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STATE of CALIFORNIA

CALIFORNIA ENERGY COMMISSION


Transcript of Proceedings

California Energy Commission
Rosenfeld Hearing Room - First Floor
1516 9th Street
Sacramento, California

Friday, October 19, 2018
10:00 a.m.

Brittany Flores, CSR 13460
APPEARANCES

PANEL MEMBERS:

J. Andrew McAllister, Lead Commissioner for Energy Efficiency
Karen Douglas, Lead Commissioner for Siting
Pamela Doughman, Advisor for Chair Robert B. Weisenmiller
Ken Rider, Advisor for David Hochschild

CEC STAFF:

Heather Raitt, Energy Commission
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MS. RAITT: All right. Good morning, everybody -- or folks here. I'm Heather Raitt. I'm the manager of the IEPR, and today's workshop is on the Draft 2018 IEPR Volume -- IEPR Update Volume 2. I'll just quickly go over our housekeeping items. If there's an emergency and we need to evacuate, please follow staff out the doors and to Roosevelt Park, which is across the street and diagonal to the building. And we are recording this meeting, so we'll have a -- so we're broadcasting over WebEx and we're recording it and we will post the recording on our website and we are also going to have a written transcript of our meeting.

I'm going to give a short presentation after the commissioners make opening remarks, and then we'll have an opportunity for public comment. And so folks in the room, if you wanted to make comments, please go ahead and fill out a blue card and go ahead and give it to me. And, folks on WebEx, you can let our WebEx coordinator know that.

And materials for the meeting are on -- in the entrance to the hearing room and also posted on our
website. And just a reminder, we also welcome written comments, and they're due on November 2nd. And the notice gives you all the information for submitting written comments. With that, I'll turn it over to the dais. Thank you.

COMMISSIONER MCALLISTER: Well, great.

Well, thanks, Heather.

And I see we've clearly hit a nerve here because we have such incredible attendance, and it's good to see that the ISO works on Fridays. Thanks, Delfine. But in actually -- by the way, Delfine, for the, the symposium and just on behalf of all of us to all of you, I think it was really a great event again -- once again. So really terrific and excellent attendance and just a -- you know, so that was great.

So I'm Andrew McAllister, lead on energy efficiency at the Energy Commission, also taking a big interest in forecasting along with the chair going forward for next year and among, you know, other topics. I think -- well, I'll just say this: Part 2 of the IEPR is kind of where a lot of the meat is this year, and, you know, Part 1 was really, kind of, focused on the Global Climate Action Summit and, you know, Commissioner Hochschild has led it, I think, to have much more resonance than maybe typically the IEPR has in
terms of its accessibility to public and, sort of, a highlighting of all the great things that are happening here in California.

So this Part 2 is, kind of, where some of the substance policy discussions have gone, and it's really reflecting a lot of work as always, but, you know, on the topics we'll talk about today, on behalf of all five commissioner offices, I would say everybody's taken an interest in, in the particular topics that they lead but certainly this -- we're in this phase where we're having to integrate lots of different policy themes and that is only going to continue in earnest. And I would say on an even deeper level, next year, when we do a full IEPR and a full forecast, and we try to integrate some of these ongoing legislative implementation issues around SB 350 and other pieces of legislation in the recent past but also some new stuff that came through this past legislative session -- and there's a lot of focus on decarbonization; a lot of focus on analytics; and a lot of need for putting together new tools to take advantage of a lot of the modern amenities that we have for understanding energy consumption and developing polices.

So anyway, I think in that context, this -- kind of, see this Part 2 of the 2018 IEPR as setting the table in a way for this -- for next year's discussion
and, and also dealing with some of the current policy issues that Heather's going to give us a briefing about after we give our comments initially.

So just thank everybody for coming, everybody in the room and online. Looking forward to getting this on the table. We might not go very deep today. I think this will be, kind of, a general presentation meeting today, but then obviously when people dig into it and they really have a chance to develop their comments and fully form their ideas and put those on paper, we'll look forward to hearing those and seeing those on the docket as we go forward. And, you know, the process is really meant to incorporate the stakeholder comments, and that's why we do these things. And that's how -- that is really the process that's the lifeblood of getting to good results in IEPR and other proceeding here at the Commission. So thanks again, and I'll pass it on to my, colleague, Commissioner Karen Douglas.

COMMISSIONER DOUGLAS: I'll join Commissioner McAllister in welcoming all of you here and whoever is on WebEx, and I am looking forward to the discussion and the comments. And I just -- I'll just jump on everything he said.

Pam.

MS. DOUGHMAN: Hi. Yes. Thank you for
coming. Chair Weisenmiller asked me to draw your attention to three key points included in this report. Reducing greenhouse gases continues to be a high priority especially in the transportation sector. Improving resilience to the impacts of climate change is another high priority for California. Also, it is important to reduce barriers to ensure equal access to the energy transformation for all Californians.

COMMISSIONER MCALLISTER: Ken.

MR. RIDER: Yeah. Hello. I'm Ken Rider, chief of staff to Commissioner Hochschild, who is the lead on this IEPR, and we just encourage anyone if they haven't read Volume 1, Volume 1 of the IEPR is, is published, and it's a nice report and there is a nice video that goes along with it. And my boss would certainly suggest that you all check it out and share it widely.

This, this Volume 2 is in draft form, so comments are really important to help us finalize it. And I just want to, again, kind of, along the lines of what Pam just said, just emphasize that this report really, kind of, embodies three things, which is continuing to keep the lights on in California. What do we need to do and how do we need to plan for that? You know, addressing energy equity is really important, and it's embodied here. And then also, our fight against climate change
is also in this report. So those are three, I think, main themes that run in this report and look forward to a -- some discussion today about it.

MS. RAITT: Thank you.

Okay. Great. So just to give a high level overview, the Energy Commission prepares the IEPR every two years. That includes assessments of energy supply and demand, market trends, and major challenges with updates in the intervening years. Of course, this is an update year. Through the IEPR, the Energy Commission develops energy policies and recommendations to protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety.

As we discussed, Commissioner Hochschild is the lead for this year's IEPR, and Volume 2 of the 2018 IEPR Update follows up on several energy issues examined in the 2017 IEPR and puts forward recommendations for further work. The report draws on information gleaned from both public workshops and webinars, and another workshop is scheduled for December to discuss the results of the updated electricity forecast. So on the very high level, as already has been mentioned, the IEPR continues to focus on transforming California's energy system to reduce greenhouse gas emissions to increase the resiliency in the state's energy system to climate
change.

In August 2018, the Governor's Office of Planning and Research, the California Natural Resources Agency, and the Energy Commission released California's fourth climate change assessment, and this provides new cutting edge research on climate change building on efforts from previous years. The fourth assessment translates the global climate model into regionally relevant reports that help identify and plan for the impacts of the change in climate on a local scale. Regional workshops that bring together scientists, local government representatives, and community members are being held around the state to help communicate the findings and build partnerships in order to better serve local planning needs. The results of the fourth assessment are sobering and show a future punctured by severe wild fire, rising sea levels, increased flooding, coastal erosion, extreme heat events, and more frequent and longer droughts.

California has a history of leadership in climate policy with a few key policy pieces of legislation listed here, which most of you are probably very familiar with. AB 32 called for reducing greenhouse gas emissions to 1990 levels by 2020. SB 32 calls for a 40 percent reduction below 1990 levels by 2030. Achieving
these goals requires changing our transportation fuels, changing our electricity systems to use more renewables, increasing efficiency in reducing methane and other potent greenhouse gas emissions. SB 350 was a key piece of legislation to help advance those goals and also to ensure benefits of clean energy are realized by low income and disadvantaged communities.

Last month, the Governor signed SB 100 by Senator de Leon, which calls for 100 percent zero carbon electricity resources by 2045. It also increases the 2030 renewables target from 50 percent to 60 percent.

The Governor also signed executive order B-55-18, which sets a new statewide goal to achieve carbon neutrality by 2045 and to maintain negative emissions thereafter. At about the same time we posted the draft Volume 2, the Intergovernmental Panel on Climate Change released a special report on global warming 1.5 degree celsius. It shows that limiting global warming to 1.5 degree celsius significantly reduces the impacts of climate change and avoids the catastrophic consequences of a greater than 2 degree warming. To avoid going past 1.5 degrees celsius warming, IPCC found that by 2030, global CO2 emissions must decline by about 45 percent below 2010 levels and reach net zero by about 2050. The Governor's executive order calling for carbon neutrality by 2045 is consistent
with IPCC findings. Californian continues to lead by example working with others to advance greenhouse gas emissions reductions on a global scale, and California continues to be active on an international stage to spur action. Most recently, California hosted the Global Climate Action Summit in San Francisco to strengthen the push for greater emissions reduction internationally.

California's electricity sector is leading the state's efforts to reduce greenhouse gas emissions. In 2016, greenhouse gas emissions from the electricity sector were 37.6 percent below 1990 levels. Although, California's greenhouse gas goals are statewide, in 2016, the electricity sector surpassed the 2020 greenhouse gas goal and nearly met the 2030 goal. The electricity sector accounted for only 16 percent of statewide emissions. In 2017, about 32 percent of California's electricity was served from renewable and for the first time, solar outset all of the remaining sources, accounting for about 36 percent of the state's renewable generation.

California's electricity system has achieved some gains in integrating increasing amounts of renewables since the 2017 IEPR, but more work is needed to manage the daily and minute to minute changes in renewable generation. There has been progress in developing
performance standards for inverter-connected solar and wind power plants that will improve reliability, increase services to the grid. Energy storage has grown, but more is needed. One opportunity is to repurpose used electric vehicle batteries for the grid. Grid regionalization is a promising solution that has not yet been realized. Still, the western energy and balance real-time energy transfers in the west and is growing. It has helped avoid curtailment of 715,000 megawatt hours of renewable energy since 2015 and has saved more than 300,000 metric tons of carbon dioxide equivalent. Increasing the flexibility of loads will also be key. One tool is time-of-use rates and -- that encourage energy use to be better aligned with the resource availability. Another is demand response that can allow loads to be fully integrated as a grid resource. While policymakers are working to reshape the electricity system, California's -- Californians are increasingly making household choices about how and from where they get their electricity. This is profoundly changing the market and provides new opportunities as well as new questions about the state's climate and energy goals will be realized.

As California's electricity system evolves, so does the Energy Commission's efforts to develop
electricity demand forecasts. The forecast is used by the California Public Utilities Commission and the California Independent System Operator for Planning Purposes. The Energy Commission is updating 2017 forecast with an additional year of historical data and updated economic and demographic information. For the first time since the Energy Commission started doing annual updates to the forecast. Results will also include refresh projections of solar PV, system adoptions, plug-in electric vehicle adoptions, community choice aggregators, and time-of-use rate impacts. The update also improves upon the hourly load model that was developed in 2017. This will allow the Energy Commission to adopt a forecast of monthly peak loads alongside its standard forecast. The forecast extends to 2030 and will be available in late 2018 and considered for adoption in early 2019.

As California look to reduce greenhouse gas emissions, it must address admissions that come from buildings, which are second only to the transportation sector. Working towards zero emission buildings requires reducing greenhouse gas emissions from the entire building including electricity, natural gas, other fuels, as well as refrigerants that typically use highly potent greenhouse gases. Electrification is a key
strategy. With electrification, achieving zero emission buildings requires a recognition that emissions from electricity systems are not the same each hour of the day. Emissions are lowest during peak solar generation. Thus electrification must be coupled with load management strategies such as time-of-use rates and demand response to shift when energy is consumed in order to maximize the use of renewable energy. Increasing energy efficiency is a key part of decarbonizing buildings and achieving the state's goal, to double energy efficiency savings by 2030. Investments made during new construction retrofitting buildings and replacing appliances to provide precious opportunities for increased energy efficiency and has long-term implications on the state's ability to meet its climate goals.

The agriculture and manufacturing sectors provide promising opportunities for expanding energy efficiency. Still, the state needs to expand energy efficiency efforts, development initiatives, innovative market solutions, harness energy, harness emerging technologies, and develop progressive program designs across all sectors of economy. In 2018, the Energy Commission took a bold step towards reducing emissions from buildings and increasing energy efficiency by adopting the first in the nation building standard that requires solar on new
homes starting on -- in 2020. The standards reflect rigorous assessment of homeowner financial benefits of rooftop solar systems and build on four decades of establishing cost-effective efficiency requirements in building design and construction.

Integral to the state's energy goals is to increase the equitable distribution of the benefits of clean energy and to create an inclusive clean energy economy. The Energy Commission examined the barriers of energy efficiency and weatherization investments; renewable energy generation and contracting opportunities for local small businesses and low-income and disadvantaged communities. Likewise, the California Air Resources Board reported on barriers to accessing zero emission and near zero emission transportation and mobility options. Progress implementing the recommendations in the two-part barrier study is underway. For example, in June 2018, the Energy Commission launched the energy equity indicators web page to identify opportunities for improving clean energy access, investment, and resilience in California's low-income and disadvantaged communities. Recognizing that nearly half of low-income Californians live in multifamily rental housing, the Energy Commission also developed a clean energy low-income multifamily buildings action plan. The
report is expected to be adopted next month. CARB’s efforts concentrate on expanding education and outreach and developing a one-stop shop pilot project for its low carbon transportation equity projects.

While pursuing a cleaner energy system with benefits to all Californians, the state continues to grapple with making sure energy supplies are reliable in the near future, particularly in southern California. The Energy Commission, CPUC, and the California ISO continue to work together to address reliability issues related to the 2012 closure of San Onofre nuclear generating station, compounded by the expected closure of several, coastal natural gas power plants. The agencies periodically review progress on preferred resources as well as conventional generation and transmission projects. The ways of a large transmission projects that will increase the capability to import electricity into the region that meet the Mesa loop-in project we're watching. The joint agencies are also addressing a second reliability issue with the additional partnership of the Los Angeles Department of Water and power. The second issue stems from the 2015 massive leak at the Aliso Canyon natural gas facility compounded by outages of key pipelines of the Southern California gas system. Summer 2018 marks the third analysis by the joint agency team and natural
gas and electricity systems. They found that pipeline capacity is more constrained in 2018 than 2017, meaning there was greater risk of service interruptions. Since posting the draft IEPR, the state joint agencies released an updated winter assessment that similarly found that the system is more constrained in 2018 than 2017 due to the pipeline outages. So I'd like to conclude by saying that California is making progress in reducing greenhouse gas emissions from its energy system. There's still a lot of work ahead. California's leadership continues to be critical as climate change is a global problem with impacts being felt in California and worsening. That's why we're advancing science to increase our resilience to climate change and setting groundbreaking goals to reduce greenhouse gas emissions. While undertaking these efforts, California's economy has grown 46 percent since 2010 and the state is working to ensure the benefits of a clean economy are equitably shared. The IEPR puts forward a number of recommendations aimed at meeting our climate and energy goals. So with that, I invite comments on how we can improve the report, and we'll take oral comments today, and written comments, as I mentioned, are due November 2nd. Thank you.
public comment, correct?

    MS. RAITT: Yep.

COMMISSIONER MCALLISTER: So I only have one blue card. If anyone else wants to make a public comment, please get in line or submit a blue card and/or get in line first so that you can ask for the blue cards that we do have.

    So I just have the one from Brian -- is it Kolodji?

    Yeah. Come on up, please.

    Okay. So just reminding everybody, three-minute public comment, and anything you can't say in three minutes, please put on paper and submit on the docket.

    All right. So thank you. Thanks for being here.

    MR. KOLODJI: Thank you, Ms. Doughman, commissioners, staff. My name is Brian Kolodji. I'm with Swan -- Black Swan, Incorporated. It's a California company, and we are in the race of removing greenhouse gases from the environment. I'm also the chair of the American Institute of Chemical Engineers, carbon management session, and invite Heather to present this wonderful report to our international audience that will be present in New Orleans here in March.

    By the Governor's executive order, five million ZEVs will replace almost one-third of the 15 million
gasoline driven cars. This means five billion gallons of gasoline will not be combusted, but over 200,000 gigawatts hours, which almost -- of energy must be produced to supply power to these -- to charge these batteries for these five million cars, and that has not been considered in this report. That means the number that you came up with has to be doubled.

Okay. I'm a chemical engineer. I know what I'm talking about. I looked at your numbers, and you didn't consider the power to charge the ZEVs in your report. That means you need to, literally, double all the power in California to supply power to those cars. It's an amazing amount. Okay. And the consideration for additional power plants to supply this power to ZEVs, again, has not been considered in the report and the ZEV requires more power than a gasoline car. So it's less efficient. Gasoline is the highest density fuel out there today. Electricity powered cars are not as efficient, but they are zero emission, so I'm all for them. But the thing is, is the forecast in the report is ignoring the fact that we got to charge those batteries with new power plants. It requires new power plants. 60 percent required, per this SB 100, for renewable energy is certainly not enough to accommodate doubling the power. Okay. So again, we need more ZEVs.
We need more power plants to charge those ZEVs. And they -- I recommend you look at natural gas fired power plants again and allowing technology that removes carbon from stack of power plants.

This is what my business is. We remove carbon directly, CO2 directly from the stack and feed it to the crops. We double the crops. I presented a -- I made a presentation to California Department of Food and Agriculture, scientific advisory panel. They've accepted this technology. It's recognized. It's been in practice for over a hundred years. We need to remove power -- we need to consider technology that removes carbon directly from the stack of the existing power plants and new power plants that you need to build to run these ZEVs.

COMMISSIONER McALLISTER: Thanks for your comments.

MR. KOLODJI: You're welcome.

COMMISSIONER McALLISTER: Put your more extensive thoughts on the docket in written format that would be great.

MR. KOLODJI: I sent written comments in electronically and I'll send -- I also provided a slide presentation that I presented to the California Department of Food and Agriculture yesterday.

COMMISSIONER McALLISTER: Great. Thanks.
MR. KOLODJI: And it shows how we remove all 400 million --

COMMISSIONER MCALLISTER: Thanks a lot. Appreciate it.

MR. KOLODJI: -- with one technology. You don't need all this -- this technology will remove all the greenhouse gas and get it carbon neutral in less -- in two decades faster.

COMMISSIONER MCALLISTER: Thanks a lot. for your comments, I appreciate it.

Tim Carmichael.

MR. CARMICHAEL: Good morning, commissioners, staff. Tim Carmichael with Southern California Gas Company. Just a few comments. We will also be submitting written comments. Just a few comments today.

Thank you for the opportunity to speak about the draft IEPR update. Southern California Gas believes that maintaining a diverse energy portfolios ensures California -- Californians will have access to safe, reliable, and affordable energy. And we think the IEPR should reflect this. Decarbonizing buildings has been identified as a key focus in reducing GHG emissions to meet the state's 2030 and 2050 climate goals. And as we have recently discussed with some commissioners and
staff, SoCal Gas is supporting -- supportive of building decarbonization strategies and we believe they should include renewable gas production to decarbonize the gas supply. This pathway will help keep consumer costs down but also enable customer choice. While we appreciate CEC has acknowledged there's some potential to decarbonize buildings, we're disappointed that the R and G pathway has largely been dismissed in, in this -- in the near-term plans for the CEC. The CEC, in the IEPR, talks about reevaluating this strategy in four years, and we're concerned about that because we expect the CEC and other agencies to actively develop policies in the next few years during that window. And we believe this R and G strategy should be part of that. The draft IEPR states that there are no incentives for R and G in buildings at this time, but the report makes no mention of recently passed legislation, Senate Bill 1440 by Senator Hueso. We expect that the PUC rulemaking on that legislation will create a framework that will make R and G an option for residential and commercial sector but for greater use in the residential and commercial sector.

The 2018 IEPR also includes a robust discussion on climate change adaptation and resiliency. However, natural gas is largely overlooked in this section of the
report. The natural gas grid is a valuable asset that provides reliable and affordable energy and is less vulnerable to service disruption caused by wildfires and other natural disasters. In addition, underground storage is an integral part of maintaining energy resiliency, and with appropriate regulation and oversight, the risk associated with underground storage can be managed and mitigated. California's current energy system needs natural gas and gas storage to run reliably. The California Council on Science and Technology, CCST, was tasked with preparing an independent and scientific assessment on the long-term viability of underground natural gas storage facilities.

COMMISSIONER MCALLISTER: We need to wrap it up Tim.

MR. CARMICHAEL: Okay. That draft report included consultation with CEC, and there was a workshop on that earlier this year. We believe that should -- the findings of that report should be included in the IEPR. And in closing, we just ask for more attention to the potential for underground storage and the infrastructure system be part of the solution, and we will be submitting additional comments in writing. Thank you.

COMMISSIONER MCALLISTER: Great. Thank you.
Thanks for your time.

Is there anybody else in the room who'd like to provide comments?

That's it for the blue cards. So -- oh. And the speakers -- actually, in particular, first speaker -- could you give the court reporter your contact information, please.

And then do we have anybody on the line?

MS. RAITT: It sounds like we don't have anybody on WebEx who is asking questions.

Okay. Great. Well, we push this thing out into the world, and hopefully, people will read it and submit comments.

That's it for the agenda, right?

MS. RAITT: I think that's it. So yeah, comments are due November 2nd.

COMMISSIONER MCALLISTER: Okay. So November 2nd. Got a couple weeks. And looking forward to hearing all those and reading them and revising the document, getting it out here expeditiously.

So I don't think we really need closing comments.

All right. We're good. Thanks everybody, again, for being here, and we are adjourned. Thanks.

(Whereupon the proceeding concluded at 10:33 a.m.)

--00o--
I, Brittany Flores, a Certified Shorthand Reporter of the State of California, duly authorized to administer oaths, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that a record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; that the foregoing transcript is a true record of the testimony given.

I further certify I am neither financially interested in the action nor a relative or employee of any attorney of party to this action.

IN WITNESS WHEREOF, I have this date subscribed my name.

Dated: Nov. 19, 2018

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Brittany Flores CSR 13460

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Brittany Flores CSR 13460