to be able to pay them, and the IT
8 classifications are, one, higher paying, and,
9 two, the MQs for them are much more geared
10 towards the technology side of things.

11 So we talked about it, worked with Drew
12 and Dennis, and I think this is the best path,
13 and, essentially, it's a handshake agreement,
14 that the top priority of this unit is the work of
15 my office. So I will still be involved day to
16 day in directing the priorities of it, but they
17 are formally within the org chart structure of
18 (indiscernible).

19 MS. ROBINSON: Thank you. Appreciate
20 that.

21 MR. HARVILLE: Yes.

22 VICE CHAIR GUNDA: Just a quick question
23 for you, Jason, on the Tableau action list,
24 right? One of the things that I'm kind of like
25 beginning to see is, like, we have, on one hand,

1 the SAB (phonetic) portal, which is like -- it
2 has taken, you know, years of filtration on,
3 like, good that is, right? I mean, it's like
4 really -- and then there's some emergent
5 (indiscernible) that happened once -- we need to
6 double up -- that could really benefit from some
7 layout strategies, you know, "Here's how you lay
8 out" --

9 UNIDENTIFIED SPEAKER: I think that's
10 (indiscernible).

11 VICE CHAIR GUNDA: Yes, get some distance
12 between comps and technical folk by the summer,
13 in the middle, where "Here's kind of some kind of
14 layout based on what you're trying to
15 communicate." I think that would be really very
16 helpful.

17 COMMISSIONER MCALLISTER: You know, I was
18 thinking about this. Like, the visualization,
19 Tableau, you can do anything under the sun, you
20 know, and, I mean, personally, I'd like to get
21 tuned up on Tableau, because it's been a decade
22 since I --

23 VICE CHAIR GUNDA: Yes.

24 COMMISSIONER MCALLISTER: I'd love to
25 take a little refresher, and, you know, just get

1 back to (indiscernible) a little bit. That would
2 be great.

3 Also, you know, there are specialists,
4 like John Cooney. I don't know if you know John.
5 Anyway, he's a -- he turns numbers into
6 knowledge. He wrote a book called Turning
7 Numbers Into Knowledge, and he's got a series of
8 books about visualizations and things. It might
9 be good to bring some resources like that. I
10 mean, it doesn't have to be John, but two staff,
11 to kind of help us think more creatively about
12 what visualizations would be most impactful, and
13 how we might put those together. The sky is the
14 limit here with these new tools. So I'd love to
15 facilitate that.

16 VICE CHAIR GUNDA: I've got something
17 that (indiscernible). It's such a
18 (indiscernible). It's a very different lens
19 from --

20 COMMISSIONER MCALLISTER: Absolutely.

21 VICE CHAIR GUNDA: -- translating that,
22 and basic (indiscernible). Like, some use for
23 making (indiscernible) policy.

24 COMMISSIONER MCALLISTER: And we just ask
25 Karen (phonetic), you know, a bunch of -- "Could

1 you tweak it this way? Could you tweak it that
2 way?" Like, those are the conversations we need
3 to have, to have the best impact.

4 MR. HARVILLE: Correct, communications
5 externally. All across the board, yes.

6 COMMISSIONER MCALLISTER: Yes. So,
7 anyway, I'd love to be able to, you know, help
8 squeeze -- help get more juice out of this.

9 MR. HARVILLE: Yes. I agree. We have
10 the (indiscernible) of what you're asking for.
11 We have the silent standards guide, which does
12 provide examples, "Here's how you would, you
13 know, best present a bar chart. Here's our color
14 palette. There's the accessibility stuff."

15 So it's a lot of that, and then we have
16 examples set up, actually, in Tableau server, so
17 someone can map from the style guide. They will
18 actually see that example implemented in Tableau.
19 But we don't have somebody with the expertise and
20 bandwidth to look at every visualization and say,
21 "Is this really the most effective way to
22 communicate with what you're planning to say?"
23 Yes. So I'm hoping this person can do that. I
24 also like that idea of bringing in some --
25 basically, a consultant, to help us iterate on

1 that style guide, what the (indiscernible).

2 That's a great idea.

3 UNIDENTIFIED SPEAKER: Okay. Good on
4 staffing?

5 MR. HARVILLE: Yes.

6 COMMISSIONER MCALLISTER: Yes. I
7 guess -- so there's the internal piece there in
8 our staffing, and also this kind of external
9 ecosystem that we've talked about, which, you
10 know, I mean, only if you're going to get into
11 that.

12 MR. HARVILLE: Well, tell me if I don't
13 get into it.

14 COMMISSIONER MCALLISTER: Yes.

15 MR. HARVILLE: Okay. Slide, please.

16 All right. On the technology side, it
17 was roughly a year ago that we finally
18 implemented all the technology to start sucking
19 in the big data that the utilities are giving us
20 into the data warehouse in a structured way,
21 where we can actually work with it and use it.
22 So that was Version 1.0, essentially, right? It
23 did the job. It was a great achievement. But
24 we've learned a lot in a year on how we can do
25 that better.

1 We have identified areas that really need
2 to be optimized for performance, especially --
3 it's all about the interval data, right? If
4 you're not careful, you can spend thousands of
5 dollars on (indiscernible). So it's really
6 important that you optimize, so that the time and
7 money spent touching that interval data is as
8 efficient as possible, and we have brought on
9 additional tooling to help structure data within
10 the warehouse.

11 So this is a very (indiscernible), but
12 the main point of it is that, with Version 2.0,
13 we're calling it, of the warehouse, we will have
14 worked through a bunch of performance constraints
15 which are, therefore, cross-constraints, and
16 built out the subsequent layers of the data to
17 actually implement our first data mark.

18 When I say "layers of the data," you can
19 imagine. You have broad data, and then maybe you
20 roll that up in some way. Like, we only want to
21 show the most current data, or organize it by
22 year, or aggregate it by the day, or whatever.
23 There's all these things, and so you can kind of
24 take your base. You roll it up in a way that's
25 functional, and then maybe you roll that up again

1 into a way that's useful to a particular use
2 case, like a demand forecaster, or someone
3 looking at energy efficiency, or a contractor.

4 The point is, after this, which should be
5 done by the end of the summer, we will be able to
6 finally provide widespread access to staff, to be
7 able to touch data that is in a format that's
8 useful to them, that isn't in this very, you
9 know, specialized way that my staff work with it
10 and the engineers work with it. It's the
11 analyst's version of the data warehouse, as
12 opposed to the engineer's version.

13 So the analyst version will be ready in a
14 few months, which means we can really open the
15 gates for staff, and have a place to put all the
16 additional data that we're going to be pulling in
17 with all these extra staff building out new
18 pipelines.

19 Slide, please.

20 All right. So that's the technology
21 side. That's contractor support. It's revising
22 how we organize data within the data warehouse,
23 and creating that analyst presentation later for
24 staff, the data mark. We also need visibility
25 into what we even have in the organization,

1 because all these staff are going to be building
2 pipelines, but pipelines for what? What goes
3 first?

4 There's a real prioritization challenge
5 in front of us, and the solution to that is
6 building out a data catalogue. A data catalogue
7 is a centralized place where you can look at all
8 of the data that you have. You can see aspects
9 about the data, maybe a description, when it was
10 last submitted.

11 This isn't the actual data itself. It's
12 not the rows and columns of how much energy a
13 power plant produced. It's the description of
14 "Hey. This table of data is about energy that
15 power plants produce, and it's collected under
16 this regulation. It comes from these sources."

17 It rolls up into these particular tables
18 that analysts are using, and this creates what we
19 call "data lineage," meaning you can have a -- it
20 looks kind of like a flow chart, where you can
21 see, from one end, you have your base amount of
22 data, data just as they submitted it to us, and
23 you can see, down to a particular Roman column,
24 one particular number -- you can see how it
25 moves, how we cleaned it and processed it, and

1 then aggregated it into another table, and then
2 joined it with a bunch of other stuff for a
3 demand forecaster, and then that demand
4 forecaster looks at that number and says, "This
5 seems funny." Today we don't have a good way of
6 saying, "Why is that number funny?"

7 With a data catalogue, with data lineage,
8 we know exactly where that number came from, and
9 we can quickly trace it back to see, "Did the
10 utility submit it with the wrong units?" Maybe
11 it's a simple thing.

12 So, to do this, we need to conduct an
13 inventory, essentially, of all the organizations
14 or data. We'll calling it "or data." That's
15 everything that feeds a decision maker or the
16 public, any product that's in front of the
17 public, any product that we put in front of a
18 decision maker like you all, like the governor.
19 That's a core day to set for us, and we need to
20 conduct an organization-wide inventory.

21 We are evaluating some technology
22 solutions to help us with all of what I've just
23 described right now. I think we've just about
24 landed on one, and, once we've made that
25 selection, we'll be able to actually start the

1 work of surveying staff and gathering all the
2 information we need to identify all these data
3 sets, and getting it into this technology
4 solution.

5 The end results of this are, we will be
6 able to answer those questions about data quality
7 and data lineage very quickly. Where did a
8 number come from? Why is this report for the
9 governor getting a different number than the one
10 we sent to the Chair, right, hypothetically? I'm
11 not saying that happened, but, you know, we can
12 identify those things. We can help prevent them
13 from happening, and, if they do happen, we can
14 quickly understand why they happened.

15 At the same time, we're breaking down all
16 the friction within the organization of just
17 getting hold of the right data. It's a "who you
18 know" system right now, "Does anybody know who
19 has this data?" And you work through the social
20 network, basically, of the organization to find
21 it. You don't need that with a catalog.

22 Any person in the organization can go and
23 search "energy efficiency data," and everything
24 that we've had with it, anything that is derived
25 from it, like an aggregated table, it populates

1 for them, and it looks like a wiki. They click
2 into a particular data set. It has information
3 on what that data set is, who the staff contact
4 is to ask further questions about it, how to
5 request access to it.

6 Maybe they already have access. Maybe
7 it's part of the default tables in the data mart.
8 In that case, it directs them to that, and so
9 they just know what table to query now, what
10 column names are, all the information they need
11 to get to that data very quickly without spending
12 a week or two of writing e-mails and making phone
13 calls to find the data.

14 COMMISSIONER GALLARDO: I mean, this
15 sounds fantastic, and it's going to increase our
16 efficiency. I'm wondering, will everyone be
17 required to put in data through this system, or
18 is this optional? Does that make sense, what I'm
19 asking?

20 MR. HARVILLE: Yes. Well, let me draw a
21 line for you here, conceptually. Data that's
22 currently out of the cloud, that's wherever it
23 has been, call it "legacy data." Wherever it's
24 just been, wherever it is now, that stuff needs
25 to essentially be -- information about it needs

1 to be manually recorded from staff, which is why
2 we're going to be conducting an inventory, which
3 is basically a survey and some interviews. We
4 have no way to automatically go and gather that
5 information.

6 However, once it's in the cloud, once
7 it's in our data warehouse, the technology that
8 we're bringing to bear automatically scans it,
9 and staff don't need to do anything anymore. If
10 you add a column to a table, if you update the
11 data in that table, the metadata, which is the
12 fancy word for the information about that data
13 that I've been talking about, updates
14 automatically, and all of that lineage
15 information updates automatically.

16 So it will be manual at first, for all
17 the data that's not quite in the system, but, as
18 we bring more and more data into the data
19 warehouse and build out these formal pipelines,
20 all of that visibility will come automatically as
21 this tool scans, essentially, our ecosystem in
22 the cloud.

23 COMMISSIONER MCALLISTER: So I'm just
24 curious. How much of this -- so, you know, I
25 agree with the rename of "Enterprise." I think

1 that makes a little sense. How much of -- like,
2 is this data catalogue and some of the tools that
3 you're using to kind of navigate this
4 landscape -- it's like a huge data landscape --
5 are these sort of best practices in enterprises
6 generally?

7 Like, is this sort of, you know, a
8 package, sort of a template that you're using
9 somewhere else? You know, how much of this are
10 we creating from scratch, and, I guess, the
11 follow-on, how much maintenance, kind of, that it
12 will need moving on forward?

13 MR. HARVILLE: Yes. So our initial
14 plan -- you may remember me mentioning inventory
15 a number of times over the last couple years --

16 COMMISSIONER MCALLISTER: Yes.

17 MR. HARVILLE: -- and our initial plan
18 was a kind of "from scratch" approach. Like, why
19 spend the money on a fancy tool if we're starting
20 small? Let's just start to build this out on our
21 own. The rest of our modernization efforts,
22 though, got ahead of that so much more quickly
23 that, in my opinion, we found ourselves in the
24 place where we've already -- we're just jumping
25 to cell technology. We don't need to do the

1 landline version.

2 COMMISSIONER MCALLISTER: Okay.

3 MR. HARVILLE: Right? So that's why
4 we've made the shift to identifying a tool, and
5 the tool will be very low-maintenance. The
6 question you just asked about -- I'm sorry. I
7 forgot. You asked about maintenance and --

8 COMMISSIONER MCALLISTER: Well, just how
9 much -- is there like a best practice, sort of a
10 standard, you know, tool that you're using? It
11 sounds like you are.

12 MR. HARVILLE: Yes. There's a whole
13 class of tools, and in keeping with our broader
14 strategy of making the different components of
15 our data stack as modular as possible, so we
16 don't get vendor lock-in, we're selecting from
17 amongst the tools that basically play well with
18 others. They can be moved in and out, right?

19 All right. So that is happening on what
20 I would say the "governance side" of our data,
21 how we have visibility into what's going on with
22 data, how we're using it.

23 Slide.

24 Okay. Finally, a zoom-in on security and
25 privacy, since we usually end up talking about

1 these a bit. Physical security. This is, "Does
2 a server, like, have the right permissions, or
3 could someone, anybody on the Internet, log into
4 it? Is data encrypted properly?," these types of
5 questions.

6 This is actually the much easier part of
7 the challenge here, right? And by "easy" --
8 "easy" is not a great word for it. You know,
9 some things are straightforward, but hard? This
10 is one of those things. It's kind of like weight
11 loss, right? It's not a mystery how to secure
12 this data, right?

13 CHAIR HOCHSCHILD: Pass the cupcakes.

14 MR. HARVILLE: But you need to diligence
15 to do it, and to make sure that we're vetting the
16 folks we're working with to make sure they're
17 doing the best practices, that everybody is on a
18 healthy diet, right? But the nature of that diet
19 is not a mystery. It's very well structured.

20 There are policies coming down from
21 California Department of Technology to specify
22 this. There's industry standards for security
23 certifications. We have an information security
24 officer. So the physical security side of this
25 is essentially met, right?

1 We're working with certified cloud partners,
2 and we are implementing the best practices in
3 terms of protecting access to data, and
4 containing -- you know, partitioning the data out
5 in a way where folks are only able to touch what
6 they need to touch, so, even if somehow they're
7 compromised, the whole world of our data isn't
8 compromised.

9 The much stickier challenge here are the
10 privacy issues, right? All of the data, under
11 Title 20, Section 1353, is confidential, but
12 what, exactly, do we need to do to it to make it
13 not confidential anymore, to protect the privacy
14 of the individuals within that data set? That's
15 a murkier question, and there aren't clean
16 answers, right? I'm sure there are entire
17 textbooks full of cautionary tales of thinking
18 data was anonymized, and then it's joined with
19 another data set you didn't anticipate, and
20 suddenly it's not anonymized.

21 So this is going to be a collaborative
22 process of working with experts externally,
23 working with our own internal (indiscernible)
24 security officer, Chief Counsel's Office, and, in
25 my opinion, we should also be, you know, making

1 this as public and transparent as possible, and
2 reaching out to the public for their input, to
3 essentially identify "What are our baseline
4 standards?," to say, "Okay. This is safe. This
5 protects privacy, and we can make this
6 available," whatever "this" is.

7 This could be a table of data we have.
8 It could be an aggravated version of a table of
9 data. It could be the results of analysis we did
10 on that data. But whatever "this" is, this is
11 safe, right? How are we deciding that? It's in
12 everyone's interests for us to do this
13 collaboratively with the utilities, with security
14 experts, with the public, and transparently.

15 To get this work rolling, you'll remember
16 we had a workshop in January that was focused in
17 very much on these issues, which went very well.
18 We also have a contractor on board right now who
19 is working on an initial framework in both
20 privacy and access to data, which is more of a
21 security question, right? What should our
22 initial posture be in deciding these privacy
23 issues and access issues? And then the goal is
24 to take that framework and the feedback from the
25 workshop, and, from there, engage in a

1 collaborative process.

2 We haven't firmed this up. This could be
3 additional public workshops. It could be forming
4 some kind of work group, right, a task force with
5 (indiscernible) security professionals from
6 industry, from academia, but that's the next step
7 here, is essentially taking that and figuring
8 out, "What is the best and most effective venue
9 and group to start hashing some of these out?,"
10 and getting to some safe answers, and then you
11 can always iterate from there, right?

12 You can say, "Well, just add everything
13 together into one big pile. That's safe," and
14 then, when we cut that in half, is that safe?
15 And we can work our way down to being
16 (indiscernible) more granular data, which means
17 more and more useful data for all the different
18 use cases that are out there.

19 Any questions on that?

20 VICE CHAIR GUNDA: Yes. I'm just
21 thinking this, looking at the notes here, on SB
22 2, right? Given that it's kind of a completely
23 different set of data, and, you know, the
24 (indiscernible) legislative cycle, you know, it
25 has been raised multiple times about the privacy

1 of that information.

2 I would really like us to be thoughtful
3 in engaging with the industry on some of the
4 things that they see as flag. At the end of the
5 day, we have to deliver on that, and so I just
6 wanted to make sure that we are doing that in a
7 way that the industry is informed on our
8 capabilities, but also figuring out what they see
9 as potential weaknesses, right?

10 MR. HARVILLE: Yes.

11 VICE CHAIR GUNDA: So Drew is going to
12 take point on developing a working group with
13 industry, and, you know, at some point in that
14 industry conversation, having a very
15 data-specific, data security-specific
16 conversation would be helpful.

17 MR. HARVILLE: Right.

18 VICE CHAIR GUNDA: A second -- I'm
19 like -- so this is kind of maybe -- Commissioner
20 Gallardo will raise this. How do we bring in the
21 voices of not just technology folk, right, but
22 more on the community justice groups and all?
23 How do we bring them into the conversation on
24 accessibility and privacy? And I'm meaning --
25 and are they over-restricted in some places? Are

1 we under (indiscernible)?

2 I would really (indiscernible) to think
3 about a venue. We tried to do this in the IEPR
4 last year. I think we had some focus, but
5 continuing that work of regularly engaging on the
6 data needs of the environmental justice groups
7 and community groups would really be helpful. So
8 I really encourage to take (indiscernible) over
9 that.

10 COMMISSIONER GALLARDO: I was thinking
11 about that, too, like, how can this be helpful?
12 But I wasn't sure it made sense to have that
13 conversation once it's ready, or if it's early
14 on.

15 VICE CHAIR GUNDA: I think we should
16 guide it now. I think, you know, to the extent
17 that you're going to have an equity-based VOI IP
18 (phonetic), (indiscernible) information
19 proceeding, there is some intersectionality here
20 on what are the lessons from there that overlay
21 the data site, but then do we support that
22 conversation?

23 COMMISSIONER GALLARDO: Yes. I was also
24 thinking about the energy equity indicators, and
25 then I was thinking about, if we're getting

1 information from the (indiscernible), what can
2 we, you know, use from that to (indiscernible)?

3 VICE CHAIR GUNDA: There's some policy
4 questions.

5 MR. HARVILLE: Yes.

6 COMMISSIONER GALLARDO: There might be
7 some things that we're not thinking about now
8 that could be useful for us to know now, so we
9 can create --

10 VICE CHAIR GUNDA: I think we should have
11 kind of, maybe, a strategy conversation, a little
12 bit, on the data side. I mean, (indiscernible).
13 Happy to (indiscernible) have a discussion.

14 COMMISSIONER GALLARDO: Okay.

15 MR. HARVILLE: That's great. Yes, I
16 agree with that definitely. And on your first
17 point about collaborating with industry, I think
18 we have a great example in how we collaborate
19 with utility with the interval data.

20 Whatever resistance we had at some levels
21 of the utilities, once we got working with their
22 technology folks, and taking their concerns
23 seriously, you know, we actually ended up -- we
24 ended up with some converts (indiscernible) the
25 technology we're adopting, wanting to engage with

1 us on the technology level, and breaking down
2 that resistance.

3 VICE CHAIR GUNDA: Yes. I think
4 (indiscernible) just kind of retraining, just
5 kind of the sense of, especially on the
6 (indiscernible) data, the premise of gathering
7 the data is transparency, but we haven't worked
8 with that data, right?

9 So we have a very high level of reporting
10 that our fuels team does, but, as we continue to
11 think about improving transparency by gathering
12 all this information, then you need -- an
13 adequate disclosure of confidential information
14 or trade secrets would become a very big issue.

15 So, whatever you can help with, just
16 making sure that we take steps, rapid steps,
17 towards transparency, but also making sure that
18 we don't kind of bind ourselves in a situation of
19 struggle. Okay? So I just wanted to -- that's
20 my ask for this year, I think, one of the most
21 important elements for us to consider.

22 MR. HARVILLE: Awesome. Very good.

23 COMMISSIONER GALLARDO: And just one more
24 thing. Sorry. Are you also talking for
25 Department of Technology?

1 MR. HARVILLE: What do mean by "talking
2 through"?

3 COMMISSIONER GALLARDO: I was working on
4 something that required -- that we had just the
5 word "data" in it, and it got kicked back because
6 apparently there's new policies that are very
7 stringent on how you talk about data, use data,
8 et cetera, et cetera, and, like, so it just made
9 me think, you know, if you're talking about best
10 practices and policies and all that, maybe
11 talking to Department of Technology on what
12 they're doing or what we have to abide by.

13 I don't know if that's something
14 automatic that you would do or you'd have to by
15 them, but, anyway, I just thought I'd bring that
16 up, because it just seems like even just the
17 mention of the word "data" was sufficient to get
18 them, you know, interested in what we were doing,
19 and figure out how much data we were exchanging,
20 or what we were doing (indiscernible). And it
21 may not apply, but --

22 MR. HARVILLE: No, no, it definitely
23 does. You're right, and, I mean, we
24 certainly -- they're a control agency
25 (indiscernible). Like, we have to abide by, you

1 know, their policies, and then, like, our
2 information security officer interacts with them
3 directly, also, within IT. So I have, I guess
4 you would say, an indirect relationship with them
5 through IT, but yes, I take your point, for sure.

6 Okay. Questions before I wrap up here?

7 CHAIR HOCHSCHILD: Well, one -- so,
8 obviously, there's a lot of progress. I have to
9 say, though, I was hoping for a few, like,
10 illustrative examples of what this data is
11 allowing us to include, you know, like, i.e., it
12 is like having this colossal muscle, but it
13 still -- like, it hasn't, you know, manifested,
14 like, "Here are some new findings that, you know,
15 we weren't able to (indiscernible) in
16 transversing around heat pumps or around, you
17 know, other customer" -- these are trends that
18 can actually inform policy.

19 So I think one thing -- we did a really,
20 really fruitful half-day with Stanford a few
21 months ago, and brought down a bunch of
22 (indiscernible). (Indiscernible), were you
23 (indiscernible)?

24 COMMISSIONER MCALLISTER: Yes.

25 (Indiscernible.) Again, me, Jonah, a number of

1 (indiscernible).

2 CHAIR HOCHSCHILD: But, anyway, they're
3 very interested to potentially partner with us
4 on, you know, what else can be done with that
5 data, and we agreed to host a sort of one-day
6 Stanford TUC (phonetic) event. I think it's
7 going to be November. I think Tara (phonetic) is
8 quarterbacking that. We'll be there
9 (indiscernible) symposium. I think, you know,
10 sort of using data to advance public policy will
11 be one of the big themes.

12 So I still -- I don't -- I mean, I know
13 this is very valuable stuff. I really haven't
14 gotten my head around all the different ways that
15 it can actually manifest and be useful. And so,
16 I mean, I think it would be -- I would love to
17 see, you know, particularly, you know, Andrew,
18 from you and your team, ideas that -- you know,
19 in the residential space and the (indiscernible)
20 space.

21 How does this really help us better fine-
22 tune our building decarb, you know, strategy,
23 and, you know, what are the top -- like, I would
24 love to see -- I love your point about -- I'd
25 love to see a visualization, "Here's some of this

1 data we've been talking about now for like
2 five-plus years."

3 MR. HARVILLE: Yes, definitely.

4 CHAIR HOCHSCHILD: Now we have the
5 authority. We have all this architecture, but we
6 don't -- I haven't seen, like, actually how it's
7 manifesting in ways that inform.

8 MR. HARVILLE: Yes.

9 COMMISSIONER MONAHAN: Except the
10 dashboard. He said the dashboard is like --

11 CHAIR HOCHSCHILD: Is that -- yes, yes.

12 COMMISSIONER MONAHAN: That's the one
13 that we're all like -- and I again say that's the
14 one -- that's the only one I use. So I think --

15 CHAIR HOCHSCHILD: Right, and that's --

16 COMMISSIONER MCALLISTER: The building
17 benchmarking database actually was to have a dry
18 run for the EV data --

19 CHAIR HOCHSCHILD: Yes.

20 COMMISSIONER MCALLISTER: -- sort of to
21 (indiscernible) right, and so there are -- I
22 mean, there are some examples, sort of, from the
23 world that existed before we had all of this IMD
24 (phonetic), right? So a couple of comments on
25 that.

1 I totally agree. I think it would
2 be -- on a couple of fronts, would be really good
3 to sort of see what STACA (phonetic) is doing in
4 their different realms, now that they have access
5 to GABLO (phonetic), and they're kind of having
6 their minds blown in experimenting with different
7 visualization. So, you know, I think, you know,
8 talking with each division senior staff to kind
9 of identify the right people for that would be
10 great.

11 The one thing I just wanted to bring up
12 and, you know, keep bringing up is that it's not
13 just all about -- so the job one, the part A, is
14 enabling our staff, you know, Jason hiring up his
15 team, and really putting this whole
16 infrastructure in place at the agency, and
17 enabling our staff to use this information for
18 good, right?

19 The part B is also very important. It's
20 to kind of stand up a closely held stable of
21 really high-quality analysts that we can provide
22 access to this data under very strict conditions,
23 right, fully vetted, you know, with, like, you
24 know, NDA (phonetic), that respect all the rules
25 and, you know, processes that Jason just

1 detailed, to do some of the more exquisite
2 analysis that maybe it's not reasonable for us to
3 expect to bring full in-house.

4 So those are the things, like, you know,
5 David, you're talking about, where, you know, we
6 can use (indiscernible) meter data to sort of
7 figure out, you know, very localized trends, to
8 figure out what penetrations of, you know,
9 electric water heaters versus gas heaters look
10 like in a particular place, you know, and then
11 actually look at the impacts of our programs in
12 those particular places once they start to change
13 out equipment.

14 You know, there's a lot of fracking we
15 can do that will help elevate -- that will help
16 sort of -- you know, help us understand, you
17 know, the technologies that are out there, and
18 the usage patterns, how it's affecting the grid,
19 rolling it up to circuits. I mean, there's all
20 sorts of amazing things.

21 CHAIR HOCHSCHILD: They have the ability,
22 you know, for quite some time, to -- there's an
23 energy signature for each appliance.

24 COMMISSIONER MCALLISTER: Yes. No, I --

25 CHAIR HOCHSCHILD: It can tell, you know,

1 "Okay. That's a toaster. That's a microwave.
2 That's an EV charger. That's a hot tub," like,
3 you know, from -- and, you know, they
4 (indiscernible) very well (indiscernible). But,
5 I mean, that would be really interesting, just to
6 look at, okay, we're getting electric
7 (indiscernible). When is it cycling, typically,
8 right? And then how does that overlap with
9 our (indiscernible) reliability, you know, and
10 just -- that's what I would like, to just get
11 (indiscernible).

12 VICE CHAIR GUNDA: So that comes from
13 (indiscernible). I know, like, we had struggled
14 with the sub-hourly interval data, right? I
15 mean, like, so that --

16 COMMISSIONER MCALLISTER: Yes. So those
17 signatures that you're talking about typically
18 would not be coming from an interval meter data
19 or even, you know, a utility meter. Those likely
20 would be, you know, a bespoke device, you know,
21 that can actually do that signaturing at a
22 particular property, like a sense or something
23 like that. That technology is evolving.

24 The interval meter data, you know,
25 currently we're doing hourly. We could do more

1 than that, but that, you know, multiplies the
2 amount data, like, more random or, you know, more
3 often than that, like five minutes or whatever,
4 but that multiplies the data by a lot, right?

5 VICE CHAIR GUNDA: I mean, just in the
6 spirit of this, I think we've kind of struggled
7 with the level of data disaggregation that needed
8 to, like, do these kind of cool products.

9 COMMISSIONER MCALLISTER: Yes.

10 MR. DUNN: Could we push on the latest
11 kind of standards for the interval meter data
12 that they are thinking about, potentially
13 sub-hourly and sub-minute, when we get to those
14 disclosures, do you think?

15 COMMISSIONER MCALLISTER: So we go -- I
16 mean, so there is -- You know, AMI 2.0 is kind of
17 happening. It's not -- you know, the first day
18 of my rollout was like massive numbers of meters
19 that the utilities procured, you know, in bulk.

20 Now they're actually replacing, bit by
21 bit -- I've talked to some of the utilities about
22 this -- upgrading with newer meters, right,
23 because California was kind of ahead of the
24 curve. They kind of maybe didn't get right that
25 first iteration of AMI. So the new meters can do

1 a lot more. So that's a great conversation. We
2 should have that conversation and see where it
3 can lead.

4 VICE CHAIR GUNDA: So I'm just kind of
5 thinking, just kind of bridging the conversation
6 here. From what Chair was asking and what -- you
7 know, the ZEV (phonetic) dashboard, I think the
8 ZEV dashboard that -- a lot of things -- the
9 exciting part of it is the number of cells, and
10 where they're happening.

11 COMMISSIONER MCALLISTER: Yes, yes.

12 VICE CHAIR GUNDA: Do we currently have
13 electrification totals that we could track, like,
14 how many heat pumps are being installed,
15 (indiscernible) installing how many --

16 COMMISSIONER MCALLISTER: As of now,
17 that's market data that we have to collect, you
18 know, from outside sources. It's not
19 coming -- you know, we're not doing it on the
20 (indiscernible) meter data. That's one of the
21 use cases that we need to implement. But that
22 may not be us in-house. That may be a consultant
23 that does that for a living, right?

24 VICE CHAIR GUNDA: I mean, I think one of
25 the values with the ZEV dashboard early on, with

1 the DMV data, was you have to buy data, and the
2 data was, like, not good, and when we bought the
3 data, people were like, "You can't make it
4 public." So we tried to decide (indiscernible)
5 public. How do we bridge that solution?

6 Like, is there a way, taking some of the
7 market data today that we buy, and now I could
8 get at a certain level and disclose it as we
9 build the various other pathways, including, I
10 think, on the -- even on the hourly profile, we
11 probably would begin to see, I think -- I think
12 we'll see the heat pumps. I think we'll see
13 water heaters.

14 COMMISSIONER MCALLISTER: Well, we have
15 gas. We have gas, and on the main interval meter
16 data, gas and electric.

17 VICE CHAIR GUNDA: Yes, so we could
18 (indiscernible).

19 COMMISSIONER MCALLISTER: So we can
20 figure out where those heating loads are already.

21 MR. HARVILLE: But we don't have gas
22 intervals.

23 COMMISSIONER MCALLISTER: Right. Well,
24 there's no gas -- yes, that's true.

25 VICE CHAIR GUNDA: So that's kind of

1 like -- even on the hourly basis, I think you're
2 right, which is, you know, we can get all the way
3 to a drier, but is it cycling?

4 COMMISSIONER MCALLISTER: Yes.

5 VICE CHAIR GUNDA: Like, I think we can
6 get, like, the basic (indiscernible).

7 COMMISSIONER MCALLISTER: We can. Yes.
8 We need global -- like "we," royal "we," right?
9 But that's going to be a contractor. That exists
10 out there in the world.

11 CHAIR HOCHSCHILD: You know, this should
12 be helping in our SB 49, you know,
13 prioritization, and what appliances we want to --

14 COMMISSIONER MCALLISTER: Well, and,
15 fundamentally, we're going to, you know, go out
16 and procure this analytical support, to help
17 design the equitable building decarb program, so
18 we can target the right communities, so that we
19 can anticipate where -- you know, bill impacts
20 from different measures, and, you know, really go
21 to the places where we're most likely to have
22 success, and -- yes, absolutely. So I
23 think -- so, I mean, the big-ticket items are, I
24 think, already pretty clear in terms of where the
25 potential is for load shift.

1 VICE CHAIR GUNDA: And the DMV data is
2 like a trajectorial -- we don't -- I don't know
3 if we have something like that in buildings.

4 COMMISSIONER MCALLISTER: No. I mean,
5 there's no -- if everybody got a permit, and we
6 knew what equipment was going in in every home,
7 then, sure, we'd have that (indiscernible) one
8 day for the (indiscernible).

9 VICE CHAIR GUNDA: How hard would it be
10 to get that from the (indiscernible)?

11 COMMISSIONER MCALLISTER: Well, we can
12 buy that data already. It's just, the vast
13 majority of HVAC changeouts don't get a permit.
14 So that's not -- that does not show up in the
15 permitting data.

16 CHAIR HOCHSCHILD: Yes.

17 VICE CHAIR GUNDA: Right.

18 MR. HARVILLE: Another dimension to this
19 I would fly for you all is, there's the
20 granularity of the data, also the frequency that
21 we're collecting it at. Right now, all of the
22 interval data that we collect is at least 90 days
23 old, maybe 120. There's a one- to three-quarter
24 lag for a single quarter of data, and a lot of
25 the huge cases that keep popping up, particularly

1 around reliability, are --

2 VICE CHAIR GUNDA: Really hard.

3 MR. HARVILLE: Yes, and especially hard
4 with data that's three or six months old.

5 UNIDENTIFIED SPEAKER: Yes.

6 VICE CHAIR GUNDA: I mean, like, my
7 biggest (indiscernible) in the thing is -- from a
8 reliability standpoint, is electrification or,
9 like, not electrification, like, new AC loads
10 that are happening along the coast, that are not
11 being captured, and once you have the air
12 conditioning, because of a heat wave, it's going
13 to run at a lower temperature, and then how do we
14 capture that to, you know, understand?

15 I think CAISO has some data which we are
16 using, in which they do the same thing, right?
17 They go sub-hourly from there, you know, and they
18 help make the five-minute data, and they're using
19 the five-minute data to, like, really figure
20 out -- you know, decompose from that, you know,
21 what's there, the electrification, but I think
22 that's important from a policy standpoint for us,
23 and I don't know how to do that yet.

24 COMMISSIONER MCALLISTER: Yes. I mean,
25 that market data is -- can buy -- actually,

1 there's no complete data set on, like, where heat
2 pumps actually are. So we're having to build
3 that over time.

4 VICE CHAIR GUNDA: Maybe we do kind of
5 like a -- kind of really progressive cities,
6 maybe a coalition of, like, maybe something like
7 Davis, where the rules are pretty well enacted,
8 or like Berkeley, and have a couple of cities
9 that we begin to track that, as a pilot.

10 COMMISSIONER MCALLISTER: So, yes, that
11 was the last thing I was going to bring up,
12 actually, is that one of the primary use cases,
13 and one of the motivators for this whole
14 enterprise, has been that, you know, the cities
15 have do permit planning.

16 They're trying to be, you know, muscular
17 and aggressive with the local policies, and, you
18 know, (indiscernible). So they've been sort of
19 pushing us to give them data, as, you know,
20 they're equal public agency, you know, but they
21 aren't on the same side of the firewall as we
22 are.

23 So we have to engage with the local
24 governments to figure out, you know, what kind of
25 data, how aggregated they were willing to, you

1 know, give to them directly, but the approach of
2 having, like, you know, some nearly held, some
3 closely held consultants that they can actually
4 engage to do some of the analysis, and that those
5 consultants have access to our data, but
6 not -- you know, under very strict circumstances,
7 like, can't go out and sell services based on the
8 data beyond that project, right, really well
9 managed, you know, small ecosystem.

10 That is how, you know, I've been thinking
11 we enable that analysis to take place for local
12 governments, and then they can do their final
13 planning, get the information they need, but
14 they're not -- you know, they don't get the
15 (indiscernible) on the (indiscernible) side.

16 VICE CHAIR GUNDA: Yes. I think this
17 would be really helpful.

18 COMMISSIONER MCALLISTER: But we should,
19 like, put what you're saying into that
20 relationship with local governments that want to
21 go there.

22 VICE CHAIR GUNDA: Yes, and I think, you
23 know, even if we engage at the civic
24 (indiscernible) level -- I mean, I think that,
25 with the whole ZEV dashboard, which is amazing,

1 and that kind of like started off -- was, like,
2 so hard to get that data, right? It's still,
3 like, three months old, but I think we've gotten
4 comfortable with, like, projecting now a little
5 bit ahead of time. So I think it will happen
6 over time, but I think having a couple of pilots
7 probably would be helpful (indiscernible).

8 COMMISSIONER MONAHAN: Yes. There's one
9 thing to keep in mind, too, though. Like, as the
10 ZEV dashboard has been built out, the team that
11 has to work on the data processing, it takes a
12 lot of work, and so then it's not just like
13 Jason's team. It's, like, Quentin and Jesse
14 and --

15 COMMISSIONER MCALLISTER: Yes. That's
16 the DMV data you're talking about?

17 COMMISSIONER MONAHAN: Yes.

18 COMMISSIONER MCALLISTER: Yes.

19 COMMISSIONER MONAHAN: And then, if we
20 were like, "Let's do medium- and heavy-duty,"
21 that's a huge workload.

22 COMMISSIONER MCALLISTER: Yes.

23 COMMISSIONER MONAHAN: And so it
24 does -- cascades out in terms of the work.

25 VICE CHAIR GUNDA: The amount of time it

1 took to crosswalk between CARB and, like, the
2 interpretation of DMV data from when CARB was
3 doing and CEC was doing, and then how do you go
4 line by line off the DMV data, and agree what is
5 in --

6 COMMISSIONER MCALLISTER: What's the
7 interpretation?

8 VICE CHAIR GUNDA: Yes, what
9 interpretation, like, what is in California and
10 what's outside of California? It just took
11 months of, like, tiny details.

12 COMMISSIONER MCALLISTER: That's the work
13 that has to be done, right, in all these sectors.
14 But, once you do it, it only gets better from
15 there, right?

16 VICE CHAIR GUNDA: Yes.

17 MR. HARVILLE: And once we've made those
18 human determinations, like, we can automate
19 around that, and that's what the engineers would
20 do.

21 VICE CHAIR GUNDA: Can I just propose
22 (indiscernible)? I mean, this isn't your real
23 house (sic), but just as a proposal, I think,
24 could we aim to learn that building
25 electrification dashboard? And we can just

1 really focus on a county or -- I want to --

2 COMMISSIONER MCALLISTER: You --

3 VICE CHAIR GUNDA: -- the premises

4 existing --

5 COMMISSIONER MCALLISTER: I'm sorry to

6 (indiscernible).

7 VICE CHAIR GUNDA: Yes, and then --

8 COMMISSIONER MCALLISTER: Like, focus on

9 a product in the library.

10 VICE CHAIR GUNDA: Yes, (indiscernible)

11 with the library, so kind of like in the next

12 quarter or so, just kind of make it very simple,

13 right? Like, we have the efficiency dashboards.

14 We have all that for buildings, but just like

15 building electrification dashboard, right, that

16 kind of tells the story of (indiscernible). This

17 is the only building (indiscernible) we have,

18 based on BAS (phonetic) information and SUS

19 (phonetic) information. This is the amount of

20 electrified load we have today in terms of air

21 conditioning and heating.

22 COMMISSIONER MCALLISTER: And we know

23 where the solar --

24 VICE CHAIR GUNDA: We know where it is,

25 yes. We know where the solar is, and then slowly

1 lay it on there, "This is the number, incremental
2 number, of heat pumps (indiscernible)." I think
3 that would be a very helpful exercise for the
4 next six months.

5 COMMISSIONER MCALLISTER: To target,
6 like, a jurisdiction in northern and southern --

7 VICE CHAIR GUNDA: Yes, yes, and even --
8 and this kind of goes back to (indiscernible)
9 Berkeley effort -- not at Berkeley -- UCLA
10 effort.

11 COMMISSIONER MCALLISTER: Yes, Catalina.

12 VICE CHAIR GUNDA: Catalina. I mean,
13 (indiscernible).

14 MR. HARVILLE: I think one more
15 underappreciated value of this data set is that
16 we can derive the data that we can't get, that
17 doesn't exist. Like you're saying we don't have
18 a heat pump data set, but, if we have enough of a
19 data set to train a classification algorithm --

20 VICE CHAIR GUNDA: Exactly.

21 COMMISSIONER MCALLISTER: Exactly.

22 MR. HARVILLE: Yes.

23 COMMISSIONER MCALLISTER: Yes. That's
24 what I'm suggesting right there, that we have to
25 back into that with analytical tools, but we can

1 totally do that. We just need the analytical
2 capability in order to actually do that.

3 MR. HARVILLE: All right. Well, Chair, I
4 appreciate that that was the (indiscernible) you
5 were hoping for. I think my answer to you is
6 really, we're just at the cusp of figuring all
7 these things out. We don't have conclusions yet.
8 We're identifying all the possibilities, right?

9 CHAIR HOCHSCHILD: Yes.

10 MR. HARVILLE: So I won't go on and do
11 this whole slide. The gist of this slide,
12 though, is basically, in the next three to six
13 months, mostly three months, we are finalizing
14 the stages of all of this preparatory work that
15 we've been doing, and we're ready to roll.

16 Beyond that, I've listed a number of ways
17 that we're putting the data to use right now, and
18 we have a couple of analytical mandates in here
19 that come from AB 802, on energy efficiency and
20 demand forecasting, but, largely, a lot of this
21 is just, how do we get the data where it needs to
22 be, to who it needs to be, to who can do that
23 analysis?

24 So that can take all sorts of forms.
25 That's getting it to our staff efficiently with a

1 catalogue and data mart. It's getting it to a
2 stable of professionals, like Commissioner
3 McAllister is asking for. It's getting it out,
4 publicly available versions, and to academics,
5 and to industry, private sector. And so, for me,
6 I mean, my team doesn't have analysts, but I
7 think that is the driving challenge right now, is
8 how do we -- there's a thousand ideas on how we
9 can use it. How do we get the data where it
10 needs to go? And the answer is, we're pretty
11 much there. In a few more months, we will be
12 able to (indiscernible) this data, basically,
13 wherever we decide it needs to go, and whichever
14 these use cases this organization decides are the
15 priority.

16 CHAIR HOCHSCHILD: Okay. Well, thank
17 you. (Indiscernible.)

18 UNIDENTIFIED SPEAKER: Definitely a good
19 use of a (indiscernible).

20 MR. HARVILLE: (Indiscernible) chop
21 shops.

22 VICE CHAIR GUNDA: Yes. I mean, can I
23 just say --

24 COMMISSIONER MCALLISTER: Yes, yes.
25 (Indiscernible.)

1 VICE CHAIR GUNDA: I mean, kind of going
2 back three years now, I mean, (indiscernible) --
3 I mean, three or four -- I mean, at least --

4 MR. HARVILLE: It's been four.

5 VICE CHAIR GUNDA: Four years, you
6 know --

7 COMMISSIONER MCALLISTER: And when we did
8 update the data regs?

9 VICE CHAIR GUNDA: Right. That was like
10 four years ago.

11 COMMISSIONER MCALLISTER: That was longer
12 than that.

13 VICE CHAIR GUNDA: And you look at, like,
14 you know -- I mean, I just also -- and always
15 remind ourselves of the history (indiscernible),
16 and what an incredible amount that you have done
17 to get us there, and the work that Christine
18 Collopy (phonetic) was trying to lead on the data
19 leak, and how it morphed into your leadership,
20 and this entire new modernization effort.

21 And big kudos to Drew for agreeing to get
22 on with the ARPA (phonetic) deficit. It was
23 like, "Why are we putting this money into this?"
24 And I remember your pitch was like, you know, "If
25 we put money now, we can save a lot of resources

1 lot on tons of data," and I remember that
2 (indiscernible) opposition that you put forward.
3 I just -- big kudos.

4 I think, you know, these things take
5 longer than we would love to, and also
6 (indiscernible) always, but I think, to the
7 Chair's point, you know, the opportunity for a
8 continued progress, right, is, you know, how do
9 we kind of highlight a few milestones here and
10 there as we go?

11 And I think, with the reliability
12 dashboard that we're almost done with, it's a
13 huge opportunity to kind of -- you know, for the
14 comps to show (indiscernible) on the building
15 side, and then, also, the industrial side. You
16 know, just preemptively thinking on the
17 industrial side, what is it going to look like?
18 Like, what is the shape? And (indiscernible) is
19 another big one. Like, San Diego is
20 electrifying. Like, how do we tell these
21 broad-sector stories, like we are doing on the
22 transportation, would be a good charge to have.

23 COMMISSIONER MCALLISTER: I would double
24 up. I have two quick things to say. So, one, I
25 hear just like -- I think we all hear amazing

1 kudos for you inside the organization, and
2 absolutely outside, like, "My god, I worked with
3 Jason Harville." What a consummate pro, and just
4 really, you know, (indiscernible), knowledgeable.
5 Just thank you, really. Just, you're the right
6 guy at this moment.

7 And yes, I think there's going to be a
8 lot of progress as we prepare to roll out the
9 equitable building decarb, and we're going to
10 have some -- be able to show visualizations that
11 do provide a lot of insight on how we can
12 (indiscernible) buildings, and how to use energy,
13 and what that electrification pathway is going to
14 look like. You know, that is going to start
15 appearing really quick.

16 CHAIR HOCHSCHILD: Thank you, Jason.

17 COMMISSIONER MCALLISTER: Thank you.

18 CHAIR HOCHSCHILD: Let's welcome Damien
19 to get into budget, and sort of while he's coming
20 up, what is the timing on the ZEV dashboard
21 (indiscernible)?

22 VICE CHAIR GUNDA: I got this morning the
23 review, so I think next week.

24 CHAIR HOCHSCHILD: Wow. Fantastic.

25 VICE CHAIR GUNDA: Yes. So I think we'll

1 have -- we have seven dashboards.

2 CHAIR HOCHSCHILD: Okay.

3 VICE CHAIR GUNDA: Now, I think three of
4 them we are absolutely sure they won't be a
5 (indiscernible) issue.

6 CHAIR HOCHSCHILD: Okay.

7 VICE CHAIR GUNDA: The other four we're
8 kind of thinking to what layers should we use.
9 So one would be the -- I think you missed last
10 Monday's principals' meeting. We showed the
11 dashboard under the light (indiscernible), so it
12 kind of shows the shortfalls continuously being
13 updated, how many resources are coming where, and
14 the hydro conditions. (Indiscernible.)

15 CHAIR HOCHSCHILD: Okay. Over to you,
16 Damien, and I apologize. I actually go in 10
17 minutes to present the budget (indiscernible).
18 But I'll catch as much wisdom as I can in 10
19 minutes.

20 MR. MIMNAUGH: So good afternoon. I'm
21 Damien Mimnaugh. I am the Chief Financial
22 Officer here at the Energy Commission, and I was
23 asked to present an overview of the CEC's
24 operating budget. So that's what I'll do.

25 Next slide, please.

1 So I wanted to start off with information
2 that many of you are already familiar with. This
3 slide shows the new state funds, not the federal
4 funds but the state funds, provided to CEC as
5 part of the 2022 budget agreement, and so, as
6 part of that historic budget agreement, we're
7 anticipated to receive \$8,000,000,000, just
8 about, in state resources over the entire year
9 period, but that doesn't include the federal
10 funds which we'll be stoking up shortly.

11 Any questions on that before I dive in?
12 This was the end of 2022 state budget agreement,
13 so before the governor's budget, which was
14 released in January.

15 Looks like next slide. Okay.

16 So, as your (indiscernible) started
17 tracking in January, the governor's budget was
18 released, and (indiscernible) a significant
19 reduction in state tax revenues, and the January
20 budget, as a state, we were anticipating a
21 \$22,000,000,000 shortfall, and that required a
22 reduction in the general fund resources that was
23 provided as part of the '22 budget agreement.

24 So, reflecting the high priority of the
25 CEC's work, though, the January budget proposed

1 to protect 91 percent of our funds, general fund
2 investments, resulting in a reduction of
3 \$619,000,000 over the multiyear period. You're
4 probably (indiscernible) there was a net zero
5 (indiscernible) in the ZEV world as well, general
6 fund (indiscernible). Overall, the reduction was
7 less than 719.

8 Next slide, please.

9 So the influx of a one-time State Fund
10 bill allowed the CEC to make tremendous
11 investments towards the clean, reliable,
12 affordable, and safe system of the future, but a
13 few challenges remain for our primary support
14 funds. So I'll talk about two of them today.

15 The first is ERPA, the Energy Resources
16 Programs Account. This is the primary fund that
17 supports the Energy Commission's activities, and
18 it serves as a financial backstop for CEC. If a
19 different fund source can't be identified, it
20 invariably goes to ERPA.

21 So revenues for this fund come from a
22 surcharge on retail electricity sales. It was
23 established in 1974, at which time the surcharge
24 was set at one mil per kilowatt hour. That cap
25 has been raised twice, most recently in 2002,

1 and, by law, the CEC can adjust the rate.

2 So the Commissioners have to take a vote
3 to adjust the rate, not to exceed the cap, at a
4 publicly noticed meeting. (Indiscernible) its
5 authority to adjust the surcharge, and by
6 (indiscernible) is that the revenues are impacted
7 by the success that we've had decreasing
8 electricity use in buildings and appliances.

9 COMMISSIONER MONAHAN: (Indiscernible.)

10 MR. MIMNAUGH: And the California
11 taxpayer ratepayers have saved well over
12 \$100,000,000,000 over the last 40 years as a
13 result of the standards that have been put in
14 place.

15 Additionally, as behind-the-meter
16 resources are beginning to ramp up, those are
17 exempt from the surcharge as of right now, and
18 their capacity -- their capacity for revenues are
19 declining correspondingly. So urban revenues
20 actually peaked in 2015-16, at \$75,000,000.
21 Compare that to our appropriation in 2023-24.
22 The (indiscernible) cap to the Consumer Price
23 Index moving forward, to help protect it from
24 inflation, and the last thing would be by
25 equitably applying the urban surcharge to

1 electricity produced behind the meter as well, as
2 in (indiscernible) by retail sales.

3 So I'll stop there and see if there
4 any -- yes.

5 CHAIR HOCHSCHILD: The total cost for
6 household is two dollars a year?

7 MR. MIMNAUGH: On average, yes. So, if
8 you're a bigger household, you'll (indiscernible)
9 more and pay more.

10 CHAIR HOCHSCHILD: That's the current
11 total, or that's the total cost after this change
12 was made?

13 MR. MIMNAUGH: That was the total costs
14 as of '21-'22.

15 CHAIR HOCHSCHILD: Okay. Got it.

16 VICE CHAIR GUNDA: And how much higher
17 would that go?

18 MR. MIMNAUGH: So the proposal is to
19 raise the surcharge cap, and if the proposal is
20 approved, then we would be working with the
21 financial (indiscernible), working to figure
22 out -- make sure we know what the fund balance
23 is, and (indiscernible) options, or do we need to
24 raise it, do we not need to raise the actual
25 surcharge, be what we're doing is proposing to

1 raise the cap, and then CEC has the authority to
2 raise the surcharge itself up to that cap, or
3 lower, if revenues are too high and we have a
4 fund balance that we want to draw down.

5 COMMISSIONER MONAHAN: I mean, you can
6 imagine this (indiscernible), you know, but now
7 we're going to --

8 COMMISSIONER MCALLISTER: Now we're going
9 to grow again.

10 COMMISSIONER MONAHAN: And so you can
11 imagine that would be (indiscernible), and we're
12 like, "And we don't need all this money."

13 VICE CHAIR GUNDA: That's the reason why
14 we're pushing electrification so hard.

15 CHAIR HOCHSCHILD: We (indiscernible)
16 some time ago on the cumulative total savings as
17 a consequence of Energy Commission codes and
18 standards, and it was like \$150,000,000,000 since
19 inception.

20 COMMISSIONER MCALLISTER:
21 (Indiscernible.)

22 CHAIR HOCHSCHILD: Right. That was
23 probably five years ago.

24 COMMISSIONER MCALLISTER: Yes, yes. We
25 say 100,000,000,000, and we're just being very

1 conservative.

2 CHAIR HOCHSCHILD: Yes.

3 COMMISSIONER MONAHAN: It's incredible.

4 CHAIR HOCHSCHILD: So, I mean,
5 that's -- I mean -- yes.

6 VICE CHAIR GUNDA: So, Chair, on that
7 one, like, from the total amount that we, as an
8 agency, consumed, versus our (indiscernible)
9 revenue (indiscernible), is it 20, 30?
10 (Indiscernible.)

11 CHAIR HOCHSCHILD: You know, 75,000,000 a
12 year, versus (indiscernible).

13 VICE CHAIR GUNDA: Two hundred million.

14 CHAIR HOCHSCHILD: Two hundred -- yes.
15 That's not even --

16 COMMISSIONER MCALLISTER:
17 (Indiscernible.)

18 CHAIR HOCHSCHILD: This is -- yes. But
19 it's things like -- you know, it's all the
20 unheralded work to do the television standard,
21 which cut the energy to TVs in half, you know.

22 COMMISSIONER MCALLISTER: Nationwide, by
23 the way.

24 CHAIR HOCHSCHILD: Saves a billion
25 dollars a year. Like, all that stuff is

1 (indiscernible).

2 COMMISSIONER MCALLISTER: Nationwide.

3 Nationwide, by the way.

4 CHAIR HOCHSCHILD: Right, right. Right,

5 right. So that's all, you know, supported

6 (indiscernible). This is fantastic.

7 MR. MIMNAUGH: But your question was what

8 the cap is going to go up to?

9 COMMISSIONER MCALLISTER: Yes.

10 MR. MIMNAUGH: So it would be .000642.

11 COMMISSIONER MCALLISTER: So it's going

12 to double. Wow.

13 MR. MIMNAUGH: Correct. And so that

14 would be the new proposed cap, so just a

15 reflection (indiscernible) since 1924. This

16 surcharge (indiscernible) has not

17 (indiscernible).

18 CHAIR HOCHSCHILD: But that's just the

19 potential cap. Like, if we actually -- we will

20 only vote to do -- if it's actually --

21 VICE CHAIR GUNDA: To your point, it will

22 actually go down if you want to (indiscernible).

23 CHAIR HOCHSCHILD: (Indiscernible) go

24 down, if we have enough electrification, where we

25 don't -- you know, we don't want to raise rates.

1 It would be great to learn there's enough
2 electrification to lower it.

3 COMMISSIONER MCALLISTER: Right.

4 COMMISSIONER MONAHAN: Yes.

5 CHAIR HOCHSCHILD: Yes. Okay. Well,
6 thank you. First of all, Damien, I just really
7 want to just thank you. You've done a
8 spectacular job, and you're also somebody like
9 Kat who, like, you've been forever, but you're
10 really only a year or two (indiscernible)?

11 MR. MIMNAUGH: Fifteen months.

12 CHAIR HOCHSCHILD: Fifteen months in the
13 job.

14 MR. MIMNAUGH: Oh, my God.

15 VICE CHAIR GUNDA: Most of them was
16 COVID, too.

17 CHAIR HOCHSCHILD: Yes, during COVID,
18 and, you know, as soon as you get here, we get
19 \$9,000,000,000. So I'm just saying --

20 MR. MIMNAUGH: (Indiscernible.)

21 COMMISSIONER MCALLISTER: And we lost
22 some.

23 CHAIR HOCHSCHILD: Really appreciate your
24 (indiscernible).

25 VICE CHAIR GUNDA: We are very much

1 (indiscernible).

2 CHAIR HOCHSCHILD: Yes, yes.

3 VICE CHAIR GUNDA: No, but, Damien, thank
4 you. Last year, from my vantage point, we could
5 not have landed the 846, the 205, 209, those
6 massive efforts, without, I mean, your work and
7 legal's work, you know, and comms, to some level,
8 right, just needed you to work, you know,
9 weekends, evenings, regularly to help land that.
10 So just thank you. I think that that's
11 been -- the benefits to California are huge, by
12 the way, that you bring to the table.

13 COMMISSIONER MCALLISTER: Yes.
14 (Indiscernible) your help.

15 CHAIR HOCHSCHILD: On that note, I'm
16 going to join that (indiscernible).

17 COMMISSIONER MONAHAN: Yes.

18 UNIDENTIFIED SPEAKER: (Indiscernible.)

19 COMMISSIONER MONAHAN: Well, and I told
20 Damien this privately, but I want to say it
21 publicly, too. On the ZEV budget, you've just
22 been tremendous, and not just around budget
23 issues, but political issues, and kind of helping
24 us navigate this terrain, and you've been a joy
25 to work with.

1 MR. MIMNAUGH: Thank you.

2 VICE CHAIR GUNDA: I just want to give
3 you kudos, (indiscernible), for bringing in
4 Damien, for just building the team.

5 UNIDENTIFIED SPEAKER: I bagged a good
6 one.

7 VICE CHAIR GUNDA: Yes, you bagged a good
8 one.

9 COMMISSIONER GALLARDO: Yes. And I'll
10 add, too, Damien, that you've been responsive,
11 and even, like, proactive about letting us know
12 who you are, what you do, helping us out, and
13 just asking that -- I want to say -- so, anyway,
14 I just appreciated that about you, and that takes
15 a lot, given all the stuff that you're working
16 on. So I hope that you are able to continue
17 that. That's been extremely helpful.

18 MR. MIMNAUGH: I've been (indiscernible)
19 to build a strong budget (indiscernible). So
20 that is (indiscernible).

21 So we did have one --

22 UNIDENTIFIED SPEAKER: Let's go for it.

23 UNIDENTIFIED SPEAKER: Get up,
24 (indiscernible).

25 MR. MIMNAUGH: Thank you.

1 So we did have one more fund that,
2 unfortunately, does not have a solution presented
3 for that I wanted to bring to your attention,
4 because it's something that will likely require
5 action in the future. (Indiscernible.)

6 CHAIR HOCHSCHILD: Perfect.

7 MR. MIMNAUGH: So the second fund that I
8 want to talk about is what we call the "EFLEF
9 Fund," the Energy Facility License and Compliance
10 Fund, and you can see, based on the placement of
11 vowels, why we call it "EFLEF."

12 So this is the fund that supports the
13 activities and stuff on siting energy plants. It
14 receives from two sources. The first is an
15 annual compliance fee paid by the 75-ish or so
16 jurisdictional CEC power plants, and the second
17 is one-time application fees for when a facility
18 applies for the siting (indiscernible).

19 So, over the past five years, the revenue
20 in this fund has averaged about \$3,000,000 or so.
21 Expenditures have averaged about five and a half
22 million dollars. So you can see that already
23 we'd be eating into a fund balance. On top of
24 that, staff are anticipated to increase workload
25 due to the opt-in permitting process that was

1 enacted last year, so likely more things coming
2 their way.

3 So we have a couple options -- neither of
4 them are going to be a surprise to you -- about
5 how we might fix this funds. There's really two.
6 One is to increase revenues, looking at the fees
7 and permitting -- permitting fees and
8 (indiscernible) compliance fees, adjusting those
9 as necessary based on the appropriations from the
10 fund, and the other one would be to cut costs.

11 We could look at finding different fund
12 sources for the staff that are currently
13 (indiscernible) funded by this fund, but
14 something that we did when ERPA was in trouble
15 five, six years ago, we had multiple
16 (indiscernible) of attempts to move ERPA off of
17 ERPA, onto an appropriate fund, and so that would
18 be another option as well.

19 So we're working with the STEP (phonetic)
20 staff right now to develop options. So it's
21 something that we'll like be working on over the
22 next several months.

23 COMMISSIONER GALLARDO: Well, it's good
24 to hear. We had a lively conversation yesterday
25 on just the desperation and urgency for more

1 staff to be able to meet the needs of opt-in
2 alone, and then layering on the work we're going
3 to have to do on AFCs and SPPEs.

4 So I think one of the -- I get that
5 you're trying to find a solution, and I'm
6 thinking maybe do both things, but, also, I think
7 the question was seeing if we could hire staff,
8 like, tiny, if we could hire staff before we're
9 getting the fees. I think Elizabeth was trying
10 to explain that.

11 We're waiting for the money to come in
12 before we hire the staff, and that's creating a
13 big issue for her to be able to get project
14 managers for (indiscernible) that are absolutely
15 vital to be able to move forward.

16 Drew, if I'm explaining this incorrectly,
17 please chime in.

18 MR. BOHAN: No, (indiscernible).

19 COMMISSIONER GALLARDO: So I'm wondering
20 if there's any thought there -- I'm, like,
21 looking at both you, Rob, and Damien -- if you
22 can talk us through that.

23 MR. MIMNAUGH: Yes. So one challenge is,
24 as those -- I guess two challenges, really. The
25 first is the way the funds are provided as part

1 of the siting work that the STEP team is doing.
2 If they're looking to make it higher, that would
3 likely be a permanent cost, just in terms of, you
4 know, any (indiscernible), permanent cost to the
5 Commission.

6 That would be rated against a one-time
7 workload, and then likely we would then
8 anticipate multiple of those applications coming
9 through, but it's hard to make a hire, and
10 justify a hire, based on what, you know, could be
11 revenue that's going to stop at some point in the
12 immediate future, where you have 10 or 15 of
13 these projects lined up. Are they going to
14 continue using the opt-in process or not? So
15 there's a risk to the Commission of taking that
16 action there.

17 The second one is making hires in
18 anticipation of a funding fix, for instance. So,
19 if we were to propose a solution (indiscernible)
20 what we have right now, it would be contingent
21 upon legislative approval, which would also be a
22 risk for the Commission's budget, but something
23 to be taken into consideration.

24 COMMISSIONER GALLARDO: Okay. So there's
25 a risk, but --

1 MR. BOHAN: There's also the --

2 COMMISSIONER GALLARDO: Yes.

3 MR. BOHAN: You know, we use the ERPA
4 fund to support things where there isn't another
5 source, and we've been extremely frugal over the
6 years (indiscernible), alluding to the fact that
7 we shifted about \$40,000,000 off the fund some
8 years ago, and (indiscernible). The balance was
9 shifting it to other funds, so it wasn't a net
10 savings to the state, but half of it was.

11 So we can use that and float something
12 for a while, if we have a good reason to believe
13 that we're going to get more revenue from
14 (indiscernible) source, or from ERPA, if
15 (indiscernible) to ERPA. ERPA can handle it, but
16 they can only handle it for a little while.

17 COMMISSIONER GALLARDO: Right.

18 MR. BOHAN: That's the issue.

19 COMMISSIONER GALLARDO: It sounded like
20 that might -- that could help, just for a little
21 while.

22 MR. BOHAN: Yes.

23 MR. HARVILLE: And the last option, I
24 would say, is looking at existing vacancies with
25 the Commission. Those present no risk, except to

1 the division or office that is losing a position,
2 because are fully funded positions.

3 COMMISSIONER GALLARDO: Right. We could
4 really hire right, I think.

5 MR. HARVILLE: That's correct, yes.

6 COMMISSIONER GALLARDO: Yes.

7 MR. HARVILLE: Yes.

8 MR. BOHAN: The voters will never
9 (indiscernible).

10 COMMISSIONER GALLARDO: Right.

11 MR. BOHAN: As usual, the option with the
12 least risk is the one that is the last palatable.

13 COMMISSIONER GALLARDO: Yes. Okay. But
14 there is a commitment to come up with a solution.
15 There's a possibility of using -- yes. Okay.
16 Great. Thank you

17 MR. HARVILLE: All right. And I think I
18 was scheduled for an hour, but I don't think I
19 needed nearly quite that much time.

20 COMMISSIONER MONAHAN: That's the sign of
21 a good (indiscernible).

22 UNIDENTIFIED SPEAKER: Yes.

23 COMMISSIONER GALLARDO: Well, let's make
24 sure. Anyone have questions, anyone else?

25 UNIDENTIFIED SPEAKER: (Indiscernible.)

1 CHAIR HOCHSCHILD: I just want to also
2 call out Damien because, you know, in a lot of
3 organizations, nobody knows the Damiens of the
4 world, right?

5 COMMISSIONER GALLARDO: (Indiscernible.)

6 CHAIR HOCHSCHILD: In this organization,
7 we do, because he's involved with so many things.
8 He jumps on the bus so very quickly, by his
9 precise (indiscernible) answers (indiscernible).
10 Now, sometimes he (indiscernible). So I really
11 want to (indiscernible).

12 VICE CHAIR GUNDA: I'm not sure. I get
13 pretty (indiscernible).

14 CHAIR HOCHSCHILD: We're not dense.

15 VICE CHAIR GUNDA: Yes. I mean, it's
16 amazing, Damien. I mean, also, I think you've
17 helped us with some of the translation of what
18 our needs are, with really understanding how to
19 deal with (indiscernible) things, and there the
20 requirements are -- and I think you've done a
21 fabulous job helping us understand the
22 requirements, and then work with the other
23 agencies.

24 MR. HARVILLE: (Indiscernible.)

25 COMMISSIONER GALLARDO: Okay. And I

1 think we have a break now.

2 UNIDENTIFIED SPEAKER: Yes.

3 COMMISSIONER GALLARDO: (Indiscernible),
4 Chair, so we can move into that break.

5 UNIDENTIFIED SPEAKER: Yes.

6 COMMISSIONER MONAHAN: So, mute?

7 VICE CHAIR GUNDA: We're going to the
8 break at 2:00 o'clock, but we'll come back.

9 (Off the record at 1:36 p.m.)

10 (On the record at 1:51 a.m.)

11 VICE CHAIR GUNDA: I think, Drew, you're
12 up.

13 MR. BOHAN: Okay. Great. Let's move on
14 to the obligatory slide shot. All right.

15 Well, thank you, everyone. You asked me
16 to speak a little bit about our recruitment and
17 outreach efforts, so I'm slated for 45 minutes.
18 I think I'm going to take about 10 or less with
19 no questions, but I imagine -- I'm hoping to
20 generate some order of conversation, which might
21 make it go on.

22 So, next slide, if you could.

23 VICE CHAIR GUNDA: Drew, the rule is one
24 question per Commissioner.

25 MR. BOHAN: All right. I mean, it's

1 completely up to you.

2 So first I just want to introduce you to
3 the team. So I've got Rob back here, who I'm
4 going to call on. 2017, I think, we had no
5 people in recruitment outreach. We had people
6 who did it, but there was nobody who woke up
7 every day devoted to that activity. We hired
8 Jessica in, I think, 2018, and she has been
9 great. Since then, she's added the people whose
10 names you see up here.

11 It's really a great team. I think it's
12 about right-sized for the demands we have right
13 now, which are high, though (indiscernible) slow,
14 and we'll address that, and I wanted you to pay
15 attention to the last line, because this is
16 really not a rhetorical device or a joke, but,
17 really, everybody in this room and everybody in
18 the organization are recruiters. Some of the
19 best people we get are from people we know.

20 I had somebody about six months who is
21 concerned because they used to work with
22 somebody, and they thought this person would be
23 terrific for a particular job, and they were
24 concerned, "Is there some sort of conflict,
25 because, you know, I work with this person?" And

1 I explained, "No, exactly the opposite. This is
2 where we get some of the best people."

3 Now, if it's a family member or something
4 like that, that obviously raises issues, but co-
5 worker that you used to have is -- a former
6 employer is a tremendous source of recruiting.

7 So you're well aware of some of the tools
8 we use for some of the more difficult-to-fill
9 jobs, where we send around a request to you that,
10 you know, "Consult your Rolodexes and do
11 outreach," and so we would ask you to keep doing
12 that going forward.

13 Next slide.

14 This is the one where I thought we might
15 spend a little time discussing. So why should
16 anybody choose the Energy Commission as a place
17 to be employed? If you look at our website, and
18 you look at the materials we put out and we
19 publish, these are the themes that we touch on,
20 and we're engaging now in an effort to look at
21 making sure that they're really thematic across
22 all the different platforms, and that the message
23 is, you know, kind of tight and cohesive all the
24 way across, but these are the messages we touch
25 on.

1 I think one of our bigger sells -- these
2 are in not particular order, but one of our
3 selling points is the work here. It's
4 fascinating. Some of us are passionate about it.
5 We, you know, go to sleep thinking about it. We
6 wake up the next morning thinking about it. You
7 know, for some, it's beyond the day profession,
8 and it's, you know -- some of us, it's a hobby,
9 and some of us, it's really a passion and a way
10 of life.

11 So I think we're able to communicate this
12 to folks, and the more you folks, as
13 Commissioners -- and I think you do this well.
14 You know, the Chair sends around periodic
15 messages about things that we've done that are
16 accomplishments worth noting. These matter, and
17 I know this because we got feedback from our most
18 recent survey from staff, and they pointed to
19 that.

20 They pointed to the various outreach that
21 you do. At the Lead Commissioner briefings, you
22 start off with stuff you're working on, and, you
23 know, it may seem prosaic to you in some ways,
24 because you're doing it every day, but the staff
25 who don't get the opportunity to be out there and

1 see all these things, and see the results in
2 action, it's just -- it's just really
3 (indiscernible). So I think that's a critical
4 part of our value proposition.

5 (Indiscernible) friendly has been really,
6 really beneficial to us. Anecdotally, I've heard
7 of numerous people, probably at least five or
8 six, who took the job and expressly said to us,
9 "The reason that I took this job is because of
10 your (indiscernible) policy," or at least a
11 substantial reason that caused them to choose the
12 Energy Commission versus another employer. This
13 is (indiscernible).

14 JAEDI is big. People talk about it in
15 most organizations these days, but we really do
16 it, and Noemi has really been the lynchpin of
17 making it all happen. What we do internally is
18 unusual. This is not normal, I think, that we
19 really support our staff. We support our ESGs
20 and our ERGs, and we don't just say, "Look. We
21 put a slogan somewhere," and that's it. I mean,
22 we really mean it.

23 The Chair has asked me to give a
24 presentation. We're working on this little plan
25 that we're going to present to him -- others are

1 welcome to see it -- towards the end of the
2 month, to take a look at how we're doing in terms
3 of attracting people and making the Energy
4 Commission resemble California, to the extent
5 we're capable of doing so.

6 We're doing really well in some areas.
7 We've got some pockets where we're not doing as
8 well, and we can really lift up those efforts.
9 So we're going to talk about what we've been
10 doing, and what strategies we might deploy to do
11 a little better in that regard.

12 Also, we talked a little bit yesterday
13 morning about the outward-facing part of it.
14 That matters to people, too. If you want to work
15 at the Energy Commission, it's nice to know that,
16 wherever you are, you're going to be welcomed
17 with open arms, but it's also nice to know that
18 this is an organization who cares about this sort
19 of thing, not just internally, but that we really
20 try to reach out to folks who haven't been
21 considered by a lot of work that's been done at
22 the state level for an awfully long time. So I
23 think this is a very valuable part of what we do.

24 Collegial environment. It's, you know, a
25 little self-serving. We probably all think we

1 have a -- you know, we're nice and so forth. But
2 I think it's really true, and I hear this, and,
3 again, it gets reflected in the surveys. People
4 say they like working here, like the people that
5 they work with.

6 We press hard that management is about
7 dignity and, you know, management is tough.
8 Sometimes there's difficult situations, but, if
9 you treat everybody fairly and responsibly, and
10 even if what you're sharing isn't welcome all the
11 time, it really goes a long way to making people
12 feel like this is a caring environment where, you
13 know, people are going to be respected and
14 treated well.

15 We also encourage mistakes, encourage
16 risk-taking, and not just being so concerned that
17 you might make a mistake that you don't take some
18 chances and you don't really try hard. I think
19 people -- again, it signals to us this is
20 (indiscernible).

21 They want to put their own ideas into
22 things, and if they're terrified that if they get
23 something slightly wrong, they're going to get
24 chewed out, it's not going to make people really
25 think this is such a great idea.

1 We also mentioned the state benefits.
2 They're quite good. We don't generally pay as
3 much as others straight up, but the benefits are
4 pretty good, and the retirement package, and the
5 holidays, and (indiscernible) stuff.

6 So we don't shy away from mentioning
7 that, and then our own benefits -- you may have
8 noticed we started a mentorship program recently,
9 and we've got -- I'll forget the numbers, but I
10 think we've got 40-some-odd people out of 700 to
11 raise their hands, said, "I'd like to be a
12 mentor," and we had an abundance of mentees --
13 excuse me, mentors -- to support those who said,
14 "I want to be a mentee."

15 So the match has been pretty good so far.
16 A few people stepped up and said, "I'll take on
17 more than one," but this so far is showing that
18 it benefits not just the mentee, who can learn
19 from somebody who maybe has been around the
20 organization for a while, and maybe has
21 (indiscernible) experience in subject matters
22 areas that the mentee hasn't, but it goes both
23 ways.

24 "The best way to learn is to teach," is
25 an old phrase that really has some value, and

1 then sitting at the end of the table are two
2 people I can point to on upward mobility who
3 started in one position in the organization and
4 now are Commissioners. Yes. I started in the
5 mailroom as a shoeshine boy, and that was about
6 10 years ago, and have worked my way up as
7 (indiscernible). So it's really (indiscernible).

8 VICE CHAIR GUNDA: Drew, before we jump
9 off, on the mentoring program, how are you
10 curating that? I mean, sorry. I wasn't tracking
11 that very well. How was that done, and, you
12 know, any kind of immediate insights into how
13 that's working?

14 MR. BOHAN: Yes, yes, very much so. So
15 we put in an announcement. We put it out, you
16 know, multiple times, so people had an
17 opportunity. We have a Comms Hub link that folks
18 can go to.

19 We have a secret weapon in the executive
20 office whose name is Briana (phonetic), and she
21 has more energy than just about anybody I've met,
22 and she always brings a positive spirit, and so
23 she's helped match people together.

24 You know, there was one instance she
25 called me and said this one person wanted to

1 switch to a different mentor. I said, "Yes,
2 let's go ahead." We did switch over. And then
3 they -- then, after a while, they said, "You know
4 what? I'd like to switch back."

5 So we've been really flexible in giving
6 people that, trying to find that right fit,
7 because some of it is just chemistry,
8 personalities, but it's open to anyone on an
9 ongoing basis, but we've already got these set
10 points.

11 She put together a lot of training for
12 it, so that the mentors and mentees could know
13 what to expect and what some of the best
14 practices are, and I wouldn't be fair if I didn't
15 acknowledge Christine Collopy. It was a team,
16 but Christine has been passionate about this for
17 a long time.

18 She's been mentoring people just on her
19 own, in her free time, and she basically created
20 this program herself, and so we adopted it
21 organization-wide, but she really -- again, I
22 don't want to be unfair to others. It was a team
23 effort. But she really did a lot.

24 COMMISSIONER GALLARDO: May I add
25 something on that?

1 MR. BOHAN: Yes.

2 COMMISSIONER GALLARDO: So, also, when we
3 were doing IDF (phonetic), the predecessor of
4 JAEDI, we did have task force meetings where
5 everyone at Energy Commission was invited to
6 attend, so that we called the "task force," and
7 then we did subgroups to focus in on developing
8 recommendations for our internal workplace,
9 making sure it was a place of belonging, et
10 cetera, and one of the recommendations in one of
11 the subgroups was to have a mentoring program.

12 So it came from staff as well. This is
13 what they wanted. Christine was on that, was in
14 that subgroup. So I just wanted to -- I like
15 that, how awesome it is that, you know, staff is
16 asking, and feels comfortable asking, us for
17 these things, and then is also willing to
18 contribute to it.

19 MR. BOHAN: Yes. And in the early days
20 with the employee and employee support groups,
21 you're a bit of one-person show, you know, for a
22 while there, but the team has grown. We've
23 pulled back a little bit, but Noemi is still
24 showing up to many of these. I try to show up to
25 many of these. I try to show up to as many of

1 them as I can, and you just hear people talk
2 about their personal stories and whatever.

3 You know, we've got a whole variety of
4 them with different -- you know, directed towards
5 different folks with different interests, and I
6 think it's really -- they're usually there for
7 (indiscernible). It's just an opportunity for
8 people to get to know one another, and you hear
9 things about people's stories on a personal level
10 that can be shocking and horrifying, fascinating,
11 you know, wonderful. They just vary. But I
12 think staff really benefits from being able to
13 connect that way.

14 Before we move on, I just want to say to,
15 obviously, the Commissioners, but anybody in the
16 room, there are other things that you think
17 aren't captured in this one, two, three, four,
18 five, six-bullet list, that you think are
19 valuable ones we should be citing for why someone
20 should select us over others.

21 VICE CHAIR GUNDA: And it's hard -- I
22 mean, I think you laid it out, and I was kind of
23 thinking about it. It's the culture, work
24 culture, right? I mean, I think the JAEDI is
25 kind of (indiscernible).

1 I mean, for me -- and I mentioned this
2 before in our internal meetings -- CEC is one of
3 the best places where I ever worked in, in not
4 only being included in everything, but, you know,
5 really felt like a part of the team, felt very
6 accepted as a team member, very valued. That's
7 not -- I mean, I've worked at some really good
8 places, but CEC definitely is, you know, that
9 very high level for me, and I didn't expect it
10 coming into CEC. So the culture, I think, is
11 really valuable.

12 The other -- I mean, this is captured in
13 your first one, but, I mean, in which you said,
14 "Impactful." What CEC is doing really matters
15 for California, right? I mean, we're
16 uplifting -- I mean, if we did this humbly and,
17 you know, well, I think the ability to uplift
18 California into California for all that CEC
19 brings to the table is unprecedented and
20 unparalleled, and I think that's a -- I mean,
21 it's a good one to elevate, you know, and that's
22 all captured in there, in (indiscernible).

23 MR. BOHAN: So I was just going to say
24 (indiscernible) suggestions are welcome as well,
25 in addition to changes. So, please.

1 COMMISSIONER MONAHAN: Well, and I don't
2 know if this is universal, but my experiences
3 with the team I engage with, like, there's
4 something about that entrepreneurial side. You
5 said it, I think, but it's not here. It's like,
6 "meaningful, (indiscernible), fascinating," but
7 there's something about the -- like, we have
8 these big problems to solve. We don't have all
9 the answers.

10 Entrepreneurialism is actually, like,
11 embraced, and I think that's sort of
12 contradictory to state work, because you think of
13 state work -- and there is some of
14 that -- drudgery. Sorry. But there is like the
15 "check the box," and this other side of being,
16 like, creative, entrepreneurial, really problem
17 solving.

18 VICE CHAIR GUNDA: We had this think tank
19 feel, the CEC, which is really unusual.

20 COMMISSIONER MONAHAN: Yes.

21 MR. BOHAN: (Indiscernible.) I'm taking
22 notes. It's really a good point. I mean,
23 there's not that many organizations where you get
24 handed something and you get asked, "Figure it
25 out."

1 COMMISSIONER MONAHAN: Yes.

2 MR. BOHAN: This isn't for everyone.
3 Some people say, you know, they get pretty
4 nervous, but others say, "Caring? Really?" So
5 the more we can promote that, the more we're
6 going to get -- and we all we get better ideas
7 from a diverse group of people, thinking about
8 (indiscernible).

9 COMMISSIONER MONAHAN: Yes. I think
10 (indiscernible).

11 MR. BOHAN: Yes.

12 COMMISSIONER MCALLISTER: I mean, I guess
13 I would not push back on that, but -- I'm sorry.

14 COMMISSIONER MONAHAN: No, you go ahead.
15 I already talked.

16 COMMISSIONER MCALLISTER: Like, I guess,
17 certainly not to push back on that idea and that
18 kind of ideal, but I think that we could do
19 better in that regard, helping people.

20 You know, in a bureaucracy, there's a
21 certain amount of, like, you know, sort of
22 pressure to stay in your lane, and kind of -- you
23 know, I think that's inherent to this playing
24 field. So I think finding ways to help
25 entrepreneurs, you know, internally, that's going

1 to depend on everybody's -- you know, their
2 particular role or particular job and that kind
3 of thing, but I think we can always do better on
4 that, essentially.

5 MR. BOHAN: It's a good point.

6 Noemi, we're good?

7 COMMISSIONER GALLARDO: Yes. No, don't
8 (indiscernible). Two things. One, you know, our
9 expertise, too, and I'm thinking more about my
10 nerd here, our friend, but, like, I think, you
11 know, folks are fascinated and attracted to that,
12 you know, how much expertise there is at the
13 Energy Commission. I recall Will Vicent saying
14 how impressed he was -- I can't remember if it
15 was a workshop or whatnot, before he came over to
16 the Energy Commission -- that that really, you
17 know, piqued his interest in coming over.

18 So, you know, that expertise, and then,
19 also, I think we have really inspiring
20 leadership, and you gave me a lot of credit for
21 JAEDI work, Drew, but, honestly, like, we
22 wouldn't be able to make anything happen without
23 you being supportive, the Chair, and how much,
24 you know, it's critical, you know, to him that we
25 do that.

1 Hawley (phonetic), Siva, Andrew, like,
2 everybody is just all in on, you know, so much of
3 this. So I think that having inspiring leaders
4 makes a big difference, too.

5 UNIDENTIFIED SPEAKER: Yes, it shows.

6 Okay. Let me move along to -- I just
7 want to talk a little bit about the tools, and,
8 again, invite engagement from you all on any of
9 these points, but I'm not going to going to go
10 through each of these one by one. But I want to
11 kind of say, generally, what our team does really
12 well is they just bird-dog it. They pick up the
13 phone and they call, and they see, "I see that
14 you're this," you know, "that," and this is -- we
15 did our "Dialing for Megawatts."

16 You know, calling people and reaching out
17 to them is not the easiest job in the world. We
18 do it really, really well, so that I'm really
19 proud of the team. I've got a slide I'll show
20 you next about that, but I think it's kind of our
21 "special sauce," is just calling folks up.

22 COMMISSIONER MCALLISTER: I would maybe
23 just link that, which I totally agree, especially
24 for young professionals in their first -- in
25 their career that, (indiscernible) the

1 Commission, be encouraged to pick up the phone
2 and call everybody, line by line, and have that
3 complemented with professional development
4 opportunities, you know, more formally. I mean,
5 that's just transformational for people.

6 MR. BOHAN: Yes.

7 COMMISSIONER MCALLISTER: You know, I
8 just -- and that is -- I think that's a huge
9 opportunity that we offer, and just because of
10 what Patty said, just about how these are
11 problems without the answers to, we need every
12 creative person to come in here and help, you
13 know, help figure it out. That is -- for me,
14 that is, like, the excitement of the Energy
15 Commission, like, for new professionals,
16 particularly, but really everyone.

17 MR. BOHAN: Yes. We've also taken some
18 steps to demystify the process. It's a little
19 complicated. I'm not sure if there's any of you
20 that have applied to become a civil servant
21 because you (indiscernible). Yes. It's
22 complicated, but the team does that, too. They
23 do one-on-one (indiscernible), and it doesn't
24 always yield results. People do it. Maybe they
25 learn how to do it and they go get another job in

1 another state. That's okay. But they help
2 demystify it, try to break it down into its
3 essential components.

4 We've also restructured the way we do
5 exams. You probably know that, to get into state
6 service, you have to take an exam, period, no
7 exceptions. However, you can take a proctored
8 exam over the weekend, where you sit for two
9 hours and answer complicated questions. You can
10 go through extensive interviews. You can take an
11 on-the-fly test. There's all manner of ways that
12 you can do the exam.

13 We've moved over -- I mean, this has been
14 like 10 years now, but we moved over so almost
15 every position in the organization is what we
16 call a "T and E," a training and experience, and
17 essentially it's still an exam, but your exam is
18 essentially answering a couple questions about
19 your experience, "Tell us what experience you
20 have managing others. Write it down."

21 It's a self -- you know, you
22 self-evaluate, and somebody grades it on the
23 back, but that's the exam. So, once you pass
24 that, and all you've done is basically send in
25 your resume in the form of sort of answering

1 questions about your experience, you're eligible
2 to be hired by the Energy Commission. Then it's
3 up to the managers to make the decision from the
4 pool of applicants who they want.

5 So that's been a huge thing, not only to
6 swell the talent pool and get more people
7 eligible to be hired. It's attracted more
8 people, because they look at it and they go,
9 "God. I really don't want to have to show up on
10 a Saturday -- it's a beautiful day out -- and sit
11 for some test," or whatever is commonly done. So
12 those things have been helpful for us.

13 COMMISSIONER MCALLISTER: At what point
14 do we match, like, for the particular, you know,
15 job?

16 MR. BOHAN: Well, that's it. I mean,
17 there are some basic requirements. Like, you
18 have to have a degree in a certain area, for
19 example, and that's a binary.

20 COMMISSIONER MCALLISTER: Those are
21 pass-fail.

22 MR. BOHAN: You've got it or you don't.
23 But then the next question might be "Tell us what
24 you know about -- what experience have you had in
25 appliance efficiency?"

1 COMMISSIONER MCALLISTER: Okay.

2 MR. BOHAN: They say, "I don't know, but
3 I think it's really interesting." They're not
4 going to score very high. They say, "I've worked
5 for someone," you know, they're going to get a
6 higher score. Those scores are all added up for
7 each of the questions, and then you get a total
8 score, and you either pass or you don't. So,
9 again, trying to make the pool larger, if we can,
10 using a lot of --

11 VICE CHAIR GUNDA: On that one, Drew, I
12 have to say, incredibly grateful for the change
13 in the exam situation.

14 MR. BOHAN: Yes.

15 VICE CHAIR GUNDA: You know, having taken
16 those exams, I was -- you know, it's hard to
17 say -- if anybody fails the original exam, those
18 100 questions or whatever, truthfully, nobody
19 will pass.

20 MR. BOHAN: Yes.

21 VICE CHAIR GUNDA: It's all
22 (indiscernible). It was meaningless, almost, to
23 a point.

24 MR. BOHAN: Yes.

25 VICE CHAIR GUNDA: So it was really

1 helpful.

2 MR. BOHAN: Yes, and it's just, you know,
3 if you want to apply for five jobs, and it's
4 going to be three hours each, you know, you're
5 going to be picking and choosing. If ours takes
6 you 20 minutes, it's going to be a lot easier.

7 VICE CHAIR GUNDA: Do we still have the
8 parentheticals, or no, the (indiscernible)?

9 MR. BOHAN: Rob, what did we do with
10 those parentheticals?

11 MR. COOK: They exist, but we converged
12 everything onto (indiscernible), and that's all.

13 MR. BOHAN: So, essentially, no. We have
14 one, but it (indiscernible). This was -- some of
15 our positions were balkanized further still. We
16 (indiscernible) positions into specialties, up to
17 three specialties per. We basically merged this
18 into one. So it cut by a third (indiscernible).

19 MR. COOK: (Indiscernible.) At one point
20 in time, if you had all of your experience in
21 transportation, for example, you couldn't go
22 anywhere else, but we trapped our people.
23 Whatever career path they started on, they were
24 trapped, totally. Now we (indiscernible)
25 basically eliminated that from --

1 MR. BOHAN: Made the switch to the T and
2 E, so you're just submitting a resume. It was
3 relatively quick. We did that, you know, more or
4 less overnight, and with the switch, the
5 (indiscernible) switch, the system can sometimes
6 be the easiest to navigate, so it took us over a
7 year, I think, to get those (indiscernible).

8 VICE CHAIR GUNDA: And some of the
9 people -- I think Courtney was involve in that,
10 right, Courtney Smith?

11 MR. BOHAN: Yes. In the parentheses?

12 VICE CHAIR GUNDA: Yes.

13 MR. BOHAN: Yes. The T and E thing was
14 done before she arrived, but yes, I think she
15 was. Yes, Courtney Smith.

16 Anyway, these are the tools we've got.
17 Next slide. (Indiscernible) not advancing them.

18 I just wanted to pick out, of that list I
19 just showed you, one thing in particular our team
20 has been really using a lot, and that is LinkedIn
21 Groups. This is not an ad for LinkedIn, but it
22 just -- of all the platforms we use, and we use a
23 lot of them, this one has been quite fruitful.
24 So you can target groups like the ones shown
25 here. You can target whomever you want.

1 We're now connecting with over 100 of
2 them, and we just started keeping stats on this
3 in last October, but, if you go to the next
4 slide, these numbers may not seem all that big,
5 but, since October 2022, when you populate these
6 tools with your criteria, we've gotten a lot of
7 matches, 1,300 of them since October. That
8 translated into about one in 10 of them actually
9 applied.

10 We got 160 applicants, and we filled 14
11 positions from that. Twelve of these were from
12 LinkedIn, one was from a (indiscernible) called
13 Indeed, and one was another thing. And so for --
14 you know, we hire on the order of 40, 50 people a
15 year. So to get 14 of them in less than a year
16 from just this one source is really excellent.
17 And, you know, get to learn a lot more about
18 them, and you can look at their profiles and all
19 that, and background.

20 COMMISSIONER GALLARDO: And, Drew, it's
21 not -- from what I understand, it's not that big
22 of a lift to do the social media matching.

23 MR. BOHAN: The lift comes in when you do
24 the contacting. So just finding them and getting
25 a candidate pool, that's easy, but then, when you

1 get people who bite, they send something in, and
2 they say, "Maybe I'm interested" or "Put me on
3 the list," this is when our team picks up the
4 phone and says, "Hi. Just checking in with you
5 from the Energy Commission," and sometimes they
6 get somebody who's really happy to hear from
7 them.

8 Other times, they say, "Who?" You know,
9 maybe they've applied to a whole bunch of things,
10 and they don't remember. But this an opportunity
11 for them to say, and then kind of go through our
12 list of "Why did you choose the Energy
13 Commission?" So I'm just really grateful to the
14 teams and their doggedness.

15 COMMISSIONER GALLARDO: It's great.

16 MR. BOHAN: That's really it. Again, I
17 want to open it up if you have any other things
18 to share about recruiting, and (indiscernible).

19 COMMISSIONER GALLARDO: So, Drew, one
20 thing that -- I can't remember which group did
21 it. There was like a workshop or something where
22 we went to hear about what state agencies are
23 doing that are successful, and one of the things
24 they highlighted was telling, like, personal
25 stories using social media.

1 So, like, I don't know if staff or
2 leadership or whoever would make just a
3 little -- you know, write up a little story or
4 whatever, and it would get blasted out, and that
5 was really helpful to them on something like, you
6 know, "Why do I love the Energy Commission?" And
7 then they'd, you know, give that blurb, and it
8 was very personalized, and apparently that was
9 very successful. I can't recall the name of the
10 group. I'll talk to Carousel, because I think
11 Carousel Jones (phonetic) was in that workshop,
12 too.

13 MR. BOHAN: We've talked about -- Rob, do
14 you know if we've done that? Have we created
15 any -- we talked about creating these little
16 videos from various staff.

17 MR. COOK: I don't think we've done it
18 consistently. I think there have been -- I've
19 seen a couple over the course of time, but I
20 don't think it's anything we've done
21 systematically.

22 MR. BOHAN: Yes, but it's a really good
23 idea. Testimonials, you know --

24 COMMISSIONER GALLARDO: Testimonials,
25 yes, with photos, to things sharing that

1 (indiscernible) information. They said it was
2 successful, but I can't recall, you know, their
3 metrics or whatever.

4 MR. BOHAN: Yes, yes. Okay. I mean --

5 COMMISSIONER MONAHAN: Well, I want to
6 say thanks for doing all these changes. I don't
7 know if you, Rob, and Christine -- I mean, I
8 think it's great to get rid of (indiscernible)
9 and make, you know, that whole big list that I
10 had to get into state, and make it easier to move
11 around. So it's just great.

12 I wonder if you could talk a little bit
13 about onboarding, and I'm curious because, you
14 know, we had Sarah come in, and we realized,
15 like, we don't really know what we're doing with
16 onboarding. Sorry, Sarah. And it feels a little
17 like every division, every -- it's kind of ad
18 hoc, and I don't know if that's true, or if that
19 was just our experience, but just would be
20 curious about, like, the next step.

21 MR. BOHAN: Yes.

22 COMMISSIONER MONAHAN: So we get this
23 great person, and then how do we acculturate
24 them? You just have them check all the boxes
25 around all the training and --

1 MR. BOHAN: We do a few things, but Sarah
2 might be the better spokesperson for at least
3 one, because I know she's been working with the
4 team on it, but we do a few things. The first is
5 a standard orientation package that HR produces,
6 and everybody gets that. It's where you sign all
7 the forms, and you get the expectations memo,
8 and, you know, your insurance papers and all that
9 sort of stuff.

10 There's a -- unit by unit, it's done
11 differently, and, once again, I'm going to give a
12 shoutout to Christine, because what she's put
13 together has been adopted by some of the other
14 divisions, but I couldn't tell you, as I sit here
15 right now, exactly which divisions are doing what
16 in terms of the extra sort of new employee
17 orientation.

18 Then, finally, we have what we call "new
19 employee orientation," which the Chair
20 participates in. So I kick it off, and I give a
21 little 20 minutes on what the Energy Commission
22 is about, and so forth and so on.

23 COMMISSIONER MONAHAN: Okay. I've been
24 on those.

25 MR. BOHAN: Okay. Yes, and sometimes you

1 guys participate as well.

2 Then (indiscernible), I think, two
3 half-days, and we got good feedback on that.
4 We've changed it over time, as we've learned this
5 is a little long, and more than you need, maybe
6 beef it up here, but the first one -- correct me
7 if I'm wrong, Sarah, but you've been working with
8 the team, because your experience you found a
9 little wanting, and maybe you could share with
10 some of the -- share what some of the changes
11 you've observed are, and they still in the works?

12 MS. LIM: Yes, yes. I think some things
13 are still in the works, but the team has been
14 thinking (indiscernible) a lot of my suggestions
15 around streamlining some of the ways that we
16 (indiscernible) in the beginning. They're also
17 (indiscernible) before we get our official Energy
18 Commission (indiscernible). There are
19 (indiscernible) internal (indiscernible) that
20 were sent before we're hired, that you can
21 directly access if you don't have SharePoint.

22 So it was like, that's an example of the
23 (indiscernible) thing, that there were a dozen
24 forms that I couldn't read that I was supposed to
25 read before I showed up, or within 30 days, but

1 when you do it over email, then you get a whole
2 host of things, you know, to kind of hit the
3 ground running. So having some of that done
4 before you show up (indiscernible) access for
5 some people, but yes, the team is working hard on
6 (indiscernible).

7 MR. BOHAN: That's great.

8 VICE CHAIR GUNDA: One thing on that.
9 Like, one of my first internships was with
10 General Electric, and, you know, I got there and
11 (indiscernible) massive company, you know,
12 turbines and all that that we were working on.
13 They basically gave kind of a two-hour video to
14 watch, and kind of like do, essentially, a
15 self-assessment.

16 At the end of it, it was not kind of a
17 test for anybody else, but just that it goes
18 through the planks of works, the high-level
19 points. It was so helpful. I mean, I probably
20 did that three or four times before I felt like I
21 was really onboarded.

22 I think that might be helpful if, like,
23 you know, "Here's kind of the totality of work we
24 do." I guess it could be as simple as somebody
25 records a presentation. Like, each division can

1 record them, then we'd make it as our onboarding
2 material to read, self-assess whether you got all
3 the, you know, basic facts, you know. It really
4 helps (indiscernible).

5 MR. BOHAN: It's a good idea. It's also
6 more efficient, because a new employee
7 orientation, you know, it's maybe every other
8 month. We sort of wait until we have
9 (indiscernible) lots of people, and then do it,
10 and if there's isn't, there's been lean hiring
11 for, you know, a month, we wouldn't just have one
12 (indiscernible). But maybe we could do both.
13 It's nice to have that personal, in-person touch,
14 or at least live touch, but having a video that
15 covers a bunch of it would be efficient, and
16 people could go back to it.

17 VICE CHAIR GUNDA: Yes. And I've just
18 got one other comment and one -- given that we're
19 beginning to institutionalize more of a brown
20 bag -- like, the Commission makes (indiscernible)
21 brown-bag duty, the business meetings, just for
22 new employees who are coming on, maybe you could
23 invite them, too, you know, so just the one time,
24 so that they get to meet everybody, you know,
25 just more intersections of, like, just feeling

1 like they're part of a community.

2 COMMISSIONER GALLARDO: Yes. You know,
3 Damien looks like kind of new, too.

4 VICE CHAIR GUNDA: So Damien is an
5 unusual person, in the sense that he came from
6 the U.S. We all had to reach out to him,
7 "Damien, can you please help." (Indiscernible.)

8 UNIDENTIFIED SPEAKER: (Indiscernible.)

9 COMMISSIONER MCALLISTER: Was that in
10 your self-assessment?

11 UNIDENTIFIED SPEAKER: Yes.

12 MR. BOHAN: David, I can just start over
13 again, if you'd like.

14 CHAIR HOCHSCHILD: (Indiscernible.)

15 VICE CHAIR GUNDA: You're done with the
16 trip?

17 CHAIR HOCHSCHILD: Yes.

18 COMMISSIONER GALLARDO: Patty asked a new
19 question about onboarding, so that's where we
20 were.

21 CHAIR HOCHSCHILD: (Indiscernible.)

22 COMMISSIONER GALLARDO: Yes.

23 COMMISSIONER MCALLISTER: And we
24 (indiscernible).

25 CHAIR HOCHSCHILD: Okay.

1 COMMISSIONER MCALLISTER: I guess, I
2 mean, I've appreciated the opportunity. I'm not
3 sure how rigorous this is, just to have
4 Commissioners kind of drop in on new employee
5 orientations. I just really enjoyed when that was
6 in person.

7 MR. BOHAN: Yes.

8 COMMISSIONER MCALLISTER: Maybe we could
9 back to that. I don't know. But, you know, I
10 think humanizing up and down, the organization,
11 helps, you know, accomplish many of the things
12 you talked about, in terms of just reliability
13 within the organization, and comfort level, and
14 entrepreneurialism. (Indiscernible.)

15 UNIDENTIFIED SPEAKER: (Indiscernible) in
16 person again. I think it was like, just based on
17 what you said there, we've been doing it
18 virtually, but, you know, some will be able to
19 (indiscernible), and some, you know, are living
20 in San Diego or elsewhere. But I think it's a
21 good idea to make those (indiscernible) to see
22 each other.

23 COMMISSIONER MCALLISTER: Was there any
24 creation of opportunities to help -- like, I
25 don't know. Do you go down to San Diego and meet

1 in person with (indiscernible), or do you take
2 (indiscernible) when you're down there?

3 COMMISSIONER MONAHAN: Yes. We just had
4 a thing there. We had, like, a dinner with all
5 the San Diego people (indiscernible).

6 COMMISSIONER MCALLISTER: Yes.

7 VICE CHAIR GUNDA: So how many people do
8 we have in San Diego?

9 COMMISSIONER MONAHAN: Four.

10 COMMISSIONER MCALLISTER: Yes.

11 COMMISSIONER MONAHAN: And it's growing.
12 I think we have a fifth one -- no, he's in
13 (indiscernible).

14 VICE CHAIR GUNDA: This is actually a
15 really good -- I mean, I'm just going to
16 (indiscernible) on that. Do we have
17 geographically where staff are -- if we are
18 traveling --

19 CHAIR HOCHSCHILD: Yes, and then
20 (indiscernible).

21 VICE CHAIR GUNDA: Yes. If we're
22 traveling, you know, you could tag along for the
23 day, and we just kind of make sure that our
24 travel schedules are known.

25 COMMISSIONER MCALLISTER: But then

1 just --

2 VICE CHAIR GUNDA: One aspect they don't
3 have to worry about, travel.

4 COMMISSIONER MONAHAN: Yes. We've been
5 doing that with the San Diego group.

6 VICE CHAIR GUNDA: I hadn't thought about
7 that at all, but it's possible.

8 MR. EARLY: Well, I'm curious. You
9 mentioned that our embrace of telework is, you
10 know, something that's really appealing to new
11 hires. How do you see, like, going on
12 (indiscernible), since there's a lot of competing
13 forces here in terms of, you know, a pull to
14 bring, both back to Sacramento, back to the
15 office, and, you know, I'm just curious how
16 you're thinking it's going to pan out.

17 MR. BOHAN: Well, you know, I continue to
18 be really bullish on it. I think we're all
19 seeing -- you know, by not having it regularly,
20 we'll all see the value of in-person
21 interaction. So I think I'd stipulate to that.

22 You know, we've been -- I think, over
23 time, once the pandemic started to really wane,
24 we've been encouraging people to come back in.
25 We've tried a few things, like (indiscernible).

1 We tried to get folks to come in, and I bought
2 food, and it was an opportunity for those who
3 were at home, not necessarily by design, but they
4 didn't want to come to an empty building, so
5 they'd just stay at home. So we tried to bring
6 folks in. It had mixed results.

7 So we're trying a few things like that,
8 but people are voting with their feet, and
9 they're largely, you know, working not in the
10 office. So we had our -- I get monthly reports
11 on how many clicks there are from people using
12 their key card. We hit our highest month, I
13 think, last month, or maybe the month before, but
14 it was still about an average of 40 a day, I want
15 to say. So, you know, we're talking 15 percent
16 of the people or something like that, so it's
17 still pretty small.

18 MR. COOK: And from a recruiting
19 standpoint, more than half of our applicants live
20 more than 75 miles from (indiscernible).

21 COMMISSIONER MONAHAN: Wow. And that's a
22 big shift.

23 MR. COOK: Yes, yes. It was all
24 Sacramento-centered people, primarily all
25 Sacramento-centered before.

1 CHAIR HOCHSCHILD: At that time, it was
2 great, but I love having representation
3 (indiscernible).

4 MR. COOK: And we'd note that there are a
5 lot of candidates for jobs who are attracted
6 strictly because it's (indiscernible) work, and
7 won't take a job that requires to (indiscernible)
8 in the office.

9 VICE CHAIR GUNDA: And so the
10 (indiscernible) and (indiscernible) these
11 regional offices, right? Are we contemplating
12 that?

13 MR. BOHAN: I haven't been. We don't, to
14 my knowledge, have a critical mass of folks, and
15 even to the extent we did, let's say, in San
16 Diego, I tend to be looking at the bottom line
17 first, and the cost associated with it, but what
18 we can do, and what other organizations have
19 done, is be a little bit more thoughtful
20 about -- all right. Let's just say there are 15
21 total staff that live in the greater San Diego
22 area, or whatever. We're not -- I'm not aware of
23 us doing anything to try to get them together
24 periodically, and maybe, you know, getting to
25 know each other a little better. They come in

1 for meeting, to a central office we rent out, you
2 know, something like --

3 VICE CHAIR GUNDA: Like a local
4 government, like, you know, this one meeting a
5 month that they meet or whatever.

6 UNIDENTIFIED SPEAKER: Yes.

7 MR. BOHAN: Well, one of the things you
8 talked about was identifying where staff are in
9 the organization. It occurred to me I don't have
10 the slightest idea. I mean, obviously, you know,
11 the vast majority of them are Sacramento-centric,
12 but I think it would be good to identify where
13 they are, and maybe map it out, and then
14 (indiscernible) what you talked about, which was,
15 when you're down there, maybe pick up the phone,
16 if there's someone that you work with regularly,
17 an opportunity for them to join you on something,
18 but also this idea of maybe trying to get them
19 together with themselves.

20 CHAIR HOCHSCHILD: Yes. We have -- you
21 know, I just want to give you credit, Drew, for
22 (indiscernible) for saving money on real estate,
23 because the move to a nicer office, but with a
24 smaller footprint, has saved money, and I think
25 that's a good thing. So, you know, I'd like to

1 put the savings into more kind of regional
2 retreats, and so I (indiscernible).

3 I just was down to visit the BUID
4 (phonetic), electric bus factory, and I called
5 him, "Hey. Do you want to come with me?" And we
6 did that trip together. It was fantastic, you
7 know, and so those kind of things, you know.

8 Actually, one more question. I would
9 like to ask, just to what you just mentioned --
10 it would be great to get a map of where every CEC
11 employee is now residing, just what region we're
12 in, and, you know, (indiscernible) generate, but
13 it would be helpful.

14 COMMISSIONER GALLARDO: It might be
15 helpful for the staff. They might not even know.

16 CHAIR HOCHSCHILD: Right. They might not
17 even know.

18 UNIDENTIFIED SPEAKER: Right. They live
19 (indiscernible).

20 COMMISSIONER GALLARDO: Yes.

21 CHAIR HOCHSCHILD: And, you know --

22 COMMISSIONER MONAHAN: Or
23 (indiscernible). Maybe there's somebody else
24 there. We don't know.

25 CHAIR HOCHSCHILD: Right. Of course,

1 we're all on (indiscernible) quite a lot.

2 VICE CHAIR GUNDA: Yes.

3 CHAIR HOCHSCHILD: Sort of keep them in
4 view.

5 COMMISSIONER MCALLISTER: And, Rob,
6 you'll have to give everybody the heads up they
7 might get a call from a Commissioner at some
8 point, and they have to come to (indiscernible).

9 UNIDENTIFIED SPEAKER: Dropping in.

10 COMMISSIONER MCALLISTER: Yes.

11 COMMISSIONER GALLARDO: And one more
12 thing. I don't know if this is feasible, but
13 having some of type of, like, welcoming committee
14 for new folks. Maybe it's like first day.

15 Like, I was thinking, like, giving them a
16 tour of the building, you know, helping them
17 figure out where to get the badges, things like
18 that, the basics, because I'm going to get a
19 fellow and an intern, and I'm trying figure out,
20 "Okay. When am I going to be there for them?"

21 It would be so helpful if there was a
22 designated welcoming committee, or it could be
23 like a volunteer-type program, or something to
24 that effect.

25 COMMISSIONER MONAHAN: And then it

1 feels -- you know, like, folks would feel just
2 more welcome and embraced.

3 COMMISSIONER GALLARDO: Yes. You could
4 (indiscernible).

5 COMMISSIONER MONAHAN: I've actually been
6 one of a committee of people who are just like,
7 "Well, okay. Lived in Sacramento, liked it."
8 (Indiscernible) social people who just --

9 COMMISSIONER GALLARDO: Yes, especially
10 folks who want to have more of that interaction,
11 person to person.

12 UNIDENTIFIED SPEAKER: Yes, that's a
13 really good idea.

14 CHAIR HOCHSCHILD: I had one thought just
15 along those lines. I think we should think about
16 having a little bit more formal celebration of
17 people who have passed their one-year prob,
18 because that's kind of a big milestone to get
19 through, and not everybody makes it through that,
20 but maybe we could present (indiscernible) to the
21 employee, you know, make (indiscernible) a little
22 (indiscernible) hand or something, you know what
23 I mean, like a -- and we could do that in
24 batches, just to celebrate that milestone. Once
25 you're through that, people tend to stay for

1 (indiscernible) long time, you know.

2 VICE CHAIR GUNDA: And a mug?

3 CHAIR HOCHSCHILD: A mug? Okay.

4 COMMISSIONER MONAHAN: And

5 (indiscernible).

6 CHAIR HOCHSCHILD: Okay. Yes. You need
7 to get a little (indiscernible).

8 VICE CHAIR GUNDA: And this is a -- where
9 is my pen?

10 CHAIR HOCHSCHILD: Yes, where is your
11 pen? You've got to get through a couple more
12 (indiscernible).

13 UNIDENTIFIED SPEAKER: You might even get
14 a watch.

15 UNIDENTIFIED SPEAKER: Forget a watch.

16 UNIDENTIFIED SPEAKER: Thank you, Drew.

17 CHAIR HOCHSCHILD: All right. So we move
18 on to federal -- this is our last one. There you
19 go.

20 UNIDENTIFIED SPEAKER: Tell that to
21 another printing (indiscernible).

22 COMMISSIONER GALLARDO: (Indiscernible.)

23 UNIDENTIFIED SPEAKER: Is she
24 (indiscernible)?

25 COMMISSIONER GALLARDO: I don't think

1 (indiscernible).

2 CHAIR HOCHSCHILD: Okay. Federal
3 funding. Jen, thank you so much.

4 MS. MARTIN-GALLARDO: You're welcome.
5 I'll dive right in, as the exam says.

6 So there was some prompts about what I
7 was supposed to talk about today, you know, and I
8 stuck closely with those, and made my own
9 modifications. So where are we leaning in? I
10 just wanted to give, you know, an overview of
11 what areas we're funding or we're receiving
12 funding from the feds.

13 So they come in (indiscernible) of these
14 blocks, basically, of grid resilience and
15 reliability. We have our community energy
16 resilience investment, and that's our formula
17 grant. We're going to get about 170,000,000 for
18 that over a few years, 34,000,000 a year. We
19 already submitted this to DOE. They're reviewing
20 it, and we should be hearing any time, you know,
21 what more we might to do in order to get that
22 money in to us. We don't expect that money until
23 probably sometime after July this year.

24 We have our C-TERA (indiscernible)
25 application, which we're submitting on Thursday,

1 and that's the one for 250,000,000 in federal
2 funds, a long-duration energy source. We put in
3 two applications on this, for a total
4 \$80,000,000. So we haven't heard anything on
5 that yet.

6 ZEV charging, our NEVI formula grant.
7 Obviously, we've already launched that, gotten
8 our approval from Department of Transportation.
9 I think our team is just moving forward with
10 putting together the solicitation to get some of
11 that money out on the street (indiscernible), and
12 so that's another formula opportunity.

13 We are working on our charging
14 infrastructure corridor grants. It's an
15 opportunity that came up recently, very fast
16 turn-around time on the competitive application,
17 due at the end of May, and we've got a wonderful
18 team working on that, in coordination with
19 Caltrans and other states.

20 Then, as far as our energy efficiency
21 work, this is where the bulk of the programs are.
22 You'll see kind of touching on energy efficiency
23 or electrification. We have our SEP program
24 bringing in about \$30,000,000. That's just a
25 one-time deal.

1 Energy Efficiency Conservation Block
2 Grant, that's, I think, about 6.6 million. These
3 are very small. Energy Efficiency Revolving Loan
4 Fund, about 4,000,000. (Indiscernible) RECI,
5 Resilient and Efficient Codes Implementation,
6 that's a competitive opportunity our team has put
7 into, a \$10,000,000 application to that. I
8 haven't heard what's the (indiscernible) to that
9 yet.

10 Our Home Energy Rebate Programs, this is
11 our IRA hub. This is going to be \$600,000,000
12 into the state of California in the form of
13 rebates for, you know, home upgrades and
14 electrical appliances.

15 COMMISSIONER MONAHAN: Wow. Six hundred
16 million dollars?

17 MS. MARTIN-GALLARDO: Yes.

18 COMMISSIONER MONAHAN: That's a lot.

19 COMMISSIONER MCALLISTER: It's half of
20 that, so it's 560, I think, total. It's 280 in
21 direct install, and 280 or so in sort of
22 traditional rebates. Most of it we're going to
23 focus on low-income, but we're going to try to
24 slot those big chunks into our equitable building
25 decarb funding that's coming, that's being funded

1 with state funds, so just not to confuse
2 everybody.

3 MS. MARTIN-GALLARDO: Yes. A lot of
4 these are, you know, especially the IRA programs,
5 very infant, right? We don't even have guidance
6 from the feds on this yet. But our teams are
7 built, and working really hard to get a lot of
8 work done (indiscernible).

9 Then there's some, you know, future
10 potential competitive opportunities. Our teams
11 having decided whether we're eligible or if we're
12 going to be (indiscernible), but for contractor
13 training and maybe ZERO Codes implementation.

14 And then the Energy Commission staff is
15 really doing a great work to support hydrogen
16 hubs, direct air capture hubs, and decarbonizing
17 industry facilities, so that's more just staff
18 resource time, going in and supporting
19 (indiscernible).

20 VICE CHAIR GUNDA: So, Jen, just a
21 question on the previous one. I don't think I'm
22 tracking the Community Energy Resilience
23 Investment. Where are we on that?

24 MS. MARTIN-GALLARDO: We submitted our
25 plan to DOE a few weeks ago. We have a manager,

1 Alex Kovicic (phonetic), a grant program now, and
2 (indiscernible) Alex Ramjic (phonetic), who's
3 kind of handed it to Alex Kovicic to manage.

4 VICE CHAIR GUNDA: Okay.

5 MS. MARTIN-GALLARDO: It's basically just
6 our plan. We've met all of the requirements of
7 DOE to submit our plans. Once we have the
8 approval from them to move forward, we'll do the
9 same thing that NEVI is doing.

10 We'll put out a -- we're going to have
11 more public workshops to hear more about, you
12 know, what the focus areas of this fund could be.
13 It's a broad range of potential projects, mostly
14 utilities, CCAs (phonetic). (Indiscernible)
15 entities are eligible to apply to it, you know.
16 So there's --

17 VICE CHAIR GUNDA: (Indiscernible.)

18 MS. MARTIN-GALLARDO: Our first year is
19 34,000,000. I think our second year we did
20 get -- once we meet all the requirements, we're
21 going to get both year one and year two
22 allocations, so probably somewhere in the range
23 of 67,000,000 for that first tranche.

24 VICE CHAIR GUNDA: Great. And then how
25 are we -- this is what we are kind of tracking.

1 How are we working with the overall
2 (indiscernible) of money? Are CARB and any other
3 agencies tracking this, or are we being central
4 for the tracking?

5 MS. MARTIN-GALLARDO: So, for the ones
6 that I've got here -- so, like, just to give you
7 some perspective, there's -- I'm probably not
8 being -- I'm not exaggerating saying there's
9 probably hundreds, you know, of opportunities in
10 IOJA (indiscernible), IRA.

11 So we culled through, you know, all of
12 the potential opportunities and identified what
13 we were suited to, what we were eligible for
14 (indiscernible), or what we were supposed to get
15 (indiscernible) formula funds, and this is
16 basically what we identified as the Energy
17 Commission.

18 So I would say we're lead on this, but
19 there is a structure forming at the more state
20 level. I have every-other-week meetings with
21 Tyson Eckerle at GO-Biz, Ed Quinn (phonetic) at
22 CNRA, Grant Mack (phonetic) from CPUC, and
23 Alamanda Siemen (phonetic), you know, so we have
24 an energy board that meets regularly, where I
25 report up and talk about all the things that

1 we're doing, and now I'm going to talk about it a
2 little bit later in the slides, but I'm seeing
3 some, you know, infrastructure forming at the
4 state organization level. So we're getting some
5 bits and pieces (indiscernible).

6 COMMISSIONER MONAHAN: Do you have a
7 total amount of money all together?

8 MS. MARTIN-GALLARDO: Yes.

9 COMMISSIONER MONAHAN: Is that coming?

10 MS. MARTIN-GALLARDO: No, I can tell you
11 that. For our formula funds, between IJA
12 (phonetic) and IRA, it's going to be about 1.2
13 billion.

14 COMMISSIONER MONAHAN: Wow.

15 MS. MARTIN-GALLARDO: So we know we're
16 going to get that, but it's going to be over
17 time, and we're working with Damien's team to
18 make sure we're tracking all of that, and we're
19 making that, you know, that accessible as soon as
20 possible.

21 If we win everything competitive that
22 we're applying for, it should be another
23 500,000,000, and that's just for this year. This
24 is the first tranche, right, of the
25 opportunities. So what (indiscernible) has, you

1 know, say, \$5,000,000,000 available in this pot
2 of (indiscernible). So, year one, they're only
3 releasing 2,000,000,000, so there's going to be
4 3,000,000,000 more of solicitations coming in
5 three years, but we do have ongoing
6 (indiscernible), which I'll kind of get into
7 next.

8 COMMISSIONER MONAHAN: And just the
9 formula funds that we know we're going to get,
10 that's great.

11 MS. MARTIN-GALLARDO: Yes, yes.
12 Understood.

13 So, general takeaway so far, formula
14 opportunities, right, they're time-consuming but
15 reasonable. I think our staff knows how to
16 do -- you know, follow some instructions.
17 There's a broader, you know, longer span of time,
18 less, you know, question marks, and, importantly,
19 when it's a formula opportunity, you can connect
20 with DOE representatives and say, "What do you
21 mean?" NASI (phonetic) was very, very helpful in
22 helping us navigate the (indiscernible) formula.
23 We've got this in the bag.

24 Competitive opportunities, they're
25 totally different, a totally different animal.

1 It's extremely resource-intensive if CEC is
2 trying to lead a large, complex application with
3 many project partners. It's easier if CEC
4 effectively says, "You know what? I like that
5 project. You go ahead and do it, and we'll put
6 our name on it."

7 That's just another mechanism that, you
8 know, I'm seeing happen at state agencies, where
9 their state utility company has an important
10 project and they say, "We'll sponsor it." But,
11 in a lot of these, the utilities are not eligible
12 applicants. It has to be a state or local tribe,
13 and so, you know -- so those are just really
14 broad takeaways on this.

15 Competitive is something for us to really
16 strategize internally as out for resource
17 constraints and how we want to tackle this.

18 Next slide, please.

19 So what (sic) are we doing this for
20 others that are not us, going for these funds?
21 Our cost-share solicitations, we already have a
22 few of those. EPIC has its federal cost-share
23 solicitation, where, you know, if something
24 aligns from -- something comes down from DOE that
25 external applicants are eligible for, they can

1 say, "Hey. You know what? We really would love
2 to get some cost-share funding, Energy
3 Commission, with this work," and we have our
4 whole process to apply for that.

5 The timing requirements on that
6 particular EPIC opportunity, one piece of
7 feedback I have been hearing is that we're
8 basically asking for a second application on
9 really tight timelines for a federal application.
10 I think we've done the best we can to streamline
11 it, and staff has been wonderful.

12 You know, I'll pick up the phone and say,
13 "Hey. You know, how can we shorten the time it
14 takes for us to assess whether we're going to
15 allow this DOE fund source to be eligible for the
16 state's cost-share opportunity?," and just really
17 working on that timing, so that we give people a
18 fair shot to apply for our funds before they have
19 to even submit their application.

20 So let's see. We've also got a couple of
21 other cost-share solicitations (indiscernible)
22 industrial stuff on FTED (phonetic), so we have
23 some specialized cost-share solicitations that
24 have been put out to really support eligible
25 applicants.

1 Letters of support, I'm finding that
2 these are relatively random requests. It's like
3 based on relationship or, you know, so not --
4 what I'm finding it many California applicants
5 may be applying for an opportunity, and only one
6 of them are reaching out to the Energy Commission
7 for a support letter.

8 You know, we'll assess what we receive,
9 but there is no, like we were talking before,
10 statewide infrastructure quite yet in place that
11 everybody knows that they can go to for that
12 state support, and figure out who can help them
13 with things like that. So it's a lot of word of
14 mouth, I think, and relationships that folks
15 have.

16 COMMISSIONER GALLARDO: Jen, real quick
17 on that, are those letters of support -- do they
18 add a lot of value for the folks who are seeking
19 them? Like, would it be worthwhile to figure
20 out, how do we get a, like, state of California
21 support letter easily to them, or is it just
22 extra, and we don't know exactly what the value
23 is?

24 MS. MARTIN-GALLARDO: You know, each
25 (indiscernible) strategizes what's going to tell

1 their story the best. You know, I think it's
2 just very fact-specific. I think a lot of what
3 I'm seeing, IIAJ (phonetic) and IRA, right, it's
4 full of government.

5 They like to see that, you know, the
6 state is paying attention to this opportunity.
7 They have, maybe, technical expertise, if the
8 Energy Commission is supporting their project, or
9 we've already supported their technology in
10 another way, and this is another opportunity for
11 them.

12 It's very, very fact-specific how these
13 come in, but I do think what will be helpful is
14 having at the state level like a clearinghouse
15 for people to say, "California has this support
16 structure. If you want a letter on this, go
17 here." So that's (indiscernible). That's what
18 my vision is, at least.

19 Okay. Next.

20 So what could the CEC do to improve? And
21 one thing that I have wished for, especially, you
22 know, with our competitive things, is having a
23 federal expert at the Energy Commission, a
24 federal liaison, someone who knows how to
25 navigate that bureaucracy, and who can be like

1 our speed dial, "Hey. You know what? I've got a
2 question about how to do this. I know I can't
3 ask, you know, the scoring team, but this is like
4 more administrative. But I can't figure it out.
5 Help," you know, someone that can, you know, ask
6 to navigate.

7 I see that as an individual. You know,
8 it wouldn't be their only job, but they could
9 definitely coordinate with CNRA and GEO
10 (phonetic) liaisons. But what I found is, I want
11 someone that is responsive to me. I can ask CNRA
12 for help, or GEO to help, but they've got a lot
13 of people that they're trying to serve, and
14 having someone in-house, I think, could be pretty
15 valuable.

16 CHAIR HOCHSCHILD: Yes. I would just
17 like to validate that, and that we are not
18 yesterday's Energy Commission. We have a
19 \$9,000,000,000 budget. We actually should have a
20 full-time federal person. I think it's totally
21 appropriate.

22 You know, Jen, I just also -- you've been
23 a superhero on this, CUC superhero. This whole
24 thing is not even your job. You're doing -- you
25 know, we're trying to make our grant process

1 (indiscernible) for applicants, and you stepped
2 in to do this.

3 You know, I do want to ask, like, you
4 know, long term, on an ongoing basis -- I mean,
5 my instinct is that this work should probably
6 reside in OGIA (phonetic). We're, hopefully, a
7 few weeks from the governor, you know, amending
8 our successor in there, but, you know, what are
9 your thoughts on that? Is that the right home,
10 or do you have a different structure you'd
11 propose?

12 MS. MARTIN-GALLARDO: I think that makes
13 a lot of sense, someone, because -- right? Now,
14 we have legislation that we need to be able to
15 talk about, and programs, and, you know, I see
16 this person as being, you know, a central point,
17 but really, you know, one of those people that
18 every division can call and be like, "I need you
19 as my support person." (Indiscernible.)

20 CHAIR HOCHSCHILD: Right, right.

21 MS. MARTIN-GALLARDO: I really do think
22 they should have their fingers throughout the
23 Commission.

24 COMMISSIONER MCALLISTER: I could also
25 see that person in the executive office, though,

1 because, I mean, the skillsets are somewhat
2 different. I mean, I don't think it really
3 matters, as long as the person has the skillset
4 and contacts, but, you know, a lot of this is
5 sort of your "option whisperer," less than sort
6 of, you know, legislation kind of stuff, because,
7 like, just learning how to find the person
8 (indiscernible), and get answers to these kinds
9 of questions, that is more of an administrative
10 task, right?

11 VICE CHAIR GUNDA: The only thing that
12 (indiscernible). I'm also, like, super spoiled,
13 that idea of a federal liaison, just wanted to
14 get a little bit of sense of, you know, how much
15 money do we get from the feds?

16 MS. MARTIN-GALLARDO: On the regulars,
17 outside of IIAJ and IRA, not much, right? We
18 just do our SEP.

19 COMMISSIONER MCALLISTER: Okay. The SEP
20 is like 6,000,000 bucks a year, something like
21 that?

22 MS. MARTIN-GALLARDO: It's not a lot, but
23 there's so much. I mean, I'm just floored by,
24 you know, what I'm learning through this federal
25 process, and now being on all the federal

1 list-servs, and we do so much (indiscernible),
2 and the alignment -- one of the things that I
3 heard in my old job as a (indiscernible) -- still
4 my job -- (indiscernible). I would say some of
5 the feedback that I hard from our grant
6 recipients is "Could you please just" -- you
7 know, "Why can't the feds and the state align a
8 little bit more, to just more efficient? I'm
9 constantly grabbing for all this money, and you
10 guys have slightly different things." So that
11 would be nice.

12 VICE CHAIR GUNDA: Jen, I think that's
13 exactly, I think, what I was trying to put my
14 finger on, but couldn't really think out loud.
15 So I think the liaison is, like, more of a
16 CEC -- how do we work with CEC, the feds, and
17 local governments, right?

18 I feel like it's kind of a spectrum
19 of -- have that, you know, opportunity of
20 funding, aligning funding, but also to be -- I
21 mean, depending on if it's an executive-level
22 office employee or whatever they said, what does
23 a full-time job look like, right? I mean, like,
24 you know, is it just going through an ARRA period
25 or an IIAJ period, or are there elements that,

1 you know, change it seasonally, or yearly,
2 depending on which cycle they're on, or whether
3 planning or implementation.

4 I think it's a really valuable role, and
5 I would actually just suggest to think a little
6 bit bigger for that person who -- I think the
7 complaint we get is "The state is crazy to
8 work" -- and then, you know, it's just, alignment
9 person would be great.

10 MS. MARTIN-GALLARDO: Yes.

11 COMMISSIONER MCALLISTER: Yes. I have
12 some -- I mean, I did want (indiscernible) on
13 this. So I agree. I really strongly agree. The
14 federal -- so somebody who has continuity, you
15 know, for a longish term, and is sort of built
16 into the bureaucracy, and can establish
17 relationships with the federal departments, I
18 actually think it's a pretty -- like, you know,
19 aligning with the federal requirements is kind of
20 a -- it's really a mixed bag.

21 MS. MARTIN-GALLARDO: Might not work.

22 COMMISSIONER MCALLISTER: Yes, because
23 the federal requirements often just do not make
24 sense in California. And so we kind of have to
25 live with it, and manage, I think, in general,

1 but these -- I mean, it's definitely one of the
2 values of (indiscernible), as you said. Like,
3 they do provide a lot of that contact with -- you
4 know, consistency with messaging to the feds, for
5 the feds, you know, Department of Energy,
6 (indiscernible), primarily, but HUD as well,
7 others. So, I mean, I think we also can lean on
8 that relationship.

9 MS. MARTIN-GALLARDO: Well, I definitely
10 have learned (indiscernible).

11 COMMISSIONER MCALLISTER: Yes, for sure.

12 COMMISSIONER MONAHAN: Perhaps a -- so I
13 know, just on my little slice of it, the NEVI and
14 (indiscernible), and on NEVI, you know, we've had
15 a lot of questions about implementation, and Drew
16 has been involved, and do you envision, like, the
17 federal person would kind of understand better --
18 how better all, like, grants work? Well, and I
19 mean, like, the logistics of --

20 MS. MARTIN-GALLARDO: That would be
21 amazing, to have -- you know, so we're kind of
22 getting into my next (indiscernible) --

23 COMMISSIONER MONAHAN: Okay. All right.
24 Okay.

25 MS. MARTIN-GALLARDO: -- but, I mean,

1 when you ask about a long-term position, I don't
2 know. Maybe this is just IIAJ, period. I don't
3 know if something like this is ever going to
4 happen again.

5 VICE CHAIR GUNDA: But, also, I
6 think -- are there monies that we are not even
7 pulling up today?

8 CHAIR HOCHSCHILD: Yes.

9 COMMISSIONER MCALLISTER: (Indiscernible)
10 were the (indiscernible) electricity within the
11 RE (phonetic), with, you know, just keeping track
12 of what's happening DOE and EPA, and they've got
13 long-term programs that have opportunities, that
14 subsidize financing. The Department of
15 Agriculture, that has an Energy Department.
16 There's always something (indiscernible).

17 MS. MARTIN-GALLARDO: Well, and I'll just
18 tell you that a lot of the people out there that
19 are not the state of California, this is why they
20 hire consultants.

21 COMMISSIONER MONAHAN: Yes.

22 MS. MARTIN-GALLARDO: The consultant
23 keeps their eye on all of that for them.

24 COMMISSIONER MONAHAN: Yes.

25 MS. MARTIN-GALLARDO: They know how to

1 navigate.

2 COMMISSIONER MONAHAN: Exactly, and maybe
3 that's something we just found out, right? But
4 there's these complicated dimensions. Like,
5 there's understanding just what's in the
6 legislation. There's understanding the agencies.
7 There's understanding the political dimension of,
8 like, well, so how do we position ourselves
9 politically the best to get the money?

10 MS. MARTIN-GALLARDO: Yes.

11 COMMISSIONER MONAHAN: So it's kind of a
12 different -- these different skillsets.

13 MS. MARTIN-GALLARDO: That's right.
14 That's right.

15 So, getting to those four contracts, you
16 know, when we're applying for these funds
17 directly, it is no joke, particularly in
18 competitive. (Indiscernible) consultants for
19 competitive applications is something we should
20 have access to. I've been doing a little talking
21 with Tyson at the state level, like, "Should
22 there be a statewide contact?" Contracting is
23 very hard in this state.

24 COMMISSIONER MONAHAN: Yes, yes.

25 MS. MARTIN-GALLARDO: Trying to get a

1 grant-writing support resource through our
2 contracting process -- I'll just tell you from
3 personal experience, we tried to get a \$250,000
4 contract through the fastest route to develop our
5 application, and we gave up because it was wrong
6 to go the May business meeting, and we have to
7 submit, four days later -- like, it was nonsense.

8 So we couldn't even get the support that
9 we needed, and thank goodness for philanthropic
10 funding, right? We were able to get our
11 resources through a different avenue, but that's
12 not something we can rely on all the time, and
13 I'm going to say we have a smart group of people
14 here at the CEC, hardworking group of people here
15 at the Energy Commission, but we are not grant
16 writers.

17 We're grant reviewers, but we do not deal
18 with federal grant writing all the time. We need
19 someone with that skillset, and, you know,
20 someone who does this day in, day out, has made
21 the mistakes and has learned from them, and now
22 knows how to avoid them, right? We hear that
23 from our applicants all the time. They fail,
24 they get their debrief, they learn how to do it
25 better the next time.

1 I really don't like that answer for me.
2 I've been working very, very hard. I want to get
3 this, and if I have missed a check box, you know,
4 I think all of our souls will sink, the hundreds
5 of people who have been working on this, right?

6 So now I have a huge appreciation for how
7 challenging this is, and having the expert that
8 has just make the mistakes and knows how to avoid
9 them, knows what to look out for, it would be a
10 huge, valuable, I think, resource, if this is a
11 business that we're going to be in. That's the
12 strategic question for the Energy Commission.
13 It's like, "Okay. You want to do this again?
14 What do we need?" Or, you know, we've got our
15 team for the (indiscernible) application. I
16 haven't been engaged on that. What's that
17 experience been like? Caltrans deals with
18 federal, you know, funds all the time.

19 COMMISSIONER MONAHAN: Yes.

20 MS. MARTIN-GALLARDO: Maybe it's easier.
21 Maybe it's still manageable. I don't know what
22 all of our experience is, but, if we want to do
23 something like this again, maybe we'll consider
24 how we want to (indiscernible).

25 COMMISSIONER MONAHAN: Yes.

1 MS. MARTIN-GALLARDO: So, if we're going
2 to do it the same way, I think we need a
3 grant-writing consultant accessible to us. I
4 don't care who it's accessible through, but we
5 should have it in hand, ready to go, the day the
6 (indiscernible) drops, or before, so that we can
7 be strategizing about how we want to go for these
8 things, contractor to administer federal funds
9 that we get.

10 So there are, you know, very, very
11 challenging requirements (indiscernible), and any
12 of our construction projects that we fund with
13 these federal funds are subject to data
14 (indiscernible). (Indiscernible) resources
15 (indiscernible), and we need a consultant to help
16 us manage, you know, that reporting, those
17 reporting requirements.

18 There's also a ton of other federal
19 requirements that we will need to adhere to. It
20 will be very nice to have an expert to rely on to
21 say, "Okay. So this is the requirement. This is
22 what you need to meet that requirement. Here's
23 how you set your internal processes to get that."

24 Every hour that we charge, we're
25 doing -- we're going to have to do what we

1 require all of our grant applicants to do, and
2 that's basically "Keep every hour of your time,
3 has to be logged." That's going to be a new
4 practice for a lot of us if we're trying to
5 charge any of our time to these grants.

6 So it's just so much nitty-nitty
7 bureaucratic, you know, requirements that we need
8 support to set that up, because we don't have the
9 resources internally to kind of take on that
10 whole new level of planning.

11 COMMISSIONER MONAHAN: Yes.

12 MS. MARTIN-GALLARDO: (Indiscernible.)

13 MS. BARRERA: (Indiscernible) being
14 recorded. I want to underscore what you
15 mentioned about what you call "audit staff,"
16 (indiscernible), which is just how do you
17 (indiscernible)? The first thing, they look for
18 people who are monitoring, that were complying in
19 a legal (indiscernible) with all the
20 requirements. How can you get the grant?

21 MS. MARTIN-GALLARDO: Yes.

22 MS. BARRERA: (Indiscernible) what that
23 looks like. It is very complicated. There's all
24 these boxes. There is a lot of regulations, and
25 it's very daunting, and right now we only have

1 one attorney, who is trying to support
2 (indiscernible), and we've also got
3 (indiscernible), every single (indiscernible),
4 and I'd just like for you to be aware that this
5 is going to be significant task, because we want
6 to make sure that we are responsive and
7 responsible, and complying with all the
8 requirements (indiscernible) these grants.

9 MS. MARTIN-GALLARDO: So I've been
10 working with the wonderful Damien and Rob, you
11 know, on doing some groundwork, research,
12 outreach to, you know, entities that do this kind
13 of thing, to get some ideas, you know, "What is
14 this going to take?" And it's not cheap. It is
15 not cheap.

16 One point I want to make is that the
17 contracts, however we go for that, should be very
18 broadly scoped. You know, I love that this map
19 is there, like, "We want you to help support us
20 meeting all of these requirements." That could
21 go into a scope of work, basically. We just
22 need -- we want to be flexible. We want to have
23 a flexible source of funding so that we can meet
24 all these requirements, and not just kill
25 ourselves.

1 Then another suggestion I had is that
2 maybe, in our audits department, there may be
3 the -- we haven't gotten there yet, but I'm just
4 foreshadowing a potential need for us to have an
5 audit resource in-house, to help, you know, audit
6 our sub-recipients, to make sure -- you know, do
7 spot checks on all these projects that we're
8 funding, to make sure they're not getting us into
9 the position that some of our primes get into
10 with their subs.

11 They're like, "You know, we were doing
12 our very best. We didn't know they were messing
13 around over here," so just that extra layer of
14 oversight to protect the Energy Commission,
15 because we're officially on the hook, right,
16 legally on the hook, once we sign these
17 agreements.

18 Okay. Next slide.

19 What is California missing, broadly? You
20 know, I think we're getting there. I think
21 there's a lot more conversation happening, and
22 there's probably a lot that I'm not engaged in
23 correctly, just because of where I sit, but
24 statewide infrastructure planning, right,
25 identifying priority projects for competitive

1 applications.

2 I would have been really -- I think that,
3 going forward, it's going to be a nice resource
4 today. What does the state of California need?
5 We could go after a billion dollars of federal
6 funds for a multistate transmission project.
7 That was where I started, like, "What do we
8 have?" Right? I couldn't -- with the resources
9 I have, I could not identify that myself. We
10 reached to CAISO (indiscernible).

11 COMMISSIONER MONAHAN: And CAISO
12 didn't --

13 MS. MARTIN-GALLARDO: They didn't have,
14 like, a -- yes, "Girls, this is the one," right?

15 COMMISSIONER MONAHAN: What? That's
16 crazy. A bit more complicated.

17 MS. MARTIN-GALLARDO: (Indiscernible.)
18 Very complicated.

19 COMMISSIONER MONAHAN: I love this idea,
20 though, priorities that -- prioritizing, like,
21 "Here's where we have money. This is the first
22 thing when you hit the ground."

23 MS. MARTIN-GALLARDO: Yes. This could be
24 the biggest bang for the buck for California.
25 And then mapping statewide-related efforts, my

1 goodness. How many of our agencies touch on the
2 same type of stuff, right? We have a lot of
3 state agencies who work on, you know, aspects of
4 what we're doing, and we don't have a really
5 nice, clear map for everyone to have access to.

6 You know, some people know it, here and
7 there. They're tucked away in this corner, but
8 they're definitely not at the meeting that's
9 happening over here. So just, gosh, could we
10 just get a resource where all of this is mapped,
11 where someone coming into this stage can say,
12 "All right. This is how it works, and here's who
13 I need to talk to, to make sure every player that
14 needs to be at the table is at the table."

15 So, yes, we need a clear view of who's
16 doing what, and then I, you know, said, if we
17 want to help this state get as much of this
18 money, we need to have a state team reaching out
19 into industry to find out, "Are you applying? Do
20 you want to apply?" What kind of support could
21 be used to apply?," you know, so that we're being
22 proactive about supporting applicants for
23 projects that we think are important priorities
24 for the state.

25 COMMISSIONER GALLARDO: And, Jen, that's

1 beyond the (indiscernible)?

2 MS. MARTIN-GALLARDO: This is where it's
3 starting -- where I'm started to see this form,
4 and so where the conversations, like, are
5 happening about, you know, (indiscernible) these
6 resources to attempt to make this type of effort.

7 VICE CHAIR GUNDA: Again, on the -- yes.
8 I think, just to your point, I think there is now
9 enough for (indiscernible) at the
10 (indiscernible), figuring out these extremely
11 large priority projects that need to be
12 coordinated, and how do we fund them through a
13 federal (indiscernible)?

14 The other one is, I don't think this has
15 been happening, which is the second part you are
16 talking about. A number of -- I believe
17 IOUs -- a few IOUs have won some projects, and I
18 don't know if that tracking is happening
19 anywhere.

20 UNIDENTIFIED SPEAKER: CPUC is.

21 VICE CHAIR GUNDA: Yes. CPUS kind of
22 has, like, some visibility (indiscernible). I
23 mean, like, (indiscernible) has actually been
24 funded. I don't think we have that yet.

25 MS. MARTIN-GALLARDO: We're really

1 trying, yes. I think that's -- there's a request
2 that goes out to all agencies from GO-Biz, "Tell
3 us, what do you know? Who supplied? What's
4 going on?"

5 VICE CHAIR GUNDA: Yes.

6 MS. MARTIN-GALLARDO: And there's just
7 not a lot of agency knowledge in our midst.
8 That's why we need that deeper dive into this
9 space.

10 So, then, California has said -- appears
11 to be starting these efforts, right? I hear
12 rumblings and things, even if I'm not in the
13 (indiscernible). For me, and maybe, then, for
14 other entities in California, the leadership
15 structure is not quite clear, but, at any other
16 point, I just wanted to give California a little
17 bit of a break, right?

18 We have this huge bureaucracy, huge
19 economy. We don't have an easy task of
20 organizing all of our efforts, like maybe a
21 smaller state that has just one utility or, you
22 know, a finite set of projects that they are
23 going to be -- we have our work cut out for us
24 here, and I think there's a lot of, you know,
25 good work going to make this happen. We

1 (indiscernible).

2 So, state agency application/grant
3 management support, this is a little bit -- you
4 know, it's just something that I've seen at the
5 state level. I'm starting to get questions from
6 other agencies saying, "Jen, what did you do, and
7 what do I do here?"

8 They're, like, looking at, you know,
9 people who have gone just a couple months before
10 them and saying, "What should I do?" I'm like,
11 "Boy. We need -- you need help," and we need to
12 be giving them the support, right? So we need
13 this at the state level, in my opinion.

14 Contracting process, I'll just highlight
15 this one more time. The contracting process is
16 way too time-consuming. Requirements are way too
17 limiting. If we could get a statewide option
18 that all agencies could just plug into, one and
19 done, that would be great for everybody. I don't
20 know. That's (indiscernible).

21 Federal match funding flexibility, this
22 is a real one, finding state match funds that are
23 accessible to meet the federal match
24 requirements. Again, this is that the Energy
25 Commission itself is going after these funds, and

1 we need state sources, right? There's all sorts
2 of limitations on our pots of available funding,
3 you know.

4 If they're competitively limited, right,
5 that means that an entity will have to compete
6 for those funds before they're accessible as
7 matched. It becomes very, very complicated if
8 the Energy Commission wants to competitively
9 apply for its own funds. So there's all sorts of
10 little problems with that.

11 So, you know, we have some ideas about
12 how we could do this. Maybe we need legislative
13 language that might help make things
14 (indiscernible) for the purposes of federal
15 match. So we'll see where those efforts take us,
16 but those are definitely efforts that we're
17 exploring.

18 Next slide.

19 So what's next? IIJA. We were
20 completing our current applications. Then, you
21 know, these all have to go through a big old, you
22 know, negotiation time. If we win them, then we
23 have to negotiate the agreement. That's when
24 it's going to be really, really challenging for
25 so many people in our admin division, in our

1 legal division, and our teams to answer all the
2 federal questions, make sure we're crossing all
3 of the Ts and dotting all of those Is.

4 That's going to be an intense process, to
5 negotiate agreements, if awarded, and then we
6 just need to plan for those future rounds of
7 funding. Let's strategize. Let's figure out
8 what we want to do, what kind of effort we want
9 to put into it.

10 Well, on the IRA, our home energy rebate
11 program, Deana's team is ready, in close
12 coordination with Mike's team on efficiency,
13 definitely in close coordination with you, you
14 know, working on how we're going to actually
15 implement these funds, very, very early stage.

16 The other thing, the IRA that we're just
17 starting to talk about, and I've been just kind
18 of hinting at this with leadership, is the
19 federal Greenhouse Gas Reduction Fund, not to be
20 confused with the state Greenhouse Gas Reduction
21 Fund.

22 The IBank is leading this effort, but
23 they definitely are looking for strong agency
24 support and guidance on where they should be
25 putting their money. Like, okay. We have to

1 come up with this plan. What should the state
2 priorities for this financing money be put (sic)?
3 They want to hear from us, and so we're working
4 on that with them.

5 I had an effort, just today and
6 yesterday, just trying to get them data on
7 the -- you know, they have data gaps on their
8 information (indiscernible). So they're reaching
9 out to us, "Do you have data sets?" You know, I
10 think that we can support them in those types of
11 ways, but, also, we need someone, you know, in
12 this policy space engaging with them, and that
13 can't be me. So, you know, that's just not -- I
14 don't know. Right?

15 So we need to be identifying who, a team,
16 at the Energy Commission should kind of engage
17 with IBank on this policy level of its financing,
18 and how we want to -- where we want to, you know,
19 put our state money, should we win these awards.
20 That's that. Is there another slide? I think
21 that might be it. Okay.

22 CHAIR HOCHSCHILD: Will you share a
23 little bit about -- they have a new woman at
24 CNRA. It's Sarah, and I forgot how to say her
25 last name.

1 MS. MARTIN-GALLARDO: Sorry?

2 (Indiscernible.)

3 CHAIR HOCHSCHILD: Like "Aminzadeh."

4 MS. MARTIN-GALLARDO: Yes.

5 CHAIR HOCHSCHILD: But she's relatively
6 new on federal funding for (indiscernible).
7 What's been her engagement with you on this
8 stuff?

9 MS. MARTIN-GALLARDO: So we had our first
10 meeting a couple weeks back. She had some great
11 ideas. She's already engaged in D.C. She
12 basically -- you know, at that first meeting,
13 she's just, like, learning what it is the Energy
14 Commission's process has been, what types of
15 things we're going for.

16 She is very positive, and willing to
17 support this at the federal level, take what our
18 ideas are and then letting everybody know what,
19 you know, our priorities and what our plans are,
20 so basically just making sure that she is looped
21 in, you know, to what's happening with our
22 various opportunities, so that she can just
23 elevate that.

24 More importantly, one thing that we
25 talked about is, strategically, like, what

1 is -- we've had experiences with some of the COE
2 (phonetic) funding, and do we -- you know, has
3 made choices that California maybe wished
4 they -- you know, would have made different
5 choices, you know.

6 So what's that insight that we might
7 have, what the federal goals might be for a
8 particular round? Is this a round where they're
9 looking to put their money over there, and maybe
10 California shouldn't break its back, you know,
11 applying over here? You know, I don't know if
12 those are things that, you know, are -- I think
13 those are more the level of conversations that
14 folks are having at those higher levels about,
15 like, strategy.

16 COMMISSIONER MCALLISTER: Yes. I mean,
17 it's strange, right, because DOE has its own
18 dynamic, and doesn't, you know, always align
19 with, you know, particular states, even though
20 we're large, and so I think it's worth having
21 these relationships, so that we can actually
22 influence what DOE does, right?

23 MS. MARTIN-GALLARDO: Yes.

24 COMMISSIONER MCALLISTER: So, while
25 they're developing ALRDs (phonetic) for whatever

1 pots of funding, they actually listen to the
2 states. Now, that sometimes works and sometimes
3 it doesn't, but, you know, I think that that
4 relationship with DOE really, by getting ahead of
5 that, is worth institutionalizing.

6 MS. MARTIN-GALLARDO: Yes.

7 CHAIR HOCHSCHILD: Well, fantastic, Jen.
8 Thank you so much. It was (indiscernible).

9 COMMISSIONER MONAHAN: And, Jen, thank
10 you for meeting all of them.

11 VICE CHAIR GUNDA: Yes.

12 COMMISSIONER MCALLISTER: Yes.

13 COMMISSIONER MONAHAN: That's really
14 incredible.

15 MS. MARTIN-GALLARDO: Yes. It's been a
16 huge learning experience, but (indiscernible).

17 COMMISSIONER MONAHAN: Because you are
18 now the federal -- I mean, I (indiscernible).

19 MS. MARTIN-GALLARDO: We need to hire
20 someone.

21 UNIDENTIFIED SPEAKER: (Indiscernible.)

22 COMMISSIONER MONAHAN: I know. I was
23 like, "Don't (indiscernible)."

24 COMMISSIONER MCALLISTER: Now, the other
25 dynamic here is that DOE looks to us for

1 leadership. Like, there's this weird kind of
2 hot/cold thing, right, because, when they really
3 want to go gonzo on something innovative, they
4 often come to California and say, "Okay. Tell
5 us, you know, all about this." You know, so
6 there's kind of a -- these relationships are
7 complex, you know.

8 CHAIR HOCHSCHILD: Yes, yes.

9 VICE CHAIR GUNDA: And I think, more and
10 more, they're kind of intersecting with DOD on
11 (indiscernible).

12 COMMISSIONER MCALLISTER:
13 (Indiscernible.)

14 VICE CHAIR GUNDA: That's why, like, I'm
15 thinking it's much broader (indiscernible).

16 COMMISSIONER MCALLISTER: Yes, yes. And
17 EPA is the same way, the White House.

18 CHAIR HOCHSCHILD: Yes.

19 COMMISSIONER MCALLISTER: I mean, they're
20 all over us on a lot of things.

21 MS. MARTIN-GALLARDO: I think that's
22 where I -- you know, there's a lot that, if this
23 was my job, I would (indiscernible), "Let's do
24 that. Let's do that. Let's do that."

25 UNIDENTIFIED SPEAKER: Yes.

1 MS. MARTIN-GALLARDO: But

2 (indiscernible).

3 UNIDENTIFIED SPEAKER: Yes.

4 CHAIR HOCHSCHILD: But I just wanted to

5 (indiscernible) going from 6,000,000 a year to

6 1.2 billion.

7 UNIDENTIFIED SPEAKER: Yes.

8 CHAIR HOCHSCHILD: So, you know, thank

9 you for stepping up to get (indiscernible).

10 MS. MARTIN-GALLARDO: Yes, absolutely.

11 CHAIR HOCHSCHILD: (Indiscernible.)

12 COMMISSIONER MCALLISTER: And the tax

13 credits, too, you know. I mean, that's another

14 federal infusion. (Indiscernible.)

15 CHAIR HOCHSCHILD: All right. Thank you,

16 Jen. Great.

17 All right. Well, that is the end of our

18 formal agenda, and I just want to say I think

19 it's been fantastic, (indiscernible). I would

20 just welcome first just quick feedback on this

21 retreat. You help me set it up, and, you know,

22 kind of the first day doing Commissioner updates

23 and dialogues, and then, on the second day, new

24 topics. How was this? Any feedback for next

25 time, the frequency of these, location, anything

1 else?

2 COMMISSIONER GALLARDO: Yes. I can
3 (indiscernible). So I really enjoyed it. I
4 think it was really valuable to have advisors in
5 the room, you know, leadership in the room, and,
6 you know, the directors in particular. I would
7 have liked for them to be here today, too. I
8 think it helps with the overall strategy and
9 alignment.

10 So I think we should continue that, and
11 then I think maybe, in terms of format, doing it
12 in a way where we can all kind of be together,
13 we're at the same table, so it doesn't -- it just
14 was a little awkward like this, right?

15 Then I think more frequent would be
16 great. I think it just would be helpful to have
17 that consistency, and then, if we have any action
18 items, we can follow up better, and together. So
19 I don't know how frequent, but is it annual?

20 CHAIR HOCHSCHILD: Yes. We've typically
21 done these, I want to say, you know, in what,
22 February time frame, right after the beginning of
23 the year, for the March time frame, but anything
24 is on the table.

25 COMMISSIONER GALLARDO: From Mr. Vice

1 Chair?

2 VICE CHAIR GUNDA: Yes, yes. Twice, but
3 I think we can also just do one big CMRA
4 (phonetic), like one week (indiscernible).

5 UNIDENTIFIED SPEAKER: (Indiscernible.)

6 VICE CHAIR GUNDA: (Indiscernible) where
7 we just stay on site.

8 CHAIR HOCHSCHILD: (Indiscernible.)

9 VICE CHAIR GUNDA: Sacramento. Yes, but
10 I was just kind of like thinking about this. I
11 mean, I, as a deputy, as the manager previously
12 when these meetings just happened, I did not have
13 access to these meetings, right? And I used to
14 think, "My God. I wish I would stay in that
15 room, and really understanding what the
16 Commissioners are talking about." So I think,
17 the more exposure --

18 CHAIR HOCHSCHILD: Now you're in the
19 room, and you still don't know what they're
20 talking about.

21 VICE CHAIR GUNDA: And I'm like, "What
22 are we talking about?" So it's (indiscernible).
23 So I (indiscernible).

24 CHAIR HOCHSCHILD: (Indiscernible.) Yes,
25 yes, yes.

1 VICE CHAIR GUNDA: Accessible, I think,
2 is going to be helpful. The other element I
3 think I would request is, you know, if we can
4 have staff maybe become like -- it becomes an
5 important thing for them to attend, like
6 especially if we do a mid-year, and maybe have,
7 like, a CNRA, open it up, open it up for more
8 broader discussion. I don't know. I mean, it's,
9 like, really (indiscernible), but I'm just kind
10 of thinking out loud.

11 The other thing that I was at a high
12 level is we don't have RDM (phonetic), right,
13 like PUC. PUC Commissioners meet regularly in a
14 closed setting on the issues that pertain to
15 (indiscernible) design. We have closed session
16 on very specific elements.

17 I would request --
18 you know, I don't know what the legal
19 implications are to -- like, some of these things
20 need brainstorming, you know, collective
21 brainstorming, and I feel like, you know, anyone,
22 you know, Commissioner or two leading these
23 things, would benefit from cross-pollination of
24 ideas outside of a workshop. I don't know.

25 MS. BARRERA: So, regarding closed

1 sessions, PUC (indiscernible) that allows it to
2 have closed sessions on rate setting and other
3 matters that are not -- that we don't have that
4 authority to do within the Government Code. It's
5 more limited. It's more general. The
6 (indiscernible).

7 There are laws that allow them to have
8 those closed sessions, and those closed sessions
9 actually have been possible only in the last year
10 and a half or two years. Before that, they
11 didn't have that (indiscernible).

12 COMMISSIONER MCALLISTER: You said the
13 (indiscernible)?

14 CHAIR HOCHSCHILD: Yes. Okay.

15 VICE CHAIR GUNDA: Is there a way we
16 could do that? I mean, is there like a
17 legislative process that we need to go through?

18 UNIDENTIFIED SPEAKER: (Indiscernible.)

19 UNIDENTIFIED SPEAKER: You okay?

20 UNIDENTIFIED SPEAKER: No
21 (indiscernible).

22 CHAIR HOCHSCHILD: (Indiscernible) make
23 sure they're okay.

24 VICE CHAIR GUNDA: Yes. I mean, I think
25 having a little bit of (indiscernible).

1 MS. BARRERA: Yes. I would
2 (indiscernible) happy to share with you the
3 language that the CPUC (indiscernible) by the
4 legislature, and then just contrast it with the
5 authority we have, which is limited to
6 litigation, personal matters, or when we
7 (indiscernible). (Indiscernible.) That's, you
8 know, in general, the three types of buckets.

9 COMMISSIONER MCALLISTER: So we can't
10 say, you know, there's a particular policy area
11 we want to have a closed session about?

12 MS. BARRERA: No, not for just general
13 (indiscernible), specific policy.

14 COMMISSIONER MCALLISTER: So, even if we
15 notice what that area is, we can't do that --

16 MS. BARRERA: Well, we could have an
17 outside-of-code session.

18 COMMISSIONER MCALLISTER: Like this?

19 MS. BARRERA: Like this.

20 COMMISSIONER MCALLISTER: Yes. Right.

21 Well, this is a public -- yes.

22 MS. BARRERA: Yes, like in a public
23 meeting, but not in a closed session.

24 COMMISSIONER MCALLISTER: Okay.

25 VICE CHAIR GUNDA: I think maybe we just

1 do it like this, but I think having this
2 discussion, like especially things that came up
3 yesterday -- I mean, before a major report is
4 written, right, I mean, it would be really
5 helpful. I mean, the workshop or the
6 (indiscernible) from a business meeting would be
7 (indiscernible) for a small fraction of time --

8 COMMISSIONER MCALLISTER: Yes, that's
9 (indiscernible).

10 VICE CHAIR GUNDA: -- for us to be able
11 to sit and kind of actually discuss the report.

12 COMMISSIONER MCALLISTER: I think, in
13 general, I don't have a problem with doing that,
14 you know, on the public record.

15 VICE CHAIR GUNDA: Yes, absolutely.

16 COMMISSIONER MCALLISTER: I mean, not
17 even just generally. I just don't, right? But
18 it's matter of sort of objecting (indiscernible)
19 that we're actually going to talk about.

20 CHAIR HOCHSCHILD: Any other feedback
21 from (indiscernible)?

22 UNIDENTIFIED SPEAKER: Well, I just want
23 to say I really liked having social time. I feel
24 like that's the one thing I don't get very much
25 of with my colleagues, and it's really precious.

1 So I like that.

2 I would say I did envision, though --
3 like, I liked the starting an (indiscernible)
4 day, going overnight, and then kind of ending in
5 the middle of the day, so it's not a full day of
6 sitting. That's fine.

7 COMMISSIONER MCALLISTER: So maybe do
8 morning and then kind of end midday, sort of?

9 UNIDENTIFIED SPEAKER: Yes, end around
10 1:00 o'clock, so that you then -- that just --

11 COMMISSIONER MONAHAN: Just to balance
12 the other obligations that I've got to take care
13 of. Yes.

14 COMMISSIONER GALLARDO: Can we also ask
15 the staff who made this happen also for feedback?
16 Because I feel like it was a particularly tough
17 meet. I was like back-to-back events that we
18 had, a major event. So that alone just made me
19 think, like, you know, it would be great to get
20 input from staff on (indiscernible).

21 CHAIR HOCHSCHILD: Yes. I would say this
22 was a lot of work to organize. It was a little
23 less than if we (indiscernible) air travel, and
24 so -- and also the location I thought was great,
25 you know, (indiscernible) Bay Area to Sacramento,

1 but, I don't know, Kat. Do you want to speak to
2 (indiscernible)?

3 MS. ROBINSON: Yes. I have to go in
4 (indiscernible), but I'll say you've
5 (indiscernible). (Indiscernible) these kinds of
6 retreats (indiscernible), you know, in other
7 places. This is actually a discussion we've been
8 having internally on those (indiscernible).

9 I think there actually needs to be, for
10 each Commissioner, (indiscernible) in maybe each
11 division. The (indiscernible) of those events
12 that does -- you know, do (indiscernible)
13 notification, (indiscernible) put together, you
14 know, where it is, you basically have the IEPR
15 team that (indiscernible) go to, or like Mona.\

16 All of us happy that, like,
17 (indiscernible) on different things, and I think
18 (indiscernible). Like, I do not have
19 (indiscernible). But it's something, as we grow
20 and as we try to do more public engagement, I
21 think it's really helpful to have that staff
22 capacity to support what (indiscernible) want to
23 do. These are so helpful to have, but they do
24 (indiscernible) a lot of resources from
25 (indiscernible).

1 CHAIR HOCHSCHILD: Yes.

2 COMMISSIONER MONAHAN: And it would only
3 probably be one person.

4 MS. ROBINSON: It's a unique skillset,
5 very unique skillset to know which document.
6 There's also a lot of behind-the-scenes -- every
7 slide has to be made into ADA-accessible format.
8 Every slide has to be put up by a certain --

9 COMMISSIONER MONAHAN: And we don't have
10 to do slides. We could just say, "No slides."

11 VICE CHAIR GUNDA: (Indiscernible.)

12 CHAIR HOCHSCHILD: (Indiscernible.)

13 COMMISSIONER MONAHAN: Yes, you guys --

14 UNIDENTIFIED SPEAKER: (Indiscernible.)

15 MS. ROBINSON: Yes.

16 VICE CHAIR GUNDA: It really is
17 (indiscernible) about that (indiscernible).

18 COMMISSIONER MONAHAN: (Indiscernible) or
19 like an events team. I thought that, too, when I
20 was in the Public Advisor's Office. It is a lot,
21 and it's hard to put it on like the IEPR team or
22 even the PAO team, because there's other stuff
23 that we've got to do, too, so it impacts, like,
24 our thought leadership, for example. We could
25 develop --

1 CHAIR HOCHSCHILD: Yes, but it's very,
2 very high value, just (indiscernible), just great
3 to have no voting items, so we have a chance to
4 actually talk and go deeper on all these
5 mission-critical stuff.

6 I just wanted to invite (indiscernible).
7 Is it clear (indiscernible).

8 MR. EARLY: It's really helpful to be
9 here to hear this conversation and engagement.
10 So (indiscernible) continue to invite
11 (indiscernible). Thank you.

12 CHAIR HOCHSCHILD: Okay. Well, unless
13 there's other comments --

14 VICE CHAIR GUNDA: Did you have --

15 COMMISSIONER MONAHAN: No.

16 UNIDENTIFIED SPEAKER: I've got
17 (indiscernible).

18 CHAIR HOCHSCHILD: Okay.

19 VICE CHAIR GUNDA: (Indiscernible) me,
20 too. So I (indiscernible).

21 COMMISSIONER MONAHAN: Is there like a --

22 CHAIR HOCHSCHILD: Yes. Okay. Well, I
23 mean, unless there's other comments, I think
24 we're adjourned. Thank you, guys.

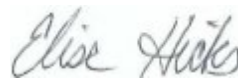
25 (The workshop was adjourned at 3:22 p.m.)

CERTIFICATE OF REPORTER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 8th day of June, 2023.



ELISE HICKS, IAPRT
CERT**2176

CERTIFICATE OF TRANSCRIBER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

I certify that the foregoing is a correct transcript, to the best of my ability, from the electronic sound recording of the proceedings in the above-entitled matter.



MARTHA L. NELSON, CERT**367

June 8, 2023