

DOCKETED

Docket Number:	19-BUSMTG-01
Project Title:	2019 Business Meeting Transcripts
TN #:	229525
Document Title:	Transcript of 08-14-2019 Business Meeting
Description:	N/A
Filer:	Cody Goldthrite
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	8/23/2019 2:43:27 PM
Docketed Date:	8/23/2019

APPEARANCES

Commissioners

David Hochschild, Chair
Janea Scott, Vice Chair
Andrew McAllister
Patricia Monahan

Staff Present: (* Via WebEx)

Drew Bohan, Executive Director
Allan Ward, Acting Chief Counsel
Jared Babula, Staff Attorney
Jennifer Martin-Gallardo, Interim Public Adviser
Cody Goldthrite, Secretariat
Michael Sokol, Director, Efficiency Division

	Agenda Item
Terra Weeks	3
Paul Deaver	4
Julio Gutierrez	5
John Mathias	6
Sean Steffensen	7
Balraj S. Sandhu	8
Gavin Situ	9
Geoffrey Dodson	10
Eleanor Oliver	11
Qing Tian	12
Rachel Salazar	13
Noel Crisostomo	14
Patrick Brecht	15
Sarah Williams	16

Interns Present:

Isabella Galiteva
Alejandra Hormaza

APPEARANCES (Cont.)

Agenda Item

Others Present (* Via WebEx)

Interested Parties

Nancy Traweek, CAISO	2
Scott M. Lesch, City of Riverside	6
Michael Burz, EnZinc, Inc.	11
Danny Kennedy, California Clean Energy Fund/New Energy Nexus	11

Public Comment (* Via WebEx)

Ron Wolfarth, Rain Bird	7
*Daniela Urigwe, Energy Solutions, Inc.	7
*Edward Osann, Natural Resources Defense Council (NRDC)	7

I N D E X

	Page
Proceedings	10
Items	
1. Consent Calendar. (Items will be taken up and voted on as a group. A commissioner may request that an item be moved and discussed later in the meeting.)	18
a. LOCALLY ADOPTED ENERGY STANDARDS.	
i. CITY OF CARLSBAD	
ii. CITY OF DAVIS	
b. ESNA EXPO, LLC	
c. WEST COAST CODE CONSULTANTS, INC.	
2. California Independent System Operator (ISO)	18
3. Discussion of Energy Commission Progress on Joint Agency Report, Charting a Path to a 100% Clean Electricity Future, Senate Bill 100 (2018)	26
4. Adopting Energy Commission Determination the Finding Pasadena Water and Power Integrated Resource Plan Consistent with the Requirements of Senate Bill 350 (2015)	34
5. Adopting Energy Commission Determination Finding the Vernon Public Utilities Integrated Resource Plan Consistent with the Requirements of Senate Bill 350 (2015).	44

I N D E X (Cont.)

6.	Adopting Energy Commission Resolution Finding the Riverside Public Utilities Integrated Resource Plan Consistent with the Requirements of Senate Bill 350 (2015).	48
7.	Appliance Efficiency Regulations Rulemaking for Spray Sprinkler Bodies (Docket Number 19-AAER-01)	59
	a. NEGATIVE DECLARATION FOR THE PROPOSED APPLIANCE EFFICIENCY REGULATIONS FOR SPRAY SPRINKLER BODIES	
	b. APPLIANCE EFFICIENCY REGULATIONS FOR SPRAY SPRINKLER BODIES	
8.	City of Gustine	71
9.	County Of Santa Barbara	73
10.	Renewable Energy for Agriculture Program - Lane and Michele Davis Joint Venture	75
11.	California Clean Energy Fund dba CalCEF Ventures	77
	a. Takachar	
	b. P-Kap Systems, LLC	
	c. RAF Electronics Corp.	
	d. DAE Technologies Inc.	
	e. RePurpose Energy, Inc.	
	f. SierraCrete LLC	
	g. ZYD Energy, Inc.	
	h. Ivy Energy	
	i. Icarus RT, Inc.	

I N D E X (Cont.)

11.	California Clean Energy Fund dba CalCEF Ventures (Cont.)	77
	j.	GreenTech Motors Corp.
	k.	Luciant Inc.
	l.	EndLis Energy
	n.	T2M Global, LLC
	o.	NanoDian, Inc.
	p.	Nrgtek Inc.
	q.	Luminescent Energy
	r.	SolarFlexes LLC
	s.	ReJoule Incorporated
	t.	Noon Energy, Inc.
	u.	Coreshell Technologies, Inc.
	v.	Antora Energy
	w.	ActiveMEMS LLC
	x.	EnZinc Inc.
	y.	Arvind Simhadri
12.	UniEnergy Technologies, LLC	91
13.	The Local Government Commission	95
14.	DOE-Lawrence Berkeley National Laboratory Proposed resolution approving Agreement 600-19-005.	99

I N D E X (Cont.)

15.	DOE-Lawrence Berkeley National Laboratory Proposed resolution approving Amendment 3 to Agreement 600-15-001	103
16.	School Bus Replacement for California Public School Districts, County Offices of Education, and Joint Power Authorities, GFO-17-607	107
	a. CHULA VISTA ELEMENTARY SCHOOL DISTRICT	
	b. GATEWAY UNIFIED SCHOOL DISTRICT	
17.	Minutes	110
18.	Lead Commissioner or Presiding Member Reports	111
19.	Executive Director's Report	126
20.	Public Adviser's Report	127
21.	Public Comment	64
22.	Chief Counsel's Report	128
	a. Pursuant to Government Code Section 11126(e), the Energy Commission may adjourn to closed session with its legal counsel to discuss any of the following matters to which the Energy Commission is a party:	
	i. <i>In the Matter of U.S. Department of Energy (High Level Waste Repository) (Atomic Safety Licensing Board, CAB-04, 63-001-HLW); State of California v. United States Department of Energy (9th Cir. Docket No. 09-71014)</i>	

18. Chief Counsel's Report (Cont.) 128
- ii. *Communities for a Better Environment and Center for Biological Diversity v. Energy Resources Conservation and Development Commission, and California State Controller*, (Alameda County Superior Court, Case No. RG13681262)
 - iii. *State Energy Resources Conservation and Development Commission v. Electricore, Inc. and ZeroTruck* (Sacramento County Superior Court (34-2016-00204586)
 - iv. *Natural Resources Defense Council, Inc., et al. v. United States Department of Energy* (Federal District Court, Northern District of California, (17-cv03404)
 - v. *City of Los Angeles, acting by and through, its Department of Water and Power v. Energy Commission* (Los Angeles Superior Court, Case No. BS171477).
 - vi. *Helping Hand Tools v. California Energy Commission, and Vantage Data Centers LLC*. (Sacramento Superior Court, Case No. 34-2018-80003026).
 - vii. *In re: PG&E Corporation and In re: Pacific Gas and Electric Company* (United States Bankruptcy Court, Northern District of California, San Francisco Division, Case No. 19-30088)
 - viii. *Chukwuemeka (Emeka) Okemiri v. California Energy Commission, et al.* (Sacramento Superior Court, Case No. 34-2018-00246019)
 - ix. *State Energy Resources Conservation and Development Commission v. HyGen Industries, Inc.* (Sacramento County Superior Court, Case No. 34-2019-00252543)

I N D E X (Cont.)

b. Pursuant to Government Code section 11126(e), the Energy Commission may also discuss any judicial or administrative proceeding that was formally initiated after this agenda was published; or determine whether facts and circumstances exist that warrant the initiation of litigation, or that constitute a significant exposure to litigation against the Commission, which might include.

Adjournment	128
Reporter's Certificate	129
Transcriber's Certificate	130

P R O C E E D I N G S

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

AUGUST 14, 2019

10:04 a.m.

CHAIR HOCHSCHILD: Good morning friends and welcome. Let's begin with the Pledge of Allegiance.

(Whereupon the Pledge of Allegiance is recited)

CHAIR HOCHSCHILD: Before we get into the agenda, I want to make a few brief remarks and we also have a couple of folks we'll be inviting to the podium in a minute. But when I sent my note to all Energy Commission staff shortly after I started as Chair one of the things I said is, "It's exciting at the Energy Commission to have the opportunity to do good and to make things better." I think part of making things better is not being silent when you see something that's wrong.

And this week, I do want to say a few words about the Senior Official for Immigration at the Trump Administration suggested that the Statue of Liberty was only intended for people of European decent. That is racist. That's racist. It is totally unacceptable. It is contravening of our most basic ideals as a country.

And I'm very proud to be in a state that stands for inclusion, have a Governor who stands for inclusion, have a Legislature and really senior officials at every level, at our Commission, at every level that I know of in our state who really believes in inclusion.

1 And I have in my family -- we go back to the
2 Mayflower on my mom's side. My wife's parents came from
3 China with nothing, with nothing. They arrived, they made
4 an incredible life. They made incredible contributions to
5 our country. All of us have close friends who've
6 immigrated. We have many first generation immigrants who
7 work here at the Commission. And I want to say on behalf
8 of all of us at the Commission level, "You are as American
9 as everyone else." And anyone who says otherwise, if
10 you're talking about -- if there's anything that is un-
11 American it's un-American to say that. That's just not
12 acceptable.

13 And I just want to be really clear where we stand
14 as an agency and I think as a state on this question.
15 We're not going to accept that kind of rhetoric. It's not
16 what we're about and we're better than that. And I just
17 really want to be clear about that. And we're going to
18 keep speaking out when these kind of statements get made.
19 It's just egregious, so thank you for letting me air that
20 out.

21 And there's consequences to that. I will say
22 that. We had a shooting in El Paso again based on racism
23 and another one in Ohio. And so before we get into the
24 meeting, I'd actually like to have a moment of silence in
25 recognition of those victims.

1 (Whereupon a moment of silence is observed.)

2 CHAIR HOCHSCHILD: Thank you. With that I will
3 say that we will have some good news to share, very good
4 news in the coming weeks about a new Chief Counsel and a
5 new Public Adviser. We'll get more information on that in
6 the weeks ahead, but I want to begin by asking Mike Sokol
7 to come up to the podium.

8 Mike, you've been at the Commission for 10 years
9 now. I've watched, we've all watched how you've conducted
10 yourself. You're a true professional. You show up every
11 day with a great attitude, with a lot of energy, incredible
12 collaborative style I would say in handling some really
13 complex issues, most notably 350. I think you're an
14 excellent listener. You really demonstrate really all the
15 values that we're about. And I know when you're outside
16 the Energy Commission representing us around the state I
17 feel very well represented by how you conduct yourself.

18 And so it's a great privilege for all of us to be
19 able to congratulate you as the new Director of the
20 Efficiency Division. (Applause.)

21 And before we invite you to say a few words, I'd
22 like to ask Commissioner McAllister to say a few words.

23 COMMISSIONER MCALLISTER: I'm also ecstatic for
24 this. Well, first of all I want to thank Kristen Driskell.
25 I mean she has -- her last day is tomorrow. I don't know

1 if she is in the room, but she has brought a role -- just a
2 professionalism and attention to detail and a team-building
3 mentality to the division. And I want to just thank her
4 for all of her service as Deputy over Efficiency, but also
5 just all of her different positions is Legal and in the
6 Appliance Safety Office -- all her time at the Commission.
7 So we're going to definitely miss Kristen as well.

8 But with change comes opportunity, and so I'm
9 really excited to have you lead in the Division, Mike. And
10 I'd just echo on that 350 stuff, just all the complex
11 projects that have been lobbed into your court, you've just
12 taken them and have really done some incredible stuff with
13 them. And so I look forward to working with you on all the
14 stuff we have. All the various diverse issues that we have
15 going on in these two agencies.

16 And I know your collaborative approach is really
17 going to serve the Commission more broadly as we look at SB
18 100 and 350 and all the issues that really do require
19 interdivision collaboration. So I'm looking forward to
20 working with you and building all those relationships
21 together.

22 MR. SOKOL: Well, thank you Chair and
23 Commissioner McAllister. And really I just want to say
24 that I'm grateful and excited for this opportunity and
25 really appreciate the trust that the Commission is placing

1 in me in taking on this new role. Really just given the
2 state of the world, I think we're on the precipice of some
3 really big things here with the clean energy transition and
4 the push towards 100 percent clean energy. And I know
5 there's a lot of work to be done to get to that ultimate
6 vision. And I'm excited to get involved and get to work.
7 Thank you.

8 CHAIR HOCHSCHILD: Great. Thank you, Mike.

9 (Indiscernible) Congratulations.

10 (Applause.)

11 CHAIR HOCHSCHILD: So we have one more very
12 special guest. Her name is Isabella. And she's 14 years
13 old and to my knowledge she is the youngest intern we've
14 had at the Energy Commission.

15 I met her a few years ago. I asked her, "So tell
16 me about yourself. What are you interested to be when you
17 grow up?" And she said, "I want to run the California
18 Independent System Operator," which not too many teenage
19 girls say that. It's great. And part of the reason is her
20 amazing mother is Angelina Galiteva, the Vice Chair of the
21 ISO Board has been an incredible force for good in our
22 state and a key reason that we have the 100 percent law
23 that we do. So Isabella is with us for 10 days. Her
24 internship finishes on Friday. And her project has been to
25 develop a youth engagement plan for the Energy Commission.

14

1 She's been interviewing deputies and others around the
2 Commission.

3 And so I want to invite you, Isabella, up to the
4 podium and just to share a minute or two about some of your
5 ideas.

6 MS. GALITEVA: Good morning. My name is Isabella
7 and I'm here to write a youth engagement plan for the CEC.
8 So by the end of the week I will be composing a report that
9 will enlist several recommendations or suggestions that the
10 CEC can partake in, in order to further engage the youth
11 and have a greater overall impact on society and the
12 climate crisis.

13 So one of the main strategies that I came up with
14 was actually to have a division within the CEC that is
15 responsible for monitoring, supporting and advising
16 student-run programs all across California. My big vision,
17 you could say, is to actually have a network all across
18 California that will empower youth to be able to
19 communicate and organize and protest and really have an
20 involvement impact within the climate crisis and perhaps
21 even educate and fix what the adults haven't done.

22 So part of what the CEC division that I propose
23 will do is actually to have an educational program that
24 will be implemented within school districts. And it could
25 have teacher and student materials that will break down

1 very difficult concepts and terms that are in many of the
2 reports. And help have an inspiration for youth to get
3 involved and speak out against what they think.

4 Because what I've seen in my local school
5 district is that the problem isn't that there isn't any
6 motivation to do anything. It's more of the how and how do
7 we really insert ourselves into this equation. Because
8 right now it seems like a big overwhelming mass of, "Oh,
9 well what do we do? How is this going to affect us in our
10 future programs?" So with the introduction of career
11 options and breaking down the difficult concepts, like I
12 said, that really swirls around in the whole business, is
13 that we'll have a really big impact.

14 We could even introduce electric vehicles in
15 Driving Ed, which will inspire youth to start looking into
16 the electrification process of our grid and infrastructure.
17 And perhaps even convince my mom to get an electric vehicle
18 too. (Laughter.)

19 CHAIR HOCHSCHILD: It's on the record now, yes.

20 MS. GALITEVA: Yes. So until I leave on Friday
21 I'm open to any discussion or questions. And I look
22 forward to the rest of my day and days to come. So thank
23 you for -- I'm very grateful for having this opportunity to
24 come and interview and learn and absorb as much as I can.

25 CHAIR HOCHSCHILD: Great. Thank you.

1 Are there any questions or comments from the
2 Commissioners?

3 VICE CHAIR SCOTT: I would be interested to know
4 where you will be, so that we can find you if we have some
5 suggestions or would like to chat with you in further
6 detail.

7 CHAIR HOCHSCHILD: She's in the intern bullpen,
8 right outside the Commissioners' Office.

9 MS. GALITEVA: Yes, I'm with the rest of the
10 interns.

11 CHAIR HOCHSCHILD: It's hard to get an
12 appointment with her, though. She's very sought after.
13 (Laughter.)

14 COMMISSIONER MONAHAN: Isabella, I just want to
15 say that I was super-impressed when you interviewed me.
16 Your questions were really good. And this presentation was
17 amazing. Like really, I don't think -- (Applause.) I
18 think even graduated from college I wouldn't be as composed
19 as you are today, so just kudos to you. I really encourage
20 you to get your mom on board with the electrification
21 presentation and (indiscernible).

22 CHAIR HOCHSCHILD: Good. Thank you.

23 COMMISSIONER MCALLISTER: Also, while you're at
24 that needle her about the upgrading your home for energy
25 efficiency. (Laughter.)

1 CHAIR HOCHSCHILD: Thank you, Isabella. Great
2 job. (Applause.)

3 Let's move forward with the Consent Calendar.
4 Before I take a motion on that I do just want to note the
5 two items on our Consent Calendar are both cities taking
6 the lead on more strict energy efficiency local codes, and
7 this is exactly the kind of leadership that we need. And I
8 just want to congratulate both the City of Carlsbad and the
9 City of Davis for their pioneering leadership. With that,
10 is there a motion to approve the Consent Calendar?

11 COMMISSIONER MCALLISTER: So moved.

12 VICE CHAIR SCOTT: Second.

13 CHAIR HOCHSCHILD: Second by Vice Chair Scott.

14 All in favor say aye.

15 (Ayes.)

16 CHAIR HOCHSCHILD: Any opposed? Any abstentions?

17 Okay. That passes unanimously.

18 Let's move on to Item 2, California ISO.

19 MS. TRAWEEK: Good morning Chairs and
20 Commissioners. My name is Nancy Traweek. I'm the
21 Executive Director of Systems Operations of the California
22 ISO. And my responsibility is running real-time operations
23 as well as now the RC Operations.

24 So I'm here today to give a presentation on the
25 reliability coordinator. And I believe there's some

1 slides, but I'll get kind of started. What is a
2 reliability coordinator? I thought I'd take a start there.
3 The reliability coordinator is the entity that has the
4 highest level of reliability throughout its area footprint.
5 And I'll get to a little bit of that.

6 They take a wide-area view of the bulk electric
7 system above what maybe balancing authorities may look at.
8 They look at all the seams across balancing authorities.
9 They ensure that, or prevent maybe issues or emergencies as
10 they're watching all the limits across those seams. So
11 they're watching at a very high level, talking to all the
12 balancing authorities and saying, "Hey, I see something up
13 here. How are we going to mitigate that? How are we going
14 to make sure we have reliability?"

15 We also do several things. We have a 24/7
16 operation. So the ISO has now its 24/7 operation as a
17 balancing authority and an additional staff of 24/7
18 operators as a reliability coordinator. We do outage
19 coordination approval, so all balancing authorities within
20 our footprint have to provide outage coordination or their
21 outages to us. We look at that, we approve them and make
22 sure there's no issues with those and it won't impact
23 others.

24 We do day ahead planning analysis, insuring the
25 same thing, no impact to reliability. Real time

1 assessment, monitoring analysis and system restoration.

2 So the California ISO on July 1st became the RC
3 for the California footprint: all of California, the
4 California ISO BA, plus IID, BANC, TID, CENACE, LADWP.
5 They all came within under our umbrella as the RC for the
6 California footprint.

7 So now, as of July 1st we're kind of watching
8 over all of that, working with the balancing authorities,
9 looking at all the limits, making sure that everything is
10 reliable throughout that entire footprint.

11 I have a picture, but as of November 1st we're in
12 the process right now of certifying for the extended
13 footprint, which will be most of the west. So we'll go all
14 the way out to Colorado and we will be the RC for all of
15 that area. So on September 4th, we're going to start our
16 shadow operations for that. And we'll be working for the
17 current RC, which is Peak Reliability. And we'll be doing
18 our shadow operations with them until 11-1, which will then
19 we'll become the official RC for most of the west at that
20 point.

21 We've been coordinating in that with all of our
22 neighbors, all of the states. It's a voluntary membership.
23 We offered our services voluntarily to all the balancing
24 authorities throughout the western states. And most of
25 them took us up on it. And so we're actually going to be

1 their RC service provider.

2 Another thing that we're doing in collaborating
3 with our western states is our EIM. That's been going
4 really, really well. Every year, we get new participants
5 that want to be part of the EIM. That also is a voluntary
6 membership. And they've realized over \$740 million of
7 benefit for the EIM participants, as well as for some of
8 the California participants.

9 And we've also affected, through the transfers of
10 energy through the EIM, about 403,000 metric tons of CO2
11 reduction, which would be about 85,000 cars in one day. So
12 that's really been good.

13 Our supply and load diversity is reduced by about
14 approximately 40 percent. So we're really using it a lot
15 along with our other renewable resources as a transfer into
16 California especially when our renewable resources are
17 coming off, that EIM participants are able to transfer
18 energy into us, as well as we're being able to share some
19 of our resources with them. And it's really reduced their
20 use on carbon-type resources. There are all our advanced
21 technologies for that. We use all our advanced
22 technologies for that. Our real-time market is really what
23 our EIM participants are looking at.

24 So let me now that we have this, let me show you
25 a couple of slides.

1 So to go back to the RC footprint, the gray area
2 is what we currently are the RC of right now. And that's
3 all of California and CENACE, which is right in Baha,
4 Mexico.

5 The green area will be our footprint after
6 November 1st. So we're actually taking on quite a bit.

7 The orange area will be the SPP, Southern Power
8 Pool will be the RC for that area.

9 And then if I could go to the EIM slide? Here's
10 all of our EIM entities. It's quite a bit in the west
11 where we have several that are coming on in 2020,
12 additional that are coming on in 2021 and now in 2022. So
13 a lot of people have expanded to use our real-time markets
14 to see those benefits for themselves.

15 Is there any questions?

16 0:20:18

17 COMMISSIONER MCALLISTER: Sorry to interrupt, I
18 just wanted to thank you for coming over. When we heard
19 the news, it seemed like a clear opportunity to get it on a
20 Business Meeting agenda and really let the world know. I
21 mean this is a little bit of like the electric sector
22 insider baseball for most people, but it's so important.
23 And really is a step in the direction that we need to go to
24 integrate all the various activities, planning efforts and
25 technical work that are a part of reliability across the

1 west.

2 And so we have such a great relationship with the
3 ISO and our other agencies, PUC, ARB on the decarbonization
4 front. And I think the ISO sometimes is underappreciated
5 and not as public, because it's not a state agency like the
6 rest of us. And so it I think has a different role. But I
7 think emphasizing how critical the ISO is and how competent
8 the ISO is at reliability wherever it takes that role on, I
9 think is really something that people ought to appreciate
10 and know about.

11 And so I just want to thank you and your
12 colleagues for taking on this new effort. Is it based out
13 of the Folsom office? Does it have any other footprint?

14 MS. TRAWEEK: Actually, it's based out of the
15 Folsom office. We actually run alternate offices. One's
16 in Lincoln, California and one is in Folsom.

17 And so what we do is we have our staff separate
18 from -- well, we have the same staff that rotate through.
19 So we're operating out of both offices, so in the event of
20 any emergency we can quickly operate from the other office.

21 COMMISSIONER MCALLISTER: That's great. And just
22 I know we operate in different roles at different scales.
23 And obviously we're the California Energy Commission, but
24 we represent the state across the west. I think
25 Commissioner Scott will probably have some comments here,

23

1 but the other states' energy offices as well as the various
2 (indiscernible) and planning entities that lays out the
3 western grid, I think are going to be very well served by
4 having the ISO in this role. So thanks for taking it on.

5 MS. TRAWEEK: Thank you.

6 VICE CHAIR SCOTT: I do have some comments.
7 Thank you for coming in and providing this high-level
8 presentation for us. It is an important change that is
9 taking place across the west. This is a really big deal.
10 I am the Chair of the Western Interconnection Regional
11 Advisory Body or WIRAB, which is part of the Western
12 Interstate Energy Board. And there has been lots of
13 conversation over the last few years.

14 Stacy and others on your team, yourself, have
15 done an amazing job kind of going around the west talking
16 to people, explaining what this is going to be and then
17 getting a smooth and orderly transition from the previous
18 reliability coordinator to this is also a very big deal.
19 And so I appreciate you coming to give us kind of this high
20 level overview. There's a lot of background detail, hand
21 holding. And then just been tons of technical things as
22 well to make this happen.

23 MS. TRAWEEK: Thank you very much. It has been
24 probably two years-worth of work to get to this point. A
25 lot of people working it, but we're really excited about

1 becoming the RC and being able to oversee all of this. And
2 we're excited that a lot of the western entities wanted to
3 also work with us in this. And hopefully we'll be as
4 transparent as we can be and everybody will know everything
5 that's going on. And we have a lot of working committees
6 that we plan on keeping throughout the west, so that way
7 everybody has their input into what needs to happen. So I
8 appreciate that.

9 CHAIR HOCHSCHILD: Well, thank you and
10 congratulations to you and your whole team. I see Darlene
11 hides in the back there. And we want to thank her as well
12 for her being a great MEA. (phonetic) And just we've had a
13 terrific relationship with the ISO Board. I've been
14 working very closely with Chair David Olsen this past week
15 as well as Marybel Batjer at the PUC. And it's just a real
16 tribute to your leadership that this is happening.

17 And I just want to be clear. Blackouts of any
18 sort are not just bad for the state. They're a real
19 setback for our green energy and climate agenda. It's
20 paramount, particularly as we migrate other services like
21 electric vehicles and electric heat pump water heaters and
22 rail, onto the grid that we continue to have a robust and
23 reliable and clean grid. And so this service you are
24 stepping up to handle is a really important part of that.
25 So congratulations.

25

1 MS. TRAWEEK: We're doing everything we can to
2 (indecipherable) --

3 CHAIR HOCHSCHILD: Great. Thank you so much.

4 MS. TRAWEEK: -- every summer, every day. So
5 yes, thank you very much.

6 CHAIR HOCHSCHILD: Thank you so much. Great.

7 Okay, so let's move on to Number 3, a discussion
8 of Energy Commission progress on the Joint Agency Report
9 Charting a Path to a 100 Percent Clean Electricity Future.

10 MS. WEEKS: Hello Chair and Commissioners and
11 future Chair Galiteva. (Laughter.) You all know who I am,
12 but I am Terra Weeks, Senior Advisor to Chair Hochschild,
13 Chair at the Energy Commission and moving forward, I will
14 be the overall project manager on the CEC side for the SB
15 100 Interagency Report.

16 So I just really want to thank Siva Gunda, Eli
17 Harland, Courtney Smith and the rest of the team for
18 helping get me up to speed. And I'm really excited to dive
19 into this project, so just quickly, a little refresher on
20 the SB 100 Report.

21 The bill directed CEC, CPUC and CARB to issue a
22 joint report to the Legislature by January 1st of 2021 and
23 at least every four years thereafter. And the report shall
24 include a review of the policy including an evaluation of
25 the potential benefits and impacts on reliability, an

26

1 evaluation of anticipated financial costs and benefits to
2 utilities, the barriers and benefits of achieving the
3 policy and then alternative scenarios in which the policy
4 can be achieved including submitted costs and benefits for
5 each scenario.

6 So the report will contain a combination of
7 quantitative, qualitative analyses to address the topics.
8 And this is all with the lens that this report that we're
9 working on now is the first of an iterative process. And
10 so it's not going to be a comprehensive roadmap for
11 achieving the policy, but will establish a planning and
12 coordination framework.

13 And similar to the IEPR process we'll coordinate
14 with other agencies to host topic area workshops, which
15 will inform the chapters of the report. And we're also
16 working to see where we can streamline with other
17 proceedings such as IRP, IEPR and CARB's new carbon
18 neutrality workshop series.

19 So we, the interagency coordination team, are in
20 the final stages of drafting an initial scoping document,
21 which will outline the topics of the report and help inform
22 the final workshop schedule. And will also gain additional
23 feedback in our initial scoping workshops where we'll
24 solicit feedback from stakeholders and the public to
25 finalize the report outline and the workshop series.

1 So our first workshop will be in just a couple of
2 weeks, on September 5th, from 10:00 to Noon in the
3 Secretary of State Building. And this will be our first
4 interagency kickoff workshop to really just launch this
5 effort.

6 The meeting will be led by the SB 100 principals
7 from each agency who are Chair Hochschild, CARB Chair Mary
8 Nichols, and PUC Commissioner Liane Randolph.

9 And the meeting will include updates from each
10 agency. CARB is going to present kind of the high level
11 picture of our climate energy targets and goals. CPUC is
12 going to present on our current policies and programs,
13 really the "how" we're going to get there. And then CEC
14 will present a little more detail on actual report
15 development process, the workshop series, how we're
16 coordinating between agencies and also interfacing with the
17 public.

18 And then following the kickoff workshop we're
19 planning to hold our initial scoping meetings in late
20 September or early October.

21 And I just wanted to also mention that we are
22 putting together a brief video to highlight this effort.
23 Lindsay Buckley on our team is working with the comm teams
24 of the other agencies. And this will just be like a 60-
25 second kind of quick highlights, just something to engage

1 stakeholders and the public on this process.

2 And with that, I'm happy to open it up for
3 discussion.

4 CHAIR HOCHSCHILD: Well, that's great, Terra.
5 Thanks so much. I'm just curious, I've been sitting here
6 looking out ahead at the process. What are you most
7 concerned about, I mean just in terms of the sticky issues
8 you're anticipating that we should be mindful of?

9 MS. WEEKS: I think top of mind for a lot of
10 stakeholders is what qualifies as zero carbon technology.
11 But really the intent of this report is to not be
12 prescriptive. I know when you look at the bill language
13 and then also Senator de Leon's kind of clarifying letter
14 that he wrote following the signature of the bill, really
15 the intent is to allow for as many potential avenues as
16 possible, still meeting the intent of the bill.

17 And so I can't say explicitly what will be in the
18 final report at this point, but it seems like we're leaning
19 toward looking more at the attributes of technologies
20 versus a prescriptive list of those kind of technologies.

21 CHAIR HOCHSCHILD: Other comments? Yeah, Patty?

22 COMMISSIONER MONAHAN: This was a great briefing.
23 Thank you. And I'm curious about I mean SB 100 set a
24 target for the electricity sector. And we have a
25 Governor's Executive Order setting a target for carbon

1 neutrality broadly across the economy. Can you talk about
2 the interplay between the two?

3 MS. WEEKS: Yeah. And I think CARB will really
4 kind of paint that larger picture at the kickoff workshop
5 too and really talk about how this is one slice of the pie,
6 when you look economy-wide. But as the Chair was just
7 saying it's a very important slice of the pie and really
8 thinking through how as we moved toward a clean electricity
9 system that is going to serve additional end uses in
10 residential, commercial, industrial sectors,
11 transportation. And so we're really looking to make sure
12 that we have a reliable, affordable, safe electricity
13 supply to serve these other sectors moving forward.

14 And thinking about security, resiliency,
15 reliability, to make sure that as we migrate additional end
16 uses on, we can be sure that this will be a robust system
17 moving well into the future.

18 COMMISSIONER MCALLISTER: So thanks for that. I
19 really appreciate that briefing. And I wanted to just
20 point out a couple of things. One, it's easy to think
21 about -- it's kind of the natural way to think about this
22 for the uninitiated in some of this is it just sort of RPS
23 Version 3 or something. You know, sort of RPS on steroids.
24 And really that's not what it is. I mean it is that to
25 some extent, but as you were suggesting we need to change

1 the categories to appreciate carbon free versus sort of the
2 narrower definition of renewables.

3 But also at high, high levels of penetration of
4 renewables it becomes primarily an electric system planning
5 exercise, which RPS to now hasn't really been. And I think
6 the previous item with the ISO stepping up to be the
7 reliability coordinator and their current set of roles as
8 well -- Delphine came back very timely. But really that
9 interagency coordination on this, I think that was
10 prescient with the bill, but the bill requests consultation
11 with the ISO. But I think really in practice we're going
12 to end up involving ISO much, much more because of these
13 system issues that will have to be dealt with as we move
14 forward.

15 And so I'm really happy that we're building the
16 analytical capability in-house. And this is a multi-
17 division effort, right? So assessments and efficiency end
18 use, renewables, all the various aspects of this, all the
19 facets of it are really going to have to work together in a
20 facile way. And so I think that's great that we all
21 recognize that and acknowledge that and I think we're
22 building tools to do that and certainly play our core role
23 at the Energy Commission and across with ARP and the PUC
24 and the ISO. So I'm really happy to get this process
25 kicked off.

1 VICE CHAIR SCOTT: I don't have too much more to
2 add to that. I do really appreciate having this as a
3 standing agenda item similar to how we had SB 350 as a
4 standing agenda item because it does crosscut a lot of --
5 or not a lot of -- everything pretty much all of us work
6 on. And it gives us the ability to get the same update and
7 also to hear what each other is thinking in this space,
8 which will become I think increasingly critical as the
9 process really gets going. And there's different items or
10 topics that we may want to be sure to bring forward to
11 discuss. So I appreciate having this on here and you're
12 great update. Thank you.

13 MS. WEEKS: Thank you

14 CHAIR HOCHSCHILD: The only thing I would add. I
15 see a call a new emerging field here, which is the field of
16 flexibility and really a clean flexibility, right? I mean
17 we have to be. And part of that is just being more nimble
18 on demand. I mean, I'm so inspired by the scene by Home
19 Connect, for example, 500,000 customers that with these
20 small, personal home devices collectively that can be a
21 very meaningful resource. And how do we scale that and
22 other iterations of that for commercial cooling or some of
23 these kinds of things that we can be much, much more
24 intelligent about as well as fleets of electric vehicles
25 and all the rest. And this is something we've got to get

32

1 ahead of this.

2 I mean, I think it's really valuable that we
3 have a standing item on this, because it impacts where do
4 we go on our investments on R&D to best support this and on
5 efficiency codes and on electric vehicles and all the rest.
6 It's all one conversation.

7 And I do, in particular, want to thank and
8 recognize Siva Gunda, who's in the back there, for doing an
9 outstanding job of building a real collaborative culture
10 with the other agencies. We are all in this together.
11 It's essential. And we have somebody new creating an
12 energy agency architecture who would probably just create
13 one energy agency for California. It's simply that's not
14 where we are and it's not where we're going to be. It's
15 really like right now we have this set up and so really the
16 key is having healthy dialogue and a collaborative
17 relationship and we have that.

18 And I just really -- but that's work to create
19 that and certainly there's been moments in our state's
20 history where you had Chairs of the different Commissions
21 that didn't talk to each other and didn't like each other
22 and all this kind of pettiness. And we really are in a
23 great place.

24 I also want to just say I'm particularly excited
25 to welcome Marybel Batjer, as the new President of the PUC

1 to the team. I had a great two-hour meeting with her.
2 She's going to be a tremendous partner. And one of her
3 great gifts is what I'd call bureaucracy repair and helping
4 make systems work better. In fact, Siva and I spoke this
5 morning about some ways that we can maybe get her to help
6 with some of our challenges here in getting our agency
7 going. She's really got a gift. She is the person when
8 the DMV is broken, the Governor calls her. And so I think
9 that's going to be a real asset as well as she's just
10 really onboard with where we're going, so really gratified.

11 And I do want to highlight we'll be sending out a
12 notice this week. We will be doing an en banc meeting on
13 September 17th with all the Commissioners from PUC and ISO.
14 Unfortunately Commissioner McAllister is on travel, but
15 this is something I want to do regularly now.

16 Actually, I really am committed to trying to have
17 multiple times these meetings with all the leadership, so
18 we can begin this dialogue. Because all these issues are
19 crosscutting, so in addition to the SB 100 process we'll be
20 looking at some other issues together.

21 So anyways, thank you Terra, for stepping up and
22 helping us through.

23 All right. Let's move on to Item 4 Adopting
24 Energy Commission Determination of Finding Pasadena Water
25 and Power Integrated Resource Plan Consistent with the

1 Requirements of SB 350.

2 MR. DEEVER: Good morning Chair and
3 Commissioners. My name is Paul Deaver. I'm the Program
4 Manager for Publicly Owned Utility Integrated Resource
5 Plans or POU IRPs. Today staff will present the reviews of
6 three POU IRPs and for those adopting the Executive
7 Director Determination of Finding that each IRP is
8 consistent with the requirements of Senate Bill 350.

9 The three POU's are Pasadena Water and Power,
10 Riverside Public Utilities and Vernon Public Utilities.
11 Although these three items are similar, they are three
12 separate items. Before we get to the review, I want to
13 provide an overview of POU IRP requirements under Senate
14 Bill 350.

15 The largest 16 POU's, those that have annual loads
16 greater than 700 gigawatt hours are required to adopt an
17 IRP and a process for updating that IRP by January 1st, of
18 2019. They also must submit these IRPs to the Energy
19 Commission for review. And the IRPs must include the four
20 standardized IRP reporting tables, along with any
21 supporting information for the Energy Commission's review.
22 The POU's also must update their IRPs at least once every
23 five years.

24 All 16 POU's have submitted IRPs to the Energy
25 Commission by April 30th, 2019, with the exception of

1 Glendale Water and Power. They requested a 90-day
2 extension to consider replacement options for their natural
3 gas Grayson Power Plant and respond to public comments on
4 the replacement options.

5 During the IRP Review Energy Commission staff
6 relied on internal experts in the Division and other
7 divisions to help with the review of the different IRP
8 sections such as transportation, electrification and the
9 renewable energy procurements, or RPS. Staff also worked
10 with POU staff to clarify items in the IRPs.

11 Once the Energy Commission receives the POU IRPs
12 they post them to the website for public comments for 30
13 days. And after the review staff posts an Executive
14 Director Determination to the website for public comment
15 for 45 days.

16 I'll briefly go over the requirements for POU
17 IRPs. So POU's first must meet the California Air Resources
18 Board established greenhouse gas emissions reduction
19 targets by 2030. They also must ensure they procure at
20 least 50 percent eligible renewable energy by 2030.

21 Senate Bill 100 became law on January 1st, 2019,
22 after most of the POU's adopted their IRPs. And it requires
23 a 60 percent RPS. So the IRP reviews will be for SB 350
24 and will cover the 50 percent RPS.

25 POU IRPs must ensure that the POU serve its

1 customers at just and reasonable rates and minimized bill
2 impacts. They must ensure system and local reliability.
3 They must strengthen the diversity, sustainability and
4 resilience of their power system. They must enhance
5 distribution systems and demand side energy resources.
6 They must minimize air pollutants and other greenhouse
7 gases with an early priority in disadvantaged communities.

8 The results were a number of items that the POU
9 IRPs must address procurement of. These are energy
10 efficiency and demand response, energy storage,
11 transportation electrification, resource adequacy
12 requirements and diversified set of resources.

13 I'll provide an overview of Pasadena Water and
14 Power and some highlights from staff's review of the IRP.
15 Pasadena is the 11th largest POU in California. They are a
16 not-for-profit electric and water utility in Southern
17 California. They deliver over 1,000 gigawatt hours to more
18 than 60,000 customers. They also deliver water to almost
19 40,000 households. There are peak demands around 300
20 megawatts and that generally occurs between 4:00 and 6:00
21 p.m.

22 Clearly in Pasadena's portfolio they have coal,
23 natural gas nuclear, large hydroelectric, and some spot
24 market purchases. They also have existing contracts for
25 solar, geothermal, wind and biofuels.

1 For their submittal to the Energy Commission,
2 Pasadena adopted their IRP in December of 2018 and
3 submitted it to the Energy Commission the same month along
4 with the reporting tables and supporting information.

5 The Energy Commission reviewed the IRP founding
6 and found that it met all the requirements of Senate Bill
7 350. And in April of 2019, the Energy Commission posted an
8 Executive Director Determination and Staff Review Paper,
9 going over staff's review. Only Pasadena provided comments
10 during the comment period. These comments were minor,
11 minor clarifications and they do not change staff's
12 findings or the Determination.

13 A few highlights from Pasadena's IRP. For the
14 renewable energy procurement requirements, or RPS, Pasadena
15 actually plans for a 60 percent RPS by 2030. A lot of this
16 is solar, solar energy increases by over 300 gigawatt hours
17 between 2019 and 2030. And by 2030 solar makes up almost
18 70 percent of the renewable portfolio.

19 They also have existing contracts for biomass and
20 geothermal. These remain relatively constant over the
21 reporting period. Their wind contracts actually drop off
22 from about 7 percent of the renewable portfolio down to 0
23 percent by 2030. And they also use renewable energy credit
24 purchases in the early part of the planning period, but
25 towards the end of the planning period those drop off by

1 over 50 percent.

2 For their greenhouse gas emission reduction
3 targets the California Air Resources Board range for
4 Pasadena is between 128,000 and 226,000 metric tons of
5 carbon dioxide, by 2030. Pasadena plans to get down to
6 right around 200,000 metric tons by 2030 and this is
7 towards the high end of the range, but still within the
8 range. To meet this goal, they plan on exiting the
9 Intermountain Power Project Coal Plant in Utah. They plan
10 to exit this by 2025 and procure additional renewable
11 energy and some spot market purchases.

12 For the transportation electrification section,
13 if the state meets its goal of 5 million electric vehicles
14 on the road by 2030 we would expect Pasadena to have
15 roughly 40,000 electric vehicles in their service territory
16 in 2030.

17 Pasadena plans to have about 9,000 electric
18 vehicles by 2030. A few reasons why there's a difference
19 in the forecast, in their service territory there's a lack
20 of widely available charging infrastructure. And up to 40
21 percent of their customers are considered low-to-moderate
22 income, so there's a little bit of a cost barrier. So to
23 promote transportation electrification in their service
24 territory, Pasadena plans to examine options to expand
25 charging infrastructure and also options to increase the

1 number of rebates for electric vehicle purchases.

2 With that, today I am requesting that the Energy
3 Commission adopt the Executive Director's Determination of
4 Finding Pasadena Water and Power's Integrated Resource Plan
5 is consistent with the requirements of Senate Bill 350.

6 I'm happy to answer any questions.

7 CHAIR HOCHSCHILD: Okay. No questions for the
8 dais?

9 COMMISSIONER MONAHAN: Not really a question, but
10 more of a comment. Thank you for that summary. That was
11 excellent.

12 I think that it's so admirable that cities are
13 being really aggressive on opportunities to integrate
14 renewables into our power system. I think this highlights
15 a big issue that we're facing though, as a state on
16 transportation electrification, which is there is a sense
17 that our state goals -- that localities don't have a big
18 role to play in achieving these state goals.

19 I think there's also a message for us as the
20 Energy Commission and the leads on making sure there's a
21 robust charging infrastructure that we really need to
22 ensure that there's an infrastructure that gives localities
23 confidence that we can meet our aggressive goals on
24 electrification. And I would argue that we're going to be
25 looking at even more aggressive electrification in the

1 heavy-duty side than we have historically.

2 So I think it just highlights the work that we
3 have to do across the state to make sure that we have the
4 right policies, incentives and infrastructure in place to
5 reach our aggressive goals for transportation
6 electrification and to help clean the air, especially in
7 disadvantaged communities.

8 CHAIR HOCHSCHILD: Any other comments?

9 COMMISSIONER MCALLISTER: Yeah, I have a comment.
10 So thanks for that, Paul.

11 So I have gotten visions on these three and all
12 the rest of them. And what I'm struck with just as a
13 general comment is just the incredible diversity of our POU
14 population, all the POU's and size and all the ways that you
15 know, but that's reflected in their IRPs. And so this was
16 no small task for staff to go through every IRP with a fine
17 tooth comb and make sure that the claims were credible,
18 that the numbers added up. And really get back
19 to each POU and ask hey, get more detail. And where the
20 numbers weren't adding up really create accountability
21 there. So I think that's been a really a great -- staff's
22 done a great job with that.

23 Actually, the one comment about the diversity of
24 supply so you have EV and all the issues they have to
25 treat, I guess I have two questions. One, how do you feel

41

1 like -- well just with reference to Pasadena -- how do you
2 feel like the efficiency and demand response piece of this
3 has been developed? I think we should develop some
4 direction going forward to make sure that those resources
5 are all they can be, because they're going to create the
6 head room for the EV coming on board and the heat pump
7 electrification and all that. So I guess I'm wondering
8 what's your view of how well they've done on the demand
9 side piece of it?

10 MR. DEAVER: So for energy efficiency?

11 COMMISSIONER MCALLISTER: Yes.

12 MR. DEAVER: So for energy efficiency they
13 actually meet the SB 350 doubling goals and they've
14 surpassed those. In our guidelines that's one of the items
15 that they must address procurement of. It could be a
16 little more detailed in exactly how energy efficiency is
17 reported under SB 350, how the doubling is reported.

18 The same thing for demand response, they
19 addressed it adequately. But it was one of those things
20 that you must address procurement of this. We didn't have
21 specific items that they must hit on each of those.

22 COMMISSIONER MCALLISTER: Okay. So I guess I'll
23 just note that we're developing the California Energy
24 Efficiency Action Plan Update. And I think that's a great
25 spot to suggest to the POUs where we might create some more

1 accountability and might lay out from characteristics that
2 they might want to detail in their IRP updates. Not this
3 round obviously, but when they get back to it.

4 And then I have one other question. How are you
5 treating the spot market in terms of carbon content?

6 MR. DEEVER: So for spot market purchases we use
7 0.428 metric tons per megawatt hour. This is a standard
8 number.

9 COMMISSIONER MCALLISTER: Yeah. And so that will
10 we see that over time is there a -- so the IRPs going to
11 last more than one year. Obviously the spot market is
12 going to have to evolve. We're going to have the
13 regionalization discussion. I wonder if there's any
14 conversation about projecting carbon content of a spot
15 market as we are doing for instate resources?

16 MR. DEEVER: We have not discussed that. We
17 definitely will. Right now it's just to assume 0.428 every
18 year going forward, so we can definitely take a deeper look
19 at that.

20 COMMISSIONER MCALLISTER: Great. Thanks, Paul.

21 CHAIR HOCHSCHILD: Can I just ask, before we take
22 up these items is there any public comment on Pasadena or
23 Vernon? I have one for Riverside if there's anyone who'd
24 like to come on up. Okay. Then why don't we take them up
25 one by one. Is there --

1 UNIDENTIFIED SPEAKER: (Indiscernible.)

2 CHAIR HOCHSCHILD: Oh, we have a separate
3 presentation for -- I'm sorry. Thank you. So let's go
4 ahead and then entertain a motion for Item 4.

5 VICE CHAIR SCOTT: I'll move approval of Item 4.

6 CHAIR HOCHSCHILD: Okay. Is there a second?

7 COMMISSIONER MCALLISTER: Second.

8 CHAIR HOCHSCHILD: By Commissioner McAllister.

9 All in favor say aye.

10 (Ayes.)

11 CHAIR HOCHSCHILD: This passes unanimously.

12 Let's move on to Item 5.

13 MR. GUTIERREZ: Thank you. Good morning Chair
14 and Commissioners. My name is Julio Gutierrez from the
15 Energy Assessments Division. I will be providing an
16 overview of Vernon Public Utilities and its IRP filing.

17 Vernon service area is located within the County
18 of Los Angeles. The utility's customer base is 99 percent
19 industrial and commercial. Vernon's load is relatively
20 flat with a peak load of approximately 184 megawatts during
21 the summer and delivers to its customers' 1.13 million
22 megawatt hours annually.

23 Because of its customer base its load spikes
24 earlier in the day, between the hours of 12:00 and 2:00
25 p.m. instead of the typical hours between 5:00 and 9:00

1 p.m.

2 In 2018, Vernon had an energy mix that consisted
3 mostly of natural gas along with large hydro, nuclear and
4 renewable resources. Vernon adopted its IRP in November of
5 last year and submitted it to the Energy Commission in
6 January of 2019 along with supporting information. Energy
7 staff reviewed the IRP filing and found that it meets the
8 requirements of SB 350.

9 The Energy Commission posted the Executive
10 Director's Determination and Staff Review Paper on May for
11 public comment. Only Vernon provided comments. Comments
12 that were made were minor and did not change staff's
13 findings.

14 To mention some highlights from staff's review,
15 by 2030 Vernon's energy mix will consist of about two-
16 thirds renewables and approximately one-third from spot
17 market purchases. The remainder will come from large hydro
18 and nuclear. The biggest change in Vernon's portfolio is
19 the termination of its contract with the Malburg Generating
20 Station, a natural gas plant located in the City of Vernon
21 after 2028.

22 Overall, Vernon is planning for a renewables
23 portfolio standard of 62 percent by 2030. Its renewable
24 portfolio will consist of mostly solar along with biomass,
25 wind and geothermal.

1 For greenhouse gases, the California Air Resource
2 Board set range for Vernon is between 149,000 to 263,000
3 metric tons of CO₂, by 2030. Vernon plans to meet its GHG
4 requirement at the middle of the range at 201,000 metric
5 tons.

6 In regards to transportation electrification,
7 Vernon plans to increase electric vehicle use with the goal
8 of 1.7 megawatts of load on to its system. The utility
9 indicates that it currently has limited infrastructure in
10 place to support electric vehicles and would need to
11 address on how to incorporate more heavy-duty vehicles, due
12 to its customers' profile.

13 To promote the transportation electrification,
14 Vernon plans to collaborate with customers and car
15 dealerships to install and maintain electric vehicle
16 charging stations at customer-owned facilities, coordinate
17 with local air quality agencies on programs and incentives
18 to promote electric vehicles, and is also planning to work
19 with the city to increase city-owned electric vehicles.

20 Within its service territory, Vernon does not
21 have any disadvantaged communities. It's located four
22 miles southeast of downtown Los Angeles and acknowledged
23 that it does boarder other disadvantaged communities.
24 Taking this into consideration, the utility plans to
25 increase distributed solar generation and perform energy

1 efficiency upgrades to city-owned facilities and its
2 distribution equipment. By 2030, Vernon, through energy
3 efficiency programs, will reduce its demand by 50 gigawatt
4 hours, slightly about the set target, set by the Energy
5 Commission under Senate Bill 350.

6 With that, today I'm requesting that the Energy
7 Commission adopts the Executive Director's Determination of
8 Finding Vernon's IRP consistent with SB 350 requirements.
9 I'm happy to answer any questions.

10 COMMISSIONER MCALLISTER: Thanks. I appreciate
11 that. I kind of asked my general questions I think on the
12 Pasadena item. But again I just want to thank staff for
13 all their diligence in really bird dogging this one by one,
14 we have a lot of POUs in the state. So then the top, for
15 the 16 or 17 years are the ones that have to file IRPs. So
16 it's a lot of work and it's an ongoing effort too.

17 CHAIR HOCHSCHILD: Okay. Unless there's any
18 public comment on this item I'll entertain a motion.

19 COMMISSIONER MCALLISTER: I'll move Item 5.

20 CHAIR HOCHSCHILD: Is there a second?

21 VICE CHAIR SCOTT: Second.

22 CHAIR HOCHSCHILD: Second by Vice Chair Scott.

23 All in favor say aye.

24 (Ayes.)

25 CHAIR HOCHSCHILD: That motion passes

1 unanimously.

2 Let's move onto Item 6. And with apologies to
3 everyone in the audience, if you feel your chest rumbling,
4 that is the construction of the new resources agency
5 building next door, all eight stories of it. And so
6 yesterday my whole office is rattling away. So we're going
7 to be stuck with that for a few years while they're busy,
8 so sorry about that.

9 Let's move onto Item 6. Go ahead.

10 MR. MATHIAS: Good morning, Commissioners. My
11 name is John Mathias. I reviewed the Integrated Resource
12 Plan filing for Riverside Public Utilities, which is
13 related to the last two items on the agenda.

14 I'll provide a brief overview of Riverside and
15 its IRP filing. Riverside is a city owned utility that
16 distributes electricity to an 81-square mile territory that
17 includes the City of Riverside. Riverside delivers
18 approximately 2.3 million megawatt hours of electricity to
19 about 109,000 customers. Its annual peak demand is a
20 little over 600 megawatts. And its load profile is typical
21 for the Inland California areas with its summer peak demand
22 between 4:00 and 5:00 p.m. Its winter load profile is
23 relatively flat.

24 Riverside's IRP was submitted in December of
25 2018. Staff reviewed the filing and found it to be

1 consistent with SB 350 requirements. And the Staff Review
2 Report of the IRP was posted in April and no public
3 comments we received.

4 Riverside's current base load resources include
5 geothermal energy from the Salton Sea area, coal generated
6 power from the Intermountain Power Plant, natural gas-
7 powered Clearwater combined cycle power plant and power
8 from the Palo Verde Nuclear Station.

9 Peaking resources include the natural gas-fired
10 Riverside Energy Resource Center and the Springs Generation
11 Facility, as well as hydropower from the Hoover Dam.

12 Current renewable resources include seven solar
13 projects that range from 7 megawatts to 25 megawatt
14 capacity. And three wind energy projects ranging from 1
15 megawatt to the 39 megawatt Cabazon Wind facility.

16 Riverside plans to meet the SB 350 RPS target
17 including all interim compliance period targets. In 2017,
18 renewable energy accounted for approximately 36 percent of
19 Riverside's retail sales. And geothermal energy is the
20 largest component of that accounting for 60 percent of
21 their renewable energy. And solar energy is approximately
22 25 percent of Riverside's current renewables.

23 Riverside's goal for 2030 is 67 percent renewable
24 energy. And to meet that goal they primarily are planning
25 to expand their geothermal energy resources and solar

1 energy.

2 So in addition to its RPS targets for greenhouse,
3 Riverside is planning to meet the greenhouse gas emission
4 targets that were established by CARB. CARB established a
5 GHG range for Riverside of 257,000 to 487,000 metric tons
6 of GHG emissions by 2030.

7 Riverside's emissions are already trending
8 downward, down about 15 percent since 2012. In 2017, GHG
9 emissions were 950,000 metric tons. And Riverside's goal
10 is to reach 486,000 metric tons by 2030.

11 In order to meet its GHG and RPS goals the
12 primary changes to its future resources will be to replace
13 the energy currently received from the coal-fired
14 Intermountain Power Plant with clean energy sources. So
15 Riverside's contractual obligation with the Intermountain
16 Power Plant ends in 2027. And Riverside does not plan to
17 renew that contract. So that power will be replaced by
18 additional solar and geothermal energy and possibly also
19 low carbon power purchases from the Pacific Northwest and
20 Canada.

21 So staff also reviewed the demand forecast retail
22 rates system and local reliability energy storage and
23 transportation electrification and other requirements
24 related to SB 350 that are in the IRP and final. All of
25 the (indecipherable) IRP to be consistent with all the

1 requirements.

2 Today I'm requesting the approval of the
3 Determination of Finding Riverside's RFP consistent with SB
4 350. And I can answer any questions. I believe there is
5 also a representative from Riverside here who may be able
6 to answer questions much better.

7 CHAIR HOCHSCHILD: Thank you.

8 Representative from Riverside, go ahead. Oh,
9 you're here in the room. Great.

10 MR. LESCH: Good morning, distinguished Chair and
11 Commissioners. My name is Dr. Scott Lesch. I'm the
12 Resource Planning Manager for Riverside Public Utilities
13 and I manage the unit that was responsible for Riverside's
14 IRP.

15 I just wanted to take the opportunity this
16 morning actually to extend my thanks to CEC staff. It's
17 obvious from the review that they did that they did a very
18 detailed deep dive into our IRP. And I was very happy and
19 encouraged to see that.

20 I also really appreciated the interaction that we
21 have. We had an opportunity to review the final report
22 before it went out, clarify any like modeling assumptions
23 that they weren't sure about or what our planning
24 objectives were. And of course obviously I'm very happy
25 that it's up for approval today and was found to be

1 consistent.

2 I would like to say when this law first came
3 forward that our IRPs were going to come to the CEC and be
4 reviewed, I was not profoundly excited about that.

5 (Laughter.) However --

6 CHAIR HOCHSCHILD: You're not alone. You're a
7 diplomat as well, I can tell, yeah.

8 MR. LESCH: Yes. However, I found it to be a
9 really good process. And I think there's an opportunity
10 for CEC staff and public utility staff to learn from each
11 other through this. And in particular, as you've already
12 mentioned up here, every public utility is a little bit
13 different. We have different cost pressures that affect
14 us. But there's an opportunity for a lot of interaction
15 that I think helps educate both sides to get to the common
16 goals that we're trying to reach. And I would encourage
17 the Commissioners to continue to encourage your staff to
18 engage with us. That we want to engage. And I think it's
19 a very healthy dynamic.

20 CHAIR HOCHSCHILD: Yeah. I would just add I
21 generally think it's not just the interaction between us at
22 the Energy Commission and the individually too, but the
23 interaction between the utilities, because there's a lot of
24 learning. And I think it's really helpful for folks to see
25 each other's plans and a discourse and I think it's a great

52

1 opportunity for everybody to get better as a result of
2 that.

3 COMMISSIONER MCALLISTER: Yeah, I wanted to --
4 while I've got you on the podium I guess I think
5 Intermountain obviously looms large in some of the POUs
6 down south. And I guess you've got that resource that is
7 SCPPA. And I'm wondering if you have thoughts on sort of
8 as all of these new resources, procurements and these
9 cycles of planning go together along those lines of working
10 among the POUs, what sorts of value could SCPPA continue to
11 bring in procurement in sort of viewing some of the
12 structural work that maybe an individual or smallish SPOU
13 might not be able to do on its own, but sort of pool
14 resources in that way?

15 MR. LESCH: We already coordinate very
16 extensively through SCPPA and use SCPPA's process for our
17 RFPs for renewable resources. We do a lot of planning
18 through SCPPA. It's been a very effective organization for
19 us.

20 COMMISSIONER MCALLISTER: Yeah, I agree.

21 MR. LESCH: And we expect it to continue.

22 COMMISSIONER MCALLISTER: Yeah, as this
23 innovation -- as we really push the envelope on renewables
24 penetration and reach to 50-60 percent beyond that could --
25 it seems to me anyway that that could be a locus for

1 innovation and going forward to develop new technology that
2 solves problems across the POU's as well, so anyways just a
3 hope and a thought.

4 VICE CHAIR SCOTT: Yeah, I just want to thank you
5 for those comments. I do hearken back to the days when we
6 were putting together the guidelines for this. And I do
7 think our staff worked very hard to work collaboratively to
8 do this in a transparent way to really listen to what the
9 POU's were looking for. And us as well as kind of what we,
10 the Energy Commission, needed to do under the statute of SB
11 350.

12 It made me hearken back to that, right? The hard
13 work that we did to get those guidelines out in a timely
14 way so that all of the POU's have a chance to kind of look
15 those through and get the information gathered together.
16 And so I'm cheered to hear that the relationship is
17 continuing in this very sort of collaborative folks
18 learning from each other way, because that's incredibly
19 important. And I think it's just going to continue to
20 enhance the dialogue and also help all of us get to these
21 goals that we're working so hard to achieve.

22 So I appreciate you raising that and just wanted
23 to kind of reflect on that, not just with Riverside, but
24 with all of the POU's as we've put this piece together.

25 CHAIR HOCHSCHILD: Thank you for that.

1 Unless there's other public comment or -- oh, go
2 ahead.

3 COMMISSIONER MONAHAN: I have a question. I'm
4 excited to have you on this stage, because I am curious,
5 Dr. Lesch, Riverside did a really interesting job on
6 transportation electrification from the looking at what the
7 infrastructure needs would be under different scenarios.
8 And we've seen across the state and across the country
9 actually, quite a range of responses to transportation
10 electrification from municipally owned and publicly owned
11 utilities. And it's interesting to contrast that with what
12 we're seeing with investor owned utilities. And especially
13 with the California investor owned utilities really trying
14 to make a big play around the infrastructure charging needs
15 for transportation electrification.

16 I'm curious if you have any advice or thoughts
17 for us about how to best support municipally owned
18 utilities as they enter this space?

19 MR. LESCH: Well, I'll speak on behalf of
20 Riverside, because I don't want to project onto my other
21 municipalities. I think SMUD and LADWP are ahead of the
22 curve for the rest of us. The more mid-size and smaller
23 municipalities, I mean we're just not at the same level of
24 planning and really having the software and technology to
25 do the detailed simulation of our grid that we need to do

1 to know where to put infrastructure in and that sort of
2 thing.

3 Every municipality is a little bit different on
4 whether or not they want to get into this process of being
5 an end supplier of charging infrastructure. In Riverside's
6 case, we really don't want to do that. We just want to
7 supply the backbone infrastructure and let private,
8 commercial entities do that. So I think it will be
9 different with each POU.

10 I think that the grant programs that the CEC
11 offers are very useful. And it would be nice to see if
12 more municipalities took advantage of that. I know we'd
13 like to on that. I do see some cities doing that. Some
14 are a lot better than others at getting into that process.

15 I think just keep an open mind, because it's
16 going to be very different depending on which POU you're
17 looking at.

18 CHAIR HOCHSCHILD: I just have -- there's just
19 some amazing innovation now. I had lunch yesterday with
20 the CEO of SMUD, Arlen Orchard. They are now offering a
21 premium if you're an UBER driver in Sacramento. They,
22 SMUD, pays a premium to the driver if you drive an electric
23 vehicle, all right? I mean there's just some really
24 cutting edge stuff happening now, across all 43 of our
25 POU's. And it's good to just keep an open dialogue. We can

1 all be learning from each other. Yep.

2 COMMISSIONER MONAHAN: Yeah, I actually have been
3 wondering if it would make sense for us to do some kind of
4 tool kit for municipally owned utilities on what the range
5 of options are in California? Who's doing what and what
6 can be learned from those investments.

7 CHAIR HOCHSCHILD: Yeah, and I think one thing
8 that's useful, I mean they do have these two trade
9 associations of the NCPA in the northern part of the state
10 and SCPPA in the southern part of the state and those are
11 great forums for exchange. But I think that's a terrific
12 suggestion. We should look at what we could develop as an
13 Energy Commission. Any other thoughts on that?

14 VICE CHAIR SCOTT: Well, so this is a little off
15 topic, but we could certainly put something together, like
16 the Ports Collaborative with the POUs on charging
17 infrastructure on electric vehicles. It was something that
18 I was working with Tim Olsen and a few others to try to put
19 together and then we've shifted folks. But that's
20 something, Commissioner Monahan, you could certainly take
21 on as Lead on Transportation to be able to just get some
22 additional information, think through how we can work
23 together with the POUs on getting infrastructure out.

24 Their structure is very different than the
25 investor owned utilities in terms of being able to raise

1 the money to do that. There's city councils to go through
2 and things like that. But I do think folks would warmly
3 welcome an opportunity to do something like that or
4 whatever your vision to how to kind of collaborate closely
5 with the POUs on charging infrastructure would be. And
6 sharing information about the interesting and innovative
7 things each of the POUs are doing with each other.

8 I think that's been one of the parts of the Ports
9 Collaborative that the Ports have really enjoyed is kind of
10 hearing from each other what they're doing and how it's
11 working. And so that's one option that you could use
12 there.

13 CHAIR HOCHSCHILD: Yeah, some of the -- you learn
14 more from the mistakes than successes, like how not to
15 approach something. It's really just as valuable actually.

16 Unless there's other Commissioner comments or
17 public comments on this item --

18 MR. LESCH: Thank you

19 CHAIR HOCHSCHILD: Thank you. We'll go ahead and
20 entertain a motion on Item 6.

21 COMMISSIONER MCALLISTER: I'll move Item 6.

22 VICE CHAIR SCOTT: Second.

23 CHAIR HOCHSCHILD: All in favor say aye.

24 (Ayes.)

25 CHAIR HOCHSCHILD: That motion passes

1 unanimously.

2 Let's move on to Item 7, the Appliance Efficiency
3 Regs for Spray Sprinkler Bodies.

4 MR. STEFFENSEN: Good morning chair and
5 commissioners. My name is Sean Steffensen. I'm a
6 Mechanical Engineer in the Appliances Office in the
7 Efficiency Division. With me is Jared Babula from the
8 Chief Counsel's Office.

9 I am here today to discuss an opportunity to save
10 a vast quantity of water through efficiency equivalent to
11 as much water as used by all Californians when they shower
12 every day. Staff is proposing the adoption of a resolution
13 encompassing two items related to amending the California
14 Appliance Efficiency Regulations.

15 Item one, the Proposed Negative Declaration of
16 the California Environmental Quality Act, or CEQA, and item
17 two, the proposed regulatory language that incorporates a
18 minimum efficiency performance standard and certification
19 requirements for the spray sprinkler bodies. I have a
20 short presentation related to this item.

21 Staff evaluated this project under CEQA and
22 determined the proposed efficiency standard will not have a
23 significant adverse effect on the environment. The
24 standard will not result in a significant changes to the
25 way the spray sprinkler bodies are manufactured or the

1 materials used to produce them. No comments were received
2 during the 30-day comment period.

3 Why is water conservation so important for
4 California? Climate change will lead to more persistent
5 droughts and earlier snow melts. These changing conditions
6 will put an increasing strain on our water supply, a
7 resource vital to our economy, communities and natural
8 places. The graphic shows the drought conditions in
9 California over the past 19 years. Although we've had a
10 very wet winter we need to prepare for the next drought.
11 Widespread careful use of water will help us cope no matter
12 how conditions change.

13 Improving the efficiency of landscape irrigation
14 represents an opportunity to save water in California where
15 it consumes more than 1.1 trillion gallons of water per
16 year. Irrigation losses are due to a variety of reasons.
17 Over-irrigation, excessive water pressure and leakage,
18 during nonoperation contributes to the inefficient
19 irrigation of landscapes.

20 The water is lost as it runs off the landscape,
21 evaporates into the air or drains beneath the reach of the
22 plant's roots, as shown in the figure. The losses may be
23 significant, such as in the case of over-irrigation where
24 Californians on average provide 50 percent more water than
25 is needed.

1 At the Commission we have a process that allows
2 anyone from the public to be heard. The green bubbles on
3 this slide show the many times we've listened and engaged
4 with the public to understand the issues and seek input on
5 the solutions. We have published reports to explain our
6 staff proposals and held workshops and public comment
7 periods to seek feedback.

8 Over the past two years we have heard from the
9 USEPA WaterSense Program, the Irrigation Association,
10 irrigation equipment manufacturers, landscape
11 professionals, water districts, California investor owned
12 utilities, the California water boards, the California
13 Department of Water Resources, university researchers, the
14 Applied Standards Awareness Project and the Natural
15 Resources Defense Council. Their comments informed our
16 process. Thank you.

17 The staff proposal examines an opportunity to
18 increase the irrigation efficiency of the spray sprinkler
19 bodies through pressure regulation. Pressure regulation
20 addresses the issue of excessive water pressure by
21 maintaining the optimum water flow from the sprinkler
22 regardless of the water pressure. By eliminating
23 excessively high water flow, over-irrigation will also be
24 addressed. The pressure regulating standard will be
25 mandatory for all sprinkler bodies sold or offered for sale

1 in California.

2 The minimum performance level and test method
3 will be identical to the US Environmental Protection Agency
4 Water Sense specifications for spray sprinkler bodies,
5 Version 1.0. The proposal will require manufacturers to
6 certify and mark spray sprinkler bodies.

7 Some background on these products, the spray
8 sprinkler may be sold plain or with various options. A
9 pressure regulator will control the outlet pressure. Their
10 price varies based upon the options that are included.
11 Staff estimates over 300 million in California that use a
12 significant amount of water.

13 Technical feasibility means that the products are
14 technologically capable of meeting the proposed standard by
15 the effective date. The University of Florida tested
16 several brands of spray sprinkler bodies with the
17 WaterSense spray sprinkler body test method. The result
18 shows spray sprinkler bodies will meet the proposed
19 standards.

20 In addition, the USEPA WaterSense website lists
21 over 100 models from five manufacturers as certified to
22 meet the WaterSense specification.

23 Cost effectiveness is a major other savings to
24 the consumer, compared to the cost to the consumer, due to
25 requiring the appliance to be more water or energy

1 efficient. The savings to the consumer must exceed the
2 cost to the consumer for the proposed standard to be cost
3 effective. To determine cost effectiveness, staff must
4 determine the value of the water energy saved, the
5 effective standard on the usefulness of the device and a
6 life cycle cost to the consumer of the efficient device.

7 The proposal is cost effective. The life cycle
8 benefit is \$22 per spray sprinkler body. The savings to
9 cost ratio is over five to one.

10 The proposal will deliver nearly \$950 million of
11 cost effective savings to consumers through reduced water
12 and utility charges. On a statewide basis, staff estimates
13 the standard will save 152 billion gallons annually, once
14 all spray sprinkler bodies have been replaced with more
15 efficient units required by the standard.

16 The illustration compares to the savings from the
17 proposal versus recent Energy Commission Water Standards.
18 The proposal will save more water than the 2015 Water
19 Efficiency Standard for Toilets, Faucets, Urinals and
20 Shower Heads. These savings represent over 90 percent of
21 total urban water use showing significant strides to reduce
22 water use through efficiency.

23 Staff finds that the proposed standard is
24 technically feasible and cost effective, thus meeting the
25 statutory requirements for the appliance efficiency

1 regulations in the Warren-Alquist Act.

2 Staff requests that the Commission adopt the
3 resolution to approve the Negative Declaration and to amend
4 the California Appliance Efficiency Regulations. Jared and
5 I are available for any questions. Thank you.

6 CHAIR HOCHSCHILD: Thank you, yeah. We do have
7 some company. Do you want them before you talk? Yeah, we
8 have three comments on this item. Let's begin with Ron
9 Wolfarth, if I'm saying that right?

10 MR. WOLFARTH: Good morning Chair and
11 Commissioners. I'm Ron Wolfarth, with Rain Bird
12 Corporation speaking in favor of staff's proposal.

13 Rain Bird's roots go back to a Glendora,
14 California citrus farmer who was looking for a more
15 efficient way to use his limited water supply to irrigate
16 his crop. In 1933, he invented the impact sprinkler and
17 Rain Bird was founded on that invention and now it sells
18 his products around the world.

19 Rain Bird has continued that legacy of innovation
20 and invention. And invented and in 1988, introduced to the
21 market the spray sprinkler body with integral pressure
22 regulation, which is the subject of the proposal you're
23 considering. With patents expired years ago this
24 technology is now offered by several different
25 manufacturers. And it delivers the many benefits that

1 staff has articulated very well in its reports to you.

2 While Rain Bird is not often in favor of
3 governmental regulation it sees this proposed regulation as
4 a great opportunity to leverage some proven technology that
5 addresses a very critical challenge facing California
6 citizens. And that's a precarious water supply. It also
7 supports Rain Bird's long-standing philosophy, which is the
8 intelligent use of water.

9 Rain Bird supports this proposal and encourages
10 the Commission to act in favor of it. Thank you.

11 CHAIR HOCHSCHILD: Great, thank you.

12 Let's move on to Daniela Urigwe from Energy
13 Solutions.

14 MS. URIGWE: Hi, this is Daniela Urigwe from
15 Energy Solutions on behalf of the California Investor Owned
16 Utilities. The California Investor Owned Utilities
17 strongly supports the Energy Commission's efforts to adopt
18 a standard, which will result in massive water savings
19 (indecipherable) benefits (indecipherable) reliability as
20 California's water supply and energy and cost savings for
21 California consumers.

22 The California Investor Owned Utilities applaud
23 the Energy Commission's work on this program and we look
24 forward to the support of this standard.

25 CHAIR HOCHSCHILD: Is that it? Thank you.

1 Let's move on to Edward Osann from NRDC.

2 MR. OSANN: Yes, thank you Mr. Chairman and
3 Members of the Commission. My name is Edward Osann. I'm
4 the Director of Water Conservation and Efficiency for
5 Natural Resources Defense Council. And we strongly support
6 the standard for spray sprinkler bodies that's under
7 consideration today.

8 Upon adoption this rule will be one of the most
9 important and consequential water efficiency measures ever
10 undertaken by any state. Based on the staff estimates this
11 standard will reduce urban water use, all urban water use
12 in a normal year by about 5 percent within 10 years, based
13 on full stock turnover. And what's more, the standard is
14 highly cost effective. This is a remarkable achievement.

15 During the time the Commission has been
16 considering this proposal, the EPA WaterSense Program has
17 adopted a specification for spray sprinkler bodies. We
18 support the incorporation of the WaterSense performance
19 specification and test procedure in the Title 20, in a
20 manner that allows the test results to demonstrate
21 compliance with the requirements of both programs.

22 Finally, we want to commend the irrigation
23 industry for the constructive role they have played
24 throughout this proceeding and for bringing to market
25 products that will achieve enormous water and energy

1 savings for the state in the years ahead.

2 And we also want to note the crucial role of the
3 CASE Team in providing supporting documentation for the
4 staff analysis supporting this rule. Thank you Mr.
5 Chairman for the opportunity to speak.

6 CHAIR HOCHSCHILD: Thank you. And I just to
7 restate the obvious, we have to remember that when we
8 reduce water waste we're also reducing air pollution.
9 About one-fifth of our electricity in the State of
10 California is spent moving water and waste water. And
11 until we have 100 percent clean energy grid we're creating
12 pollution every time we move water. And so this is
13 important from an air quality perspective as well.

14 And I just wanted to note Kristen Driskell is
15 back in the room and this is great to go out with a bang on
16 getting this over the finish line. Thank you and all your
17 team for your work.

18 Commissioner McAllister?

19 COMMISSIONER MCALLISTER: Yeah. So thanks for
20 that Sean, Jarred and Pat and Kristen and everybody in this
21 effort of the Appliances Office and Division.

22 I think the support really is a testament of our
23 process. I say this, but I can't say it too often or too
24 loudly, really. We have a process that gets us to a broad
25 buy-in on a lot of this -- on a good regulation. We saw it

67

1 with it with computers and monitors. We saw it -- We've
2 seen it with many device categories. And here I think good
3 faith engagement with industry produces results. And
4 that's what we do here. And we end up in a place where the
5 public good is well served. And so I think that's a
6 powerful testament. I want to thank the gentleman from
7 Rain Bird for being here and hopefully regulation is good
8 if I can summarize it. We'll put that in our blog post,
9 how about that? Okay.

10 But anyway we don't do any of this lightly. And
11 you heard the numbers. I mean, 3,000 gallons per unit and
12 a billion dollars in savings. That's real water. That's
13 real money, so I mean these are big efforts and they're big
14 lifts.

15 Luckily, we have EPA and WaterSense that provides
16 a great foundation for a lot of the work that we do and
17 test procedures. When we can take advantage of that it
18 makes life a lot easier for everybody. It keeps industry
19 at a standardized context where they don't have to jump
20 through specific hoops for California. And being able to
21 leverage that and essentially move a voluntary requirement
22 or voluntary standard to a mandatory is a logical step when
23 markets reach maturity and technology reaches maturity.

24 So I think this is the really a fine example, a
25 classic example, of a process that works and ends up in a

1 good place for the benefit of California.

2 So I want to thank you again for all your work,
3 Sean.

4 VICE CHAIR SCOTT: Thanks. I just want to also
5 add how much I appreciate the excellent briefing by staff
6 to learn some more of the details on this really important
7 topic. It is -- you've said this already -- but the
8 substantial savings both in water and dollars. And kind of
9 with the widget that's there, so this is fantastic I think
10 to be able to bring to California. I also just wanted to
11 say as the Public Member here at the Commission I am always
12 cheered to hear about our great public process. And the
13 team did a really nice job that highlighted that in the
14 presentation.

15 I think the robust engagement with interested
16 folks as you've noted leads to good results. And that's
17 where we are. So I just wanted to add that in.

18 CHAIR HOCHSCHILD: I just wanted to say, Kristen,
19 as your final item here on your second to the last day, did
20 you want to say anything to this or you don't have to if
21 you don't want to. Okay. That's fine.

22 All right, with that I'll entertain a motion.

23 COMMISSIONER MONAHAN: Can I make a --

24 CHAIR HOCHSCHILD: Did you want, go ahead.

25 COMMISSIONER MONAHAN: Really fast, because this

1 is so amazing. It's a win-win-win, right? We're saving
2 money for consumers. We're helping save the environment.
3 We're helping cut pollution and reduce electricity use. So
4 it's just really impressive.

5 And I really love some of the data points around
6 how much water we save. And I just want to throw one more
7 data point out there, which is it's enough it would cover
8 the residential water use of both Sacramento and Los
9 Angeles for an entire year. I mean it's just staggering
10 how much water we're talking about. So kudos to staff and
11 also the excellent collaboration with industry and with
12 environmental stakeholders and just really like hit out of
13 the ball park. So great effort.

14 CHAIR HOCHSCHILD: Well, after all that
15 dissention and disagreement with that looks like a tough
16 vote, we'll entertain a motion on Item 7.

17 COMMISSIONER MCALLISTER: All right, I'll move
18 Item 7.

19 COMMISSIONER MONAHAN: I'll second.

20 CHAIR HOCHSCHILD: All in favor say eye.

21 (Ayes.)

22 CHAIR HOCHSCHILD: That motion passes
23 unanimously. Congratulations.

24 CHAIR HOCHSCHILD: Let's move on to Item 8, the
25 City of Gustine.

1 MR. SANDHU: Good morning Chair and
2 Commissioners. My name is Balraj Sandhu. I'm with the
3 Local Assistance Finance Office of the Efficiency Division.

4 Today I'm here to request your approval for
5 approximately \$2,250,000 through the Energy Conservation
6 Assistance Act Program, also known as ECAA, 1 percent loan
7 to the City of Gustine.

8 The City of Gustine will use this loan for the
9 improvements of energy efficiency and renewable energy
10 projects including interior and exterior lighting; heating,
11 ventilating and air conditioning; photovoltaic systems at
12 their city hall, fire department, police department, public
13 works building, community center, and the tennis courts;
14 and they will install a variable frequency drive at the
15 Well Pump No. 6.

16 I just want to add the City of Gustine is only
17 between 5 to 6,000 people. It's a very, very small city.

18 The City of Gustine will install a utility-tied
19 total sum of 478 kilowatt hour DC carport-mounted, fixed
20 axis photovoltaic systems at four locations.

21 The completion of these projects will reduce
22 880,000 kilowatt hours of grid electricity consumption,
23 saving the City of Gustine approximately \$140,000 a year.

24 Based on the loan amount the simple payback is
25 approximately 16 years.

1 This loan meets all statutory and regulatory
2 requirements of the ECAA loan program and this project is
3 categorically exempt from CEQA.

4 We request your approval of this loan. And I am
5 here to answer any questions you may have. Thank you.

6 CHAIR HOCHSCHILD: Great. Thank you.

7 Any public comments? Okay, let's move to the
8 Commissioners.

9 COMMISSIONER MCALLISTER: Thanks, Balraj. I
10 appreciate the presentation. And when we see combined
11 projects with efficiency and renewables all in one it's a
12 really integrated approach, particularly for a small city.
13 You know, this is a huge commitment for them. And it's
14 good to be able to offer this kind of finance for them,
15 because they have to be very careful about going to the
16 bond market and all that kind of stuff. So a great
17 project, so thanks very much. If there are no other
18 questions, I'll move Item 8.

19 CHAIR HOCHSCHILD: Is there a second?

20 COMMISSIONER MONAHAN: Second.

21 CHAIR HOCHSCHILD: All in favor say aye.

22 (Ayes.)

23 CHAIR HOCHSCHILD: That motions passes
24 unanimously.

25 And just before we move on to Item 9 again for

1 our media team, this kind of stuff is really valuable and
2 really almost always goes under the radar. This is very
3 difficult to get attention. And I just wanted to think
4 creatively by how to partner with these cities on getting
5 the stories out there, doing dedication events that
6 involves the State Senators and Assembly Members and trying
7 to think of ways to highlight this. I'd love to see us be
8 able to see us be able to give two or three times as much
9 money to ECAA recipients as we do to long term. We need --
10 I mean it just is such a successful program.

11 I think, when I last looked at it, it was almost
12 1,000 projects we funded since 1982 or '78 I think is when
13 it started and not a single default. It's an incredible
14 record for us as an agency.

15 And I just think very few people, outside of the
16 people who use it and us here at the Commission who
17 implemented it know about the program. So that's just a
18 wish I have to elevate the success stories. Thank you for
19 your work on this.

20 Let's move on to Item 9, County of Santa Barbara.

21 MR. SITU: Good morning Chair and Commissioners.
22 My name is Gavin Situ. I'm with the Local Assistance,
23 Financing Office of the Efficiency Division. Today I'm
24 here to request approval of approximately \$2.73 million
25 through the Energy Conservation Assistance Act loan at 1

1 percent, also known as ECAA, to the County of Santa
2 Barbara.

3 The County of Santa Barbara will use this loan to
4 implement two LED lighting improvement projects and two
5 photovoltaic systems at the county's Betteravia Government
6 Center and Fire Station 12. Upon completion, the project
7 will reduce about 1.7 gigawatt hours of electricity
8 consumption annually and is estimated to save \$283,000 in
9 utility costs annually.

10 Based on the loan amount and utility cost savings
11 the simple payback is approximately 9.7 years. This loan
12 meets all statutory and regulatory requirements for the
13 CEQA loan program and is categorically exempt from the CEQA
14 guidelines.

15 We recommend approval of the loan and I'm happy
16 to answer any questions you may have. Thank you.

17 CHAIR HOCHSCHILD: Okay. Any comments? Let's
18 move to Commissioner discussion.

19 COMMISSIONER MCALLISTER: Actually, Gavin, I
20 don't have anything to add in relationship to or on top of
21 the last item. But I agree with the Chair's assessment
22 that this is a huge success story. And if the Legislature
23 chose to pump a bunch more funding into it I think we'd
24 find good use for it. So thanks for that. I'll move Item
25 9.

1 CHAIR HOCHSCHILD: Is there a second?

2 COMMISSIONER MONAHAN: Second.

3 CHAIR HOCHSCHILD: All in favor say aye.

4 (Ayes.)

5 CHAIR HOCHSCHILD: The motion passes unanimously.

6 Let's move on to Item 10, the Renewable Energy in
7 Agriculture Program. Geoff?

8 MR. DODSON: All right. Good Morning Chair,
9 Vice-Chair, and Commissioners. My name is Geoffrey Dodson
10 and I'm representing the Renewable Energy Division.

11 I work in our Incentive Office where we
12 administer incentive grant programs promoting renewable
13 energy projects including the Renewable Energy for
14 Agriculture Program, known by the acronym REAP. REAP is a
15 grant program with \$10 million in funding from the
16 Greenhouse Gas Reduction Fund, originally created by
17 Assembly Bill 109 of 2017. It is part of California
18 Climate Investments and the funding is provided to support
19 the adoption of renewable energy technology in the
20 agriculture sector.

21 We are here to ask for your support to approve
22 one proposed agreement resulting from our program's first
23 Grant Funding Opportunity, which was released in January
24 2019.

25 This agreement is a continuation of 43 already

1 approved at the last two Business Meetings in June and
2 July. If this agreement is approved, there is one more
3 remaining and it is expected at a Business Meeting later
4 this year. The grants already approved are currently
5 moving into the project implementation stage.

6 There is a notable highlight that I would like to
7 share about this proposed agreement. At just over \$25,000
8 this represents one of the smallest grant dollar amounts.
9 This is significant, because it demonstrates the results of
10 our program planning and outreach to spread our limited
11 funding to agricultural stakeholders of all sizes,
12 including family-owned or sole proprietors representing
13 smaller agriculture operations.

14 It is a program objective to provide awards among
15 a diverse group of applicants and this award demonstrates
16 our scoring process achieved this goal.

17 Staff recommends approval of this proposed
18 agreement, allowing the opportunity to proceed with
19 agreement execution and project implementation consistent
20 with our program solicitation requirements.

21 Thank you for your time and consideration. And I
22 am available for your questions.

23 CHAIR HOCHSCHILD: Thank you. That's I've been
24 really, really pleased with the progress of this program in
25 a very short period of time. You've done a great job

1 administering it. Unless there's any public comment or
2 Commissioner discussion, I'll entertain a motion.

3 VICE CHAIR SCOTT: Move approval of Item 10.

4 CHAIR HOCHSCHILD: Is there a second?

5 COMMISSIONER MCALLISTER: Aye or sorry
6 (indiscernible).

7 CHAIR HOCHSCHILD: Seconded by Commissioner
8 McAllister. All in favor say aye.

9 (Ayes.)

10 CHAIR HOCHSCHILD: That motion passes
11 unanimously.

12 Let's move on to Item 11, California Clean Energy
13 Fund CalCEF Ventures.

14 MS. OLIVER: Good morning, Commissioners. My
15 name is Eleanor Oliver. I'm from the Energy Research and
16 Development Division. I'm requesting Commission approval
17 today for 25 small grants proposals for \$150,000 each from
18 our most recent CalSEED solicitation.

19 CalSEED is a small grant program under EPIC that
20 provides funding resources to early state technologies.
21 The third open application period was held earlier this
22 year resulting in almost 100 eligible projects. CalSEED
23 used a screening mechanism to ensure applications aligned
24 with the goals and guidelines of the program and targeted
25 start-ups and entrepreneurs who intended to commercialize

1 their technologies.

2 This solicitation focused on ensuring strong
3 geographic diversity with applications submitted to one of
4 four regional groups in California. Today, I will be
5 presenting the six to seven highest-ranked applications per
6 region.

7 These applications span a wide range of
8 technologies with most corresponding to energy storage,
9 energy generation and energy efficiency. Some of the
10 technologies were at the concept state whereas others had a
11 basic prototype tested in the lab.

12 The applications were evaluated for a long-term
13 technical potential, benefits to California including
14 impact on disadvantaged communities and the expertise and
15 readiness of the application team.

16 I'll be giving a brief summary of all 25
17 projects, which are grouped by technology area and do not
18 necessarily follow the order on the agenda. In the
19 presentation I have added the corresponding agenda letter
20 after each title.

21 Starting with Renewable Generation, the first
22 project is a super module by SolarFlexes, which is item 11n
23 or 11r, sorry. SolarFlexes is developing a prefabricated
24 ground mounted adjustable tilt PV system that can quickly
25 deploy and install, reducing cost and time for large scale

1 PV projects.

2 The next project is a prefabricated mobile
3 housing technology by Arvind Simhadri, Item 117. This
4 technology will be powered by a community microgrid and can
5 be quickly be deployed in response to disasters such as
6 wild fires and earthquakes.

7 Next is a hybrid solar PV and thermal system by
8 Icarus RT, Item 11i. This system will be co-located with
9 commercial solar PV to recover heat from the panels, store
10 heat and generate power from the stored heat to increase
11 power availability.

12 Continuing on is a multi-unit shared solar energy
13 management software system by Ivory Energy, which is Item
14 11h. This software will enable multi-unit building owners
15 and tenants to equitably share Virtual-Net Energy Metering
16 credits from the central PV system via a unique load
17 tracking algorithm.

18 The next project is a bi-facial low profile solar
19 rooftop tracking system by P-Kap Systems, which is Item
20 11b. This system is comprised of light-weight laminate PV
21 tracking hardware that maximizes the potential of bi-facial
22 PV tracking.

23 The first project under Non-PV Renewable
24 Generation is advanced Piezoelectric energy harvesters by
25 ActiveMEMS, Item 11w, which will enable self-powering IoT

1 sensors with 24/7 uptime for continuous data gathering and
2 increase industrial efficiency.

3 The next project is scalable power generating
4 windows by Luminescent Energy, Item 11q, that will use a
5 combination of microscale PV cells and quantum dot
6 technology to produce solar windows that operate under both
7 diffused sky conditions and ambient light sources.

8 The final project in this group is a portable
9 biomass converter, by Takachar, Item 11a. This technology
10 produces high performance filtration media for localized
11 waste water treatment, while generating sufficient power
12 from the process heat for many local, agricultural and
13 industrial applications.

14 Moving on to energy efficiency the first project
15 is an advanced solid state lighting by RAF Electronics
16 Corporation, Item 11c, which will use a combination of both
17 non-imaging and imaging optics to product high performance,
18 high brightness and low power directional lighting.

19 The next is third generation LEDs with diffused
20 lens by Optec LED, Item 11m, which has a unique slim line
21 housing with specialized heat syncs that could
22 significantly reduce energy consumption for parking lots
23 and street lights.

24 Continuing on is a ceramic down-converter for
25 LEDs and laser lighting by Luciant, Item 11k, which

1 utilizes the cerium doped aluminum nitride-based
2 downconverter to produce lighting systems that are more
3 efficient, thermally stable and longer lasting than the
4 current LED technology.

5 The first project under non-lighting energy
6 efficiency is the Green Energy Brick by SierraCrete, Item
7 11f. This advanced construction material technology allows
8 for construction of ZNE homes without adding costs with the
9 breakthrough combination of insulated materials with wood
10 framing products.

11 The next project is an integrated solution to
12 optimize the operation of heat pump water heaters by ZYD
13 Energy, Item 11g. This system uses a hot water storage
14 management technology to achieve optimal service via an IoT
15 based controller.

16 The final project under this technology area is a
17 high efficiency density, variable horsepower integrated
18 motor and drive by GreenTech Motors, Item 11j. This
19 technology will dramatically reduce end use industrial
20 electricity consumption with its dropped-in compact design
21 of the electric motor package.

22 The final technology area that will be discussed
23 today is energy storage. The first project is a cobalt-
24 free Lithium ion Battery cathode by NanoDian, Inc., Item
25 11o, which uses a nano fabrication technology with low

1 internal resistance to replace the Cobalt in the cathode
2 portion of existing batteries to enable fast charging
3 capabilities.

4 The next project is a lithium-carbon based
5 rechargeable battery by EndLis Energy, Item 11l, which will
6 use innovative manufacturing of electrode nano structures
7 for the development of lithium carbon batteries that have
8 lower cost, high energy density and faster charging times
9 than current lithium ion batteries.

10 Moving on to the next project is a lithium carbon
11 fluoride battery by DAE Technologies, Item 11d, which will
12 convert a high energy density, but non-rechargeable battery
13 chemistry into a rechargeable battery.

14 Next is a lithium ion battery fire suppression
15 system by RePurpose Energy, Item 11e. This system combats
16 fire and thermal runaways without internal short circuiting
17 of the battery cells, by injecting non-conductive liquid in
18 the battery enclosure preventing chain reactions from
19 reaching adjacent cells.

20 Continuing on is a portable battery health
21 management for large format lithium battery packs by
22 ReJoule, Item 11s. This management system will
23 continuously and accurately diagnose battery health based
24 on a self-calibration component for each individual battery
25 pack.

1 The first project under non-lithium energy
2 storage is a rechargeable carbon-oxygen battery by Noon
3 Energy, Item 11t. This technology stores energy by
4 splitting CO2 into solid carbon and oxygen in a flow
5 battery configuration utilizing novel materials and
6 reaction chemistry.

7 The next project is a Sodium Iron Flow Battery,
8 by Nrgtek, Item 11p. It will provide cost effective long-
9 duration energy storage for both residential and grid level
10 renewable energy balancing, because of the high discharge
11 voltage of the unique chemistry.

12 Continuing on is a solid state thermal battery by
13 Anatora Energy, Item 11v. This technology aims to store
14 energy as heat and inexpensive raw materials and convert
15 the heat back to electricity with high efficiency thermal
16 PV modules that have been exposed to the light rating from
17 the hot storage medium to lower the dollar per kilowatt for
18 delivery of energy storage.

19 Moving on to the next project is a rechargeable
20 battery by EnZinc, Item 11x. This battery combines a zinc
21 sponge anode with nickel, silver or carbon with different
22 applications that will match the energy of lithium based
23 batteries that is comparable in cost to lead acid and safer
24 than both.

25 The next project is a thin film battery electrode

1 coating by Coreshell, Item 11u. This unique nano-layering
2 coating will be applied in a roll-to-roll disposition for
3 easy integration of manufacturing and is expected to double
4 the battery's life.

5 Finally, the last project is a thermal energy
6 storage system using ultra high osmotic pressure polymers
7 by T2M Global, Item 11n, which stores low temperature solar
8 heat, indirectly, through thermal chemical reactions to
9 enhance the performance of renewable technologies.

10 Overall, these projects represent a very exciting
11 and diverse set of technologies that may help California on
12 its journey to 100 percent clean energy future. This
13 concludes my presentation today. Thank you for your
14 consideration and my staff and I are here for questions.

15 CHAIR HOCHSCHILD: All right, fantastic.

16 Well, we have a couple of public comments on the
17 side. Let's begin with Michael Burz of EnZinc. Welcome.

18 MR. BURZ: Good morning, Commissioners. Good
19 morning, I'm Mike Burz, President and Co-Founder of EnZinc.
20 We're a high-tech battery startup located in San Anselmo
21 and Richmond. We've been working with the United States
22 Naval Research Laboratory on the development of this new
23 type of battery, which uses the fourth most mined metal on
24 the planet, zinc. So solar and wind distributed
25 microgrids, urban electric vehicles are all elements of a

1 renewable energy infrastructure. And batteries are their
2 foundation. We've developed this battery, which has the
3 energy of lithium ion, but is as cheap as lead acid and
4 it's safer than both for both the people and the planet.

5 We are honored to be a CalSEED awardee. And we'd
6 like to thank the CEC, the EPIC Program, the California
7 Energy Fund and the people of California for this award.
8 Thank you very much.

9 CHAIR HOCHSCHILD: Thank you. Let's hear from
10 Danny Kennedy CEO of New Energy Nexus.

11 MR. KENNEDY: Thank you very much Chairman and
12 Commissioners. I'm so excited to be back, third year in a
13 row, presenting the CalSEED Cohort Number 3. You
14 (indiscernible) and thank you, Eleanor, for doing such a
15 great job explaining who we've got this year and I just
16 wanted to sort of make a few remarks about the process and
17 how exciting this is.

18 Firstly, to thank the staff, Anthony and Josh and
19 Eleanor and others that have really made it happen better,
20 smoother, faster this round. I feel like we're getting our
21 machinery cranking here and finding and funding the
22 fantastic entrepreneurs like EnZinc who are in the house
23 from across the breadth and depth of the communities of
24 California as is our mandate and charge. And you saw the
25 geographic diversity. And I think we're getting better at

85

1 it. We've still got work to do on other measures and
2 impacts across the community and greater diversity still.

3 But I feel like the program is becoming more
4 entrepreneurial and we're getting out there in the outreach
5 phases. And I want to thank our staff at the California
6 Clean Energy Fund/New Energy Nexus. Joy Larson who leads
7 the program; Jane Marsh, one of our interns over the summer
8 who's helped heaps to get the word out for next cohort
9 solicitation as well and just build the system, so that we
10 can do more of this better in the future.

11 Just to speak to the benefits I heard you,
12 Chairman Hochschild, mention the newsworthiness of some of
13 the decisions you've already made here today. And I
14 believe this cohort of 25 great companies could also be
15 newsworthy.

16 I think now, and we can work this number out for
17 you for sure, we've reached into well over a dozen
18 districts as elected officials in the state with seed
19 company grants and programs and these entrepreneurs
20 building businesses with this program. So that might be
21 something to talk to in the future and make clearer how the
22 legislative districts of California are benefitting from
23 this program.

24 And then finally I wanted to make a special call
25 out to the Technical Advisory Committee. You saw the crazy

1 kind of things we're dealing with. We've got Coreshell
2 Technologies, which actually just to speak to synergies is
3 one of the companies going through the CalCharge creator
4 (phonetic) at Lawrence Berkeley National Lab. And I think
5 they'll probably use some of their CalSEED grant, pays for
6 some of that work by scientists in the National Lab
7 Program.

8 But we've got things like that then we've got
9 these new ways of doing photovoltaics and the full depth
10 and breadth through the CalSEED Fund. To date we've
11 recruited 70-ish volunteer Technical Advisory Committee
12 members. I think for this cohort we called on 36 of them
13 to do sort of deep due diligence with us and spend their
14 time contributing to the state's program and efforts. And
15 I really want to thank them as volunteers to the state and
16 to the CalSEED fund program and allow us to build this
17 program year-on-year and get it better and ensure that
18 we're getting fantastic quality.

19 With that I want to thank you. And one thing for
20 the record just to explain the name change California Clean
21 Energy Fund Ventures is still your partner in this and the
22 contracted grant manager for the CalSEED Fund. We've
23 rebranded, globally as New Energy Nexus, because we're now
24 doing similar work supporting startups in six markets
25 including New York, China and elsewhere. Thank you.

1 CHAIR HOCHSCHILD: Thank you. That's a great
2 name change like the artist formerly known as Prince.
3 (Laughter.) I just want to commend, Danny, and your whole
4 team. I mean CalSEED is the right name. It does feel like
5 we're throwing out all these seeds to these garden beds.
6 And of course not everyone is going to be successful, but
7 that is the nature of innovation.

8 And often, you know, it's the first grant right
9 that these guys get and it makes all the difference. And
10 you know getting that seal of approval and becoming part of
11 this ecosystem of support and all the introductions you
12 make are as important as the money I think. And I just
13 think you and your team are doing an admirable job. So
14 thank you for all that.

15 Now, Vice Chair, did you want to make a few
16 remarks?

17 VICE CHAIR SCOTT: I did. So as Eleanor
18 mentioned at the beginning of her thorough presentations,
19 so I just wanted to bring it back to front of mind, this is
20 the CalSEED is our small grant program under EPIC. And it
21 provides the funding and resources to early stage
22 technologies. And as you saw there, and as Mr. Kennedy
23 mentioned, a great list of technologies to fund through the
24 small grant program.

25 I think, also, I agree that this is an excellent

1 cohort and it is very exciting. The Energy Commission is
2 funding the research and sparking the entrepreneurship that
3 we need to help the state meet its transition to clean
4 energy. And it really is kind of smartly and strategically
5 investing, I think, in small grants to plant the seeds as
6 you have noticed. And also in the funds that give the
7 technologies and innovations all the way up to the other of
8 the technology readiness pipeline, right, so that they're
9 ready for the market. And we're actually going to hear
10 about a couple of those later today too.

11 But I just wanted to highlight it is really
12 exciting to see the innovation, the entrepreneurship
13 sparking the creativity and putting these small grants out
14 there, really planting the seeds for the things that may be
15 the technologies that revolutionize how we get to our 2045
16 goals, 2050 goals and further on. So thanks to the team
17 for a great job. Thank you for being here and I --

18 CHAIR HOCHSCHILD: I just have a few more
19 comments before we think about it, but I do want to just
20 reemphasize one thing we've done to help entrepreneurs,
21 also as they go on to apply for bigger grants down the
22 line, we have created a new ombudsman function. So
23 Jennifer Martin-Gallardo in the back who's our Interim
24 Public Adviser, but that's really what she's spending most
25 of her time doing. Is calling all the recipients from our

1 Clean Transportation Program, from our EPIC Program and
2 getting feedback on how the process went and what we can do
3 to get better.

4 And her role is really to be an advocate for the
5 recipients of Energy Commission grants to make our process
6 as friction-free as it can possibly be. And that's going
7 to be an ongoing function. And we're committed to do that.
8 We're here to serve the entrepreneurs. And helping you get
9 the word out that she's available, as a resource, is also
10 really important.

11 And the other thing I wanted to say, just earlier
12 before you arrived we were having a discussion about SB 100
13 and looking forward to what are the challenges. I do want
14 to highlight the need for flexibility on the grid, as of
15 next year we'll have 20 gigs of solar in California. And
16 that ramps down we need to meet that need in a way that's
17 clean. And so part of that's the demand response play,
18 part of it's the protocols for EV charging and all the
19 rest. But you think about those entrepreneurs in that
20 space, particularly in (indiscernible).

21 And I'm also just generally really interested as
22 we all are in threat reduction. It's great to see this one
23 looking at reducing the risk of fires for example in
24 batteries. Wonderful, I mean just thinking ahead about
25 what the risks are. Fire is one of the main ones I worry

1 about in terms of setbacks for the clean energy economy.

2 So thanks for all you're doing.

3 Are there other comments? With that, let's
4 entertain a motion.

5 VICE CHAIR SCOTT: I'll move approval of Item 11.

6 CHAIR HOCHSCHILD: Is there a second?

7 COMMISSIONER MONAHAN: I second.

8 CHAIR HOCHSCHILD: Second by Commissioner
9 Monahan. All in favor say aye.

10 (Ayes.)

11 CHAIR HOCHSCHILD: That motion passes
12 unanimously. Congratulations.

13 CHAIR HOCHSCHILD: Let's move on to Item, where
14 are we, 12 UniEnergy Technologies.

15 MR. TIAN: Good morning Chair, Wise Chair and
16 Commissioners. My name is Qing Tian. I'm with the Energy
17 Research and Development Division. Today we would like to
18 ask for your approval for a new agreement for an energy
19 storage technology demonstration and deployment. This is
20 the last agreement from the BRIDGE Energy Storage
21 solicitation. The other three awards have been approved in
22 the June business meeting this year.

23 This new project will demonstrate alternative
24 energy storage technologies to lithium ion batteries and
25 (indiscernible) at 25 percent or higher scale up in

1 performance.

2 In this agreement the recipient UniEnergy
3 Technologies will demonstrate an vanadium flow battery
4 technology at Farm ACW's facility in Fallbrook, California.
5 And the 1.4 megawatt and 5.6 megawatt hour energy storage
6 system will be installed and tied into a pre-existing 7.5
7 behind-the-meter PV system.

8 And the integrated system will provide the
9 required power for pumps and an irrigation system at 1,008
10 acre farm ranch that includes 150,000 avocado trees and
11 produces 5 million pounds of fruit annually. And this farm
12 ranch is also was located at the end of a long distribution
13 feeder and has experienced a frequent wattage problem in
14 the past.

15 This integrated system, while used primarily to
16 improve the power quantity at the facility and also conduct
17 big saving and time shifting use of the access solar energy
18 produced at the site. During utility outage it can also
19 allow the Farm ACW to (indiscernible) the facility and
20 supply PV energy to support the load and operation at the
21 facility.

22 So this project will demonstrate optimal use
23 cases for large PV plus storage applications. And also
24 while being leveraged to commercialize a flow battery
25 technology and the integrated energy storage solution

1 throughout California.

2 With that staff would like to recommend approval
3 of this new agreement with UET and also I want to thank you
4 all for your time and consideration for this project. And
5 I will be happy to answer any questions if you have any.

6 CHAIR HOCHSCHILD: Go ahead, did you want to say
7 anything on the project? Is there any public comment on
8 the item? Do you want to make any comments on this?

9 VICE CHAIR SCOTT: Yeah, I just -- and Qing said
10 this is his excellent presentation, thank you -- highlight
11 a couple of things from the briefing that both he and Mike
12 Gravely gave me earlier. And one of the things about these
13 new storage technologies is that they're going to be
14 substantially cheaper. They'll be more reliable and
15 they'll be safer.

16 And a few of the things I think are really great,
17 which you said in your presentation, but I also wanted to
18 highlight is about this particular project is that the size
19 is unique. So it's a little bit bigger than we usually
20 see. That this technology is going to have decent load
21 shifting potential, which as you all know is going to be
22 incredibly important as we continue adding renewables and
23 the peak is changing. Sorry, I'm not being very articulate
24 about that. But all of the things on the grid side that we
25 need to worry about like having a decent load shifting

1 potential, I think is really a cool thing.

2 And the other interesting thing about this
3 technology is it's modular and so that means it's
4 repeatable, which is good for manufacturing. So if this is
5 the one I was mentioning that's right close to getting
6 ready to go out into the marketable sphere. So I think
7 this is a great project. And if there aren't questions --

8 CHAIR HOCHSCHILD: So what is the chemistry? Is
9 this vanadium?

10 MR. TIAN: Yeah, vanadium.

11 CHAIR HOCHSCHILD: Yeah, fantastic. And I think
12 one of the other things that's really great about flow
13 batteries is you don't get degradation over time. It just
14 can hold the charge. So.

15 MR. TIAN: Right. So it's on the medium-duty
16 cycle.

17 CHAIR HOCHSCHILD: Yeah.

18 COMMISSIONER MCALLISTER: Yeah. I mean, and I
19 say flow batteries are cool also because they're highly
20 useful, because they -- you can have them for more hours.
21 You know, you can design capacity and sort of peak capacity
22 in kilowatts separately from the energy storage. And so it
23 really lets you customize the battery to different
24 applications that may need more autonomy or less autonomy
25 or more or less capacity. So it lets you kind of optimize

1 that investment. So hopefully --

2 CHAIR HOCHSCHILD: What's the round-trip
3 efficiency, is it still about 80 percent?

4 MR. TIEN: Yeah, that's about right.

5 CHAIR HOCHSCHILD: Yeah. Okay. Great,
6 fantastic. Any other comments?

7 VICE CHAIR SCOTT: Move approval of Item 12.

8 CHAIR HOCHSCHILD: Is there a second?

9 COMMISSIONER MCALLISTER: Aye.

10 CHAIR HOCHSCHILD: Seconded by Commissioner
11 McAllister.

12 COMMISSIONER MCALLISTER: I did it again.

13 Seconded. (Laughter.)

14 CHAIR HOCHSCHILD: All in favor say aye.

15 (Ayes.)

16 CHAIR HOCHSCHILD: That motion passes
17 unanimously.

18 Let's move on to Item 13, Local Government
19 Commission.

20 MR. TIAN: Thank you

21 CHAIR HOCHSCHILD: Thank you

22 MS. SALAZAR: Good afternoon, Commissioners. My
23 name is Rachel Salazar. I also work in the Energy Research
24 and Development Division. I am here seeking approval of a
25 one-year agreement with Local Government Commission for the

95

1 amount of 26,000 to procure the services of a CivicSpark
2 Fellow that will assist staff. The Local Government
3 Commission or LGC for short is the administrator for
4 CivicSpark, which is the Governor's Initiative of the
5 AmeriCorps Program for California. Fellows serve 11-month
6 terms and are required to provide local governments with
7 capacity building on issues related to climate action,
8 affordable housing and other resiliency issues.

9 And this aligns really nicely with the Research
10 Division's commitment to engage with local governments and
11 community organizations to provide them with increased
12 support and better access to emerging clean energy
13 technologies.

14 The former will work with the Research Division
15 and assist staff in engaging with local governments to
16 identify local climate action goals and priority energy
17 needs for various disadvantaged and low-income communities.
18 And then this information will be used to inform future
19 funding opportunities as well as resources that can better
20 connect local governments with other stakeholders with
21 similar interests in proposing projects down the line.

22 The Fellow will also work with at least one local
23 government and will be working on activities such as gap
24 assessments, research, planning and implementation of
25 identified project activities. They may also engage with

1 volunteers for community support as necessary and finally
2 will perform knowledge transfer activities.

3 Staff is currently talking to the cities of Arvin
4 and Paramount to identify activities for the Fellow to work
5 on. Both of these jurisdictions are located in underserved
6 communities and need help in developing and implementing
7 their clean energy policies. With support from the local
8 government partners as well as the LGC the staff will be
9 overseeing these activities and provide guidance to a
10 Fellow during the duration of this agreement.

11 I thank you for your consideration and I welcome
12 any questions you may have

13 CHAIR HOCHSCHILD: Thanks so much.

14 Any public comment on this? If not we'll --

15 VICE CHAIR SCOTT: Yeah, I'll just note this is
16 another one that I am really excited about. I can't wait
17 to meet the new Fellow. And I appreciate the staff taking
18 the time to put the application together and then figure
19 out how to jump over some of the hurdles that were there to
20 really make this happen.

21 I think having a Fellow here, who's bringing the
22 word and work of what the Energy Commission does with the
23 Local Government Commission, because the local governments
24 are also as you all know incredibly important in helping us
25 with the climate planning, climate action, green energy

1 policies, all this. And so having someone who will be here
2 for 11 months to undertake that is going to be fantastic.
3 I can't wait for her to start.

4 CHAIR HOCHSCHILD: And she will be in --

5 MS. SALAZAR: She will be working with us over in
6 the Research and Development Division.

7 CHAIR HOCHSCHILD: Fantastic. Okay, terrific.

8 COMMISSIONER MCALLISTER: Yeah, I wanted to just
9 thoroughly support this and also just give kudos to the
10 LGC. And the Local Government Commission has been real
11 instrumental in getting the CivicSpark Program up and
12 sponsoring it and getting funding for it. And they have
13 literally hundreds of these volunteers for the last four or
14 five years or so. And I've worked with a few of them over
15 those years and they are typically right out of college or
16 right out of grad school.

17 They've got a lot of energy. They're totally
18 into public service. They really want to go and hone their
19 skills in an environment that gives them practical
20 experience. And it's incredible what they do while they're
21 there. They come with open minds and no silos and you know
22 they can stitch together stuff that really helps move the
23 ball forward.

24 And I've got to give this to Ken Alex (phonetic)
25 as well, because he was pretty instrumental in starting the

1 program back in the day. And so it's really wonderful to
2 have one here. And I just want to pile on with the local
3 government angle. I mean that's where the rubber is on the
4 road, moving all the time. And we have enabled them to do
5 things more creatively, to do more with the resources
6 because they're always understaffed and under resourced.
7 And these CivicSpark volunteers or interns are just a
8 great, great way to do that and create so much good will.
9 And so just kudos to the staff for putting that together
10 and to LGC for helping that program thrive.

11 CHAIR HOCHSCHILD: And Ken Alex recently emerged
12 from hibernation and sent you and I a bunch of emails
13 yesterday on stuff we need to do.

14 So I'll entertain a motion on this resolution for
15 Item 13.

16 VICE CHAIR SCOTT: I move approval of Item 13.

17 CHAIR HOCHSCHILD: Is there a second?

18 COMMISSIONER MCALLISTER: I'll second.

19 CHAIR HOCHSCHILD: So all in favor?

20 (Ayes.)

21 CHAIR HOCHSCHILD: That motion passes
22 unanimously.

23 Let's move on to Item 14, Department of Energy
24 Lawrence Berkeley National Lab.

25 MR. CRISOSTOMO: Good morning, Commissioners. My

99

1 name is Noel Crisostomo, and I am an Air Pollution
2 Specialist working on EV charging infrastructure in the
3 Fuels and Transportation Division.

4 We request approval of a two-year, \$400,000
5 contract with the U.S. Department of Energy's Lawrence
6 Berkeley National Laboratory to assess charging
7 infrastructure needs for the electrification of
8 California's medium and heavy-duty vehicle fleet.

9 As you know, conventional fossil fuel production,
10 refining, and use in transportation accounts for 50 percent
11 of California's greenhouse gas emissions. In 2018, on-road
12 heavy-duty trucks and buses accounted for less than 10
13 percent of the state's greenhouse gas footprint, but
14 emitted 28 percent of the state's nitrogen oxide pollution
15 and 23 percent of the state's diesel particulate matter.

16 Therefore, transitioning this sector to zero
17 emissions is critical to meet California's near-term
18 federal ambient air quality mandates and its goal for
19 carbon neutrality by 2045. This agreement will develop new
20 tools to project where and how many plug-in electric
21 vehicle chargers the medium and heavy-duty fleet will need
22 by 2030.

23 The findings of this work will support the Fuels
24 and Transportation Division staff's implementation of
25 Assembly Bill 2127, which directs the Energy Commission to

1 expand its electric vehicle infrastructure projections to
2 consider all necessary charging infrastructure including
3 the chargers, make-ready electrical equipment and
4 supporting hardware and software for all vehicle
5 categories. Thus, under this agreement LBNL will be
6 responsible for profiling regional heavy-duty electric
7 charging demands, and will scope the analyses necessary to
8 understand local grid impacts or necessary upgrades.

9 Staff scoped the work into two phases, with the
10 first focused on the development of the Heavy Electric
11 Vehicle Infrastructure Projection tool or HEVI-Pro for
12 short. Then, HEVI-Pro will assist with analyzing smart
13 charging load profiles and providing a framework for
14 understanding grid upgrades. Our goal for LBNL is to draft
15 these analyses by the late summer of 2020 in alignment with
16 the requirement to complete the first biennial AB 2127
17 Assessment by the end of 2020.

18 Notably, staff will coordinate LBNL's analyses
19 closely with other researchers supporting AB 2127. For
20 example our collaboration with the National Renewable
21 Energy Laboratory to update the light-duty electric vehicle
22 infrastructure projections first published in 2018 and the
23 UC Davis research contract on innovative mobility services
24 that was approved in July.

25 Finally, under this contract staff will organize

1 workshops to ensure that the infrastructure analysis
2 reflects public input and industry expertise.

3 Thank you for your consideration of this item. I
4 am happy to answer any questions.

5 CHAIR HOCHSCHILD: Thank you.

6 Any public comment for this item? Let's move on
7 to Commissioner discussion. Commissioner Monahan?

8 COMMISSIONER MONAHAN: I just want to say that
9 I'm very excited about this whole project, actually the
10 analysis of our EV charging infrastructure needs. And the
11 opportunity for the CEC to really help lead the state in
12 mapping out what we need to do to make sure that our
13 infrastructure is ready for EVs that are coming in.

14 This project in particular, as Noel said the
15 public health burden from diesel pollution is so high.
16 What we're learning every day is that more and more can be
17 electrified. And I am continuously surprised as somebody
18 who's been in this space for over 20 years, how much
19 opportunity there is on the heavy-duty side to electrify
20 transportation.

21 Commissioner Scott and I were lucky enough to go
22 to China earlier this year. And I went to Shenzhen as did
23 the Chair to see firsthand the fact that they've
24 electrified all of their 16,000 buses. They've electrified
25 most of their taxies. And they have over 40,000 trucks

1 electrified -- over 40,000 in one city in China.

2 And as we map out what's possible here in
3 California, I think we need to be more ambitious than we've
4 been in the past about envisioning what an electrified
5 heavy-duty system could look like. And this analysis will
6 help support that. I'm super excited that we're here in
7 California working on these issues and that we at the CEC
8 are helping with our partner agencies figure out how to
9 make electric transportation a reality here on the ground.

10 So thanks to the team and I strongly support this
11 contract.

12 CHAIR HOCHSCHILD: Great. Is there a motion?

13 COMMISSIONER MONAHAN: I motion to approve Item
14 14.

15 CHAIR HOCHSCHILD: Commissioner Monahan moves
16 approval. Is there a second?

17 VICE CHAIR SCOTT: Second.

18 CHAIR HOCHSCHILD: Second by Vice Chair Scott.
19 All in favor say aye.

20 (Ayes.)

21 CHAIR HOCHSCHILD: That motion passes
22 unanimously.

23 Let's move on to Item 15 DOE National Renewable
24 Energy Lab.

25 MR. BRECHT: Good afternoon, Chair and

1 Commissioners. I'm Patrick Brecht with the Fuels and
2 Transportation Division. I'm the Manager of our Division's
3 contract with the U.S. Department of Energy National
4 Renewable Energy Laboratory or NREL.

5 I'm here seeking approval of a \$1.2 million
6 contract augmentation along with a one-year contract term
7 extension. Under this contract the Energy Commission and
8 NREL developed the Electric Vehicle Infrastructure
9 Projections tool, also known as EVI-Pro as results from
10 EVI-Pro served as the bases for California's goal of having
11 250,000 EV chargers, including 10,000 direct current fast
12 chargers by 2025. And will be integral in insuring
13 sufficient infrastructure is available to support at least
14 5 million zero emission vehicles in California on
15 California roads by 2030.

16 Assembly Bill 2127 of 2018 requires the Energy
17 Commission to conduct a biannual statewide assessment of
18 charging infrastructure throughout California. EVI-Pro
19 will be a key part of analyzing and developing EV charging
20 scenarios including estimates on the types and the number
21 of chargers needed to achieve California's goals.

22 Since the initial rollout of EVI-Pro in 2018
23 staff has identified upgrades, updates and expansions that
24 are needed to complete the inaugural charging
25 infrastructure assessment by the end of 2020. This

1 augmentation will allow EVI-Pro to extend its analysis of
2 charging needs out to 2030. And assess how the need of
3 charging infrastructure is affected by factors such as
4 travel survey data, vehicle and charging technology
5 attributes, business models that enable shared charging as
6 well as trends in vehicle automation and shared mobility.

7 In addition to supporting the expansion of EVI-
8 Pro, this contract augmentation will allow NREL to collect
9 and analyze historic growth and attrition trends of
10 charging infrastructure. Based on the attrition rate of
11 existing chargers, Energy Commission staff will be able to
12 estimate additions and losses in California's electric
13 vehicle charger population over time. These trends will
14 help the Energy Commission track progress towards the
15 state's EV charging goals.

16 The NREL analysis will be informed by other
17 research being conducted mentioned earlier by UC Davis and
18 US Department of Energy's Lawrence Berkeley National
19 Laboratory.

20 In order to allow a time for these additional
21 tasks staff is seeking a one-year contract term extension
22 to March 31st, 2021. Approval of this item will assist the
23 Clean Transportation Program's statewide planning for EV
24 charging and increase the effectiveness of EV charging
25 infrastructures' investments.

1 Thank you for your consideration of this item.

2 And I'll be happy to answer any questions.

3 CHAIR HOCHSCHILD: Thanks.

4 Seeing no public comments, Commissioner Monahan?

5 COMMISSIONER MONAHAN: Thanks, Patrick. I'll
6 just reiterate that this tool -- we need to -- we're
7 conducting this big experiment here in California where we
8 don't know all the answers about where to place chargers,
9 how many chargers, what level of number of these chargers
10 or share needs to be fast charging, where do we place them,
11 how do we accommodate new mobility services?

12 And all these analytical tools are just helping
13 us refine what we know is cutting edge research into how we
14 support this transition to electric transportation. And we
15 don't have all the answers. We need a lot of analytical
16 help, so that we can make our best guess about where and
17 how to invest. So this is all just really helping us build
18 out our team with analysis from across diverse research
19 entities, so that we can do the best job possible on AB
20 2127.

21 CHAIR HOCHSCHILD: Great. Any other comments?
22 If not is there a motion?

23 COMMISSIONER MONAHAN: I move to approve Item 15.

24 CHAIR HOCHSCHILD: Is there a second?

25 VICE CHAIR SCOTT: Second.

1 CHAIR HOCHSCHILD: Seconded by Vice Chair Scott.
2 All in favor say aye.

3 (Ayes.)

4 CHAIR HOCHSCHILD: That motion passes
5 unanimately.

6 Let's move on to Item 16, school bus replacement
7 for California public school districts.

8 MS. WILLIAMS: Good afternoon Chair, Vice Chair
9 and Commissioners. I'm Sarah Williams with the Fuels and
10 Transportation Division. Today, staff is requesting
11 approval for Item 16, which consists of two grant
12 agreements: one, with Chula Vista Elementary School
13 District and one with Gateway Unified School District.

14 Under the Energy Commission's School Bus
15 Replacement Program, public school districts, county
16 offices of education and joint power authorities were
17 eligible to apply for funding to replace their old diesel
18 school buses with pollution-free electric busses. Priority
19 was given to applicants based on three criteria: the oldest
20 diesel school buses, school buses operating in
21 disadvantaged communities, and schools that have a majority
22 of students eligible for free or reduced price meals.

23 Last month staff presented the first 60 awards
24 for the School Bus Replacement Program. Today, staff is
25 presenting an additional two. We expect to bring two more

1 agreements and some agreement adjustments to future
2 business meetings. Chula Vista Elementary School District
3 will be receiving 10 electric school buses and Gateway
4 Unified School District will be receiving two electric
5 school districts.

6 In addition, the schools will be awarded \$60,000
7 per new electric school bus to provide the necessary
8 charging infrastructure and to operate the electric school
9 buses.

10 The benefits of these buses are many, because
11 there's zero tailpipe emissions. The students riding the
12 buses and the people in the communities they travel through
13 are breathing cleaner air, which improves their overall
14 health. The buses will help schools save money, because of
15 lower maintenance and fuel costs.

16 With that, staff is seeking approval for Item 16
17 for two proposed resolutions approving 12 electric school
18 buses. Staff is also recommending approval of staff's
19 determination that both agreements noted are exempt from
20 CEQA.

21 CHAIR HOCHSCHILD: Great, thanks. Any public
22 comments on that?

23 Well, good. This is a landmark program. Last
24 meeting was incredible and we got to go on the buses. And
25 you know just it checks so many boxes. It's good for the

1 health of kids, it's good for our climate problem. Buses
2 in particular are -- school buses are charging when we have
3 surplus renewables on the grid and not having
4 regionalization that is more important than ever. And
5 we're now manufacturing buses in California. So it's just
6 an incredible program.

7 I really want to thank Vice Chair Scott for her
8 leadership early on in pushing to do this. It's become one
9 of the coolest things. A lot of cool things, but this is
10 really a feather in the cap, so good job.

11 Did you want to make a few comments on this?

12 VICE CHAIR SCOTT: No, I'll just echo what I had
13 said last time. This is very exciting. It's great to get
14 these school buses to the -- all electric school buses to
15 the schools. And I'm ready for the buses to be
16 manufactured and there right, so the kids can be riding on
17 them right away.

18 I also really love -- I mentioned this last time
19 -- the availability that we have to put the infrastructure
20 component together with the school bus component to really
21 help, I hope, make this as seamless as possible to make
22 this transition. You know, in my head when all the kids
23 came back to school the infrastructure was going to be in
24 the ground and buses are just going to be there. I know
25 it's going to take a little time, but it is very exciting.

109

1 CHAIR HOCHSCHILD: Fantastic.

2 Commissioner Monahan, do you want to add
3 anything?

4 COMMISSIONER MONAHAN: Well, just to say I really
5 love the fact too that these buses can give -- their
6 batteries can give back to the grid, so kudos to
7 Commissioner Scott and the team for this, because it really
8 is a cutting edge. I mean we're like testing out with
9 school districts the most sophisticated technology out
10 there that has the potential to give money back to school
11 districts, if we can figure out that value, that charge
12 back at times that are particularly good for the grid and
13 good for our renewables integration. So it's just a cool
14 project all the way around.

15 CHAIR HOCHSCHILD: Fantastic. Can we entertain a
16 motion on 16?

17 VICE CHAIR SCOTT: I will move approval of Item
18 16.

19 COMMISSIONER MONAHAN: I will second.

20 CHAIR HOCHSCHILD: All in favor say aye.

21 (Ayes.)

22 CHAIR HOCHSCHILD: That motion passes
23 unanimously. Congratulations.

24 Let's move on to the minutes. Is there a motion
25 to approve the minutes?

1 VICE CHAIR SCOTT: Move approval of the minutes.

2 COMMISSIONER MCALLISTER: Second.

3 CHAIR HOCHSCHILD: Second by Commissioner
4 McAllister. All in favor say aye.

5 (Ayes.)

6 That passes unanimously.

7 Let's go to the Lead Commissioners Reports
8 starting with Commissioner Monahan.

9 COMMISSIONER MONAHAN: Yeah. I wanted to say
10 that we are close to the finish line on the Investment Plan
11 for the Clean Transportation Program, which is great for
12 all of us. It's been a really good process. Engaging the
13 Disadvantaged Communities Advisory Group was super helpful.
14 They actually when we had our Advisory Group Meeting, they
15 came to the Advisory Group Meeting, provided testimony, sat
16 at the table with the Advisory Committee.

17 And we are leaning more towards transportation
18 electrification in this current -- and zero emission
19 transportation in this current investment plan with the
20 recognition that we have very aggressive state goals on
21 decarbonization and electrification of transportation. We
22 have some major barriers, especially on the infrastructure
23 side. And we have this huge opportunity that technology is
24 unlocking.

25 So we just closed public comment. And I haven't

111

1 actually heard what the public comments are. But what we
2 heard at the meeting, I mean they gave us some good
3 information about well maybe we should be thinking more
4 carefully about whether we want to co-locate heavy-duty and
5 light-duty refueling for hydrogen. What should we do with
6 the Advisory Committee to make sure that we're attentive to
7 the needs of disadvantaged communities and that we think
8 about sort of re-envisioning what the Advisory Committee
9 could look like? So that's going to be a process as well.

10 But we hope, at the September Business Meeting,
11 you'll be seeing that Revised Investment Plan. That's our
12 goal.

13 CHAIR HOCHSCHILD: Fantastic. Thanks.

14 COMMISSIONER MCALLISTER: Yeah, just a couple of
15 things. I wanted to just talk a little bit about -- I'll
16 just mention that the IEPR workshops that the Commissioner
17 Scott is leading are really terrific. And those of you
18 who've been on the dais for any of those really have seen
19 that, but in particular recently we had the adaptation
20 workshop, equity workshop. And I just wanted to commend
21 Commissioner Scott for her leadership on keeping all the
22 trains running on time and making sure that the content is
23 there.

24 Let's see, I wanted to also just mention along
25 the lines of Commissioner Monahan, we're working on the --

1 we have a work in progress, which is the California Energy
2 Efficiency Strategic Plan or Action Plan Update. And we're
3 sort of folding in SB 350 doubling, the AB 758 Existing
4 Building Energy Efficiency and then also kind of getting a
5 jump start on the AB 3232 Building Decarbonization Plan.

6 And so that platform of this report is kind of
7 taking all of those things on at once. It just sort of
8 made sense to do that. And I have to commend the staff,
9 Michael Kenney and all the Efficiency Division staff who is
10 working on this.

11 We did a bunch of workshops around the state,
12 gathering a lot of stakeholder feedback and have really
13 been collecting a lot of info on that. So the draft is
14 done and will be out for comment relatively soon. And
15 it'll be a work in progress for a little while, but
16 hopefully we'll get that adopted sometime this year.

17 And finally I did make a trip, well I've made a
18 couple of trips, to talk with OEMs, original equipment
19 manufacturers, in HVAC and water heating, the water heating
20 space. I went out to Atlanta to Rheem's global
21 headquarters. And also visited Georgia Power, part of The
22 Southern Company that you know is doing some amazing things
23 on electrification. And it's really quite impressive.

24 Alabama Power also is a Southern Company
25 subsidiary. They are building communities that are all

1 electric, that are passive house, some of them, that have
2 energy storage right there. And they are getting a whole
3 ton of data and figuring out how to operate those buildings
4 and how people like them, the behavioral aspects in their
5 context, even with flat rate 13 cents a kilowatt hour. No
6 increase in block rates. So they're figuring out ways to
7 make this work and help with their grid flexibility in a
8 completely different context, where they're very coal heavy
9 and it's not about decarbonization, it's about load factor.
10 It's about optimization of their grid.

11 So it's really interesting actually to look at
12 all the context of where these light bulbs are going on,
13 literally and figuratively, to serve the mother of
14 invention, right? Slightly different needs but then
15 invention is going to serve us well.

16 And then also Daikin, a Japanese company which
17 makes HVAC systems that are pretty advanced HVAC systems,
18 looking for a way to come into California. And again it's
19 going to help with our grid flexibility. It's electronic
20 controls, variable speed, just the kind of technology that
21 we want to help with our power grid management in real
22 time. And so you can kind of envision hundreds of
23 thousands of millions of units, from various companies.
24 Not to be picking winners, but that could be aggregated and
25 bid into the ISO capacity market or rather the day ahead

1 and they're even almost real time.

2 And so I think when we get to our Load Management
3 Standards proceeding and we really involve in earnest a lot
4 of these industrial actors, we'll be able to push out the
5 kinds of technologies that we need. So that 10 years down
6 the road, 5 years down the road, however long it is when we
7 actually have sort of a rate regime that supports real time
8 action we'll be able to automate a lot of that. And we'll
9 be able to have some scale, like right out of the gate.

10 And so I think we have to be very intentional
11 about planning for that starting now, so that when all the
12 conditions come together, the planets align, we actually
13 have all the elements in place to actually achieve success.
14 And get that load manipulation, that load flexibility that
15 we really need that's going to be part of our optimal path
16 to get -- not only to make room for all this other
17 electrical stuff. But also just optimally prime the
18 business of electric utilities, which is going be a big
19 deal for ratepayers.

20 I wanted to just also reiterate the welcome, I
21 guess Secretary Batjer sits down tomorrow, actually at the
22 PUC. But she has definitely wasted no time in getting
23 around and talking to everybody and kind of seeing what
24 she's gotten herself into. But she's kind of like the
25 bureaucracy whisperer, in a way. So high hopes for her

1 kind of doing a very intentional -- I think intentional is
2 the word really that fits her well. And so certainly I
3 know all of us want to collaborate with her and help avoid
4 duplication, help make sure that we're really rowing
5 together and contributing our resources in ways that make
6 sense.

7 I know on the innovation, in that direction on
8 utilizing data for better decision making that go out she
9 was a real leader in that. And I have no doubt will
10 continue to be so. So I'm looking forward to working with
11 her and all the other Commissioners over there which are a
12 terrific bunch.

13 And then finally just again reminding folks about
14 the NASEO Annual Meeting, I think they've been in touch
15 with I think all of the Commissioners at this point. We're
16 looking for hopefully roles where we can work around the en
17 banc. And get you all down there to participate in the
18 panel, lead a panel. And really show California in all of
19 its sort of policy and wonk-ish glory to the other states,
20 so all the 50 states and 6 territories will have their
21 energy officers, and a lot of stakeholder groups and
22 service providers down in Manhattan Beach on September 16th
23 to 18th.

24 And so I get to host that meeting and really just
25 am trying to ensure that it has a rich substrate for really

1 good discussions and networking among all the actors here.

2 And people are just -- every day we get calls, I
3 get calls, I'm sure you all do too. "What are you doing on
4 this? What are you doing on that?" Well, this is the
5 place where that is the whole topic of the conference for
6 three days. And it's a national conference. It's not all
7 about California, but we certainly want to give it that
8 California flair. And contribute to the discussion in a
9 substantive way the way we know we can.

10 And Manhattan Beach is easy to get to, right next
11 to LAX. And we're hopefully going to have some Hollywood
12 flair in one form or another in there and take advantage of
13 the Southern California location to give people a good time
14 as well.

15 So anyway --

16 CHAIR HOCHSCHILD: If you can get Hollywood Town
17 at the National Association of State Energy Officials, that
18 is an impressive (indecipherable).

19 COMMISSIONER MCALLISTER: Remarkably there's a
20 pretty significant community of the actor class and the
21 Hollywood class that is really dedicated to the
22 environment.

23 CHAIR HOCHSCHILD: That's good.

24 COMMISSIONER MCALLISTER: And they -- it's kind
25 of right up their alley. Former Governor Schwarzenegger

1 and some of the actors really are interested.

2 CHAIR HOCHSCHILD: No. You know, Commissioner
3 McAllister, I really just want to commend you for the
4 leadership. You're chairing this group. And it's
5 (indecipherable) spend a lot of your time and just really
6 that's tremendous. The engagement of the other states is
7 half of what we to be doing. So thank you for --

8 COMMISSIONER MCALLISTER: Well, I really
9 appreciate that. Because I feel like so we're a huge
10 economy and a big state and we're doing this less. But
11 historically we've navel gazed a little bit, right? And
12 we've sort of we're our own ecosystem and we haven't looked
13 outwardly as much as we might have.

14 And there's incredible stuff going on in other
15 states on financing. And climate change is actually coming
16 back into the discussion even in red states, where sort of
17 it was kind of dead there for a while. But it's actually
18 there's a lot of alignment and people I think really
19 appreciate having California in the room. As long as we're
20 pushing the pieces of the agenda that are common to all the
21 states. They don't want a bull in the china shop. They
22 want collaboration. They want true collaboration.

23 And that's what NASEO sets up and gives them.
24 That's why I'm involved with the organization, because it's
25 a real positive can do. It's a small group of staff but

1 they work very well with DOE. They have great
2 relationships on Capitol Hill. They do briefings and they
3 just strategically bring in the right state energy official
4 at the right moment to talk about the right topic. And it
5 just adds a huge amount of value.

6 They're also sponsoring the jobs report, the
7 Energy Jobs Report. So they've taken that over when DOE
8 disowned it at the transition into the Trump
9 Administration. And NASEO picked it up, because they saw
10 the value.

11 CHAIR HOCHSCHILD: You know, on this topic of the
12 engagement of the states one thing to think about, we are
13 in addition to NASEO we are also a member of the Clean
14 Energy States Alliance, which is 17 states. We meet
15 regularly. We send an Energy Commission rep. It's been
16 Natalie Lee, in the past, to that. And they do case
17 studies of policies. They'll do like an in-depth study of
18 it to distribute to all their members.

19 So if you have a policy, Commissioner Scott if
20 you're thinking about the CalSEED program or something else
21 we want to highlight, or some strategy we're doing on
22 efficiency or clean transportation that is worthy of a case
23 study that we want distributed to the other states, that's
24 a great vehicle to use. And we don't have to pay for that.
25 They just do it. We pay an annual membership fee and it's

119

1 a nice thing. We did it I think on our New Solar Homes
2 Program and maybe at least one other policy.

3 Go ahead, yeah, Commissioner Scott.

4 VICE CHAIR SCOTT: All righty. Let's see, so a
5 couple of things to report to you all. I had the
6 opportunity to give a key note at the UC Davis Industrial
7 Energy Efficiency Symposium. And that was actually really
8 great. It was a nice opportunity to highlight the Energy
9 Commission's research programs, the PIER Natural Gas, EPIC
10 and also the Food Production Investment Program, which
11 there were many folks in the room. This was kind of the
12 symposium that Davis had brought together and had folks
13 from UC Davis. It had folks from the University of
14 Houston, representatives of course from state and other
15 regulatory agencies, the utilities, the environmental
16 community and a lot of the industrial sector as well.

17 And a lot of this is a little bit wonky. It's
18 waste to heat recovery and things like that. It's forward
19 osmosis to use less water when you're concentrating foods
20 and things like that. But it was great to kind of have a
21 chance to get together with the folks and brainstorm some
22 things. There were people in the audience who have been
23 funded by Energy Commission programs. And then it's nice
24 to have people who are forward leaning. They want to be on

1 the cutting edge. And they're looking for ways to use less
2 water, less energy in their processes.

3 And as you all know the industrial sector is a
4 huge component of California's economy. So figuring out
5 how we kind of keep moving together is really important.
6 So I was pleased to have a chance to do that.

7 Commissioner McAllister has already mentioned our
8 Integrated Energy Policy Report. That's going strong. We
9 had a climate adaptation workshop, which was very
10 interesting I thought. We were joined by Commissioner
11 Randolph from the PUC, so it's great to have some cross-
12 pollination there.

13 We did one also on advancing energy equity where
14 we had an opportunity to really go through, although it was
15 very quick, very high level, very brief, all of the
16 accomplishments that the state has made since SB 350 was
17 enacted. And while there is still a ton to do, we have
18 actually made a lot of really great progress on a lot of
19 the issues that we identified as key things to address.

20 I was pleased to be joined by our partners,
21 Richard Corey from the California Air Resources Board and
22 then also Commissioners Shiroma, Rechtschaffen and Guzman-
23 Aceves from the Public Utilities Commission. Again, this
24 is something where our agencies collaborate well, lots of

1 cross-pollination. So it was delightful to have them up
2 here on the dais with all of us.

3 We also have done our preliminary transportation
4 demand. We can't forget the bread and butter of the IEPR.
5 And so getting some of that information together to see
6 where the team is looking at preliminarily. And then of
7 course we'll have an updated demand forecast coming soon.
8 So that was very good as well. So a lot of IEPR goings on.
9 I think we have maybe two or three workshops and then stay
10 tuned for lots of delightful drafts to read.

11 I also just wanted to introduce, I have here a
12 new intern, she just started last Monday, Alejandra
13 Hormaza. Are you out there? Yeah, there you are. And she
14 is a -- well she just finished up her master's degree at UC
15 Irvine in mechanical engineering. She's on her way to a
16 PhD. And she's going to dig in to some key issues for us
17 while she's here on my team. So welcome. Glad to have
18 you. And she's sitting next to my two also terrific
19 interns who I introduced to you I believe last month.

20 That is me.

21 CHAIR HOCHSCHILD: Great, thank you so much. And
22 welcome to all of you. And we want to give you, all of our
23 interns a great experience while you're here. And I know
24 any of us at the Commission level are always happy to do a
25 meet and greet if you want to visit and deputies too. I

122

1 really think having mentors is really key. I know some of
2 the early internships I did in organizations changed my
3 whole career trajectory. So it's great to have you here
4 and happy to welcome of you.

5 And when we close today we -- I would like to ask
6 all my colleagues that we take a picture with our celebrity
7 intern, Isabella, as soon as we're done here.

8 A couple of highlights of mine, I just really
9 want to thank Commissioner Monahan for a great public
10 workshop and visit with all the transportation
11 stakeholders. I was there for two hours of it. I was able
12 to join you and I just thought it was really well run. And
13 great to hear not just everyone's perspective, but have the
14 stakeholders hear from each other and hear the rationale for
15 the direction we're going. And to have that kind of
16 exchange, I just thought you did a spectacular job. So
17 thank you for your work on that.

18 I've been spending a lot of time on HR stuff. We
19 basically had five key positions that I've been engaged
20 with and actually I think we're five for five on that. So
21 that feels really good as of yesterday.

22 And also the military, we have about 100 and
23 something generals, admirals in town today. I met with
24 General Connolly from the Marine Corps, our new Marine
25 Corps Director. Basically, 85 percent of the Marine Corp's

1 assets are in California. About a third of the US Navy's
2 assets are in California. It's an incredible footprint.
3 We're the number one state in terms of DOD investment, 30
4 bases in the state. Commissioner Scott and I have traveled
5 to a ton of them, yeah. And the relationship between us as
6 an agency and us as a state has been really good.

7 The big issue we're dealing with right now is
8 offshore wind. And there's a very big negotiation that I'm
9 going to go to on the 21st, down in San Luis Obispo. Well,
10 unfortunately I'll miss the big million solar earth's
11 dedication (phonetic) we've been planning with the Governor
12 on that date. But this is a really key moment for us,
13 while Commissioner Douglas is on travel.

14 So I also just wanted to say congratulations to
15 Michael Picker on a long and productive stint in state
16 government. He has worn many hats. I just read this book
17 on the history of the Brown Administration and learned that
18 his first job was in the mailroom in the early Brown
19 campaign and from that to the Governor's Office and many
20 other hats and most recently with the PUC, so thanks and
21 congratulations to him.

22 I also just have stepped down as the Chair of the
23 Board of Veloz, which is an organization that Vice Chair
24 Scott was instrumental in starting a couple of years ago.
25 I'm very, very pleased at the progress we made. We got a

1 fantastic board going. We raised a good chunk of money and
2 we've not gotten 10 million views on the Schwarzenegger
3 kicking gas video, which I've shown everywhere including to
4 a lot of these generals yesterday which was a lot of fun.
5 I've shown it at multiple conferences and it's still going
6 viral. We did 37 billboards in Los Angeles, San Francisco,
7 Sacramento, Davis, Bakersfield and Stockton, which that
8 (indiscernible) is just coming down there. It was a one
9 month fight, but I'm really pleased with that.

10 And Caroline Choi from Edison is taking over.
11 I'll still be on the Advisory Council, but she's terrific
12 and we're in great hands.

13 And then the final thing is we're doing this en
14 banc. Commissioner Scott and I worked together on an early
15 draft of that. We took a lot of feedback from the ISO and
16 PUC. And I'll be releasing that notice this week for
17 September 17th. But we have two new Commissioners at the
18 PUC now, two new ones at the ISO and of course Commissioner
19 Monahan joining us. And it's really a chance to get all of
20 us together.

21 This is not a one-off. I want to be doing this
22 regularly, because all these issues cross sector. We just
23 need to make sure we're communicating well and building the
24 relationships. So this is going to be an all-day function
25 really from 10:00 to 4:30 is what we've budgeted it at the

1 John Burton Hearing Room in the State Senate. And thanks
2 for Barry Steinhart for his help in getting that locked in
3 and to Vice Chair Scott for her help in the early
4 preparation of the agenda and the staff.

5 I think that was it for me. So with that, unless
6 there's other comments we'll do a photo and this meeting's
7 adjourned.

8 Oh, I'm sorry. Whoops, yeah we have a few more
9 things including public comments. Sorry, a little eager to
10 get out of here.

11 Let's go to the Executive Director's Report.

12 MR. BOHAN: Thanks, I'll be brief. I just have
13 one item. It's the next installment in our unsung heroes
14 series. And I want to acknowledge Zach Dextraze. Zach,
15 stand up if you could. And it just so happens we have Zach
16 reports to Adrienne Winuk who reports to Rob Cook, who
17 reports to me, who reports to you. So we've got the whole
18 line here.

19 Zach's got a great story. He started with us in
20 2014 as a student. And we've been very, very successful
21 with turning students into staff and in this case to a
22 really, really excellent one. So Zach is in Contracts,
23 Grants and Loans. And he's particularly an expert on our
24 FI\$Cal and the crossover between the accounting part of
25 FI\$Cal and the contracts, grants and loans part.

1 And I just wanted to read one quick quote. This
2 gentleman wrote in, a grant recipient, and said, "Zach's
3 knowledge of the CEC procedures and it's proactive role in
4 communicating with the project manager, and if necessary
5 others, has helped move the process forward and avoid the
6 invoices sitting unprocessed." And it goes on.

7 You know we get contact from a lot of folks. And
8 generally speaking it's when there's a problem and
9 something isn't going well. So it's unusual that someone
10 reaches out and acknowledges one of our staff and says,
11 "You know, thanks a lot for doing a great job."

12 So I just wanted to acknowledge staff and put a
13 face to a name. (Applause.)

14 CHAIR HOCHSCHILD: Great, thank you.

15 CHAIR HOCHSCHILD: Public Adviser's Report?

16 MS. MARTIN-GALLARDO: I'll be brief as well. I
17 think that my report speaks well into the kudos we had for
18 Zach just a moment ago.

19 I wanted to report that I have concluded my calls
20 to the transportation grantees. And I am in the process of
21 creating a report for you and we'll be meeting with the
22 people that we have designated within the Energy Commission
23 to discuss how we move forward to reduce those friction
24 points. And we'll be having that meeting at the end of
25 this month or beginning of next month.

REPORTER' S CERTIFICATE

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 23rd day of August, 2019.



PETER PETTY
CER**D-493
Notary Public

TRANSCRIBER'S CERTIFICATE

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.

IN WITNESS WHEREOF, I have hereunto set my hand this 23rd day of August, 2019.



Myra Severtson
Certified Transcriber
AAERT No. CET**D-852