BEFORE THE
CALIFORNIA ENERGY COMMISSION

In the matter of,	)	Docket No. 12-IEP-1D
	)	
2012 Integrated Energy Policy	)	
Report Update	)	
(2012 IEPR Update)	)	

Lead Commissioner Workshop on Identifying and Prioritizing Geographic Areas for Renewable Development in California

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

THURSDAY, MAY 10, 2012
9:00 A.M.

Reported by:
Tahsha Sanbrailo

APPEARANCES

Commissioners Present:

Carla Peterman, Lead Commissioner, 2012 IEPR
Robert B. Weisenmiller, Chair
Andrew McAllister

Staff Present:

Suzanne Korosec, IEPR Lead
Scott Flint, Energy Commission, Siting Transmission and Environmental Protection Division
Bill Pfanner, Energy Commission, Special Projects Office
Dave Michel, Energy Commission

Panel 1:

Matt Coldwell, Energy Commission (Moderator)
Ginger Torres, PG&E, Environmental Policy Department
Roger Salas, Southern California Edison
Randy Howard, LADWP
Jennifer Barrett, County of Sonoma
Noah Long, Natural Resources Defense Council
Cara Peck, U.S. EPA
John Gamper, California Farm Bureau Federation
Ryan Drobek, CEERT
Michael Wheeler, Recurrent Energy
Jeffrey Russell, UC Berkeley School of Law, Center for Law, Energy and the Environment

Panel 2: (* Via WebEx)

Eli Harland, Energy Commission (Moderator)
Wade Crowfoot, Governor's Office of Planning and Research
John Gamper, California Farm Bureau
Kim Delfino, Defenders of Wildlife
Sky Stanfield, Keyes, Fox & Wiedman, representing Interstate Renewable Energy Council
Vernon Hunt, Navy Southwest Region
*Josh Hart, Inyo County
Ethan Elkind, UC Berkeley Center for Law, Energy & Environment
Tim Snellings, Butte County/California County Planning Directors Association
Ginger Torres, Pacific Gas & Electric
Mary Deming, Southern California Edison

APPEARANCES (Contin.)

Panel 3: (* Via WebEx)

Eli Harland, Energy Commission (Moderator)
*Snuller Price, E3
*Alex Levinson, Pacific Environment
Bernadette Del Chiaro, Environment California
Eric Parfrey, Yolo County, Principal Planner
Albert Lopez, Alameda County, Planning Director
Strela Cervas, California Environmental Justice Alliance
Randy Howard, LADWP
Tim Tutt, Sacramento Municipal Utilities District

Public Comment:

Martin Homec, Attorney
Gareth Mayhead, U.C. Berkeley
Mary Lynch, on behalf of Alliance for
Retail Energy Markets

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P R O C E E D I N G S

MAY 10, 2012 9:00 A.M.

MS. KOROSEC: All right. We're going to go ahead and start, folks. Thanks for your patience. Good morning, I'm Suzanne Korosec. I manage the Energy Commission's Integrated Energy Policy Report Unit. Welcome to today's workshop on Identifying and Prioritizing Areas for Renewable Development in California.

Just a few housekeeping items before we get started. Restrooms are out the double doors and to your left in the atrium, we have a snack room on the second floor at the top of the stairs under the white awning, and if there's an emergency and we need to evacuate the building, please follow the staff out the door to the park that's kitty corner to the building and wait there until we're told that it's safe to return.

Today's workshop is being broadcast through our WebEx Conferencing System and parties do need to be aware that you are being recorded. We'll make an audio recording available on our website a few days after the workshop, and we'll provide a written transcript in about two weeks, posted on our website.

We'll be breaking for lunch a bit earlier than usual today, around 11:30. And, in addition to our panel

discussions today, we've set aside time at the end of the day for more general public comment.

During the public comment period, we'll take comments first from those of you here in the room, followed by those participating on the WebEx. And at any time during today's discussions, if you're going to make a comment or ask a question, please come up to the podium in the center of the room and use the microphone so we can make sure that the WebEx participants can hear you and so we can capture your comments accurately in the transcript. It's also helpful if you can give our Transcriber a business card when you come up to speak, so we make sure that your name is spelled correctly also in the transcript.

For WebEx participants, you can use either the chat or raised hand feature to let our Coordinator know that you wish to make a comment or ask a question, and we'll either relay your question or we'll open your line at the appropriate time.

We're also accepting written comments on today's topics until close of business on May 17th, and the Notice for today's workshop, which is on the table out in the foyer, and also available on our website, explains the process for submitting written comments to the IEPR Docket.

With that, I will turn it over to Commissioner Peterman for opening remarks.

COMMISSIONER PETERMAN: Good morning, everyone. Thank you for being here with us today. Achieving California's renewable goals in the most cost-effective and environmentally sound manner will benefit from prioritizing and identifying certain areas for renewable development.

Indeed, the Energy Commission in its longstanding role as a siting agency has seen some of the challenges that can result in delays when siting any type of generation if we're not cognizant of some of the inherent environmental characteristics and limitations.

The Commission continues to work, particularly on siting renewables for the DRECP, as well as in our various siting cases. As we move forward and try to develop renewables throughout the state, in addition to the desert area, we need to think about is there an approach, is there some planning we can do upfront, that will make the process easier for developers and the state, as well as provide the benefits that the state is seeking.

All of you are here today because you are the experts and I'm looking to get some good suggestions and recommendations from all of you. The outcome of this

workshop, as well as a series of workshops we're having this summer for the Renewable Strategic Plan, will be a list of specific recommendations for state agencies, the Legislature, and various parties, for meeting in particular our 2020 goals.

So with that, I will turn the program back over to Suzanne Korosec and look forward to your comments and engagement. Thanks.

MS. KOROSEC: Thank you, Commissioner. What I'd like to do now is provide some brief context for the workshop, quickly go over the agenda, and then I'm going to summarize the information that we developed during the last Integrated Energy Policy Report as part of our Report on the Status and Major Challenges to Renewable Development in California.

Every two years, the Energy Commission prepares an Integrated Energy Policy Report, or IEPR, that assesses major energy trends and provides policy recommendations to the Governor. In 2010, as part of his Clean Energy Jobs Plan, Governor Brown directed the Energy Commission to prepare a plan to expedite the highest priority renewable generation and transmission projects. In response to that direction, much of the focus of the 2011 IEPR proceeding was on identifying challenges to renewable development and discussion

activities that were already completed or underway to address those challenges.

The *Renewable Power in California: Status and Issues Report*, which was published in late 2011, discussed the various challenges and laid out five high level strategies as the basis for a renewable strategic plan to be developed during the 2012 IEPR Update Proceeding.

Today's workshop is the second of seven workshops that we're holding as part of the 2012 IEPR Update on topics related to those five strategies, the dates of which are shown here.

The strategy we're discussing today relates to identifying and prioritizing areas of the state for renewable development, both for utility-scale and Distributed Generation, and increasing coordination between state, local, and federal agencies to promote siting and permitting of renewable infrastructure in those preferred areas.

Our first panel today will focus on identifying what the preferred characteristics are for priority renewable development areas and what data and resources will be needed to identify areas that provide those characteristics.

We'll then break for a one-hour lunch and

reconvene at 12:30 with our second panel on strategies that are already being used to prioritize areas in California for Renewable development.

We'll have a short break mid-afternoon and then move into our third panel on coming up with renewable distributed -- or, excuse me -- DG goals that build toward the Governor's overall goal of 12,000 megawatts of DG by 2020. We'll finish up with an opportunity for public comment at the end of the day and then we hope to adjourn around 5:00.

So Strategy 1 in the Renewables Status and Issues Report identified three general characteristics of priority areas for renewable development, high levels of renewable resources located where development will have the least environmental impact and located close to planned, existing, or approved transmission and distribution infrastructure.

In terms of areas with renewable resources, the Renewables Status and Issues Report provided an overview of renewable technical potential in California; I apologize for cramming so much information onto a single slide here, and I do encourage you to go to the original report to see the details more clearly, but I included these maps to illustrate which areas of the state have the highest potential for the various renewable

technologies, with the counties with the highest potential in the darker colors.

For biomass potential, shown in the green, the top five counties are Los Angeles, Humboldt, Mendocino, Fresno, and San Bernardino. For geothermal, at the top and the middle, it's Imperial, Sonoma, Inyo, Siskiyou, and Mono Counties.

For small hydro shown in the blue, it's Fresno, Amador, Shasta, Sierra, and Calaveras.

For concentrating solar power, which is at the bottom left, it's San Bernardino, Imperial, Riverside, Kern, and Inyo.

For commercial scale PV that's in the bottom in the center, it's Orange, Los Angeles, Santa Barbara, San Luis Obispo, and Santa Clara.

And for wind, while we didn't identify specific potential by county, the top wind resource areas are in Kern, Alameda, Contra Costa, Riverside, Solano, and Santa Clara Counties.

Regarding locating renewables where they'll have the least environmental impact, the Renewable Report noted that one of the main lessons -- as Commissioner Peterman noted -- during the CEC's licensing of more than 4,000 megawatts of large-scale solar in the desert during 2010, is that location matters. Locating renewable

facilities on undisturbed or sensitive lands in the desert raises a host of environmental concerns, including impacts on sensitive animals and plant species, water supplies and waterways, cultural resources like areas of historical or ethnographic importance, there are also land use concerns since most of the desert land in California is owned by the Federal Government and managed for multiple uses like recreation, wildlife habitat, and livestock grazing.

The Renewable Report focused much of the environmental discussion on impacts from utility-scale projects in the California Desert because that's where most of the development was occurring. However, there are a variety of environmental issues associated with utility-scale renewables in non-desert environments, as well. Examples include impacts on agricultural open space and habitat lands, as well as sensitive species for solar PV development, bird impacts, aviation impacts, and noise problems from wind development, regional increases in criteria pollutants and particulate matter, and land use ash disposal and water concerns for biomass development, and effects on sensitive species, cultural resources, water supplies, and visual landscapes for geothermal facilities.

Renewable DG projects can also cause a range of

environmental impacts similar to those for utility-scale projects, depending on size, technology, and site location; however, small DG installations can have fewer environmental issues because they can be located in industrial areas, on already disturbed land, or, in the case of small PV, can be located on existing residential, industrial, or commercial rooftops.

Wind microturbines can be sited individually or in small groups to minimize environmental impacts, biomass DG can have a smaller footprint than a utility-scale facility, and be located near existing lumber mills or agricultural facilities, to maximize fuel access and avoid or minimize land use conflicts, but it can also face challenges in securing air permits, particularly in areas with significant air quality issues.

Small hydro and projects, in general, cause fewer and less severe impacts than large hydro projects, with many new projects involving replacing older turbines at existing dams with more efficient equipment, or making use of existing water conduits.

The Renewable Report discusses several existing efforts to identify areas for utility-scale renewable development with the least environmental impact, including the Renewable Energy Transmission Initiative, the Desert Renewable Energy Conservation Plan, and the

Federal Solar Energy Development Programmatic Environmental Impact Statement. The Renewable Energy Transmission Initiative, or RETI, began in 2007 as a joint effort among the PUC, the Energy Commission, CAISO and Utilities, to combine land use and transmission planning. The RETI process identified competitive Renewable Energy Zones throughout California that had the highest potential for cost-effective and environmentally responsible renewable energy development.

California's Renewable Energy Action Team was established in 2008 and is using some of the recommendations from the RETI process in developing the Desert Renewable Energy Conservation Plan, or DRECP, which is identifying areas in the Mojave and Colorado Desert Regions that are suitable for renewable development and areas that will contribute to the conservation of sensitive species and habitats. We'll hear more about the current state of the DRECP activities this afternoon as part of Panel 2.

The Renewable Energy Action Team also published a Best Management Practices Manual for Desert Renewable Energy Projects in December of 2011, which is intended to help developers to design projects that reduce environmental impacts of desert renewable projects.

On the R&D side, the Energy Commission's Public

Interest Energy Research Program is funding research to develop strategies to reduce the effects of desert, solar and wind projects on sensitive species, and to identify low risk sites for wind turbine installations to reduce bird and bat impacts.

At the Federal level, the Department of Energy and the Bureau of Land Management have prepared a Solar Energy Development Programmatic Environmental Impact Statement to look at impacts from programs to promote utility-scale solar development in six western states. The final PEIS is expected to be available in late summer of 2011 [sic] and, as part of that effort, the BLM proposes to develop a new solar energy program to support utility-scale solar development on BLM administered land by prioritizing development in solar energy zones that are best suited for solar energy development. Someone is mouthing something to me from the audience --

UNIDENTIFIED SPEAKER: Will be out in 2012.

MS. KOROSEC: Okay, excuse me, I misspoke, it's supposed to be out in late summer of 2012.

Local Governments are also identifying areas for renewable development, for example, Kern County, which includes renewable energy facilities as part of their General Plan Energy Element and County Zoning Ordinance. Kern has also surveyed and designated areas as

appropriate for wind and solar development and completed programmatic level and Environmental Impact Reports in specific areas. The Renewable Report noted that, by pre-designating areas and defining development standards for renewable facilities within the County, developers have experienced fewer permitting roadblocks from the Kern County Planning Department. Another example is Imperial County, which has designated four geothermal overlay zones totaling more than 140,000 acres, and has adopted several Master Environmental Impact Reports that reduce the documentation needed for subsequent projects that will be proposed in those areas.

Inyo County has also prepared an overlay district for solar and wind resources, including an in-depth assessment of the best suitable locations for renewable development.

A related issue that was discussed in the Renewable Report was the need to make sure that renewables with environmental impacts aren't clustered near Environmental Justice Communities. The report referenced some environmental issues over the past decade with renewable plants located near EJ Communities and in areas of the state with high minority populations. These include several biomass plants in the San Joaquin Valley, which in 2011 were fined for violations of the Federal

Clean Air Act and Local Air District Rules, geothermal facilities in the Imperial Valley that, in 2005, were investigated by the Department of Toxic Substances Control, and subsequently fined $1 million for illegal storage treatment and disposal of hazardous waste, and a 2007 incident where a geothermal plant was fined for exceeding levels of lead, arsenic, and copper in wastewater sent to the Salton Sea.

Moving on to the Third Priority Characteristic identified in Strategy 1, that renewable development should be located close to transmission and distribution infrastructure. The Renewable Report identified preliminary regional targets for the Governor's goal of adding 8,000 megawatts of utility-scale renewable capacity by 2020, targets that were based in part on proximity to new transmission lines and upgrades that have already been identified in California Balancing Authority Areas, shown here on this table.

In 2010, more than 9,000 megawatts of renewable capacity was permitted in California, about 8,000 megawatts of which is associated with these new lines and upgrades. If these lines and upgrades are permitted, built and online before 2020, they could handle more than 16,000 megawatts of Cumulative Renewable Capacity, meaning that there's room on the lines for more than

8,000 megawatts of new renewable capacity that could be located in the CRCs that are associated with those lines in the future.

The Renewable Report also included preliminary regional targets for DG, with one of the factors in determining those targets being the potential for interconnection at the distribution level. The methodology used to develop these preliminary targets has been modified since the Report was published in response to comments and suggestions submitted by various parties during the 2011 IEPR. And, because we'll be covering that revised methodology in more detail in Panel 2 this afternoon, I won't go into what the Renewable Report said in terms of targets.

But I do want to say that we do feel the regional targets are important because they provide a starting point for meeting the Governor's target, they'll help us to measure our progress over time, and they can also address concerns that were raised by the EJ participants in the last IEPR proceeding that stressed the need for a fair allocation of the targets so that systems are installed in communities that have the highest need and the greatest potential for benefits, not just the wealthiest communities.

In terms of locating DG projects near

distribution infrastructure, the Renewable Report talked about the maps that are being publicly provided by the utilities as part of the Renewable Auction Mechanism, to allow developers to identify where they can interconnect new solar DG projects on the grid without triggering expensive studies and upgrades to the distribution system.

The second piece of strategy one deals with the importance of improved coordination between state, local, and federal agencies on land use planning and zoning decisions. Coordination efforts among State and Federal agencies included the work I already mentioned in the DRECP, along with formal agreements between various agencies on topics like environmental review of solar thermal projects on Federal lands, coordination during the CEC's thermal power plant review process, review of offshore wave and tidal projects, and developing renewables on State properties.

The Renewable Report also highlighted the need for coordination with Local Government since renewable development at the local level will be essential to meeting California's renewable goals. More than half of the roughly 9,400 megawatts of large-scale renewables that was permitted in 2010 was under the licensing authority of Local Governments, and Local Governments are

responsible for permitting DG that will contribute toward the 12,000 megawatt goal, as well as PV and wind projects that aren't under the CEC's jurisdiction.

The Renewable Report noted that, while some counties have adopted energy elements in their General Plans, and have established specific ordinances for permitting renewable generating facilities, many have not; but also pointed out that many Local Governments are moving in that direction.

For large-scale renewable permitting, the challenges Local Governments face include lacking a regulatory framework and technical expertise to address the increasing number and diversity of renewable technologies, siting utility-scale projects on land in a Williamson Act contract, given the lengthy process and challenges to overturn those contracts, and staffing challenges to oversee CEQA reviews, particularly given cuts to Local Governments' planning departments that may have occurred as a result of the economic downturn.

Over the past several years, the State has provided assistance to Local Governments in the form of guidelines to assist local planners in planning and permitting of large-scale renewable facilities. In 2007, the Department of Fish and Game and the Energy Commission published voluntary guidelines to help local agencies

address potential impacts to bird and bat populations from wind development. And in 2010, the Energy Commission updated its *Energy Aware Facility Siting and Permitting Guide*, which we'll hear more about this afternoon as part of Panel 2, to assist locals with developing General Plan, Energy, and Transmission elements. And as I mentioned earlier, in 2010, the Renewable Energy Action Team issued a Best Management Practices Manual for permitting Desert Renewable Projects.

Local Governments also face challenges with DG permitting, including a lack of zoning ordinances, there are varying codes, standards and fees; sometimes the permitting practices are unclear, or duplicative, or uncoordinated, and there's also unknown environmental review and mitigation requirements for some renewable technologies.

Efforts to address DG permitting challenges include development of a statewide model ordinance for solar electric facilities to help Local Governments provide a streamlined regulatory framework for solar energy installation, while protecting agricultural and sensitive habitats. The ordinance was approved by the California County Planning Directors Association in February 2012 and, in fact, several of our panelists here

today were part of the core group that was involved in that effort.

Another effort was the July 21 Governor's Conference on Local Renewable Energy Resources, which included a panel on land use and siting, and a discussion paper that suggested priorities that should be used to locate local renewable energy to minimize environmental impacts.

One of the key priorities identified was placing systems on rooftops on existing buildings and parking lots, to use the existing built environment and reduce impacts on communities. Another priority was placing systems on brownfield sites on already disturbed lands that have no value as habitat, open space, or farmland. And a third priority was locating DG near load centers to improve system efficiency.

A Federal effort that relates to placing renewable facilities on disturbed lands is U.S. EPA's Repower America's Land Initiative, which highlights the importance of location when siting renewable facilities and encourages using disturbed lands. As part of that effort, EPA developed and provided California Brownfield Site Maps to the public to assist in identifying the renewable potential of disturbed land sites. There is also a project being funded by the Energy Commission's

PIER Program to study the effects of PV energy system on landfill caps, and to develop a guidance manual for landfill-based PV, which could help develop PV on thousands of acres of closed landfills in California that have high potential for solar energy technologies.

So that's a very high level summary of the discussion in the Renewable Status and Issues Report that relate to today's topics. There's much more information in that report than I was able to cover in this presentation, so I encourage parties to look through the document as we move forward and consider it when we're developing recommendations for future strategies and actions.

So now I think we'll move on to our first panel. I'll introduce Matt Coldwell from the Energy Commission's Electricity Analysis Office, who is our Moderator.

MR. COLDWELL: Thank you, Suzanne. My name is Matt Coldwell. I'm with the Energy Commission's Electricity Analysis Office. I'd like to start by thanking the panels for participating in this morning's discussion on Preferred Site Characteristics, Priority Areas for Renewable Development.

As Suzanne mentioned, location does matter. It matters for a variety of different reasons, and it matters to different people for different reasons. It

also matters depending on the size of the project and the technology of the project. And so this discussion this morning isn't going to focus on any particular technology type, or project size, this is sort of an all encompassing discussion.

And so the purpose of this morning's panel is to start the discussion on what the very specific site characteristics are of these preferred areas in the state. It's hard to locate preferred geographic areas in the state if we don't know what those geographic areas are comprised of, and so that's what this discussion is.

And I'd also like to discuss, of those specific characteristics in your perspective, and each of the panelist's perspective, what the highest priority characteristics are.

Also part of this morning's discussion is identifying what datasets, information, resources are currently available for identifying areas throughout the state that have these types of site characteristics, what datasets and resources are needed that aren't available right now, that could be useful in identifying these types of areas, and what are the barriers for that type of data and information to become publicly available.

And finally, also, how this type of analysis and type of information, how it could be utilized in sort of

a planning process.

So as you can see, we have a number of panelists today, which I think is a reflection of the diversity of perspective on this subject matter. So, as the Moderator, I just have a couple things I request of the Panelists, the first is to try to be as specific as possible in your discussions and any recommendations you may have; and the second, which I think is the more important one, is that during your opening remarks, and maybe for the audience's benefit here, each Panelist will have opening remarks to make, and we'll go around the table and, then, after that, we'll open it up to more of a question and answer session.

So, for the opening remarks, it's important that we keep it within the three to five-minute range, the four-minute mark being the sweet spot, if you will. So I think we should just go ahead and get started this morning, and we'll get started with, to my right here, Ginger, go ahead and introduce yourself and get us started.

MS. TORRES: Hello. My name is Ginger Torres and I'm from PG&E, and I work in PG&E's Environmental Policy Department. And I want to thank the Commission for hosting this workshop and for inviting us to attend. PG&E is committed to meeting California's aggressive

renewable energy goals, while delivering safe, clean, and cost-effective energy to our customers.

The 2011 Renewable Portfolio Standard Request for Offers, in particular, was a record breaking year for us and I just wanted to talk a little bit about some of the environmental considerations that PG&E puts into review of some of the procurement offers, and how that relates to what we're talking about today in these workshops.

PG&E conducts an environmental due diligence process on procurement, offers an assessment, and considers the environmental aspects and the impacts of projects and how these factors may impact project viability. So the importance of appropriate site locations is factored into our review of procurement offers, and so any information that can be provided regarding a consensus around appropriate areas for renewable energy development will help with our procurement solicitation process.

PG&E recognizes and supports the importance of and the strategic collaboration in meeting RPS objectives in an environmentally sound manner. We strive to procure power from the viable and cost-effective projects for our customers; through collaborative forums, we are making progress towards these goals. For example, PG&E has been an active participant in the Desert Renewable Energy

Conservation Plan. We've also participated in the Solar Programmatic EIS, so on both State and Federal efforts, we've been making an effort to provide feedback to agencies on the Renewable Energy Zone identification processes throughout California and the Western United States.

We're also involved in other collaborative planning processes that are held by other organizations such as the American Wind and Wildlife Institute to site appropriate wind energy facilities, and the California Transmission Group to provide transmission for renewable energy facilities.

Consensus around priority areas for renewable energy development, including storage and transmission, is particularly important because it will provide certainty for utilities on many levels from the development of in-house generation, to procurement of energy resources, to transmission planning. Likewise, consensus on inappropriate areas for renewable energy development would also be helpful so we'll know which areas to avoid.

Stakeholder processes that determine priority areas will help minimize siting and investment risks for both developers and utilities. Again, thank you for the opportunity to make these remarks.

MR. SALAS: Hello. My name is Roger Salas. I am the Distribution Supervisor for SCE, for a group of Engineers who study all the generating connections that come to the SCE Distribution System. Our group of Engineers basically reviews the applications, studies the applications, and provides the impacts that the generator projects do to our distribution system, and provide a mix of services as to how to mitigate those issues.

Just, you know, I'm going into the presentation, and basically SCE already provides geographic representation data to developers in the form of maps as far as to where are the best locations to site renewable generation. Developers can download SCE's maps and get information all the way up from the transmission system, down to the individual distribution feeders in SCE. Developers can look into these maps and determine which areas of SCE's territory is transmission constrained, and we'll get into a little bit more of that in a minute. They also can focus into specific areas within our service territory in looking to the available capacity of our sub-transmission systems, those are our 66 and our 115 KV systems. And even further down, they can look into our substation, with a particular area of interest, and look into how much capacity is available at the substation level. And more importantly, even going even

further, Applicants or developers can look at the available capacity of our 12, 16 and 33 KV circuits, and those circuits that have available capacity, we have the finest -- SCE's preferred locations because those circuits have the characteristics of having significant amount of load in small amounts of generation. So, for us, those are the circuits where Applicant or Developers can proceed to propose projects in those areas. And locating in those areas will give the Developers the best possibility of interconnecting quicker and less expensively. Next.

Talking about transmission constraint areas that we, SCE service territory, have laid out, a large portion of SCE service territory is within transmission constraint areas. What that means basically, transmission constraint areas can be thought as areas with little or no operational margin to handle redistribution of network power flows without potentially impacting the grid reliability. In such areas, even small changes to our transmission network flows can possibly have significant transmission system upgrades. So basically what that means is that, even projects that are connecting in those areas that are transmission constrained down in the distribution level, even small projects like that can create changes to the power flows

and the transmission systems, and if those transmission systems are not capable of handling those rearrangements of the power flow, that can trigger potential reliability grid impacts, which could potentially trigger large transmission upgrades, even for small distribution projects. So, for us, that's one of the biggest concerns that we have. Next.

So for us to be successful in determining or in locating projects that would be installed quicker and less expensive, will be to locate -- extremely important -- is to locate -- site those projects in areas that are not transmission constrained. And doing so will decrease the interconnection cost and application time. So, basically speaking, in areas with transmission constraint areas, renewable development may face significant cost, time, and environmental challenges to the transmission issues. And, on the other hand, renewable development in areas with no transmission constraints can be avoided or reduced significantly if sited in areas with no transmission constraints.

So our message here today is sort of simple, is utilize our maps, download them, understand them, study them, and propose projects in those areas that are not transmission constrained, and propose projects on those circuits that have available capacity on them currently,

and that will give you the best chance, or that will be the most probable locations where, you know, projects can interconnect quicker, with less impacts to the distribution system. Thank you.

COMMISSIONER PETERMAN: Quick follow-up question. I just wanted to clarify that your maps, though, don't consider any environmental considerations?

MR. SALAS: No, our maps are mainly for engineering purposes.

COMMISSIONER PETERMAN: Okay. Thank you.

MR. HOWARD: Good morning. Randy Howard, Director of Power System Planning and Development for Los Angeles Department of Water and Power. As I've indicated in previous workshops, the POU and LADWP, in particular, model is different than the IOUs'. A priority and objective that we have in our development of renewables is a long term strategic ownership operation opportunity, and so when we pursue renewables, we're really looking at where would we build our own if we had the ability to, without consideration of the tax credits, and therefore we're really entering into the PPAs, and PPAs with options to own strategically, to ensure that our ratepayers get the financial benefit, but that, long term, it really is our desire to own and operate.

So the map that's up there shows -- that's fine

-- the first one just outlines the transmission systems that LADWP owns and/or operates, and so that's where we have focused historically on our renewable developments. And we have issued a number of RFPs. We do most of our procurement activities currently through Southern California Public Power Authority. We try to bring in all of the other POUs in Southern California and jointly develop renewable projects together, obviously to reduce risk and ensure that we can get to a size that brings benefits to all of our ratepayers.

Historically, we have in all of our RFPs, we have outlined where we have excess capacity, so we'll list the stations under which we're interested in receiving the renewable energy, and that will be the focus of our RFP. In our January 2011 solicitation, we had well over 200 proposals. Out of those, we shortlisted a number of them and one of the things we decided to do is, there were a number of good projects out there that we had interest in, but for one or more reasons, we had issues as to going forward, so we notified those parties that they didn't make the short list, but we determined to open -- put an open and continuous RFP on the street, and that exists today. So these same proposers can come back, they can refresh their initial proposals, and hopefully get into our short list where a negotiation would occur.

Can you go to the next slide?

This slide outlines where we have completed and projects are currently operational. We entered into a number of wind project agreements in the Pacific Northwest, we have a little over 500 megawatts there. We have a project in Southwest Wyoming, about 300 megawatts in Southern Utah, and then a number of projects in the Tehachapi's. And that is where our focus area is currently, and I'll talk a little bit more in the next slide. But what we're also attempting to do, as we're working on our divestiture of coal strategy, we're trying to ensure that those valuable transmission systems that are owned and paid for by our ratepayers could be utilized for renewable purposes going forward, and we see quite a lot of opportunity there.

The other criteria for LADWP are an attempt to cluster our projects. Again, when you have a desire to own and operate long term, you're going to have resources, you're going to have labor at these locations. What we want to do is cluster within a region under which we could have our labor resources, or local labor resources that would report to LADWP, and we would be able to still have some level of management structure. So we do attempt to cluster, and we have three primary regions we cluster in, one in the Pacific Northwest, one

in the Utah vicinity, in Tehachapi, and we hope in the near future to have a cluster down in the Imperial County Area. Next slide, please. One more click. Thank you.

So this just outlines some of the projects that are currently in queue. Going forward, we have a lot of in-basin solar focus, we have utility-built, meaning that we have our own crews building solar on City facilities, on LADWP facilities within the City, as well as outside of the City. They are just completing this month the Adelanto Solar Project, our 10 megawatt project in which we have hired a new utility craft helper, we call it a utility craft helper, we're trying to help build up a labor pool for our long term needs, and we think this is a good way to do it, train them on installing energy efficiency, as well as solar systems, and they've done a tremendous job on the Adelanto, and they've just started construction on our (inaudible) solar.

We're in permitting on our Owens Valley Solar Project that is on the disturbed City owned land. We hope to develop 200 megawatts, ourselves, at that location, and then our RFP is going out this week for our feed-in tariff that will be on the street for several weeks and we'll start then evaluating our proposals on our first 10 megawatts. If that goes as successfully as we think it will, we probably see numbers beyond the 150

megawatts, but right now we're putting in our Integrated Resource Plan, at least 150 megawatts, now, by 2016.

We do own and operate a wind farm called Pine Tree in the Tehachapi's, we have acquired substantial land adjacent to that project, and we have another wind project projected to be built in that area. We certainly have some environmental concerns up there related to avian issues. We hope to address those and have a successful project, long term.

As indicated, geothermal is an important resource for us long term as we divest out of coal, so we own a number of properties down in Imperial County, and we have a joint SCPPA project with Imperial Irrigation District, with the proposed first 50 megawatts by 2017 and the potential of substantially more. We are also working on some geothermal in our lands in Owens Valley, up near the Mammoth area. We own approximately 500 square miles of property in Owens Valley, several good potential properties for geothermal, and we do hope to develop some of those projects.

Our biggest transmission project in our queue is our Barren Ridge Renewable Transmission line, to bring transmission line from Barren Ridge in the Tehachapi's down into Los Angeles. It will tie-in directly to our Castaic Power Plant, which is a 1,250 megawatt pump

storage. Our objective there would be to put a pump storage in direct connection to these renewable facilities in the Tehachapi's. That's projected to be operational by 2016, and we have a large number of negotiations and projects to fill that line, so when it does become operational, those projects will help meet our 33 percent objectives. Thank you.

COMMISSIONER PETERMAN: Just a quick follow-up question, Randy. You mentioned that your Owens Valley facility is on a disturbed land site.

MR. HOWARD: Correct.

COMMISSIONER PETERMAN: I was just wondering, is that something that you, when you're looking in your cluster areas, do you first try to identify those types of sites first? Or did it just happen to be a disturbed site?

MR. HOWARD: No, it was intentional in trying to find disturbed land. Obviously, all the land in Owens Valley is quite sensitive. I think the Department, while we've had a lot of criticism over the years, has done a great job preserving the environment up there, and so we did attempt to find disturbed land. I didn't mention, but we do have, as well, a five megawatt solar pilot project proposed for the Owens Dry Lake on lands that we own. The objective there is to determine, could solar

placed on some of that dry lake assist us in the dust mitigation that is such a problem for our utility up there. And so it will be a pilot, and we'll see how the results come out of it. Obviously, there's substantial potential if that were to work as an option long term.

MR. LONG: Hi. I'm Noah Long from the Natural Resources Defense Council. And thank you for the opportunity to speak on this panel today. I'm really impressed with the amount of work that you guys have done over the last year or so, and in the last IEPR process, it's a mountain of information in trying to figure out where the right sites for renewable energy are, and the right scale of renewable energy to minimize impacts and maximize benefits. And this process has really been quite impressive in that regard. And I'm very pleased to be a part of it going forward.

NRDC has done a fair amount of work over the last several years to try and identify sites to minimize the environmental impact and maximize benefits from renewable generation. As a part of a number of the processes that were mentioned earlier, including the RETI process, we've been actively involved in the Federal Programmatic Environmental Impact Statement process, and we're currently actively involved in the Desert Renewable Energy Conservation Plan. And I will say, I think, it's

really important that those processes are linked, that we find ways to ensure that the zones identified through the Programmatic Environmental Impact Statement, as well as the lands identified for mitigation or conservation to that process, are linked into the DRECP process; I think it's not clear to all stakeholders at this point exactly how that will work.

But I'll spend just a moment, first, if I may, talking about some of the information that I think we've actually submitted before, but just to refresh folks' memory on our characteristics that we've developed with a number of other environmental organizations, and I won't list them all now, but we'll file in our comments, the document that we developed a couple of years ago, to help sort of identify the kinds of characteristics that we're looking for. And then, after that, I'd like to just take a moment to talk about what we think of as one of the most important and exciting examples in California of an area that faces somewhat of the chicken and egg kinds of problems that I think the Commission is concerned about today with the various sieves that might filter out projects, and if a project is facing barriers from one of those filters, then it may not get through the hurdle even if, on balance, it's an excellent project.

Just at first, if I may, in identifying the kinds

of sites that we've focused on. We first encouraged developers and planning agencies to look at mechanically disturbed locations, locations that have been already converted from their natural habitats, and are no longer sites for native vegetation, or wildlife species. It is, of course, it could be on public or private land, or various jurisdictions.

Similarly, areas of low resource value that are near to degraded and impaired lands, brownfields are an obvious example, and I think the work that EPA will be talking about are great opportunities on brownfields. Certainly, areas in and around urban core provide a number of benefits, and these can be projects of various sizes. I think there's been a focus to sort of divide between Distributed Generation and large-scale generation, but we think there's opportunities for various sizes, depending on the project scale. And those kinds of projects obviously provide additional benefits in terms of jobs in urban areas, minimizing growth impacts, reducing the need for new roads, and can sometimes be close to existing substations, projects that use municipal wastewater, or have access to municipal wastewater for their either cleaning needs, or other project needs, as well as projects that are already near existing Federally designated transmission corridors. I

won't go at great length today into the identification that we've done to identify categories of high conflict lands, but I'll also file those in our comments today.

But I want to move on, if I may, just for a moment, just to talking about the example of an area that I think is particularly important to the State and needs a little bit more attention in order to make sure it gets to the finish line. And that is the close to 90,000 acres in Central Valley's Westlands Water District, that has been identified as drainage and physically impaired, or chemically altered, no longer suitable for ongoing agriculture. There may be additional lands in that area, close to up to 200,000 acres, and these are lands that have few existing environmental conflicts compared to many of the public lands that have been considered for large-scale solar projects. It is close to existing transmission and additional transmission capacity could also help in terms of balancing with the Helms Pump Storage Facility, to more efficiently use that facility.

Additionally, having regional diversity in solar generation, we believe, would help in terms of balancing and integration. Obviously, solar projects have broadly similar characteristics in terms of their type of production, but to the extent that there's regional diversity, variations in cloud cover, and obviously even

variations in other weather events that impact that solar, as well as just east and further east and west projects will have some beneficial impact to grid balancing.

I am concerned that this project, as well as a number of other projects, do face somewhat of a chicken and egg problem in terms of transmission identification. That Westlands project, as far as I understand, has not been identified as a priority for transmission expansion because of -- and the reason that's been cited is -- lack of developer interest, despite the fact that there's been gigawatts of potential project interest from developers, but those same developers are facing transmission constraints. So, we have a classic chicken and egg problem that I'm hoping this Commission can help us overcome.

Of course, unemployment is a problem everywhere in California, but just speaking for a moment, I think that the Central Valley is, of course, not immune to those problems and has faced really significant unemployment problems. The Stanislaus County, I believe, has 17.4 percent, San Joaquin, 16.7 percent unemployment, and unemployment rates in that area are really high, they've been hard hit by the recession, and I think the opportunity for renewable development is just the sort of

opportunity that could be really meaningful there.

I just want to talk a little bit about process and planning, as well as data management. I will say, there are a number of -- there's a lot of information, you guys have done a great job at this Commission, in terms of creating new information. I think, in terms of data management for wildlife and environmental concerns, there is a fair amount of siloing that happens, project developers in some cases develop their own information, Counties sometimes hold some information, as well as ongoing information about project impacts. And in our view, there hasn't been enough statewide sharing of that information in order to really facilitate ongoing permitting and reduce impacts.

Similar problems exist, although different in kind in some ways, with regard to transmission planning. I'd like to bring the Commission's attention to a process in the MISO Balancing Area, where they identify transmission plans based on multiple potential benefits, so a project that may not be viable under a single benefit allocation can be weighed with regard to multiple system benefits, and therefore might get it across the hurdle -- sorry, across the finish line.

We'll be filing a number of particular resources in our comments that we think will be useful, but in

general we're hoping that the Commission can help us move forward particularly with regard to this transmission planning effort in terms of finding ways to encourage single conversations in single forums, among both the Investor-Owned Utilities, as well as Publicly-Owned Utilities, for projects of joint interest, and projects that have multiple benefits, so bringing renewable resources on line, adding additional integration services, as well as simply traditional reliability concerns, access to storage, and so forth. And with that, I'll leave the rest of my comments for responses to questions. Thank you.

CHAIRMAN WEISENMILLER: Hi. I just wanted to follow-up on a couple things. As you're probably aware, in trying to develop for the ISO the Renewable Portfolios this year, Commissioner Peevey -- President Peevey -- Commissioner Florio, and myself, have tried to put more of a policy overlay on that, and so what we did is we first started with our staff, had collected all the existing projects and their status, whether they had PPAs, or where they were with PPAs, whether they were in permitting, organized all of those, and then tried to construct scenarios around least cost, or least environmental cost, and the thing that was really striking was that, for some of the areas where we have a

strong policy preference, like you said Central Valley, West Mojave, IID to some extent, that we were facing this chicken and egg problem, that it was pretty clear that people, you know, weren't developing projects there because there wasn't transmission, and so, as we're trying to come up with sort of a least cost, least environmental package, the fewest number of transmission lines, you're suddenly finding that areas which, from a policy perspective we really want to do projects, you know, just weren't making that cut. And so, at this point, one of the things we're struggling with, and I think the three of us have to put together something roughly in the next week saying, okay, because of this chicken and egg problem, here is our policy preference for areas we want projects -- where we want to have the transmission system built out to the areas where we want development to occur.

And as I said, certainly everyone has their list of that, but I think there's a certain amount of consensus, I'm not quite sure if I can say among the three of us yet, but we're getting there, between some degree of focus on West Mojave, Central Valley, and IID as areas which certainly, you know, meet the basic criteria of very important opportunities for California in terms of dealing with high unemployment, I think a

certain degree of environmental preference in terms of looking at both the Solar PEIS, and also DRECP, where we'd want to locate those. So certainly, I encourage NRDC to weigh in on that aspect of stuff as we are -- I'm not sure if you filed comments in the ISO stakeholder process on our document, but again, that's where we're trying to overlay that policy preference into the transmission planning.

MR. LONG: I believe we filed, actually, a draft of these comments along with other comments on that earlier this week, but we'll follow-up and make sure that we do. Thanks for that --

CHAIRMAN WEISENMILLER: Okay, and if you could send it to Kevin and I, that would be good.

COMMISSIONER PETERMAN: I have just a follow-up, a quick question for you, Chair, on that before you go to your next question. And so, you talked about the chicken and egg problem with transmission and where it's currently planned for and where we're going to build out. Have you all had discussions about, when we have new transmission lines that haven't been planned, at what point in time will that happen?

CHAIRMAN WEISENMILLER: Well, this would be certainly driving the new transmission lines, so, again, part of the issue that Noah alluded to, if you look at

the Central Valley, there are at least three opportunities, you could get a little bit of capacity with some reconductoring, you could get -- which is very cheap -- you can get more capacity with a slight extension of lines, and then you could go to a 500 KV line for a billion dollars. So, certainly, the question is where in that supply curve do you want to go, and hopefully it's more like Step 2 than the billion dollar project. But, again, that's part of the struggle from here, and then that gets you back to the question about how much development potential is there, really, in that area? You know, is there a billion dollars worth, even from your assessment? Probably not. But it would be good to get something going so we can understand what the potential is and maybe eventually convince ourselves that it should be a bigger build-out.

MR. LONG: Yeah, I think that hits the nail on the head, and I think obviously to the extent that you can do a least risk first, that tends to be a good approach, although I think there is a need at some point in transmission planning to simply take the bull by the horns and to the big investment, and that really has to be done when you have a pretty good sense that, when you do that, you know, if you build it, they will come. And I think we're getting a better sense of just how much is

available; I think everybody has been surprised by how much land has come available there, and it's more and more all the time, and I think we're pretty excited by that resource and we're hoping there will be certainly some of level of that additional investment for new capacity in that area.

CHAIRMAN WEISENMILLER: I think the other two areas we struggled with, again, more on the environmental perspective, was that we did not develop an out-of-state case at all, and part of it was frankly, having said we've gone through and have some degree of assessment from DRECP about the environmental impacts in California, much less certain of what the other projects are in the west and what their environmental characteristics are. I don't know if NRDC has much confidence in sort of the west-wide types of screening studies.

MR. LONG: I would prefer to provide some of that in my comments, but I will say, you know, the PEIS is not just a California-focused --

CHAIRMAN WEISENMILLER: Sure, sure.

MR. LONG: -- document. And we do see a number of opportunities. I'd like to commend Mr. Howard, for example, we think there are a lot of opportunities on the far side of their transmission lines. I know of a project, I think they have 300 megawatts of wind coming

in on the line that goes to IPP already, the connection there has room for another 700 megawatts of wind, and there's interest from developers there, so I think utilizing existing transmission should obviously be the first priority. But there are a number of really exciting areas outside of California that could be expanded with less impacts than, I think, some of the projects that are being analyzed in California. And that, of course, I'd just like to reinforce, provides additional benefits in terms of geographic diversity because these projects are all intermittent to some extent, but to the extent that intermittency is not coincident, I think California will see real benefits there. So I do hope that we can continue to reach out to other states with that plan in process.

CHAIRMAN WEISENMILLER: Good. Thanks.

MS. PECK: Good morning. Thank you so much for having me this morning. My name is Cara Peck and I work on -- Clean Energy and Climate Change Office -- issues for the U.S. Environmental Protection Agency.

And from the U.S. EPA's perspective, in addition to broadly promoting renewable energy, what we really emphasize is looking at what's been mentioned a couple times this morning, is contaminated, degraded, underutilized, fallow Ag lands, whatever type of label

you want to give them, but giving these sites a new life and saving the pristine sites for other uses, or not uses.

And a couple of things, first of all, when you utilize these lands instead, obviously there's going to be less environmental concerns and, because of that, with the reduced environmental impacts, you're looking at -- well, you should have a quicker and an easier time with your environmental review process, in addition to the environmental benefits.

A couple of things that we've seen a lot working on this is that, it's been mentioned again, the interconnection, transmission, and definitely liability concerns is one of the biggest barriers for contaminated sites, and it's something that, as a Federal Agency, we continue to work on, but in terms of what's needed, that's certainly something that needs to happen if we want to see more building on these contaminated sites.

And I thought that one thing that would be good today is to introduce a couple of the resources that we put together, EPA, that can help prioritize and show some of these contaminated sites, so next slide, please.

I've been working about the last year or so on a project with the National Renewable Energy Laboratory. It was mentioned earlier that EPA, our Headquarters

Office, runs our Repowering American's Lands Initiative, which has a lot of great resources for identifying and troubleshooting how to develop on contaminated lands, and we took that a little bit -- a step further for California. And with this mapping project, we had State sites, as well as Federal sites, the whole gamut from Federal, Brownfields, Super Funds, State Cleanup Sites, and so we had almost actually 12,000 sites that we looked at, and we ran them through a screening process looking at resource potential, size, slope, all the different characteristics that you would look at when deciding what to build on, and with that we had these results that should be going live, online, in the next month or so. And the best tool, I think, is the Google Earth Mapping Tool, which is an interactive mapping tool. You can either look at statewide, which is this map you'll see on the right that kind of shows the trends of where the degraded sites are, which I think could really help in transmission planning, and then also on the interactive mapping tool, each site if you start by Zip Code or where you're interested, it actually has a pop-up box, which will have a lot of information specifically for that site -- site owner, cleanup status, size, slope, characteristic, all of that. So we're really trying to do what we can to make those sites available. So, again,

this should be, in about a month or so, live online and it will also include all of the data, which I know for developers is good because they can import that right into their GIS systems to help with that.

And the next resource I'll go over was released a couple weeks ago and this is these solar and wind decision trees, which are really focused on looking at contaminated, under-utilized lands, specifically in urban areas so they can be used in others. And what these are for is State or Local Government where maybe they're looking at all of their different sites and they have a whole list, and trying to narrow it down, but not needing the resources to have feasibility studies on all of those sites. So it allows them to actually do a lot of the work themselves, and look at it and go through different screening processes, and getting it down to maybe where you have just a handful of the highest priority sites, where you can focus your resources, and then have further feasibility studies on those sites. And we did this, we piloted this project with the City of Richmond, and we're looking at using other pilot cities in California in the very near future. I think that's all I have for today.

COMMISSIONER PETERMAN: Thank you. I will say I'm excited to hear about this site and that it's going live, and even just with the five panelists we've had so

far, getting some type of consensus towards how we can prioritize, and perhaps the work that's being done on each of these priorities and thinking about next steps about how to overlay them. So I don't have any specific questions for you, but looking forward to learning more.

MR. GAMPER: Good morning. My name is John Gamper. I'm with the California Farm Bureau Federation. I've been an advocate for them for the last 30 plus years and most of that time I've spent it as a Land Use Specialist, so I feel a little out of place on this panel of energy experts, but I know that the Commission is concerned about the protection of agricultural land in the consideration of siting of the renewable energy facilities --

COMMISSIONER PETERMAN: Excuse me, sir, can I ask you to bring your microphone a little bit closer? Thanks.

MR. GAMPER: I wanted to say from the outset that we would encourage the consideration of a very diversified portfolio and not to put all of your eggs into one basket because there are different aspects of each type of renewable energy with different types of inputs and agricultural land.

One that we're most concerned about is solar PV development, which is very land intensive for an

intermittent energy source. And we would encourage you to continue to look at biomass, biogas, fuel cells, and geothermal, which have much smaller footprint on our State's agricultural resources.

I think it goes without saying that energy development is a lot like residential development, especially with regard to solar PV. Where the sewer trunk line and the water line stops at the edge of town is where the developers want to go. When you're talking about solar development, you're talking about the grid and where interconnection -- and interconnection is the driving source -- so whether it's the end of that sewer trunk line that's going to convert that next 160 acres, or the substation out in the middle of the farmland that's going to then trigger this industrial development of farmland. We have grave concerns about that.

Our priorities would be to take, first of all, all Williamson Act land off the table. You cannot say that it is in the public interest to convert Williamson Act land when there is other proximate non-contracted land that is available and suitable for solar PV development.

We know that there are hundreds of thousands, if not a million acres in the state, of salt impaired, drainage impaired land, where a lot of the land intensive

solar or renewable energy development can go. So we think it's illegal, we think it's unconstitutional to cancel a Williamson Act contract any more than it would be for affordable housing.

Before the housing bubble burst, going back to developers who are now solar developers, it was affordable housing and forcing local jurisdictions to take their fair share of affordable housing that was driving conversion of prime agricultural land in the state, so I think we need to step back and take Williamson Act off the table. And we would also urge you to consider taking prime farmlands, farmland of statewide importance -- and unique farmland -- off the table. This is a mapped by the Department of Conservation since 1982 on a bi-annual basis and I can tell you just from my studies from college that, you know, we've lost 20 percent of our prime agricultural land in the state in one generation, we've gone from 10 million acres to eight million acres in about 25 to 30 years; we can't continue on that path and allowing prime farmland and its very close relative, farmland of statewide importance, and unique farmland -- unique farmland is land that produces one of the top 40 crops in the state, and we produce about 300 crops -- so, bear in mind that you can't just say it's "prime" when all productive farmland is included

in prime, unique, and statewide importance.

As far as the highest priorities, obviously we believe that you should put renewable facilities that have little impact on food production, and that would be marginally productive or physically impaired land. We sponsored Senate Bill 618 in the last legislative session, it took effect January 1, that allows for Williamson Act contracts to be rescinded at a very low cost if the land is marginally productive or physically impaired, again, as an incentive for solar developers to look to the marginally productive land.

As far as datasets are concerned, again, you've got the farmland mapping and monitoring program that has been mapping this land since 1982, they know where it is very well, you've got the USDA, NRCS maps, and I believe the Commission is very familiar with that because they've added their own maps with NRCS data on salt impaired lands, so you are aware of where those lands are, as well. And there's plenty of them out there.

As far as future barriers, I think budget constraints obviously is a problem with the May revise coming out and where we're going to be with other trigger cuts to departments, and whether or not we can afford to continue to expand dollars on mapping.

Another barrier, which is not related to the

maps, but one that I think is obvious, is the issue of local controlled land use planning. We are very strong supporters of local control of land use planning, even though we don't always agree with what the Boards of Supervisors do with respect to agricultural land or to cities. The other is, of course, the industry's objections to being told where they should develop. They prefer the Wild West, they prefer going out and looking at substations, drawing a radius around it, and deciding which landowners they can pit against one another to get the lowest possible value.

And how the maps can be used in the planning process, obviously you need to have some planning. We have a General Plan in the state, we have zoning laws so that we can protect agricultural land for food production. We have 6.8 -- we have seven billion people on the planet, we're going to be going to 9.3 billion in the next 40 years, and we're going to need every acre of land that is up potentially for food production to be in food production; we can't sacrifice it for renewable energy when there are other very viable sites for renewable energy, whether it's drainage impaired lands, salt impaired land, desert land, public land, whatever, but you've got to step back and take a breath and say, "We're not going to sacrifice our prime statewide

importance in unique farmland."

And as far as the barrier of overturning the contracts, well, obviously the contracts -- the Williamson Act contracts -- have meaning, they have constitutional meaning, and you can't just waltz in, pay 12.5 percent, and have the contract disappear, that is against the Constitution, the Supreme Court has said as such. So, overturning the contracts is really not an option in our opinion.

And just one final comment, I'm sure I'm going over my time, to comment on Mr. Weisenmiller's comments about the goals of transmission, we would hope that you would take into consideration the multiple goals of transmission siting with reliability, helping to provide some storage for renewable energy, for pump hydro, especially for solar, and also the idea of providing an incentive by providing the power line corridor to the sites that are prioritized, as an incentive to get the industry to utilize those sites, whether it's power purchase agreements or power line corridors, you need to have -- or CEQA exemptions, you need to have some very significant incentives to get them away from their current technique of pitting one land owner against another to get the lowest price, and having scattered development.

I would also tell you just briefly that we disagree with the categorization of DG at 20 megawatts or less. We believe DG should be really at about five megawatts or less, and that utility-scale solar is anything greater than five megawatts, because we're talking 40 acres at five megawatts, and 20 megawatts is 160 to 200 acres, that's a large chunk of ground for those who don't know what an acre is, it's about the size of the L.A. Coliseum, the footprint of the L.A. Coliseum. One football field with the track is about one acre. So you've got 160 to 200 of those? That's a big piece of ground. So I hope you keep that in mind when you think about the impacts on our agricultural resources.

MR. DROBEK: My name is Ryan Drobek. I'm with the Center for Energy Efficiency and Renewable Technologies. Thank you for inviting us to comment on this. I have, and CEERT has been involved with the RETI process. We co-facilitated that with Energy Commission, as well as we are actively involved in the DRECP and we're actively involved in the BLM's PEIS.

I think where I want to start is at the preferred characteristics for site prioritization, and with the point that each project is unique, and what it needs to be viable. And so, creating just a simple box that can be applied to large regions sometimes presents problems

in not identifying the unique characteristics that projects need, or of that site. And so interconnection permitting, economic development, all play a role in the quality of the site, but there's many other ingredients that sort of make up the soup that makes a site viable or not. High quality resource is a main component of that and, not losing site of parcelization in competing land uses, ability to establish site control, access to infrastructure beyond just transmission, water, and labor sources, are all factors in what make a project viable.

And beyond that, because industry and developers themselves are going to have to be the ones that make a project, sign the contracts, and bring these projects to fruition, including them in any sort of siting process is going to be critical. And establishing that those sites not only have all the characteristics that you might want to establish for policy reasons, which we think is incredibly important, but doing so, as well as making sure those sites are viable is important.

And so, beyond looking at each of the technologies, which we know in the presentation earlier we were looking at the different resources and we were looking at different site characteristics for each type of technology, there is a possibility also of different technologies sharing sites, wind and solar. In the

DRECP, we've been looking at areas that have sort of combined characteristics that would allow them to both be developed or wind or solar, and possibly combined, and this gets to something I think Noah is talking about, and has been mentioned before, is making the most use of the transmission system, which when you combine different technologies, you really can get the most out of the integration and the flexible nature of these projects.

Right now, we're seeing a need for additional flexible capacity on the grid right now, and while we think most of these things can be taken care of at this point, out at the ISO, and with how we deal with how capacity is added onto the market, as renewables increase in the percentage of the portfolio, making sure that we have the right mix of projects on the grid to maximize their positive benefits, I think, is a -- next slide -- is critical.

And so one of those -- an example of that is solar technologies, you have different solar technologies that have different characteristics. Solar thermal, while requiring high levels of solar radiation, is able to be made to store energy, which can make it produce power after sunset and during the later peak, as well as it is dispatchable, which is critical to integration. While solar PV can't necessarily use as high as the areas

with high solar radiation because of associated heat, they can make use of lower radiation than solar thermal and are more flexible in the size of project, as well as the site characteristics that they use to be placed around the state.

And so, you can go to the next slide, this is a slide that shows sort of, in the DRECP, areas that were defined as areas for develop and focus areas, and so what you can see is the red hashed areas, the areas that we sort of selected as parcels that would be -- that should be studied for sort of more development. And you can see the un-red hashed marked, sort of the white little dots, those are all houses, and then the big red square up in the left corner is about the approximate size of a 100 megawatt project.

So the point of this is that where you direct development, and where you highlight parcels, and where you prioritize will affect the type of projects you get out on the other end. And so any planning process and prioritization, you need to be looking at what you are wanting to get out on the other end as far as the mix of and types of projects that you're going to get because, by selecting certain qualities and certain types of sites, you're going to get a certain type of projects out the other end. And so that needs to be a critical part

in any discussion about site prioritization.

And the one final point, I was glad that there was a prompt about the issue of transparency and data. This has been a continuing challenge in the DREC process and we understand that there are, you know, many different levels of Federal, State, and Local Government, and different agencies at different levels, complex interactions that often make the waters a bit murky for stakeholders when we're looking at this, and we think this challenge will continue with the little more local focus, and with bringing in Local Governments in going around the state, because you'll still need all these different layers of government and agencies to permit projects, and we're glad that this is -- we've seen through RETI and DRECP and the PEIS, this is an iterative process, we're learning as we go, and we're glad we're a part of the conversation and glad that the IEPR is taking up this question. And we'll look forward to working with you. Thank you.

MR. WHEELER: Good morning, Commissioners. Michael Wheeler from Recurrent Energy, I'm the Director of Policy Initiatives. I did prepare a presentation to introduce my remarks and I'm going to stray from it a little bit after having the opportunity to listen to everybody else. So, why don't we skip a slide ahead and

I'll just introduce us.

We're a utility-scale wholesale developer of photovoltaic projects. We've been quite active in California and we have a number of projects contracted with the Utilities. And typically we develop in the sub-20 megawatt range. We also develop projects that are larger than that, so I can do my best to speak to sort of those two categories of development, but I'll also say that I'm a little bit concerned that I'm the only commercial developer that's on your panel today, and that we are, in effect, the ground troops that are trying to implement this renewable energy mandate, and so I'm going to tailor my remarks to how policy and regulation affects the work that we do in trying to achieve what I believe is the larger goal, which is using the mandates and the incentives that we enjoy today in order to improve the renewable energy projects that we have, and improve that product enough so that we can rein cost out and, when the mandates and the incentives are gone, that clean energy will not cost anymore to the ratepayer than conventional energy.

COMMISSIONER PETERMAN: And I'll interject and say I appreciate you offering kind of any general comments that you think would reflect some of the considerations that developers face, but acknowledging

that you're representing your own company.

MR. WHEELER: Certainly, I'll do my very best. So I'll skip to the next slide and I'll say that -- I would just open by saying that, at Recurrent Energy, we are absolutely in favor of appropriate siting. That being said, I think that I'll speak a little bit to the process that we're a part of.

By having a procurement mandate for the investor-owned utilities and the publicly-owned utilities, there is this opportunity and this extremely competitive market to provide the product that they are looking for, the clean energy at the very lowest price possible, and all of these criteria, as we are looking for sites to develop are taken into consideration; we are looking for the lowest cost, and we are looking for the highest value.

Now, that does not mean that we are interested in running roughshod over environmental interests, or over land use interests. What we're doing is we're trying to maximize the criteria such that we can win the competitive procurement solicitations. If we don't win those solicitations, we go out of business.

So speaking to a couple of these, the stars are really the most important attributes that we're looking for. Obviously, interconnection costs far and away are the largest variable of project development. If

transmission capacity isn't there, we're certainly not going to be able to add transmission capacity for our individual project to enable it to succeed, and then win competitive solicitations. So we are looking for transmission capacity probably first and foremost. That has influenced the way our company develops and, thus, we tend to operate in the sub-20 megawatt region because it's easier to find available transmission.

That being said, that's not to say that larger renewable projects in planned zones such as in the Tehachapi's where the TRTP line was built to, can't be favorable, as well. The state identifying a renewable zone and building transmission to that zone can work, but I don't think it is the one-size-fits-all model for all renewable development.

The land economics are also extremely important to understand, and I absolutely understand Mr. Gamper's concerns and, fortunately, the competitive processes that we have for procurement tend to favor not building on the highest value land because usually the farmers who are farming that land find that it is productive, find that it is valuable, and they're not interested in negotiating with us for purchase. We can't offer a high enough sum if they are finding value in that land in order to have a competitive project and move forward with confidence that

we could win a solicitation.

However, sometimes there are considerations in those land designations that aren't readily apparent in the high level land designation itself and, in our conversations with farmers, those become clear and we're able to identify what they feel is the true value of their land; maybe it's favorable to us, maybe it's not, but we at least have those conversations.

The impact of Bright Line designations saying, "Let's take off the table these land use types" is to identify that the rest of the marginal lands are the only sources for land for developing renewables, and all of a sudden what had no value and thus could be attractive for development has high value and changes the economics of the project.

So, I bring that to your attention because, again, in our effort to try to ring cost out of projects, optionality is important. And it's not that we favor building on productive agricultural land, or biologically sensitive land, we have an army of analysts that weigh all of those considerations for cost and for highest value to the project, and we end up with projects that take all of that into consideration in order to deliver the most attractive price possible.

And the last thing on this site that I'll say is

that, because there is so much competition for providing the capacity that the utilities are seeking to meet their 33 percent standards, I think that it's misrepresented how much development will occur. For example, there was a recent auction last year called the Reverse Auction Mechanism at the PUC, the RAM, and in that there was on the order of a 20:1 ratio between the supply available and bid into the auction for the megawatts that were available to give out in the auction. Now, if you were to take that snapshot and look at the projects that were bid in, and how much land they covered, and where they were distributed around the state, that doesn't tell you what is going to happen, or what is the best project until you see what was selected from those. After that, you have 1/20th of that project base that was actually viable and will actually get built.

Again, you know, 200 megawatts [sic] is a lot of land in some regards for a 20 megawatt project, but that's -- I'm sorry, that's 200 acres for 20 megawatts -- and that is one project that might be built vs. all of the projects that were bid and did not get built. So I just try to bring that to your attention. So, then, let me look at the next slide.

Because we operate in terms of economics in order to provide low prices and all that, I encourage the

Commission as they are going down this -- are exploring this issue -- to consider how information and how regulation will impact economics. As I already said, when you have solar zones, or whatever renewable zones, that impacts the optionality that we have, and all of a sudden areas that had no value have huge value. It's a huge criticism that I have of the CAISO's transmission planning process because we know ahead of time, and landowners will know ahead of time, and Counties will know ahead of time, where the development will likely occur, and thus can hold captive the developers who, as is necessary, developed to interconnect with that transmission capacity.

Secondly, I would say that the policies that are adopted, they can work with competition, or they can be anti-competitive, so policies that are competitive -- and I'll probably just skip to the next slide and wrap up my comments here -- policies that are competitive or that promote competition are no cost policies where a series of criteria are identified, those are siting criteria that are preferred, and when those criteria are achieved, fast tracked permitting can be delivered to that development project.

But the developer can weigh those costs and benefits with being able to move to different sites where

maybe the economics they find are better, and they'll accept the standard permitting process, they have the choice, the options are there, and the competition is for them to engage in.

Programmatic EIRs, I think that there are pluses and minuses, but certainly the pros encourage going down that path, and I won't spend a lot of time on that, and consistent criteria are really important.

To the extent that we have a patchwork of criteria in different Counties across the State, you see development occurring more exclusively in some areas vs. others. Kern's policies are very pro-competition and, as such, we see a lot of development in Kern County. Other counties are watching Kern and trying to understand how much they want to go down that path, or adopt some of those policies, that's useful for them to watch a leader, but to the extent that there is any kind of statewide guidelines created, it's important to understand how those might be adopted in different Counties in order to encourage some sort of consistency.

And to that, Recurrent Energy did participate in the process for the model Solar Energy Ordinance; that was a valuable process, it was great to bring the different stakeholders together and talk through all those issues. So, to that extent, I really am pleased to

see this forum being created so that we can talk through these issues. And I'll wrap up right there. Thank you.

COMMISSIONER PETERMAN: Thank you. I appreciated your perspective and looking forward to the discussion. There are a couple things that -- I took away a number of things from your presentation, but one is the comment that the economics now, even without a stated preference, might result in some of the priorities being achieved, for example, one might not use preferred lands -- prime farmlands -- because it's not economically the right decision, although some of those economics can change over time, so I took away that, by designating something as a priority, it might then result in some adverse economic effects in terms of having costs go up because there will be a higher demand, and so that's something we have to consider, is how do we indicate a preference, but not close the door to some flexibility or some optionality around cost.

One thing that also came to mind as you were making your points is that, having a preference or a priority could result in some costs going down, such as interconnection, for example. And you have to make that tradeoff with other costs like land use cost rising. That's all I have to say on that for now, but looking forward to other comments. Next speaker.

MR. RUSSELL: Good morning, Commissioners. My name is Jeff Russell. I'm with the U.C. Berkeley School of Law, Center for Law, Energy and the Environment. Thank you for having me here today to be part of the discussion.

I want to start with just echoing comments from other panelists, commending the amount of work that the Commission and the staff has done to really push the state's renewable energy goals, it's quite remarkable. And speaking for myself, I can say that my copy of last year's Renewables -- Staff's and Issues Report -- has an embarrassingly large number of sticky notes and highlights, so I rely on it frequently, as do others. So that was one of the reasons I was excited to be invited here today.

The Center, last July, co-hosted a conference at UCLA with the Governor's Office to discuss the Governor's 12,000 megawatt local energy goal. I won't go too much into the conference since many people here were at the conference, as well. But just very briefly, it included over 250 participants, it was a two-day conference with 11 panels, covering everything from grid planning, to Building Permits, to fire safety issues. And the purpose of the conference was to identify the barriers that stand in the way underneath each of these topics, towards

achievement of the 12,000 megawatt goal, and then started talking about solutions.

As a follow-up to that conference, the Center, myself along with Steve Weissman, prepared a paper that reported on the results of the conference and also contained a suite of policy recommendations to address each of these barriers towards the local energy goal. The paper was released at the end of February for public comment, it was distributed to everybody who attended the conference, and it's also available on our website. If you are interested in seeing it, I'm happy to direct you there afterward. And we received around 30 comments from really a wide array of stakeholders, from utilities to environmental nonprofits, to developers, and state agencies, including the Energy Commission. And feedback was very valuable.

The paper itself makes recommendations that apply to all levels of government, from the Governor's Office to State agencies, to Local Governments, as well as private industry and nonprofits. And so my comments here today are really going to focus on kind of the high level recommendations from the paper and specifically with respect to localized generation, and some of the siting strategies that we pulled from the conference and recommend in more detail in this paper. Also, I will

mention that a final draft will be released very shortly and we look forward to getting that out and kind of moving on with the follow-up work.

So as far as siting goes, with localized energy, Distributed Generation, it really comes down to just looking at the distribution grid above all else because, really, one of the core benefits of local energy is the ability to take advantage of the existing transmission and distribution, well, distribution system, without having to invest money in upgrades to the transmission system.

So we started with really looking at the grid and, in trying to capture those benefits from local energy, whether it's reduction in plant, you know, new centralized generation projects and transmission projects, avoiding or lessening other inefficiencies associated with transmission like line losses, energy loss when electricity is conducted through the transmission system, and then congestion, when you have during peak periods a lot of power moving through transmission lines, it results in an inefficient system. So localized generation, as a start, can begin to start capturing those benefits.

And the first way to really get at that is to -- what we recommend -- establishing a really solid

definition for localized generation that not only looks at the size of the projects, 20 megawatts and below, but also looks at the locational attributes; the current definition often in use doesn't have any locational attributes. Just to use one of my favorite examples, that is akin to selling a jelly donut without the jelly; you miss the best part. So what you want to do is make sure that, when you're calling something a local energy project, it actually is local -- local to load.

So what we recommend as a start is a definition that would have these types of projects, fitting this criteria connected to the distribution system, and also putting power onto the grid that meets existing load without back-flowing onto the transmission system. And I think, you know, the results of recent procurement programs really illustrate the effects of not having a definition. SCE's CREST Program resulted in a queue of projects that are mostly located in the outlying areas. The recent Renewable Reverse Auction Mechanism resulted in, for the most part, projects located in the High Desert, pretty much removed from load. So without those locational attributes, you know, definition, it's going to be really difficult to pull those projects in and really capture the benefits that local energy can provide. And, in fact, from feedback from utilities and

other parties, utilities and other stakeholders really called for the location of these projects much closer to load than they currently are.

So with the foundation of that definition, we can start looking at areas of the distribution grid that would serve other strategic goals for the State job creation, environmental protection. And I think the way to start that analysis is to look at where the hot spots are in the distribution grid, areas where there are either load pockets where existing fossil fuel generators are going to be wound down over the coming 10 years, and that would otherwise need additional transmission and energy from centralized generation, and start targeting those areas for more local energy.

So, to start making those kinds of decisions, you do need quite a bit of data, first about the distribution grid where these projects, these local energy projects, can be sited without triggering upgrades, where these so-called hotspots are. A recent study estimated that upwards of 20,000 megawatts can actually be connected to the distribution grid without triggering upgrades, which if true is pretty remarkable.

And the second step is just to really figure out where utilities are planning to build new transmission lines and figure out how we can mitigate those upgrades,

by strategically siting local renewables and shifting those resources towards siting strategic development.

So in summary, you know, getting more data about the grid, about utility plans for the transmission system, and centralized generation is essential. In terms of barriers, we seem to be making progress with the RAM Maps; utilities have issued concerns about confidentiality and we're able to work through that with the RAM Maps, but that's an ongoing issue and the more that we can focus on getting that data out there, without violating confidentiality, the farther we'll get towards having transparency that we need.

So just to close my remarks, the benefit of approaching this starting with looking at the grid is that projects are going to be sited in urbanized areas and, by doing so, you avoid impacting, for the most part, a lot of the more environmentally sensitive parts of the state, projects are sited closer to where people live, so there are job generation benefits, and a truly integrated approach would look at these things together, look at the grid at a fine grain level, and require cooperation of utilities with communities to really start looking at where we can strategically site these projects.

So with that, I'll close my remarks.

COMMISSIONER PETERMAN: Thank you very much. I

think your remarks are relevant, as well, for our Panel 3, which is going to be on DG, so hopefully you'll have time to stay around, but appreciate if you have to get back.

MR. COLDWELL: Okay, thank you very much. I do want to note that we are missing one key panelist today, you know, one very important stakeholder in all of this process is Local Government. We had Jennifer Barrett from the County of Sonoma planning to attend and provide comments on behalf of the County, however, she was unable to make it at the last minute. So she has provided me with a list of remarks she was nice enough to email, and I'll maybe try to work some of them in as we go along here and hopefully she'll, like everybody else, will submit written comments afterwards.

There are representatives from the -- and forgive me if I'm saying the wrong department -- Cal Fire, Department of Forestry, that have some comments that they would like to make, and I would invite them up to the podium here at this time to do so.

COMMISSIONER PETERMAN: Either the podium, or you can sit down in that chair, whichever is most comfortable for you.

MR. SNYDER: Standing at this point is good since I've been sitting for the last two hours.

COMMISSIONER PETERMAN: Yeah, we've been sitting up here the last two days!

[Laughter]

MR. SNYDER: Bill Synder. I'm the Deputy Director for the Resource Management Programs for Department of Forestry and Fire Protection, otherwise known as Cal Fire. And I guess, listening to the comments today, in looking at the emphasis on photovoltaic, I guess I'm really going to have you think about trees as kind of a primary photovoltaic energy capture using the sun. And really, what our interest has been over the years is how to capture that energy through the utilization of woody biomass. So think of woody biomass as photovoltaics since that seems to be a little more where people want to go these days.

But in terms of background, Cal Fire has responsibility for about 31 million acres of California in terms of fire suppression and other pieces of this. We also have regulatory responsibilities for removal of biomass and logs from about nine million acres of private property in the State, so we have an interest.

Under the Public Resources Code, 4799.14, we have been actively engaged in looking at utilization of woody biomass for energy, and have been long participants and partners with the CEC in looking at woody biomass as an

energy source. But I think, as we look at these locational pieces, I think it's going to be important to figure out some way to factor in environmental benefits associated with the energy source and the renewable energy source being used.

And I think our interest in biomass utilization has a lot of co-benefits associated with it. Some of those include improved air quality through a reduction in wildfires, reduced net carbon emissions through use of woody biomass to replace fossil fuels, community safety benefits, healthier and more resilient forests and rangelands and ecosystems, and clear social benefits in rural communities.

As we look at market benefits woody biomass will provide, there are a number of things that we consider when we look at threats to communities and ecosystems at developing markets for utilization of woody biomass, woody enhanced. We look at the map on here which is also included in the packet I gave you, it shows across California the landscapes that are high threat of damage to wildfire, either from an ecosystem or a community basis. Almost 21 million acres, or 21 percent of the state, falls within that particular fire threat capacity.

The energy contained on this 21 million acres is substantial and we recognized that, while every acre out

there would benefit from some sort of biomass treatment, there's really only a certain portion of this that is technically available.

So as we look at the locational pieces, if we can get slide 2, Cal Fire through our Fire and Resources Assessment Program, has estimated and done a lot of estimating relative to biomass supplies, but the woody biomass supplies are significant. If we look at sustainable supplies off of the land shown here, which comprise areas near communities within the wild urban interface, as well as ecosystems within 25 miles of communities, there's almost 4.2 million bone dry tons per year that could be available in terms of woody biomass supply. If we look at the energy that is contained within that, it represents almost 753 megawatts potential and 5.6 million megawatts per year. Significant energy and public benefit could be accrued from figuring out some way to utilize this woody biomass.

As we look at current technologies, I think that we certainly see significant benefit to placement of distributed biomass facilities, generally less than three megawatts, that utilize more technologies basically focused on combined heat and power, which is gasification to run generators, which then generate electricity.

I think locationally, if we could get the next

Powerpoint slide, the areas of concentration of woody biomass correlate well with transmission infrastructure and can fit well into considerations for preferred sites. Secondly, as we look at those areas with concentrations of woody biomass, they correlate well with locations that contribute to economic development, and a lot of these occur in rural communities who have lost some of their current infrastructure and employment bases in the wood products piece, and certainly shifting some of the woody biomass utilization to energy production would have clear benefits to these rural communities.

The third area is woody biomass concentration correlate well with facility locations near transmission hotspots -- if we can get the next slide -- transmission hot spots, as we currently look at them and look at this type of technology, I think there's a lot of potential for avoiding cost for transmission upgrades through locating power production, and woody biomass certainly facilitates that type of location, and given the supplies would complement well, dealing with generation within these hotspots.

And I think the fourth thing I'd like to talk about in terms of locational consideration is look at the significant benefits to forest health in ecosystems associated with reduction in fuels, particularly as you

look at changing climates where those climates have become hotter and drier, it's very unlikely that we're going to be able to sustain the current levels of biomass on these landscapes and we need to look at a strategic approach to providing for ecosystem health, and I think markets for woody biomass will give us some tools that will allow us to make thoughtful ecologically sound decisions about what to do.

We looked at some of the literature in terms of indirect benefits associated with woody biomass and, in particular, Morris from 1999 who produced the Report for NREL that estimated the benefits of treating and utilizing this amount to about .67 to 14 cents per kilowatt of indirect public benefit from utilizing biomass.

I've included in the packet material that gets to your request relative to data, and supports some of the informational sources that we have relative to biomass supplies, and within that also are some pieces that get to looking at various reports, many of which are from and have been completed for the Energy Commission. There's a lot of data, so I think it really gets to some of the transparency questions that you have, and I think the challenge will be to line those things up with transmission needs and public benefit, but I think

there's a lot of potential for photovoltaic woody biomass. At this point, I'll pass it along, I think.

COMMISSIONER PETERMAN: Well, thank you for that. I will say I think you've touched on the points that forest health and fire management are going to be important for addressing climate change, as well, which is one of the main reasons why we're developing renewable, anyway. And so I take away from your comments that, one of your suggestions is that, as we think about prioritizing areas for renewable development, think about prioritizing renewables that can have benefits to forest health and fire reduction, and that could be biomass in some of the areas you've identified.

MR. SNYDER: Yes, clearly, and I would age myself by saying it's a win-win because I don't hear that too much, often much anymore, but I think, clearly, there are benefits with both.

COMMISSIONER PETERMAN: Okay. And is there anyone from the group that would like to offer a couple more minutes of comments? Otherwise we'll turn to questions.

MR. SYNDER: I do believe Christine Nota from the Forest Service will talk about their view.

COMMISSIONER PETERMAN: Okay. Thank you.

MS. NOTA: Thank you so much for squeezing me in.

I have just a couple comments to add to Bill's. I'm Christine Nota. And I'm the Regional Forestry's representative in the Pacific Southwest Region Forest Service.

Location does matter, it's incredibly important to us. The Forest Service manages about 20 million acres of national forest lands in California, so that's about 20 percent of the state. We would very much like to see a vastly expanded network of renewable energy facilities that use forest biomass for energy, and the location of these is very important to us, and I just want to add a few more thoughts to what Bill said.

At your last workshop, we provided a letter to Commissioner Peterman outlining some of the public benefits of biomass from wood waste. Those benefits include reducing the risk of wildfire, both the cost and the risks, reducing human health impacts, protecting California's energy infrastructure from wildfire, which is an increasing issue, enhancing carbon sequestration and reducing cost to ratepayers.

You know, we all pay a very high price for the increased severe wildfire that we're experiencing, and we'll experience even more as climate change effects impact us, but we don't often realize the cost to ratepayers who are paying for power outages during

wildfires, you know, transmission lines, and also paying for cost to infrastructure from wildfire damage, but also for some very costly settlements of wildfires that are started by the transmission lines.

So at the Forest Service in California, we have a very aggressive program that we're planning to do restoration work on about 400,000 to 500,000 acres a year, and much of this is thinning and fuels reduction that will have a great amount of woody biomass available. We feel, if we don't step up our program to about that level, that because of a lack of forest resiliency as climate change impacts hit us, we're not going to be able to deliver all the valuable resources that come off national forestlands such as clean water, clean air, recreation and values, just a multitude of things. The water coming off national forests alone is valued at about $9 billion a year, so that's worth protecting.

So to do this, we really need some Distributed Generation biomass facilities scattered throughout the state. Our only tool right now where we don't have the biomass facilities is we have to pile and burn, and that's not a sustainable program, it has air quality impacts, it has a very high cost, so we're not able to thin and restore as many acres where we have to pile and burn. In some cases because of air quality constraints,

we don't get the piles burned, and then eventually those piles will burn up in wildfires -- one way or another, that material will burn in piles or in wildfire. So having forest-based biomass facilities scattered throughout the rural mountain communities gives us a chance to thin more acres, restore more acres, and do it in a really both economic and beneficial way.

So we do have some large cogen plants right now, but they barely cover, you know, the high risk fire danger areas, so we really need a network of small, kind of community-scaled biomass facilities scattered throughout the state. And I will close with that. I very much appreciate the chance to add these remarks. I know Sierra Nevada Conservancy wanted to add a few more, so --

COMMISSIONER PETERMAN: Very quickly because we have a number of questions for the panel, so if you have one or two comments.

MS. CARR: Yeah, I will be quick. My name is Kim Carr with the Sierra Nevada Conservancy. We're an agency within The Natural Resources Agency, and we're responsible for about a quarter of the State's area in basically implementing sustainability. So we're doing that fine balance of protecting all the resources, supporting local economies, and the social well being of

the people.

And I just wanted to spend a little time on the people and the communities and the economy with this discussion. Basically, the unemployment rates in the rural counties average about five points higher than the California state average. The populations tend to be older, and some of this is the fact that there aren't many employment opportunities, so people are moving out of the rural communities, or the younger generation is leaving, basically.

Also, the economic health indicators are significantly lower in the rural areas as compared to the California average. And the forest industry decline has been a big part of this. It creates $2 billion in direct payroll, and it contributes about $10 billion to California annually, but it's declined with the mill closures over the last couple of decades. And with that, about 90 percent of school funding from the timber tax revenue has declined, as well.

And so, as part of the Bioenergy Plan that the California Energy Commission prepared in coordination with many state agencies, including ours, Cal Fire, and others, what's called out in there is to support distributed community-scaled bioenergy facilities in high fire risk areas. And a focus of this is on projects in

the rural forested communities. We're doing this by working and building consensus-based forest collaboratives so that we're getting consensus in these communities of how to manage the forest, to get the timber wars behind us, and within that, introducing this idea of using the biomass in very diversified ways. A big part of this is biomass to energy being an anchor, and there are opportunities, as Bill mentioned, even in abandoned mill sites where transmission lines are still intact, to locate appropriately scaled biomass facilities, but then also manufacturing where you can take the other parts of the biomass and turn it into high value products, landscaping materials, etc.

One issue we have is that we're really needing the supportive policies and agencies like CEC so that this is a viable alternative, because we have to show its viability in order to secure the private investment it takes, in order to make these facilities happen.

COMMISSIONER PETERMAN: I will mention that we are having a workshop on economic and job opportunities related to renewables, as well, later in the month that you're welcome to come back, as well, and really focus on those comments.

MS. CARR: Okay, that's great. And that's all I have. Thanks so much for allowing us to speak.

COMMISSIONER PETERMAN: Thank you. And I hope you'll be around later for the DG panel. Bill and Christine, if you want to, in case there's a question that others have for you, if you want to sit in one of these empty seats, you're welcome to do so on the dais.

I wanted to have this perspective provided partly because, in terms of the projects we've focused on, and with the DRECP, these regions are not necessarily incorporated. And so these are some of the considerations that we want to think about going forward when we're talking about development in other parts of the state, and it's another aspect of the kind of environmental impact and potential with forest health and fire management, that I think it would be worth paying some more attention to. So with that, I'll turn it back to the Moderator.

MR. COLDWELL: Thank you. And actually, we'll now get into kind of the question and answer part of the panel, and I'll allow the Commissioners to ask the first questions, if they have any.

CHAIRMAN WEISENMILLER: Well, just following up on the biomass question, obviously we have a lot of potential here, and we also have a lot of existing projects, which are struggling -- either for fuel, or value of power, so part of the question is, how do we get

those? I mean, certainly if you talk to the banks, banks don't invest in biomass because of their experience with the existing projects.

COMMISSIONER PETERMAN: And I'd also ask, particularly the utilities, I don't know, PG&E, if you have -- if this is the area you focus on, if you can comment on that, as well?

CHAIRMAN WEISENMILLER: Yeah, that would be very good. Wait a minute, how about we at least start with the existing projects?

COMMISSIONER PETERMAN: Or if not, and you're making comments, you're not expected to know everything about your utility -- I see you looking nervous over there.

MR. SNYDER: Bill Snyder again, and I think that's a very good question, you know, we focused comments today on the Distributed Generation piece, which is, I think, as I looked at the materials, less than 20 megawatts. I think a lot of the existing infrastructure is a bit larger than that, but we recognize that we've struggled to maintain the existing infrastructure and it's been shrinking. The other thing that I think has come to bear, I think the plants that are surviving through this have been those that have relied a little more on urban and Ag waste, as opposed to those that are

more based in a forest residue business model. So I think that is going to be a challenge. I think, moving forward, it will be important to maintain that existing infrastructure, you know, to the extent we can. But there certainly are logistical and business planning issues there, and I don't know that the model moving forward, without some assurances of supplies, you know, from Federal lands, as well as private, is going to be a business model that people are going to be willing to make significant investments in. I think the pathway you're looking at here, in terms of Distributed Generation, probably has a lot of potential and those smaller facilities can probably fit a little more geographically with some of the supplies that would be available. So that's just off the top of my head -- if that makes sense.

MS. TORRES: Yeah, and this isn't my area of specialty, but I do believe we do get bids for biomass facilities that come through our RFO procurement process and they're evaluated for environmental considerations. And we have actually specialized -- we've put a lot of thought into our procurement process for evaluating individual renewable technologies for their specific environmental considerations. So I can't speak to specifics on that, but we do look at it.

COMMISSIONER PETERMAN: I think the issue is that the environmental considerations to date don't include some of the environmental considerations we've just discussed, and so thinking about how to move forward with that.

MS. TORRES: Yeah, and I think that conversation would be helpful in the future, as well.

MR. HOWARD: Randy Howard, LADWP. I was very pleased to hear those comments and the commitments of the agencies. We haven't seen a lot of proposals come in the door that do consider this bio waste stream, and some of those benefits, but we've certainly been the victim of a lot of the wildfires and the impacts to our transmission systems and our electrical facilities. Our focus has been heavily on more the waste energy projects to deal with the long term diversion from landfills, so more the public trash, but we would be excited to work and entertain more of these types of projects where they fit some of our transmission locations and there, again, becomes a criteria, but I think there is a lot of opportunity if there is a commitment to ensure that the fuel supply is there that, again, some of the POU models where we would look at ownership and operational opportunities, we can overcome sometimes the bank and financial issues that others might have. So I would look

forward to some additional discussions related to this issue.

COMMISSIONER PETERMAN: That's great, Randy, and I think you've brought up the issue that there are other environmental benefits we could have from certain renewables such as human waste reduction, for example, and which we considered in our Benefits workshop before and I think specifically the comments today really -- I thought the interesting tie was to the fire issue, potentially, as well, and that could be something that's more directly tied to electricity procurement, which could possibly be dealt with in solicitations. I think someone from PG&E -- sorry, SD&E, right?

MS. JONES: SCE, Southern California Edison.

COMMISSIONER PETERMAN: SCE, we have a comment from SCE.

MS. JONES: I'm Jacqueline Jones. Roger is our distributed energy specialist, so he's not as familiar with the renewables. Like the gentleman from LADWP was saying, we do tend to get more bids from people doing -- what do you call it -- dairy biomass and those kinds of things, and obviously we take into account the cost for those. Typically -- historically, I should say -- our woody biomass procurement has been lower because, typically, the costs are higher because they include a

lot of tipping fees based on the transportation that is required.

COMMISSIONER PETERMAN: Thank you for that.

MR. LONG: Thanks, just a brief comment from me on the biomass issue. Noah Long from NRDC, for the record. I didn't expect this to be on the agenda, so I didn't prepare any remarks on this, but NRDC obviously has done a fair amount of work on biomass-related issues and the environmental impacts associated with it, and I would just note that it's important to us, to the extent that biomass is a new priority for distributed, or other power production, that the feedstock really matters, and creating an open market for increased biomass will not necessarily deliver environmental or climate benefits, but that, to the extent that particular feedstocks can do that, I think there may be an opportunity for some improved or additional biomass. But I think it will be important to make sure that the feedstock is considered down the road, as well as just in the additional infrastructure investment.

And I would also just note, you know, not having general comments prepared on this topic, I would just note that Massachusetts recently passed a new biomass policy related to feedstock procurement that I think would be useful for the Commission to take a look at in

its own considerations on that issue.

MR. COLDWELL: I'd like to give the panelists an opportunity to also ask questions of one another and, so, at this time, if any of the panelists have a question for any of the other panelists, I have some questions, as well, but I'll give you the opportunity first.

COMMISSIONER PETERMAN: I would also say, as well as the comment, some of what the others have said, I think there was some general agreement and maybe some difference of opinion, and as we're sorting through all this information, it would be good to hear how you all would organize all of your various perspectives.

MR. COLDWELL: And maybe I can kind of start with -- I had mentioned Jennifer Barrett from the Sonoma County who couldn't make it, but did provide us with some comments and one of the comments that she had, and it's actually something that's also in the report that Jeff did about the Governor's Conference, about this idea of -- I'll actually read it right out of the report here -- coordinating Land Use Planning and Utility Resource Planning. And this is something that Sonoma County, when I spoken with her on the phone the other day, was something that was important to them, and so I just wanted -- do any of the panelists have any thoughts about the importance of that, what are some of the barriers, is

it trying to integrate land use maps with utility maps? Is that a barrier? Is this something that is possible? Does anybody have any thoughts on that?

MR. LONG: This is Noah Long from NRDC. I think that's a really important issue and one that I think a number of counties are struggling with, as well as utilities in their own procurement, as well as developers, trying to figure out where to put projects. And I think the DRECP, you know, if concluded on time, and concluded in a way that we can support, ultimately I think the process is a good example. And there is this chicken and egg issue here and, yeah, I referred to it with regard to the projects in the Central Valley, but it can really be anywhere because, if there's not adequate land use planning taking place on a County level, they don't know how to respond to future planning, certainly, from the utilities, and vice versa.

But I would say that a first step is just making sure that Counties have the resources and access to information from State agencies, as well as other Counties, to develop energy land use plans. And there are some Counties that are really getting out there on top of this, but other Counties that either don't have the resources, or are further behind. And I think, to the extent that Counties have those resources and can

engage in the State processes, they're going to be more likely to either map up with the existing resources about where transmission and distribution infrastructure is, or encourage additional infrastructure in the areas where they want to prioritize development.

MR. RUSSELL: I'll just turn to what Noah said, that's something we also heard from conference participants, there's a bit of a disjointed process right now where you have utility planning at different levels between resource planning and integration planning, and of course interconnection, and then land use planning, which often times Local Governments are catching up because they don't have the resources to update their Codes and their General Plans. So, ideally, ultimately, in a perfect world, Cities and Counties can start planning proactively for these types of projects through energy elements in General Plans, and overlay maps in the General Plans that, you know, in coordination with utilities, target areas that mesh land use priorities for the community with the best areas on the distribution grid to site these projects. And as far as I've been able to note, there isn't a great way to do that right now, but that's something that should definitely -- we recommend be explored.

COMMISSIONER PETERMAN: So, Randy, is it

possible?

MR. HOWARD: Is it possible? What we're finding is the planning requirements and just the community input is a very good process, but we're finding the timelines are actually getting much much longer than what we had initially seen. Obviously, in particular areas where there has been an abundance of renewable development, those communities, now, we're seeing a lot more opposition -- opposition if it's wind, viewscape, solar, you're just seeing more and more neighbors concerned about some of the solar activity. As we move into the feed-in-tariff, just within the urban environment, we're finding more and more challenges with community input on just how it's going to look and the aesthetics, how it fits into the community. We've overcome some of those barriers for, say, Homeowner Association type groups, but there's still -- we end up getting a lot of concerns.

We have some ground mounted type systems that have been installed on what was open space hillsides, we've had a lot of pushback, so our City Council has really had to address some of that in the localized sense. But we're seeing, unfortunately, longer timelines, much more community involvement and participation than we had seen historically, and so that is creating -- and in the end, we'll probably have better

projects, but as to being in the middle of compliance activities, right now to meet objectives, it does make it a little bit more challenging for us.

COMMISSIONER PETERMAN: Based on your comments, kind of thinking about the degrees of engagement, and it seems that one of the comments made is that the Local Governments are doing the land use planning, and so, to the extent that the community involvement can happen in that land use planning component, and so that there's something clearer to mesh with the utility planning, I think that would be useful. It sounds like you're hearing perhaps more project-specific feedback at each point in time, and I'm just wondering, is there something that can be done in terms of better planning outside of your project that would then reduce those times?

MR. HOWARD: Well, we are attempting as the City of Los Angeles to take more of these things up from our planning and building safety organizations, where we do the broader brushes to, you know, all new facilities within the City should be pre-wired for solar, those types of issues, trying to ensure that, as they look at corridor planning with the new transportation corridors, that we're looking at where renewable development could occur, where Distributed Generation could occur, that they're taking those up early in those types of

activities. But we are seeing a lot more concerns from the communities as to some of these issues.

MR. GAMPER: I'd just like to comment on Jennifer's -- Jennifer was a driving force in the County Planning Director's Model Ordinance, and it's a shame she's not here today because one of the objectives of that Model Ordinance was to streamline the process, especially for projects that are integrated into commercial or residential usage. So they were essentially over-the-counter permits, no public hearings, CEQA exemptions for the smaller net metering type projects which can take quite a bit of load off of the procurement requirements.

MR. COLDWELL: So I have another question, but given the time constraints here, I would like to ask if anybody in the audience, or online, have any questions for the panelists at this time. I see a hand going up. Come forth, sir.

COMMISSIONER PETERMAN: And I will say, Matt, using the Commissioner Prerogative, since we had a couple of extra speakers, I'm going to say that we should go to 11:40 on this?

MR. COLDWELL: Of course.

MR. HOMEC: Good morning, Commissioners. Good morning, everyone. My name is Martin Homec. I was

interested in the Smart Grid since it's now a plant in the ground, and there's a Smart Meter at every home and business, and how we're going to integrate the renewables generation with the ISO dispatching. And I went to a PUC Workshop on Long Term Procurement Planning, and they said presently they don't have any methodology for doing it. Then, when I went to the Smart Grid workshop, the Southern California Edison representative said that they had presently retained some data management people because they don't know how to analyze the data, it's going to be such a huge amount. So we're proposing to integrate renewable -- build renewable resources in geographically appropriate places without considering how they're going to be used and dispatched to the grid. So since we now have the data and we have the plant in the ground in the form of the Smart Meters, I was wondering if we could add that consideration. Thank you.

COMMISSIONER PETERMAN: Thank you for your comment. I'm not exactly sure how that fits into the exact topic today, although I hear your consideration. I don't know if anyone has an immediate response, but I guess I'll say in short -- well, I'll let the Chair --

CHAIRMAN WEISENMILLER: I was going to say we have a future workshop coming up on renewable integration, as opposed to location, and in that we'll

look at Demand Response as an option, and certainly the Smart Meters can be part of the Demand Response Program.

MR. HOMEC: Yeah, I was just concerned because the long term procurement planning is going on and it's going to tell the utilities which power plants they should build, or not, and how they should use these new renewable resources and energy efficiency, and yet there's no program to integrate it into the process.

CHAIRMAN WEISENMILLER: Certainly from your PUC background, you know the strengths and weaknesses of that agency.

COMMISSIONER PETERMAN: Yeah, but I would recommend -- I would recommend attending that workshop, as well. Matt, do you want to offer your question up as we see if there's anyone else in the audience who wants to ask one?

MR. COLDWELL: There has been some discussion today about mapping efforts and using -- Google Maps was mentioned, and I know Edison uses Google Maps for their RAM, and I believe PG&E does, too. John and I had talked the other day about the Department of Conservation's Farmland Maps, and how they need to be updated to include additional information. So I guess the question is, is there an opportunity to start -- and whether it's using Google Maps, or whatever else, but to start using one

consistent format to develop these layers of maps that have land use maps, and system maps and, like John and I were talking, farm maps, especially the specific -- and interested in what we're talking about today -- the specific site characteristics and, correct me, John, if I mischaracterized this, but the saline level in the soils and how marginal they are, and is that a worthwhile endeavor to start going down that path, to start creating these layers of maps that we can start laying on top of each other to begin to understand where the priority areas are for renewable development?

MR. GAMPER: Well, since you were talking to me, I'll respond. I know that the information sent on the environment at U.C. Davis has been doing the GIS overlays on different characteristics. I think they might even have the farmland mapping, monitoring maps digitized for that purpose, and then it's just a matter of talking to NRCS, Department of Water Resources. The first map that was created by Department of Conservation with DWR last year was simply a very cursory look at any soil name that had the word "salt" in it, and it produced hundreds of thousands of acres in the Central Valley.

I think we're all aware from our history that the Tigress and Euphrates Valley, where agriculture started 10,000 BC, eventually salted up because of irrigation,

and we're noticing similar problems in the Central Valley, due to lack of water to leach the salts below the root zone, and get rid of it, and drainage. So there are literally hundreds of thousands of acres in the Central Valley that would meet this characteristic of high electrical conductivity that is detrimental to plant growth.

MR. COLDWELL: And Cara, the maps that you've created, that EPA has created for the contaminated sites, I don't know who has the expertise to start layering the stuff on top of each other; is that something that you would be able to layer on these farmland maps, or system maps, the maps that you guys have created?

MS. PECK: Yeah, that's actually something I thought of when you mentioned that there is the information on the salt impaired lands, because that would be very easy to include a layer on our mapping tool, and since we haven't released it yet, that would be very good timing for that, as well. Because I think the idea of that is to get the priority sites that are degraded or contaminated first. But I think, in doing this project, I did see, when I was doing BAC research before we started, so many different mapping efforts that have been going on, that are all very helpful, but, you're right, they do have different layers, and you go

from one map to the other, what they're trying to emphasize based on the purpose of that project. So I think that, in terms of that, I'm not an expert on the planning side of things, but I think that could be very helpful just based on so many disparate efforts that are going on.

MR. COLDWELL: Thank you.

COMMISSIONER PETERMAN: Cara, and if you file any comments, it would be great to get a little bit more background about how long it took you to do your mapping efforts, some of the things that maybe we would consider if we're trying to interact with a lot of these different mapping efforts here.

MS. PECK: Yeah, and we have been -- I have been coordinating on those, but since we have been focusing more on the disturbed sites vs. just the other priority sites, so, yeah, definitely.

COMMISSIONER PETERMAN: Thank you.

MS. TORRES: I just wanted to add from PG&E that the coordinated mapping efforts -- the map viewers that are developed are very helpful, but also having kind of like access to the raw GIS data, so that it can be imported into our own GIS databases and layered upon our own internal files is also helpful, and we've actually developed extensive GIS databases to help try to figure

out the environmental considerations on a lot of our RFO review processes. So both are helpful, and I would just recommend that any files that are on the map viewer are also available on the GIS files, themselves.

MR. WHEELER: So I would just take this opportunity to identify that this is a perfect example of where data availability, and policy design, and project economics intersect to provide more data is fantastic; to put that data together for developers is not necessary, that's our job to do ourselves. Lots of shape files, lots of KMZ files, we'd love to have it, policies that prioritize disturbed or low quality lands, that's fine, but building the map and posting online and saying "this is where we prefer you to build" will change the economics of projects. And we would much prefer that the information is available, but it is not made so basic that the pick-up truck developer, so to speak, can go out and stake a claim.

COMMISSIONER PETERMAN: No, that's an interesting point. We have different hats we all where, because we're trying to reduce barriers to entry, but I appreciate the need, if you're developing, to want to maintain a competitive advantage. And I think, also, your point gets to the fact that there are different types of developers, and so -- or different types of

project scale, and this gets more into the DG questions when we're talking about a couple kilowatt rooftop systems, which you might have the customer as the developer, if you will, or you have larger systems, 20 megawatts or something, where you would have the expertise and, so, point taken.

MR. LONG: Noah Long from NRDC. I would just add to that. I think, from a stakeholder perspective, and Michael and I are driving back to San Francisco later today, so we can talk about this more, but from a stakeholder perspective, I think access to that information is really important to prioritize our project review and analysis. And so I think there has to be some balancing between the interests that Michael was mentioning and the interests in broad stakeholder review.

In terms of mapping efforts, I think a fair amount has gone on particularly within the PEIS format and the DRECP in Southern California and desert lands, but I think not enough has been done yet in other parts of California, Central Valley included, to map priority areas, and I think that should be a priority for the Commission. And I would just add that there are a number of other efforts apart from the governmental efforts, and I know University of Santa Barbara has done -- Nature Conservancy has done a fair amount of mapping, and some

other groups have done a fair amount of ground-based habitat mapping that I think is useful in these efforts. I would say, I think there's simply not enough data at all with regard to avian habitat for bird species, migratory bird species, bats, raptors. We don't know exactly where they are when they're in the air, we know more about where nesting sites are, we know where they land, but I think, to the extent that we're thinking about expanding wind in these areas, the avian habitat is also -- sorry, the aerial habitat is also -- really important and there's not enough data yet.

COMMISSIONER PETERMAN: Thank you. I just want to note that you've got all the Commissioners up here, obviously, which just speaks to how important this topic is to us, and it's a rarity to be able to get us all to find some time in our calendars, and so we welcome Commissioner McAllister, who has joined us, and this is his first week, and obviously since we've started, we've been joined by the Chair, Chair Weisenmiller, and Commissioner Douglas.

And we have someone from Westlands Water District, I believe, here at the podium and, so, Matt, if you're okay with that?

MR. COLDWELL: Yeah, go ahead.

MR. KIM: Thank you, Commissioners. My name is

Daniel Kim. I'm here representing both the Westlands Water District, as well as the land owners who are working to Master Plan 33,000 acres of drainage impaired land in the southern part of the Westlands Water District.

The Westlands Solar Park is a designated RETI CREZ, it was the last designated CREZ in the RETI process and, as a result, the fact that it came in so late really precluded it from being adequately studied from a resource planning standpoint, both on transmission and procurement. As we well know, the procurement process in California has been underway for almost a decade, and the number of contracts that the utilities have signed is, well, at least on paper, close to meeting their perceived 33 percent RPS goals. The challenge to resource planning is it needs to take a longer viewpoint, which is why it's so difficult for late arriving Renewable Energy Zones like Westlands, even though it is considered environmentally superior in comparison to all the other Renewable Energy Zones, as determined by the RETI Environmental Working Group process, it is not seen as commercially viable because the utilities are not procuring from this area due to the fact that the amount of projects they've already procured for has gotten them to meet their RPS goals.

So, from a planning perspective, this is actually a very good discussion to be engaged in because we need to be looking at both scenarios of renewable energy projects that are in the current portfolios, that either are not going to be constructed or financed in other resource zones that are environmentally sensitive, and how to shift those megawatts in those buckets to environmentally superior areas, as well as have the transmission planning coincide with a more kind of phased approach, as Commissioner Weisenmiller was saying, that allows for short-term, midterm, and long-term opportunities for renewable development to occur in these environmentally superior areas.

The CTBG process, which many of you know is an outgrowth of the RETI process, and planned the transmission build-out scenarios for the 33 percent RPS, one of the last studies that was done determined that in the Central Valley there was a strong possibility to do short and midterm reconductoring that really brought out potentially up to 3,000 megawatts of solar generation in the Westlands CREZ. Now, the reason why I say that is because that reconductoring doesn't require the size of projects and the scale and cost of projects that you see in other areas, particularly in Southern California, that create ratepayer shock. And that's, I think, very

important to consider as we're kind of reevaluating these portfolio and these buckets, which is why areas like the West Mojave, areas like Westlands are now becoming much more integral to this discussion, both from a short term and long term process.

Oh, and lastly, from an environmental standpoint, Commissioner Peterman, it's important to note that Westlands is very much an interested party in this, given the fact that the land retirement in the Westlands CREZ is integral to diversion of water that's going to allow for more productive farmland to be continued to be irrigated, given the lower water allocation that the district is receiving, being a junior water rights holder. I know that's somewhat of a topic that's removed from any of the conversations that you're engaging in, but you just had a 15-minute dialogue on woody biomass and the environmental benefits of that; well, I would argue that the retirement of drainage impaired land that is selenium and salt contaminated is an Environmental Justice benefit to the communities of the Central Valley, and retiring 18,000 acres is not inconsequential, it's in fact very significant and results in addressing a decade's long environmental problem that has really, you know, exacerbated some of our kind of larger policy discussions regarding BDCP.

COMMISSIONER PETERMAN: Thank you for that. I would ask -- as I mentioned, we had a workshop on other environmental benefits from renewables, and if you have some comments to the nature that you've just given, that you want to submit, I'll have Heather Raitt follow up with you just to make sure that you can maybe send them to her, so we can even consider them as a part of that workshop, as well.

We're running here against time, so Matt, do you have a final question or comment, or anyone on the dais burning to make another comment or ask a question of each other?

CHAIRMAN WEISENMILLER: I was going to ask one question, which certainly -- I think it's more setting the theme for the IEPR, I mean, we do have a lot of different options in California which, as you know, we are running pretty much to the 33 percent. And so at least one of the issues that we really have to consider in this IEPR is the Governor has always been clear that that is the floor, not the ceiling. And so what are the consequences of basically going to a higher number? And how does that fit in -- do we need to do that to get the benefits and keep this a sustainable industry?

COMMISSIONER PETERMAN: I think that's a very good point and, in the comments that you file,

specifically what we're going to be doing in this plan is having a list of recommendations, so if the specific recommendations you have, and putting them in the context of both the current renewable goal, the 33 percent, as well as if there's a higher goal, what you might be recommending differently would be very valuable to us.

So I will thank you all for your participation on this panel. I found it very informative. Of course, we could go on this topic for days, but we must move on and eat lunch. Matt, thank you for excellent moderating, and questions and, Suzanne, for your presentation.

MS. KOROSEC: Commissioner, we do have one question online.

COMMISSIONER PETERMAN: Oh, please, I'm sorry, I don't mean to ignore our online audience.

MS. KOROSEC: No, that's all right, it just came in. So can you open the line now?

COMMISSIONER PETERMAN: Okay, let's hear that, and would everyone mind staying one more minute for an online question?

MS. KOROSEC: All right. Your line is open, G.M.?

MR. MAYHEAD: Yeah, hi. This is Gareth Mayhead at U.C. Berkeley. It was just a clarification on the earlier comment that was talking about the existing

biomass industry in California. I mean, it is true that some of the plants are suffering due to fuel supply, or contractual PPA issues, however, I would like to kind of make note that new money is flowing into this sector, and that's in one of three ways, currently; it's either through the purchase of existing facilities, the conversion of fossil fuel plants to burn biomass, and the restart and non-operational facilities. In my experience working with this sector, investors do regard this as a proven cost-effective baseload technology, and I kind of got the impression earlier that people were regarding biomass as not cost-effective and not attractive to investors, so I just wanted to make sure that was clarified.

COMMISSIONER PETERMAN: Thank you very much for that clarification. With that, let's break. We'll be back for a 12:40 start. Thank you.

(Recess at 11:40 a.m.)

(Reconvene at 12:47 p.m.)

MS. KOROSEC: Thanks, everyone. Welcome back. We're going to start right up with our second panel on Regional Strategies to Identify Priority Geographic Areas. And our first speaker is Scott Flint from the Energy Commission.

COMMISSIONER PETERMAN: And let me just say, the

first panel went very well, so if you're just joining us, both on WebEx, or in the room, I recommend that you review the transcript when it is available because lots of good information came out. Thanks.

MR. FLINT: Thank you. Thank you, Suzanne. Good afternoon, Commissioners, panelists, and distinguished guests. Oh, and welcome to this afternoon. So my name is Scott Flint. I work in the Siting Transmission and Environmental Protection Division here at the Commission. My primary responsibility is as the Project Manager and Lead Commission staff person for the Desert Renewable Energy Conservation Plan.

I'm going to give you a high level overview of that planning effort. It's an example of a regional planning effort in which we are looking to site and accelerate permitting of renewables while maximizing environmental protection, that's the overall goal of the DRECP planning effort.

First of all, I just wanted to show you this map to orient you a little bit. This is California and this map is the number of conservation or NCCP plans that are going on throughout the state. National Community Conservation Plan is a process that's outlined in Fish and Game Code and, so -- and we're working in partnership with Fish and Game and several other State agencies, and

Federal Agencies, to put this planning effort together. And those agencies include Fish and Game, the Bureau of Land Management, U.S. Fish & Wildlife Service, who all have differing and joint permitting responsibilities over renewable energy development in the desert, in different combinations both on public and private lands and primarily the public lands in the DRECP area are under BLM ownership.

So why do an NCCP? So what you get out of an NCCP and doing it jointly with the Federal Fish & Wildlife Service in an HCP Planning effort, at the end of that process you have a plan that lays out areas appropriate for development, you have a plan that lays out areas that are appropriate for habitat and species conservation, you have a set of rules about how to mitigate project impacts, and usually you have a streamlined and facilitated mitigation pathway. And what I mean by that is you have an entity that implements the plan and, in most of those plans developers can just pay fees which helps projects move along faster, pay mitigation fees, and those mitigations are put in place by the entities that implement the plan on behalf of the developers.

This is DRECP Area -- is down here, we're looking at the southeast corner of the state, it's the largest

planning effort of this kind that's been attempted to date, it's approximately 22 million acres in size. It takes in a portion of -- all or a portion -- of seven counties, including Inyo, Kern, San Bernardino, Los Angeles, Riverside, Imperial, and San Diego.

So, again, why would anybody undertake this planning effort for such a large area? Coming out at the end, the overall benefits to projects and project developments would include California Endangered Species Act Permits, areas that are permitted, or areas where permitting could be streamlined, tiering off the plan as it is completed and presented, and, in the Endangered Species Act Authorization, under this umbrella, local agencies retain local control and approval authority over their projects and they are, those that sign on as Permittees, become issuers of the incidental take permits on behalf of the State and Federal agencies, so they have total control after signing up to operate within this plan.

Mitigation and monitoring costs and responsibilities are identified for the life of the permit term which run, for these planning efforts and permits attached to them, run between 30 and some up to 50 or even 80 years in a few cases.

Planned development is in a partnership mode,

both with stakeholders and affected and regulated entities, and also joint agencies. And some of the conservation established in the plan, some of the responsibility for implementing that, is shared by the agencies in certain circumstances, and that would be conservation above and beyond project permitting.

Permitting time is reduced significantly and environmental review in these planning efforts is either completely complete for some projects, or can be tiered from to speed up the environmental review process, both at the State and Federal levels for subsequent projects that need additional review.

Benefits to the environment and agencies include -- these plans are designed to assist in species recovery and are also able to cover non-listed species in the plan, both for take and for conservation, so that species do not become listed in the future and then become a permitting problem for operating projects.

A huge benefit for the agencies, or for the environment, overall, is increased effectiveness of biological mitigation because you're looking at it and planning it on a region, or eco region-wide basis, and not project-by-project, individual mitigations, which often are opportunistic, and do not fill out a proscribed and preferred plan for conservation. And agency

workloads are significantly reduced from individual project permitting and environmental reviews, and that's all agencies that participate, including local agencies.

So what have we completed to date? We have looked at and developed an initial set of scenarios for development and we are working right now, as we speak, actually, turn those into alternatives that will be presented in a Draft Plan in several months for public review. We have identified potential areas for renewable energy, zones that are preferred for development and have lower biological value, that's how we, by identifying these areas, being able to permit some of them in some fashion, we would be able to accelerate development and minimize environmental conflict and impact.

So what kind of data have we looked at to develop these areas and what's been critical, and some of the things around data? One is on the resource development side, we've looked at quality of resource, we've looked at land slope, proximity to roads, and transmission, and we've also looked at the conservation value of the land. So in an HCP, in a Habitat Conservation Plan, the primary intent is to conserve habitat and species, so we've built that value look into identifying these areas also, hence identifying the lower biological value habitats.

And just to be complete, the DRECP is looking to

permit utility-scale wind, geothermal, and solar in the desert, and the associated and required transmission for that. And as defined in the plan, that includes 20 megawatts and above, that was the utility-scale definition for projects; however, we are also, as identified in the Governor's strategy, we also have places where distributed DG on the ground could go, that would also be covered by permits in the plan.

So we've looked at a ton of biological information, we probably have about 700 layers of information, both on species locations and habitats. We're looking at some advance data that's coming out of studies recently that are just -- are being done right now in response to a large amount of development in the desert, and these have to do with genetic connectivity, as well as habitat connectivity.

We are looking at projected changes in the climate. As climate change goes forward, the desert is projected to get hotter and drier, and we're looking to taking that into account because that directly can affect species distributions, as you can see from these modeled projections for future distribution of the Cactus Wren, just for an example. So we're taking all this advanced information -- some information is available, some information is not available. We are spending money to

fill some data gaps, primarily on vegetation mapping and distribution, and the state of climate change modeling is still in its infancy and there's a lot of debate around inputs and outputs of those models, so there's some uncertainty there.

We're also looking at habitat connectivity which, between existing protected areas, so this is one of the areas that is a huge emphasis for this conservation plan, because, given all the uncertainty around climate change modeling and prediction, one of the best efforts that we can do is maintain connectivity so that animals can move within their natural environment. Unique to this plan, from the biological perspective, is the ability to do that over this huge area. Most NCCP plans are county specific, and while you can do some planning for climate change and adaptation within that, a lot of times you can't because you're not dealing with a large ecological area that provides the variety and diversity of habitats needed to ensure resiliency in the face of climate change.

In addition to the biological information that we've been looking at and analyzing and collecting, and the inputs that we've used on energy resource availability, also taken inputs from all the stakeholders, and that includes Counties, the affected

Counties, industry, wind, solar, geothermal, and we've used those inputs in the process to identify those areas. In preparing for the EIR, Environmental Impact Report, the Environment Impact Statement that needs to go along with this plan, we also looked at these other 59 biological/non-biological issues across the desert. This provides vital information for the environmental document that folks will be able to tier off of within the plan, or if they're not fully covered in the permits that might be issued.

So what are some of the challenges? The process is not without -- it has great promise, it's not without its warts. There's a lot of stuff going on in the desert and we're working carefully to integrate that and not conflict with it, particularly local land use planning and other conservation plans, and management of conservation lands that are already out there in the desert.

A desert is fully subscribed with uses. Most of the publicly-owned lands have Land Management Plans that fully subscribe what's going on there, provides recreation value, wildlife habitat, mining, and many other uses that are needed for us to function as a society, and for us to recreate. And so it's already fully subscribed. And so, working to integrate another

large-scale use is proving to be a big challenge.

So ultimately we want to go from a permitting process that looks like this, with all these complicated steps and interactions between four or five agencies, to something that still has the agency involvement, but is much more simplified and allows folks to comply with existing law and to site their projects and have the appropriate mitigations and habitat protections in place to deal with that. So that's what I had today and that's just an example of the kind of effort that's gone into this plan. Some of those things -- the date in these will vary and the different land ownership will vary in different areas, depending on where such planning effort is undertaken in the future, so there's lessons to be learned from this process and we are about to the point to issue the first full public draft in a couple months of the plan and the EIR/EIS.

COMMISSIONER PETERMAN: Thank you, Scott, very much for that. I wanted Scott to present today largely because the DRECP is the largest effort of this nature, this type of planning that we've been talking about all day that the State is engaged in, and it would be good, again, as Scott mentioned, to draw some lessons about this for other areas. I want to make sure, though, that we don't focus -- I know a lot of people have been

involved in the DRECP here -- that we're not focused explicitly, only on the DRECP, and how that process should or could be different, but talking about some of the larger lessons learned and opportunities.

One follow-up question, Scott. You had one slide which you quickly just mentioned that there are 15 other factors that the DRECP is considering, including socioeconomic, Environmental Justice, noise, etc., I'm just wondering if you could speak to explicitly how you're incorporating these topics. And one that's come up a number of times for the group has been socioeconomics. Thanks.

MR. FLINT: Yeah, and that's as far away from my area of expertise as possible, but, what we would be looking at these -- we're looking at three primary issues in the plan, itself. Typically, they are development and biology, in this case we don't want to find -- I'll start with that -- we don’t want to find biologically superior sites that then have huge conflicts with cultural resources. That's something that is traditionally looked at later in the process; we're integrating that as best we can, as soon possible in the process. These other 15 issues are being considered in general and coming with the plan, but basically the look at these will be at a programmatic EIR/EIS sort of look and what's required by

both CEQA and NEPA.

So there will be some look at economic analysis of how, once areas are selected and the analysis goes forward, of how recreational uses and other competing uses in the desert that might be displaced would affect the economy, the Counties, those sorts of things. There will be a look at how the financial benefit to participate in a plan like this might be to the development community. So those are some general things that we would be looking at.

COMMISSIONER PETERMAN: Thank you very much.

MS. KOROSEC: All right, next we have Bill Pfanner from our Special Projects Office.

MR. PFANNER: Okay. Well, thank you very much to the Commissioners for inviting me to participate here today. And I think Commissioner Peterman will get her wish, that our topic today is very high level, it is not geographic, or energy-type specific, but really looking at a very broad, big picture of three policy documents that the Energy Commission has been involved in, the Energy Aware Planning Guide, the Energy Aware Facility Siting and Permitting Guide, and the California Local Energy Assurance Plan, which is currently in production.

So for introduction purposes, my name is Bill Pfanner. I am the Supervisor in the Special Projects

Office, Local Energy and Land Use Assistance, which is part of Fuels and Transportation Division.

And I would like to start my presentation today with my ah hah moment for you. For eight years, I was a Project Manager here at the Energy Commission in the Siting Division, doing the licensing, environmental review, and permitting of power plants, 50 megawatt or greater. And back in the not too distant past, all we were permitting were gas-fired power plants. And I got the short straw and was assigned the Eastshore Energy Facility in the City of Hayward, which -- all energy projects, no matter how green you think they are, are going to have controversies; this project was unique in that it was the second large-scale gas-fired power plant in the City of Hayward in the same year. So, if you imagine the old movies where the citizens show up with pitchforks and torches at public hearings, that's what our public hearings were like. But my ah hah moment came in the permit process. A very earnest woman got up and said to me, "Mr. Pfanner, why is the Energy Commission permitting these gas-fired power plants? We have policies in place, the Governor is directing us, and we want renewable energy. Look at the City of Hayward, look at all those big warehouse facilities with flat roofs that we should be putting solar panels on." And the

answer is a community that is not proactive will be reactive to the energy system that is decided for it. So, because a city has not planned for incorporating into its policy documents and land use plans, those mechanisms to encourage, facilitate, get built on the ground, renewable energy projects, you will get the projects that are proposed to you.

So, around that same time, the Energy Commission was developing IEPRs that were looking more at renewable energy, looking at land use, and the Energy Commission said, "We want to develop a unit that is more land use centric," and I became the supervisor. Well, the first thing we know is that the Energy Commission is not statutorily in the land use game. Land use is predominantly Local Government, regional government, and we had to say, "What is our role? What is the Energy Commission's role in land use?" And we really came down to the Energy Commission is good at research, providing information, and the IEPR said we want a strategic plan for land use, and our Strategic Plan basically said, "Tools, not rules." We want to develop tools for Local Governments to help them make decisions to incorporate state policies into their own communities in a way that works for them.

And one of the first projects we finished was an

updating of the *Energy Aware Planning Guide*. And some of you may be aware, this was a document that was originally prepared back in the '90s, and it is very well known in California, and it was time to update it. Information was out of date. And the Planning Guide is an excellent resource that provides strategies for reducing energy use through community design, transportation improvements, energy efficient, and it really targets regional and Local Governments. And we were working with Cambridge Systematics, Local Government Commission, and Calthorpe Associates. And we prepared this document, it has been very well received. I provided the link and the handout because it is online, and we did have some copies available for those that want hard copies, and I'm told they're out, but after I'm done here I'll bring more down here.

So the *Energy Aware Update* said, well, what's changed since the '90s? Well, AB 32, SB 375, a lot of issues, global warming, adaptation planning, Energy Action Plans. So we really looked at, you know, how do we update strategies to reduce energy consumption and deal with issues?

And there were five major strategies that the *Energy Aware Planning Guide* dealt with. And I'm just going to hit on them briefly here because they're very

detailed. But land use, it looked at Smart Growth, land use diversity, transit-oriented development, parking pricing, you know, through street projects, street trees, a lot of the physical amenities that Local Governments can look at under land use.

Did I jump slides here? Oh, this is what I was going to do -- transportation, it really looked at fare increases, park and ride situations, Transportation Management Associations, all of the transportation associated facilities, under building strategies looking at California building strategies, improve the enforcement of Building Energy Standards, going beyond Title 24, solar energy, retrofitting residences, efficient lighting, trees and such.

Under water, it looked at urban water conservation, integration of Regional Water Plans, stormwater reduction, conservation, reuse and recycling, and efficient wastewater treatment. And then, under the banner of Community Energy Strategies, it got into topics like, community energy authorities, energy district financing, cool communities, renewable energy resources, and Distributed Generation type.

So what the *Energy Aware Planning Guide* does, it provides general plan language ideas that Local Governments can incorporate, the implementation of ideas,

it identifies energy benefits, environmental benefits, economics, examples of programs and operations, and resources. So, again, it is a very good broad tool for Local Governments to look at various programs and policies that are in place and provide tools of how they can be adapted.

That document was completed in February of last year, and since then our unit has been working on preparing a Web tool component of this, which I kind of think of as the *Energy Aware Planning Guide* on steroids. And it goes into the document, and we're working with Lawrence Berkeley Labs on this, and it develops more in-depth information to assist regional governments in making land use choices to reduce energy consumption and greenhouse gas emissions.

And what it does, it goes to the major recommendations in the Planning Guide and provides more in-depth, it has added information, provides breakdown by General Plan type, density types, and includes links to other websites, so it really does provide a lot more information for Local Governments. And when the site is done, you will see that it will give you some ideas based on the *Moving Cooler Study*, which was done in 2009, of what kind of greenhouse gas reduction do you get for your policy, and what's the cost-effectiveness for

implementing that?

The second *Energy Aware* document that we have completed is the *Energy Aware Facility Siting and Permitting Guide*, and I think anyone that is interested in having a good overview of energy planning, permitting, in California, this is a good primer. It wasn't meant to be detailed, it was meant to provide an overview, and for Local Governments, this would give a comprehensive understanding of energy and the process. It's meant to assist Local Governments in developing energy General Plan elements, it discusses the increased role of Local Government's energy planning, provides guidelines on utility-scale electric generation, and transmission and permitting. It identifies the key players and it identifies utility-scale generation and transmission likely to occur, and the tools for doing the environmental review process. The link is provided here and, again, there are handouts for those that want a copy of it.

This document looked at small two megawatt projects, individual panels on roofs, 2 to 20 megawatt Distributed Generation-type projects, and the larger, 20 megawatt or greater, and it sets the stage for electricity generation and use, preferred source of electricity generation, and electricity transmission

preference.

The document provides a background on the importance of Local Governments, and Local Governments roll in preparing General Plans, specific plans. Local Governments have a lot of information now that they can use to help make their plans -- what are the resources available? You know, planning considerations for what information is out there, strategies for public involvement, and a way to improve the permitting and licensing process for renewable energy.

It looks at what is going on in the future, you know, where are we know, where are we going. The RETI project, the California Transmission Planning Group, statewide studies, the Desert Renewable Conservation Plan, BLM Renewable -- you know, projects that we've been talking about here, utility-scale development. So, again, it is a very good overview for anyone looking at siting energy projects.

Land use approvals, environmental review, permitting authority process, and planning documents, all are discussed in the process.

The last item, I'm going to ask my staff member, Dave Michel, to come in for and that's to give you a quick overview of a project that we're very excited about and is in the process of being prepared at this time, and

that's the California Local Energy Assurance Plan, CaLEAP. And Dave Michel will explain it.

COMMISSIONER PETERMAN: Bill, I just had a quick follow-up question before you --

MR. PFANNER: I'll be back.

COMMISSIONER PETERMAN: Okay.

MR. MICHEL: Good afternoon. Yeah, we kicked off the CaLEAP Program in September and quickly we moved into a recruitment phase of recruiting local governments to actually get assistance from this program. This was a federally funded program and it's going to be around until March of next year. The main goal of this project is to assist Local Governments to become more energy resilient. And specifically, instead of looking at it kind of from the 30,000-foot view that you guys have been looking at, we're looking at facilities and not just any facility within a Local Government; we're looking at government and private infrastructure facilities that you want to make sure that they have power during a major energy disruption, and that disruption could either be from natural causes or manmade causes such as terrorism, or cyber attacks.

The lessons we've learned from events such as Katrina and Japan, and other outages such as the outage in September down in San Diego, we're starting to learn

that energy is important to consideration, and what facilities we're protecting or hardening in those events.

So the objective of the program is to show Local Governments how to develop these plans; this is not something that they normally embark on and there's some expertise that's been going on across the nation in the last five or six years in this area. We've basically enlisted a lot of the entities that do that, ICF and PTR are the two contractors that we're working with that are assisting us on that effort. We started a recruitment effort in December with six public workshops, we're continuing that effort throughout the state, and we're successfully recruiting some major jurisdictions. We've now recruited the City and County of San Francisco, 18 Cities in San Diego, we've got Hayward, just the community that Bill was talking about, Berkeley, San Francisco, Palo Alto, we just got them aboard last week, we talked to SACOG last week, as well, they're extremely interested in going forward. We're looking to brief different committees within SACOG, and hopefully we can get some of the Cities in this region, as well.

So what we're really trying to do, and I'll go to the next slide and you can see our methodology that we're trying to do, is we look at the framework in how to develop a plan and how to actually implement the plan.

It starts off with looking at the team that they've developed. In many cases, they already have a team, but we look at it and see who is missing and bring them to the table, and in some cases there are team members that they normally don't talk to, so they could be planners, they could be part of the elected officials, they could be first responders, energy offices, those types -- and in the private entities such as hospital associations and, obviously, the utilities, too. We take that one step further and then we look at the major components.

Really, the work is done in Step 2. So we look at the communities' demographics, try to understand their characteristics, we then look at their energy profile and how it's made up, and then we look at the facilities. And this is where we can really lend a hand on trying to prioritize a government's facilities and what are important to protect. In most cases, we're looking at police stations, fire stations, and in some cases it could be publicly-owned hospitals, or we work with their privately-owned hospitals, as well. Those are the type of community facilities we're looking at. It could be, also, shelters; shelters come in many different forms, they could be elementary schools that serve as shelters, as far as gymnasiums, it could be senior centers, or other community centers. Those are the facilities we're

talking about and, so, how can we make them more energy resilient?

In many cases, the traditional method of a back-up generator isn't enough. During devastating outages, in most cases their fuel supply will run out. Most of them only have 48 to 72 hours of fuel. Renewable technologies such as PV and solar, rooftop solar, can really lend a hand in augmenting their back-up generation if it's designed to do so, and that's what we're working toward, as well, or other advanced strategies such as microgrids, also understanding what will the Smart Grid do to the vulnerability of the grid, as well, so we look at that, and in some cases it may bring more vulnerabilities to a system.

We're working toward understanding how we can better foster public partnerships in delivering fuel once an event happens, so we're working on that, as well, creating that dialogue. So like I said, this is looking at the building, as far as a resource, when you need that power to be on and how to do it. And thank you very much.

MR. PFANNER: So we talked about where we've been, the *Energy Aware Planning Guide* and *Facility Siting Guide*, where we are with the CaLEAP Project, and I'd just like to take a minute to talk about where we think we'd

like to go. We do a lot of discussing with Local Governments, and we understand resources are tight, staff is tight, we have very talented, innovative, creative people out there that want to do things, but don't have the resources, and if we look at our strategy of tools, not rules, we're looking to develop here at the Energy Commission support and some financing for the next step in the *Energy Aware*, the concept of Energy Aware, a Community Energy Guide, which could include a Web-based tool for Local Governments to prepare energy elements integrating the types of policies that Local Governments want to get on the ground, taking them from concepts into -- physically integrated into their General Plan process, so that Local Governments can get those plans, and as part of the Web tool, looking at the concept of a programmatic environmental review, so that the CEQA component could be done as part of it, also. This is a concept right now, we'd like to develop that, you know, we know that this is something that would be a valuable tool in the future, but, as I say, it's our next step in where we hope to go because we do see that critical link between Energy Commission State policies and Local Governments' desire to make decisions at a local level and to incorporate Smart Energy into the future. So, with that, I will gladly take some questions.

COMMISSIONER PETERMAN: Thank you, Bill. I just wanted to ask a bit more about how this -- it was discussed earlier today and in past workshops that I guess the Association of Counties -- I don't want to say it incorrectly -- come up with a model, a standardized guide, for solar PV, for example, and so I just wondered if you could speak to how the Energy Commission is coordinating with those types of bodies, you know, kind of what role do we see ourselves playing now that Counties are taking on some of this work themselves?

MR. PFANNER: Well, the Energy Commission has been very involved in the various State entities that have worked on sample ordinances for siting solar facilities and being engaged in the process where State agencies are working with the Local Governments. So, I think that is a key component and it certainly was a key component, a strategy of our unit, of being engaged with other State agencies, to make sure that the Energy Commission is integrated into the process.

MR. MICHEL: I can add something to that, too. You know, we've been asked, or I've been asked, to assist ABAG in some of their energy assurance efforts, but it really has a lot of stakeholders involved and over 100 cities involved within that group, and I think the co-benefit of what we're trying to do in the energy

assurance work is we're developing those relationships with each Local Government, but all the other stakeholders, as well. We're doing that with San Diego, we're doing it in other areas in San Bernardino and Ontario, and we're hopefully going to start that dialogue along with here in Sacramento. We also have an association with some regional groups in the San Joaquin Valley. So we're beginning that dialogue and the dialogue is very hands-on.

MR. PFANNER: Thank you very much. We greatly appreciate being invited here today.

COMMISSIONER PETERMAN: Well, you were easy to find, being in the building, you know?

[Laughter]

No, glad you were able to present this work. We haven't had many opportunities to discuss the recent developments, so thanks.

MS. KOROSEC: All right. Now we will move into our second discussion with our Moderator, Eli Harland from our Renewable Energy Office.

MR. HARLAND: Thanks, Suzanne. Thank you, Scott and Bill, as well, for those presentations, and Dave. My name is Eli Harland. I work in the Renewable Energy Office here at the Energy Commission and, first of all, thank you to all the Panelists that are here now, helping

us shape this really important dialogue and start to roll the sleeves up and do some important work here.

So we have some familiar faces from this morning's panel, and this panel will work similar, each of you will have about five minutes, if you can stick to five minutes, that would be great, to introduce yourself and make some opening remarks.

The questions are up on the Powerpoint and I believe each of you has been able to review some of those, so if you could address those within your opening remarks and also after each of you introduce yourselves, we'll talk about those.

We also have one of our Panelists participating over WebEx, Josh Hart from the County of Inyo's Planning Department is on our WebEx, so when we finish introductions around the table, I'll ask Josh to introduce himself and make opening remarks. So if there's any opening comments?

COMMISSIONER PETERMAN: I'll just add one comment. For those who are -- this is our second panel of the day, we heard a lot of some of your opening comments in the first panel, don't feel the need to repeat the same comments again, we've got them on the record, but do the intro as you wish, but if you want to even just start going directly to the questions, that's

also beneficial. Thanks.

MR. HARLAND: All right. So I'll just start to the right of me with Wade.

MR. CROWFOOT: Thanks so much for the opportunity to be here. My name is Wade Crowfoot and I work at the Governor's Office of Planning and Research, or OPR. And in that role, I help spearhead the Governor's efforts to achieve 12,000 megawatts of Distributed Generation. Probably everyone in the room knows what Distribution Generation, or DG, stands for, but it really is localized renewable energy. And the way we define DG is renewable, as defined by the RPS, under 20 megawatts, so that's everything from your small rooftop to your large community-scale project, and then located on the distribution grid, or serving directly into the center of demand.

So I'm here really more to learn than to present any -- or to try to answer any one of these questions. I will give you a little context from the Governor's Office and in terms of why we're really appreciative of the CEC for asking these questions and building this subject into its next version of the IEPR.

The long term vision that we have for energy in the Governor's Office, which I think the CEC and sister agencies share, is to transform California's energy

system to a highly efficient renewables-based system, and electrify transportation. And that's really sort of the one sentence mission statement that binds our efforts around renewable energy. And in order to do that, we believe strongly that we need both large-scale renewable energy, as well as small-scale DG.

A recent report suggested, in order to meet our long term climate goals, which are to reduce greenhouse gas emissions 80 percent by 2050, we need to grow -- and, I should say, address demand growth as population grows and transportation becomes electrified-- this particular report suggested that solar energy had to grow by about 12 percent a year, and wind power by about 7.5 percent a year, every year until 2050. So we in the Governor's Office believe that, you know, beyond 33 percent, we'll need renewable energy at increasing levels over time, again, to address demand growth and to transition our system to a less polluting energy system.

That being said, my friend and colleague, Tim Snellings, who will talk today, presented at a conference, which I presented at two days ago, and indicated the amount of land that actually is needed to facilitate all of that energy growth -- renewable energy growth in California, if you're looking at solar energy and wind energy, which I should say parenthetically are

only two forms of renewable energy that we're looking to advance -- bioenergy, fuel cell, there are other technologies that we want to prioritize and figure out ways to expand.

But Tim's slide that he showed earlier this week suggested less -- well under one percent of California's land mass would have to be converted to renewable energy if you were depending on solar and wind power.

So from our perspective, while we want to move aggressively on large-scale and small-scale, we can be somewhat selective in terms of where we bring on renewable energy. The work that I do, advancing our 12,000 megawatt Distributed Generation goal, is focused on building energy near sources of demand, so that's in cities, that's near manufacturing facilities, that's on farms. And so, while our offices, you know, fully prioritizing the Desert Renewable Energy Conservation Plan on utility-scale, we're also really focused on trying to figure out where within centers, or near centers of demand, we can bring on renewable energy.

I think the question I'm interested in discussing today is, if we have these collective goals of expanding renewable energy, but doing so in an appropriate way that recognizes other priorities, be it agriculture, other economic development activities, how does we approach

this from a regional standpoint? In other words, I know that the CEC has put together draft targets for regions to achieve the Governor's 12,000 megawatt distributed generation goal, and there's a lot of questions around, you know, how a regional target would be set, and then how it would be advanced with Local Governments. Is it a soft target? Is it an enforceable target? Is it focused on land use resources, or is it focused on the capabilities of the utilities operating in the region?

We're very interested in finding ways to partner with Local Government to achieve the 12,000 megawatts of Distributed Generation, and are really interested to know from some of the local folks here today what's most hopeful to them. I know Bill and his team have come up with some very effective tools. In the Governor's Office, we're working on a Guide Book for streamlining Building Permitting for very small-scale solar PV.

So the state is looking at and developing great tools, but I think the key question is how to help Local Governments actually be able to implement those tools because we could think that we have the greatest ideas in Sacramento that are helpful to Local Governments, but if they're not being implemented, ultimately they're probably not worth the paper that they're printed on.

So we in the Governor's Office are really focused

on, you know, in 2012 and beyond, really working with Local Governments to figure out what's needed and what helps facilitate the renewable energy development that you yourselves want. So I'll leave it at that, and I'm thankful to the Commissioners for inviting us here today, and look forward to hearing from my fellow Panelists.

MR. GAMPER: Madam, Chair, John Gamper representing the California Farm Bureau. I think I was remiss and didn't thank you both for inviting me, Eli, and Matt, for inviting me here to be on the panel today. We have been involved since the RETI process several years ago and we became alarmed that agricultural land might have a very large target on it because of some of the other goals and objectives that became apparent during the RETI process, like taking all public land off the table, that's 50 million acres of the one million acres that represents the state's area. So when you say it's only one percent, that's a million acres, and if it's a million acres of prime farmland, that's a significant impact on agriculture. If it's a million acres of prime habitat, it's a significant impact on wildlife, as well.

So we have 100 million acres in the state, 50 million is owned by either the LADWP, or the Federal Government, or other Local Government, and so of that 50

million acres, about 30 million acres are Ag land, and about eight million acres are prime farmland. And, again, there were 10 million acres just in the mid-'70s of prime farmland, so it's a losing battle as far as protecting our prime farmland resources due to residential development, industrial development, and commercial growth, and the drive for sales tax dollars. So the fiscalization of land use has not ended, and now that we're starting to move into an era of Smart Growth, and trying to get mixed uses, pedestrian-friendly communities, and reducing carbon footprints of transportation and community development, now is not the time to turn leap frog industrial development loose in our prime agricultural soils.

As far as what the State can do, not the questions, but just the general perspective of this panel, I would think that if the State could help develop a model LESA program, a Land Evaluation Site Assessment System. We developed -- the Farm Bureau sponsored the Bill, Senate Bill 850, back in the '90s by MacCorkindale, to require the Department of Conservation to establish a LESA Program because Counties that had Programmatic EIRs -- Kern County -- were wading through 1,000, 2,000, 3,000-acre projects with Negative Decs, because they already did a Programmatic EIR, but there was no look at

the cumulative impacts of that conversion. So, since we couldn't get a threshold above which conversion of farmland was considered significant, we got a LESA process involved which said, if you don't want to do that, just do a land evaluation site assessment and maybe that can give you a number that will tell you whether or not the impact is significant.

LESA, the Land Evaluation part, is a very objective criteria based on the productivity of the land, the deepness of the soil, the lack of salt, etc.; the Site Assessment is more of the size of the parcel, proximity to fire stations and, in this situation, obviously, proximity to the Grid and interconnection. But that would be a very helpful tool as far as identifying where solar development or renewable energy development could occur. Of course, I mainly focus on solar because that's the most land-intensive of the renewables.

We also need a mechanism to take speculation out of these new targeted areas. When we heard from Recurrent [Energy] today that we don't want to create a land rush and tilt the market, there has to be a mechanism where we can take the speculation out of those situations. If you've got the Westlands Water District that has ground, it's probably worth $1,500 to $2,000 an

acre max, due to the retirement, the salt problems, it's unrealistic to then turn around and talk about it being valued at $15,000 an acre for solar development. So there has to be a way to reduce the speculative value of that ground, whether it's through a legitimate solar easement approach, where you have what's the value of the land as a solar easement, and what's the value of the land as Ag, and then, like a regular conservation easement, you pay the difference between what that land is worth as a solar development vs. what it's worth as Agricultural land. And, of course, unfortunately, in that model, the traditional model of a conservation easement, the higher the value of the Ag land, the lower the value of the solar easement. So we need to figure out a way to deal with that issue because we don't want to have an artificial tilt toward our best ground.

So I think I've mentioned I'm not a big fan of Programmatic EIRs, especially if they allow groups to sweep cumulative impacts under the table. I think the best thing the State could also do would be to streamline the CAISO process and to get all the projects out of the queue that have been sitting there that are just a twinkle in somebody's eye, that are never going to go anywhere, and hopefully that will happen soon.

I was going to also suggest that the State

produce some guidelines and criteria, but Bill said you guys have already done that, so that's already being done. But there's also this other chicken and egg dilemma that we have to address, and that's the local planning dilemma, where you have -- in order to get a Power Purchase Agreement, you have to have site control, and you have to have the entitlements. But that doesn't necessarily mean you have interconnection or a Power Purchase Agreement, so you've got a lot of developers going out there, trying to get entitlements for projects they may never get a PPA on, may never get financing on, but they're seeking Williamson Act cancellations, and they're seeking entitlements on projects that, again, may just be a twinkle in somebody's eye. And when you talk to Recurrent [Energy] and they say there's 504 projects in the South Central Valley and there's going to be 30 that are going to get PPAs, that is a waste of a lot of time and money and energy on projects that are never going to go anywhere. So I look forward to the broader discussion and I'll stop there.

COMMISSIONER PETERMAN: John, thank you for your comments. I would ask, either if you want to comment now, or in your written comments or later on, on the following. You've focused primarily, as you've mentioned, on solar developments on farmlands,

particularly of some of the, I think, challenges that you're seeing. We've heard from the Agricultural community, though, about a real interest in bioenergy and on-site bioenergy use, and so, if you have any comments that would be different, considering that as the resource vs. solar, I would appreciate hearing them, as well, because that's one of the opportunities, where we're looking for opportunities, particularly in the Central Valley.

MR. GAMPER: Good. Will do. In my written comments or --

COMMISSIONER PETERMAN: If you even wanted to address them now. I mean, everything you've said so far is good, but I just did want to again bring to the table that we're interested in other technologies, and particularly when it comes to Agricultural communities, bioenergy, and so also welcome a regional strategy on that type of development, as well.

MR. GAMPER: I was in college in the '70s, the methane generators were the hottest new thing. And nothing has come of methane generators in 30 plus years.

COMMISSIONER PETERMAN: Ah, the industry might tell you something different on that one, but go ahead.

MR. GAMPER: There's still -- it's very difficult to get them sited, it's very difficult to get them on the

Grid, and we could have a lot more development in biogas and biomass conversion if there wasn't the regulatory red tape that was necessary to get these projects on line. I mean, you can get the grant to get the project going, but then how do you get it connected to the Grid, and how do you get the utilities to buy the power? So, we are big supporters of net metering and meter aggregation, which is enough to the utilities. We've had projects where you could generate on a half a megawatt of solar panels, you could power 900 pumps, 900 horsepower pumps, on an annual basis, and the reason that project worked was because it was a rural cooperative that required that the project be -- that they aggregate their meters because the ranch was 50 percent of the rural coop's energy consumption and they didn’t want them cranking out a bunch of energy that wasn't going to be used, and so they designed the project specifically -- half a megawatt for annual accumulation, enough to run those pumps for one year. So we're big supporters of renewable energy as they're integrated into a project; our main concern is throwing agriculture and prime farmland under the bus, to reach a goal that is unnecessary because there's plenty of ground out there that's utilizable.

COMMISSIONER PETERMAN: Well, some of the strategies we've heard, though, in terms of bioenergy

opportunities in the agriculture areas, have to do with aggregation, perhaps, and so central collection systems, and so these could also potentially have land use impacts, as well as require some type of coordinated regional strategy. So, going forward and, again, in your comments, any additional thoughts you have on that would be welcome.

MS. DELFINO: Good afternoon. My name is Kim Delfino and I'm the California Program Director with Defenders of Wildlife. I'm here because Defenders of Wildlife began working about four plus years ago on renewable energy siting, not something that I actually did think I was ever going to be working on, but as we watched applications for large-scale renewable energy projects in the desert unfold, we realized that it was one thing to sign on to support letters, urging the adoption of the RPS Bills, and meeting RPS targets, and it's a whole other thing to actually then implement all of those lofty goals. And I would just point out, on the land mass quote, that John Gamper makes an excellent point, one percent of the land mass may not seem like very much, but if you it in a square mile perspective, you're basically talking about covering 1,600 square miles of the State of California with renewable energy projects. So that is a large amount of area and it's

particularly important where you put them, which we have found out with some of the projects in the desert. So what we started to do is not only work on trying to encourage better siting on public lands, but then to also facilitate and encourage good siting of projects on private land, and so we've worked not just in the desert, but we have a project where we've concentrated on reviewing what's going on in the San Joaquin, Southern San Joaquin Valley, concentrating on five Counties.

And so I will just give you some observations that we've come up with. I think what we've found is that there is definitely a need for better planning for both the siting of projects and power lines, but also for mitigation, which will come with most projects, frankly; it's pretty impossible to place anything in the State of California without having some kind of mitigation obligation. And we would like to see maybe a more coordinated mitigation approach associated with some of these planning efforts, and we think that actually will facilitate permitting at the end of the day.

So some of the things that we've found we need are comprehensive regional planning and mapping to identify locations, or identifying siting criteria that are most appropriate for renewable energy development based on energy resource, biological resource,

Agricultural lands, cultural resources, and land use. I understand that there's some folks that are not excited about mapping, and I understand the issue about driving up land prices, but the fact remains is that, you know, most uses that we have out here are like developing houses, or putting houses on the ground, has some kind of planning associated with it. So we think it's only smart to also, for energy purposes, have planning and mapping associated with that, as well.

The DRECP certainly is one way of approaching doing regional planning, it's a pretty bold approach. And whether or not we come out at the end of the day with a DRECP, we'll see, it's quite a lift to plan across 20 million acres for really one type of land use. But the idea of the DRECP, which is to do this kind of regional look across the landscape is an excellent idea, and I think can be used in other places, doesn't necessarily have to be an NCCP or ACP under the State and Federal BSA, but it can be associated with some kind of comprehensive approach done across planning boundaries. So that is definitely something we would like to see.

We also think that doing that kind of regional planning not only will help projects be sited better, identify mitigation opportunities, but it also addresses something that we're seeing in some areas, which is a

lack of addressing cumulative impacts. When Counties are permitting projects on a project-by-project basis, we're seeing in some Counties great deficiency in cumulative impact analysis. And, you know, in all fairness, it's hard for Counties, and I'm going to mention this in my tools part, it's hard for Counties to keep it altogether in terms of where all these different applications are, and who is interested in what land, and being able to analyze that across the board. But, as more applications and more projects roll out, say in the Southern San Joaquin Valley and certain other areas, the cumulative impacts issue is going to become a bigger and bigger problem if projects are not being analyzed properly. So, in addition to the comprehensive planning, we also think that you could also layer in this concept of an energy shed where, you know, a regional plan can identify areas called regional energy sheds, and then do CEQA, and I know John maybe is not a big fan of Programmatic Environmental Impact Reports, but actually we think those might actually be a good tool to use.

Some other things, we think that there needs to be more tools available to the Counties, that it is very true that they are lacking in resources, it's a very tough time right now for our planning staff at the local level, a lot of people are very short-handed, they have

very few resources; the California County Planning Directors Association -- I know Tim Snellings will, I'm sure, talk about the work that they've done -- has an excellent model, ordinance and guidelines, that we, Kate Kelly, who worked with Defenders [of Wildlife], helped work on. I think the Energy Commission does have a role in helping try to roll something like that out, or give -- helping the Planning Directors Association conduct workshops at the local level, to help planners and educate planners on this. The other thing I think the Energy Commission can do that's going to really help local jurisdictions is expedite funding for local governments to do planning. It's one thing to build the tools and put them online, but if they don't have the bodies to download that information and implement it, then it's not going to do them a whole heck of a lot of good. And I think that's one of the big problems, is that you have maybe two planners in a department juggling everything in that County; they're just not going to have the bandwidth. So if they can get funding, maybe, to help them do this kind of work, that would be huge. And I know there's an opportunity through the EPIC Funding that the Energy Commission will have. I would just urge expediting that. My understanding is that funding may not be available until well after 2013, and that's really

far away when you're thinking about what Local Governments are dealing with right now. So, to the degree you can expedite that, I think that would be really important.

I also think it's really important to build tools to centralize and make available the tracking of what projects are out there, where they are in the process, what transmission capacity is out there; these are basic information and that I think planners need to have when they're trying to figure out what to do.

So those are just a few of our recommendations. We actually have a paper that we're finalizing and we'll have available online with a lot of our recommendations, and we can provide that as part of our comments. Thank you.

MS. STANFIELD: Thank you. Good afternoon. Thanks for having me. My name is Sky Stanfield and I'm with the Law Firm, Keyes, Fox & Wiedman in Oakland, and we represent the Interstate Renewable Energy Council, which is a national nonprofit that works to develop -- or help develop -- sustainable renewable energy markets. And by "sustainable," we mean both environmentally sustainable, but also creating sustainable, long-lasting markets.

And our core expertise -- the core expertise of

the Interstate Renewable Energy Council has been doing work in the interconnection and net metering areas, and we've been active across the country, and particularly active in California on these issues.

We work -- I spend most of my time at the Public Utilities Commission instead of here at the CEC -- but in the last year, we have started to work more on the land use and environmental front in trying to bring these different processes together. There's something that I generally refer to now as the three-legged stool, and it keeps coming up, which is the three sort of processes that developers have to go through if they want to actually build a project. So they have to go through interconnection, procurement, and the land use and environmental permitting process. And so far, there's some interaction, but actually very little interaction, between procurement and interconnection. And there's been very little interaction between land use and environmental permitting, and how all of those three processes work together, and how all of those three different processes help select appropriate sites.

And right now, what we've talked about, and I think the panel earlier today really emphasized, that each of those processes is sort of identifying different criteria, but they don't overlap very much, and I want to

talk a little bit today about the need for us to start thinking about ways to improve the interaction between those processes.

And IREC has worked actively on the CCPDA effort and particularly on the Guidance document that went with the model ordinance, and tried to sort of help add information about interconnection and procurement, so that Local Governments, which traditionally haven't been involved heavily in energy siting, because the CEC traditionally had the large-scale power plants, they're new to these issues and they need to be given information to help them understand what developers are going through in those other processes, to help them plan accordingly.

So we're working on a couple of items right now, and the first one I want to talk about is we're focused mostly on DG, and this is really focused on rooftop DG, which is the local rooftop permitting processes, which the Department of Energy has been spending a lot of energy in the last year, a lot of money in the last year, to help improve the permitting process. And we got some separate funding to write a report that should be released next week, it's called *Sharing Success*, and it's a report that looks at what Local Governments, City and County Governments, are doing across the country to help improve the rooftop permitting processes, which are in

some ways, when you look at a ground-mounted project, that seems like a piece of cake, but for small projects with totally different economics, the amount of time that the permitting takes, and the fees associated with it, are critical.

And tying to the topic of the panel today is one of the things that we really highlighted in that report, is the benefit of regional approaches to streamlining permitting. When solar developers are working in the rooftop space, they often work in the cities within their driving distance from their office. If each of those Cities and Counties has a very different process and different requirements, that increases the cost for solar customers, and therefore reduces the amount of renewable energy that we're going to see.

And one of the other benefits of the regional approach, along with making those processes consistent, is that cities and counties don't have the resources to look at innovative ways all on their own. But if they can share resources across the Board, then they are able to sort of capitalize on good practices and implement them together, and try to create a healthy competitiveness between each other.

So with rooftop permitting, we've seen some good efforts on that, the East Bay Green Corridor is doing

that, there's a good example in New York on Long Island where a regional effort is having a good effect at having a lot of jurisdictions adopt a similar streamlined permitting process.

And I think we could also see that when we start looking at ground-mounted DG, as well. It helps for Local Governments to coordinate their efforts and, particularly when it comes to looking at cumulative impacts, which I think is where the critical environmental issue is for ground-mounted DG, is all these little projects going in together, how do you comprehensively look at what the impacts of 10 -- 5 megawatt projects are vs. one, you know, 50 megawatt project. Those impacts are different and they're hard to evaluate on a project-specific basis.

I want to touch on sort of two other things I highlighted a little bit already, which is the interrelationship between the three-legged stool. Currently -- we've made major progress in the last year on interconnection for Distributed Generation, in particular, by improving the interconnection standards, to make them more transparent, and quicker, and to help emphasize the locations where we want projects to be, namely located close to load and in areas that won't require upgrades. The two things that came out of that,

one of which was emphasized already today, are the RAM Maps, which are the utility maps that show the distribution circuits and what capacity is available on those circuits; and the other thing that hopefully is going to come out of the Public Utilities Commission is considering a settlement on Rule 21 that was just introduced and, as part of that settlement, there's a component of Rule 21 that will require the utilities to release more data on the interconnection applications they're receiving and on the Grid, itself, so that developers can plan for good locations in advance, so that they know what their interconnection costs are going to be before they submit the applications. And that's key to the interaction on choosing good sites.

But I want to put a caveat in there about, when we talk about what are good sites for DG, everyone has emphasized today that we want projects to be located in areas with load, that are located close to load and don't require distribution upgrades. The problem is that the distribution grid is changing constantly, so those maps don't allow you to plan very far ahead, so if you get -- often a distribution circuit only has maybe, maximum, five megawatts of capacity available, so you may be planning a project out, you know, a couple of months or a year, most likely a couple years out in advance, but

those maps are changing on a daily basis, and if one project goes in ahead of you, that capacity is gone. So we need to think about that, especially when we start integrating that into the regional planning documents, the land use component of that, because it's not like transmission where you can really plan out 10 years in advance. The distribution grid is changing on a much more active basis.

And then --

COMMISSIONER PETERMAN: Okay, Sky, you'll be happy to know that, on Monday, we're having a workshop on interconnection, which we'll be delving into those issues much further. But thanks for putting that point in the context of this discussion today.

MS. STANFIELD: And then the other piece, the other stool leg, is procurement, and I think the one thing I want to say on distribution is we've talked about how that's the key initial step to the development process, but none of the DG programs have really focused on these other components that we're talking about. Up to this point, with the exception of one or two small programs that have specified that they have to be rooftop, there's been no look at the land use and environmental components. And up until very recently, there weren't even a look at what the interconnection

requirements were, or where the system was located on the grid.

And I just have one other last point, which is I want to emphasize the value of the state being more actively involved in promoting brownfield development and what we talked -- the EPA was here earlier and highlighted some of their really really useful new tools, but I don't think that Local Governments currently have the capacity to take a look at the tools that are out there, and I think that this is an area where the State could get more actively involved in helping to really facilitate the development of brownfields in California.

And this ties back to my earlier point about the coordination of those three processes -- developing brownfields for renewable uses takes a very long time and, if you want to -- if you have developers that have to sign a PPA early on, that has an 18-months development timeframe, that's not likely to be realistic on brownfields land, so it's time for us to start looking at what it would take to encourage the development of brownfields. Thank you.

MR. HUNT: Okay, I guess I'm up. I'm Vernon Hunt, working -- supporting Navy Region Southwest. I just wanted to thank you all for the opportunity to come and provide some comments on how we work to identify

priority geographic areas on our installations, both from a regional perspective and from an individual installation.

For those of you that don't know, Navy Region Southwest is responsible for the 10 Navy Bases in the Southwestern Region, reaching from both throughout California and into Nevada, and along with some other Southwestern states when we consider our Reserve Centers and our NASCs and Specialty Centers outside of there.

Most people are probably aware there are fairly aggressive energy goals for the Department of the Navy, to include intensity reductions, so we really want to work to make our facilities as efficient as possible, but also to increase the amount of renewable energy utilized on our installations, both a goal by Secretary Mabus of 50 percent of our shore load to come from alternative sources by 2020, and that also goes to 50 percent of our installations to be net zero in that same timeframe.

In addition to that, Secretary Pfannenstiel has initiated the Smart Power Partnership Initiative, in which we're working with all the various stakeholders, both State, Local Governments, utility companies, to work to increase the amount of renewables on our installations while simultaneously increasing the Mission Assurance portion of our installations, so that critical loads are

served when the grid may be unavailable.

In addition to that, Secretary Mabus announced earlier this year the one gigawatt initiative where we are committing to putting one gigawatt of renewable energy on our installations, both for our internal consumption, and also for support of the grid as a whole.

Inside of that, I think there's lots of synergies that can be seen in the goals that the Navy has, and the goals that the CEC have, and the State, as far as both of us working towards ensuring the RPS Standard is maintained, putting in the 12,000 Megawatts of distributed generation, while at the same time the DON realizing some real tangible mission assurance benefits and lower energy cost, ideally.

As we move forward, in looking at renewable energy development on our installations, mission is always going to come first; we're always looking to ensure that the parcels of land that we're identifying for renewable energy development, whatever that technology may be, does not have an impact on our ability to train and prepare our Military for operations, both overseas and contingency.

One of the interesting items is that our battle space requirements are growing, both air and land, but our land assets continue to remain static, so it's very

critical for us to both consider what we're doing today and what we may need to do tomorrow as we start to identify areas for renewable generation and development of those energies.

Beyond the mission constraints, we continue to look towards parcels that have the minimum environmental and social impacts, so we're looking to utilize previously disturbed lands, we're looking to utilize under-utilized lands on our installation first and foremost. We do go through the NEPA process for each and every project, so there is an environmental and cultural resource, and natural resource consideration as we move forward in planning renewable energy projects. That being said, we do have land available for potential renewable energy development.

Our SER DEP Study identified over 5,000 acres of potential area at China Lake in El Centro that may be available to be developed for renewable energy, so again looking from the standpoint of we want to invest in renewable energy technologies, but we're looking for the right technology, at the right place, at the right time, again, to support the idea of increased mission assurance, and also to support the one gigawatt initiative for renewable energy.

That being said, there's significant obstacles

and barriers to us achieving that, the first being the transmission system constraints, which I think we've all kind of brought up. I know that we can't say it enough, that without the transmission to deliver power to other places, some of the economics for these projects don't work; in addition to that, making sure that there is a load to be served, so identifying someone that's willing to buy that power in the instance of us not buying it ourselves on the installation.

The next piece really comes to the myriad of restrictions that come when you cross the one megawatt threshold. For us, that's a considerable deal because most of our installations, the load is considerably above one megawatt, but the restrictions that come as we approach that one megawatt load makes the economics unattractive for many projects. A good example is the China Lake PPA that we recently put in place, was actually reduced in size because of the restrictions of not being able to export power off of the grid, and the costs that come with the standby and departing load charges. So, in addition to that, some restrictions do go back and provide telemetry on previous installations that didn't require it before we crossed that one megawatt threshold. Again, considering that the load of that 13 megawatt plant is approximately 40 to 50 percent

of China Lake's load, so the likelihood of us exporting power is very low. And that load center, or those load numbers are reflective of other installations in the region.

Essentially, that's the long and short of what I wanted to present today. I'll keep it short. But we want to thank you again for the opportunity to speak. We've been partnering with various stakeholders through SPPI and through the One Gigawatt Initiative, and we look forward to those continued relationships and opportunities to move both our agendas forward. So, thank you.

CHAIRMAN WEISENMILLER: Certainly, thanks for being here today and representing interests, certainly Wade, myself, and Commissioner Peterman have been to many of the Navy and Marine facilities throughout California, I've personally been to China Lake and 29 Palms in Coronado, and so certainly we have a deep relationship that we want to keep expanding.

I guess the one thing that would be good for our record here would be getting in the record the letter from Assistant Secretary Pfannenstiel to President Peevey, myself -- if you could do that?

MR. HUNT: Yes. Do you want me to submit that written --

CHAIRMAN WEISENMILLER: That written comment would be very good --

MR. HUNT: Absolutely.

CHAIRMAN WEISENMILLER: Certainly, in response to that, President Peevey and I have been pursuing different initiatives and, for example, in the transmission planning part, we want to make sure that the Department of Defense needs are considered, their opportunities are considered. Obviously, we heard a lot this morning about sort of different renewable applications that have non-easily quantifiable benefits, either fire control, or dealing with some of our agricultural, you know, more devastated areas; similarly, it's very important for us on the transmission system, where we can try to find synergies between the Department of Defense goals and ours, to pursue those. And so at this point we're certainly looking forward to working with you on that.

Also, obviously the microgrid experiments down in San Diego are incredibly complicated, but also incredibly groundbreaking, so that's certainly -- there's a whole variety of initiatives that we're all trying to pursue together.

MR. HUNT: Yes, sir.

COMMISSIONER PETERMAN: Yes, again, thank you for all the partnership you're working with us and the State.

I think the Armed Forces involvement in DRECP has heightened our sensitivity to perhaps some of the additional considerations that are necessary for you as a major stakeholder, and part of the discussion today is about how we look at regional strategies throughout the state. And so, I was just wondering, in terms of your 10 bases, outside of the general DRECP area, are there other locations, in particular, that you have a heightened sensitivity perhaps to renewables development, or where we might not be thinking right now, that the Military may be affected?

MR. HUNT: I think a lot of my colleagues have been very active on the DRECP process. There may be a certain amount of opportunity in Fallon, in Nevada, so that's outside of kind of the scope of what we're looking at, but I believe most of the resource rich installations, for lack of a better term, are being considered inside of that DRECP area. So we look forward to continuing to work through that process, both us and the other services from that standpoint.

COMMISSIONER PETERMAN: And I think one of the other things that's been mentioned to me is the presence of training facilities within the ocean, along the coast, submarines and such, and so again, that's another area that I normally don't think about because you can't see

what's going on, but we're thinking about a regional strategy that affects some coastline, we need to have military involvement in consideration.

MR. HUNT: Absolutely.

COMMISSIONER PETERMAN: Okay. Thank you.

CHAIRMAN WEISENMILLER: I was just going to say, as the Governor's Military liaison, is there anything you want to say on the record?

MR. CROWFOOT: No, just that, well, I would just say that we're thankful for the Navy and all of the Armed Forces services actually being as proactive as they are. It's really actually quite energizing to use a plan, to actually be partnering with the Navy. The work in San Diego, I think, particularly with the Smart Power Partnership Initiative that, Chair, you're a part of, is quite promising. At the same time, there are a lot of challenges and I think that we spent the last year helping the Navy understand both the opportunities and the constraints, both to the one gigawatt goal and some of their other energy efforts. So I would just say that, you know, we have a lot of work to do, but we're committed to getting it done to meet our mutual goals.

MR. HUNT: Oh, and my colleague just reminded me that one area that is outside of the DRECP that we are considering is at NAS Lemoore, so that's one of the areas

we are looking at heavily for renewable energy development.

COMMISSIONER PETERMAN: Thank you very much for that.

MR. ELKIND: Okay. Good afternoon. My name is Ethan Elkind. I work with the Center for Law, Energy and Environment at U.C. Berkeley Law, along with my colleague, Jeff Russell, who you heard from this morning. I also want to thank the Commissioners and Eli for inviting me to speak today, I'm really happy to be able to provide some input, hopefully of value.

My remarks today are largely based on a report that my center at Berkeley Law, along with U.C.L.A. Law did called *Harvesting Clean Energy*. I left some copies, so if you want to take some home with you, I left them hopefully for you to pick up. And this report centered on the issues surrounding large-scale renewable energy deployment on appropriate agricultural land, and it came out of a convening that we did at Berkeley with key stakeholders on this issue, so John and Kim here at this table were a part of that group, but we brought in a pretty wide spectrum, including the Navy was represented, different private sector folks, and advocacy groups.

And our mission in putting this together was to try to get a consensus vision, knowing that there is this

big push to develop on agricultural lands here in California, what is the consensus among the stakeholders about how we want this to happen in the state? And once we can hopefully come up with that consensus, what are the key barriers? And then what are some of the solutions that the participants recommend?

So basically the vision is that -- and it's been talked about already today -- is that we don't need to make a heavy burden on agricultural lands, that has been discussed, you know, we need one million acres for the 2050 goals, out of a context of 30 million acres of agricultural land, all the burden does not need to fall on agricultural lands, in particular. But at the same time, we want to make sure that we're basically -- it's creating a system of kind of a no go, or a go lands, that we identify the lands that we're okay developing on.

And it's been talked about already in the morning panel a little bit today about this criteria approach, but I think, coming out of the convening and the further follow-up work we did, we strongly recommend that this type of approach where we take a concerted look at the types of criteria that we want to set out, and then make sure that we direct our incentives, our regulatory incentives, our legal incentives, to developing on those lands. And I say "criteria" because maps, I think, can

be politically fraught. Immediately after this convening, there were efforts to develop maps, and I think they tend to instill not just the speculative economic land rush type activities, but also people basically get very alarmed when they see that their parcel is included or not included.

So I think the criteria approach makes more sense and it's not only just the political danger, I suppose, of doing a map, but also that we're still in the process of acquiring data to really figure out what lands fit this criteria, and what wouldn't. So that is why we recommend the criteria approach. And I think SB 618, which was talked about earlier, presents a model for how this approach might work, so SB 618, in order to qualify for the solar easement to rescind a Williamson Act contract, you have to -- your land would have to meet a number of these criteria, and you can look at the legislation for those criteria, but they have to do with adverse soil conditions, contamination, poor drainage, lack of water, access to water, etc. So that can be, I think, a building block and a model for developing this criteria list. But we also need to take into account that there's other barriers beyond just the types of agricultural parcels we want to use, that SB 618 would focus on, but also barriers related to the biological

impacts and to the local land use planning and then, of course, looking at the utility processes, as has been mentioned, the PPAs, interconnection, all of these things, lining them all up to fit into this criteria list that we would develop.

So when you think about trying to develop in California, there is what I suppose developers might call a lot of dysfunction, or red tape, but I think policy makers can use this to our advantage in the sense that we have a complicated system for getting these projects not only permitted and entitled, but also eventually as part of the grid and part of our generating portfolio. And I think if we can figure out ways to basically ease back on the pedalon some of these more stringent requirements, then we can direct projects to where we want to see them go.

So, out of this workshop, and as detailed in the white paper, so I won't go too much into detail because I know it's nap time and speaker fatigue time, so I'll just kind of hit on the highlights, the greatest hits, so to speak.

Obviously, the Endangered Species Act is a big burden for a lot of developers, I think rightfully so for those who are trying to protect endangered species in the state, but there are certainly areas that I think we can

all agree upon that are less likely to have the biological impacts that we're worried about, and there are some mechanisms within the Endangered Species Act to help steer projects towards those areas and away from the areas that are more biologically sensitive. So some of those that were mentioned include using a low effect habitat conservation plan or a comprehensive regional habitat conservation plan for some of these areas, where we know there may be less biological -- or have a better suspicion that there's less biological impacts, using Section 7 procedures under the Endangered Species Act for Section 10 processes, it's kind of wonky, but you can learn more about it in the white paper, applying Section 4D Rules where appropriate, and also making sure that we're really coordinating the agency process, and not forcing project proponents to have to ping pong back and forth among agencies. The Williamson Act has been talked about, John has discussed that, SB 618, certainly is one step in that direction, but also there are some other ideas that came out, for example, Agricultural Mitigation Funds from permit fees that would go to help mitigate agricultural losses, is one example.

And then certainly we can use these criteria for our California Environmental Quality Act processes, so that's something that can be used hopefully in a

programmatic way; I would strongly recommend the programmatic approach to doing this, you can examine the cumulative impacts, I think, much more effectively at a programmatic level, and take the burden off of Local Governments from having to do some of that and, of course, project proponents.

And then I think another big piece of this is making the utility process as coordinated, similar to what Sky was discussing in her remarks, that you have projects that maybe fit all the criteria, but if they can't get a PPA, then it's been a lot of wasted effort. So I think this process needs to be coordinated on the land use side with how utilities are doing their permit process and their interconnection process, and not that a vision should be forced upon them, but that things are working simultaneously in that respect.

And then one other issue I wanted to flag in terms of Local Government issues, and I'm sure Tim will probably be discussing some of this, as well, but it's been talked about, the lack of resources for Local Government planning. And I think if you talk to renewable energy developers, a lot of times they would gladly trade higher permit fees for a more certain process and a faster process, so I think when we think about ways of trying to finance some of this, fund some

of this local planning effort, I think permit fees are definitely important to look at.

And then finally, the property tax exemption issue, where for a lot of Local Governments, when they see these projects being exempt from property taxes, they're concerned about the costs on them, which are difficult to calculate, and difficult to cover, so that can provide a disincentive for local planning. But I think the State can certainly provide guidance by developing that criteria and helping to ease on the Local Government planning process. And, as part of that, when we talk about the danger of the land rush mentality, if we were to identify some of these sites, I think by creating some of these incentives, we may not be forestalling that land rush; there may be a certain inevitability to that, and I think it's already happened to some extent, but at least we can reduce the costs, the project costs, not on the back end, but as the process goes along, by easing back on the planning process and the regulatory process that these projects have to go through. So, thank you very much.

COMMISSIONER PETERMAN: Thank you, Ethan. I just wanted to clarify and make sure I understood one of your points. So were you suggesting that an on vs. off switch was not the correct approach to thinking about where to

build vs. not to build?

MR. ELKIND: No, kind of a go/no go is the way I would phrase it, and I think the State can provide some guidance that, you know, we've got, as we discussed, the 100 million acres of land, 30 million acres of farmland, and we have this criteria that we can set up and, once you determine that criteria, those comprise the go-lands and then we have a whole set of no go lands based on, you know, agreed upon criteria. And like I said, and as others have mentioned, too, I think we can afford to be selective given that, at least from what I've seen for large scale needed in California for the 2020 goals, it's about 100,000 acres, so at least for the next decade, you know, we can be very particular and, then, if it is a million acres by 2050, we've got some time to do some proper planning.

COMMISSIONER PETERMAN: Thank you. And I think one of the things we ought to think about going forward is, with a criteria list, I think we've gotten a good sense from the panel this morning, as well from some of the discussion today, some of the things when we consider in criteria, and that is at a very broad level, and I imagine once you get down to each technology, then you could have a much more specific criteria list, but determining what the minimum expectation is, do you have

to meet all the criteria, and that's where perhaps some of the politics come in, as well, and some of the discussion. I appreciate the work you all have already done on this already and that was a very productive conference, and your suggested approach, I like. Thank you.

MR. SNELLINGS: Good afternoon, Commissioner Peterman, Commissioners. I didn't know it was nap time, so I'm going to try to keep you all riveted here.

COMMISSIONER PETERMAN: You've got our attention, don't worry.

MR. ELKIND: I've got three young kids, so….

MR. SNELLINGS: My name is Tim Snellings. I'm the Development Services Director with Butte County and the California County Planning Directors Association 2012 President. I was involved with a great project of writing the Model Solar Energy Facility Ordinance. I feel like I'm at one of our workshop meetings with the panel here, this is -- a lot of the people participating in this room -- in writing the documents that we released. It's on our website, if you can go back, ccpda.or/solar, that's where the Model Ordinance, there's a permit streamlining guidance document, a lot of great information. It clearly outlines the regulatory process that is facing solar developers in California. And I

will also be forwarding the information on the three documents that were presented earlier today to all the Planning Directors in California to make sure they're aware of those three documents, those three reports.

But what I'm going to focus on is another document that's on our website, and I'll get to that in just a second.

First of all, there's a lot of agreement in this room about preferred sites, you know, rooftops, I can't tell you how many people I talk to, "Yeah, I flew into Southern California, I looked at the sea of rooftops, why aren't we…?" You know, and that discussion comes up every time I talk with anyone about solar, covered parking areas, and I think we're going to see an expansion of where we begin to see these, you know, covered parking lots, we may even see some covered shaded areas in grazing land in the future to provide some shades for cows. I mean, who knows where this might go? Adjacent to substations, transmission lines, that's been talked about a lot, brownfield sites. I can tell you in a survey I did recently of the County Planning Directors, only one out of the 27 Counties that responded are doing any kind of permitting of solar or renewable energy on b brownfield sites, so we have a lot of ground to make up on an educational front, on how we can re-use -- I think

it was mentioned, 11,000 sites earlier today in California, that's some tremendous opportunity that we have, and then grazing lands, landfills, we're going to have a lot of discussion in our County about grazing lands.

The non-preferred sites, also a lot of discussion about that -- prime Ag lands, the point of the 72,000 acres, which is actually .07 percent of the total land in California, is that there's a very small need relative to the available land in California, so we don't need to jump right to prime Ag land; and lands of statewide importance, locally important farmland, or sensitive environmental habitat, there's a lot of other available land in California for solar PV.

Community support is a big thing that we deal with at the local level. You know, the State can have all these great goals, but if when we get to the County and we start discussing with the communities in the term projects, when we get opposition, you know, it comes down to five people voting on a project, up or down, and it's important that we find a way to gauge community support for solar PV. Everybody loves solar PV until a large-scale solar project shows up next door to you, and then all of a sudden, you know, they're not so excited. And so this is a big deal, of how did we -- can we come up

with a process to gauge the community's acceptance of solar PV in various places? And it's not just next door, it's in people's view sheds, as well. And, you know, we do a lot of community outreach through our General Plan process, zoning ordinance work, you know, and we're really good at engaging the community in these discussions and having these public debates about real on-the-ground issues, and it's actually better if we can find a way to do it that's not around a project. So that's the benefit of what I'll talk about in just a second.

So the State and the County relationship is somewhat -- each budget year has certainly become strained, but you know, at a staff to staff level, there's no problems, we're working great, I really appreciate the opportunity to have Local Government's input. You know, I always like to remind people, how many Building Permits did the State issue last year? Zero. You know, you don't do Building Permits, that's Counties and Cities. How many land use entitlements did you authorize? Well, again, that's County. Local land use, local control is a big thing, and we are the government that is closest to the people, and we hear from the people directly about what they want and don't want in the County.

So what I think of is, wouldn't it be great if California had a plan? And, I mean, we're California, right? Can't we do it better than anybody else in the world? Can't we? I mean, we're California, let's do this. And what if we had a cohesive strategy where we identified areas where we want to see solar PV installed? And I think I would, you know, in the spirit of debate, I would disagree, I guess, with Recurrent [Energy] and the idea of mapping, and mapping creates market pressures; I think if you have enough mapping and enough capacity, you relieve that economic pressure. And so our job, our task would be to create maps that covered a variety of acres. You know, if we need 72,000 acres, let's have 700,000 acres, or seven million acres that's suitable for solar that's not in prime Ag, that's not in sensitive environmental areas, but that's brownfields. And so that's the idea, is if we had such a tool in place, if we had a mechanism, then we could process solar PV projects at an accelerated rate.

So what would we do? What would this look like? And it isn't GIS exercise, we've talked about this a lot this morning, it's an overlay of the different layers of interconnection opportunities, where the DG is needed, you know, environmental constraints. A lot of us are doing NCCP, HCPs, and so we have a lot of biological

resource data. We have a lot of information, you know, and so we can map those and study where the sweet spots are. And that would be a great exercise, you know, we have a million acres of land in Butte County and 1,670 square miles, that's Butte County, and you know, if we were to do an overlay like that, I think some areas would emerge and I think it's going to be interesting to see what those areas look like because I think where we might be heading is up into the Foothills in a lot of the state, which is also potentially sensitive environmental habitat, as well, so it will be interesting to see how this really comes out if we were to do such an exercise like this.

So what is a combining zone, overlay zone? What are we really talking about? Because in our General Plans, we do this already, we have overlay zones. And a good example I use is, in Butte County, we have a unique agricultural overlay zone, and what that did is it allows us to create a set of rules that are kind of special for that function in our county that streamlines putting -- expands uses in certain areas because we've studied it in the EIR that we did with our General Plan. And then we further implemented it into our zoning.

So if we were to do this analysis on a -- and, again, it would be a program level EIR for this

geographic data study, we would map areas, we would address cumulative impacts, as was addressed, as well. We would look at air quality, greenhouse gases, biological issues, and it would streamline the process for future projects when they came in, inside of that geographic area that was identified in the end as the overlay zone.

Now, would it restrict and say only projects could -- in the future could go into these zones? No, it would not. You could still do a project-by-project approach outside of the overlay zone, okay? But this is just saying this is what we've determined in our jurisdiction is the sweet spot for solar PV, or it could be written in such a way that it's not just solar, it could be for wind, for biogas, biofuels, it could be for geothermal in some Counties. And so that's what we think, as the Planning Directors of California, we need to do, is to do a study like this, and we're ready to go, we just lack one thing, okay, and that one thing is funding.

COMMISSIONER PETERMAN: I was like going to hear it was money.

MR. SNELLINGS: Right. So, some final thoughts on this approach -- and even the map may not even be the most important outcome of a project like this; what may

be the most important outcome is gauging the community support for solar PV, for renewable energy in the jurisdiction. And to go through that process, because in the end, when a document is adopted, it will be the policy for the County, and so you've solved one of the biggest hurdles is what is the County policy? And by doing an overlay study, you would have the answer to that question. So that would be the approach we'd recommend, to do these renewable overlays. And just in checking with Counties, I think there are about 20 Counties that are interested in doing this, not every County is interested, but about 20 seem to be and, you know, that's large and small, north and south. We could put together, I think, an approach working with you to identify the best places to do these, whether they're pilot projects, you know, however we want to frame this, maybe we start small and see what works. We might even be inventing a new land use tool that adapts to the living, changing, you know, electric grid; as systems come on line, so the rules kind of change and things shift, we would need to be able to adapt to something like that. So I think we might be inventing something new, and I think that the way we invent something new is we start, we take that step, and we go forward. So that's the approach we're recommending.

COMMISSIONER PETERMAN: Great. Okay, I was going to say I have your slides in front of me, and so I have a number of slides left with questions, and I'm going to ask you, in the interest of time, to summarize those final slides.

MR. SNELLINGS: Yeah, I think the main thing is the -- on Question 5, by doing a Programmatic EIR, you know, we identify mitigation measures that we write into ordinances, so we have the chance to streamline processes, so that's one of the benefits of doing the Programmatic EIR. As far as Question 6, or the second question up there, most -- only one county has an overlay zone in the State and that's Sonoma County, and it's just kind of a holding zone, they haven't even really done much with it. The cost to do one of these studies, we estimate, is between $100,000 to $250,000, so that's the cost to create the overlay zone. And I think that's the main things. Again, brownfield areas, no one is really taking advantage of the brownfield areas in California, which is unfortunate, so I think there's a need for some education, as well. And that's what -- we'll be working with hopefully OPR and CEC on providing some education strategies. So that's it.

COMMISSIONER PETERMAN: Thank you, Tim. I appreciated having you on panels before, and the work

that the Counties and the County Planner Associations are doing on this issue, and I think you've highlighted some of the challenges with the mix of jurisdiction, and the fact that it is the Counties that have the permitting, and authority in these local areas, and that, indeed, it is the Counties that are closest to the people and what they're interested in. I would say, though, at the State, we hear from the people as voting members of the State about what they want the State to accomplish, the 33 percent renewable goal, etc., and then it's like, "Well, where do we put it?" And so we've got to acknowledge that the same people in the Counties who want something for the Counties also have acknowledged a desire for a State goal, and we all have some part to play in that siting.

MR. CROWFOOT: I just want to make a quick comment, Commissioner. On behalf of the Governor's Office, you know, from our perspective, we really see the work of the Planning Directors Association and the recommendation as really valuable, with great potential. I mean, here we're talking about today how to identify priority areas for renewable energy development, and everyone has pointed out land use entitlements in planning are clearly not a State function, they're a local function. And, you know, with this organization we

have Planning Departments that are presumably supported by the local elected leadership on board, that they want to do this planning, they want to find ways to facilitate renewable energy development, while protecting these other valuable interests. And I was kind of shocked by the price tag, I was going to ask about how expensive these overlay zones are, I mean, it's fairly cheap in the relative scheme of things if they can be as productive as they promise to be. So I just wanted to kind of put a flag there, from our perspective, as this could be really quite a promising tool moving forward.

COMMISSIONER PETERMAN: Thank you for that, and I think, yeah, you've identified a number of tools, and the tools plus funding, which have been identified by a number of panelists, is really important, and to be able to have the personnel to implement them. Ginger.

MS. TORRES: Hi. I'm Ginger Torres, and I'm in the Environmental Policy Department at PG&E. And thanks again for having me on this panel, to the Commission.

I just wanted to quickly touch base on the DRECP. I noticed Scott gave the presentation earlier and you guys wanted to know some of the little lessons learned, so from PG&E's perspective, we've engaged as an active participant in the DRECP planning process, and most recently as part of the DRECP Transmission Technical

Group. And I really felt like this Transmission Technical Group has started to address the disconnect between land use planning and transmission planning, and with the DRECP Transmission Technical Group, PG&E was involved, as well as all of the other publicly-owned utilities in California, and some other utilities that have interest in the DRECP area. So as far as lessons learned, I think that process in the State, being involved in facilitating the land use planning and the transmission planning for that effort, I think that was very important. And any future, I guess, comprehensive planning processes, I'd like to see that moving forward as one of the top priorities for any future planning projects.

The integration of transmission planning and long term renewable energy comprehensive planning will minimize the cost and the need for new transmission lines, and facilitate a very efficient, I guess, long term transmission network. So that was my comment on the DRECP.

And, yes, in general, PG&E supports comprehensive planning such as the DRECP in the future in other areas of California. The DRECP, as Kim mentioned, is a very lofty goal and very, I guess, large-scale plan to implement, and hopefully I guess future planning projects

may be more obtainable if they're a little bit smaller in regional scales, but we do support those. And, in general, some of the ideas that have come out of comprehensive planning, like the DRECP and the Solar PEIS that are producing these renewable energy zones, I know there's been a variety of comments on whether criteria is better, or zones are better; from the transmission planning perspective, zones will help, I guess, provide more certainty to where development may or may not be located, and therefore facilitate a more rationale development of transmission planning, and so if development is kind of left out there to criteria, and is possibly scattered all over the landscape, and the utilities may not know where to plan for renewable energy development, and especially in large-scale amounts. So I see some limitations of using a criteria list-only approach.

And then I also wanted to address a few -- one of the bullets above, in particular, "Are there any examples of recent procurement programs that reflect site preferences?" Some of PG&E's procurement programs prefer that generators be located within the PG&E service territory and interconnected to PG&E's transmission or distribution system, and these include PG&E's Solar Photovoltaic Power Purchase Agreement Request for

Officer, and our feed-in tariff program. PG&E's Renewable Auction Mechanism Program requires that projects are located in California in investor-owned utility service territories, so outside of PG&E's direct service territory. And other procurement programs such as the Renewable Portfolio Standard Program include in the Request for Offers that offers are prioritized and have the best combination of market value viability and qualifications based on specific evaluation criteria, and one of the inputs into that criteria is the project's viability score, and in that viability score, project characteristics that merit a higher viability score include placement on some of the preferred geographic areas that we've already discussed, such as disturbed land, and areas that have simplified transmission interconnection requirements.

So in the procurement review process, I guess there's no requirement that projects participating in the solicitation are located in renewable energy zones, however, the information will be taken into consideration in an evaluation process to the extent that it accelerates a project's on line date for transmission constrained resources, or alleviates other environmental concerns, or alleviates potential permitting issues.

And then my last point that I wanted to make was

about how the State can facilitate renewable energy development on EPA track sites, and I think that would be a great focus for the State. And it would be great if some of these projects on brownfield and contaminated lands came through the procurement pipeline at a reasonable cost and effective manner, and that there are appropriate assurances to, I guess, guarantee project viability for projects on contaminated and disturbed lands because that would be something that utilities would consider in the procurement review process, I guess additional limitations to knowledge in that area.

COMMISSIONER PETERMAN: Thank you, Ginger. I'll ask, well, in the interest of time, perhaps in your written comments, if you can touch upon an issue that's been brought up a couple times, here is the potential overlay of the land use mapping and planning process and the utility planning process, and the importance of doing that more so. And if there are any suggestions you have for that, or if there are other examples, even outside the DRECP, in which utilities and counties are coordinating on certain issues, that can be modeled for the type of coordination, even if the subject matter is different, and that's always useful for us to know. Thank you very much.

MS. DEMING: Good afternoon. My name is Mary

Deming and I'm a Technical Consultant to Southern California Edison. And my comments address two of the questions related to this workshop today, first, how should State and Local Governments work together to implement findings from the panel we had this morning? And second, what tools are needed to identify priority geographic areas for renewable development?

So, first of all, related to State and Local Governments, obviously working through processes like these and DRECP, for large-scale projects, transmission lines often cross both public and private lands in connecting resources, in connecting other facilities, and load centers. Land use authority is different for different types of land, and stakeholders are obviously different and connected to different types of land, as do environmental values. So there will therefore be a wider set of attributes to be used in comparing and prioritizing alternative renewable areas compared to smaller projects usually located in just one jurisdiction.

It would be preferred to have similar planning and siting approaches for all types of land crossed. In order for this to happen successfully, it's critical that the methods, tools, and criteria for prioritizing geographic areas for renewable development be determined

collaboratively with land planning agencies.

Improved collaboration can avoid transmission duplication, optimize the use of existing facilities and rights of way, reduce environmental impacts, and lower costs for consumers. Transmission planners operating on a regional or grid basis need an understanding of land use authority and the differences that might exist as they cross jurisdictions within their service territories.

Diverse jurisdictions also need a common understanding of electric facility planning on a regional or grid basis. This is one of the inconsistencies that has been discussed in this discussion of how planning could be synchronized between local entities and the electric system. Alignment and continuity should produce a Regional Land Use Plan. A Regional Land Use Plan makes it possible to conduct a programmatic environmental assessment on a consistent basis; but from our perspective, should land be acquired for future transmission development, then ratemaking also needs to support holding land for future development.

As for the second question that I'm addressing this afternoon, what tools are needed to identify priority geographic areas for renewable development, the tools required to prioritize geographic areas need to be

robust enough to accomplish several tasks, to manage the volume of data, especially GIS data collected for the evaluation process. We've talked about how much data has already been collected for proceedings like RETI and DRECP, that's certainly a good starting point, but also from many public agencies that we've heard from throughout the day, the system, to tool set, or tool kit needs to engage diverse stakeholders who care about different types of land and different types of environmental features, and those tools need to manage a wide range of selection criteria, which are associated with both different stakeholders and different types of land.

The PACT Project, Planning Alternative Corridors for Transmission, developed a web-based interactive tool for transmission planning with PIER tools. It includes about 30 evaluation criteria from the engineering perspective to consider in the siting process, and many others from other perspectives, as well. I would just mention the engineering factors because I haven't mentioned, as enumerated today.

And so those 30 criteria fall into several categories relevant for utilities: damage risks, electrical performance, project design, physical and environmental characteristics, and right of way and land

acquisition issues. Many of these factors are measured as costs, or could be measured as costs. The PACT tool, again, Planning Alternative Corridors for Transmission, can handle multiple types of facilities, whether it be areas, sites, corridors, routes, and their land use requirements such as those developed under the DRECP framework.

The PACT tool can operate with all the GIS layers you can give to it, can use all types of stakeholder attributes that would be needed for prioritization, and aggregate all this information to support decision-making. In its web-based framework, it makes it accessible to people who are not in the same meeting room together, making those kinds of decision, or in discussion with each other. The final report for that project is on the CEC website under R&D.

Estimating land acreage that could be affected by transmission development associated with renewable development should also be incorporated into this broader prioritization process for all renewable areas, and this type of effort, then, can leverage the work of the DRECP Transmission Technical Group. That group has proposed a conceptual transmission plan to access all renewable study areas identified by DRECP in order to connect them to the CAISO controlled transmission network.

The key principle of locating all transmission lines within the existing corridors and utility rights of way should be followed to the extent possible, to minimize undeveloped land use in new corridors and rights of way, maintaining those higher conservation values than for desert land and other lands of high environmental value.

So, in conclusion then, the transmission attributes developed for evaluating alternative transmission corridors in the PACT project and the DRECP attributes, and other transmission related efforts, provide a starting point for the attributes that Edison would consider important in prioritizing renewable areas in such a framework like a decision support system like PACT. And this workshop, we think, is a beginning for the dialogue among stakeholders that we hope will continue. Thank you very much.

COMMISSIONER PETERMAN: Thank you. Thank you for acknowledging the work that Edison has done with the PIER Program on PACT. I found it very valuable. I just want to say, in the interest of -- oh, we have a panelist on the phone?

MR. HARLAND: Yeah, we still have one panelist on the phone, so Josh is there, it's your turn.

MR. HART: Good afternoon. I'm Josh Hart with

the Inyo County Planning Department. Thank you for allowing me to participate via WebEx. Can you hear me?

MS. KOROSEC: Yes, we can.

MR. HART: Okay. So I'm going to talk a little bit about our renewable energy planning that we have been doing. We have been participating in the State and Federal Renewable Energy Planning efforts for wind, solar, and geothermal resources throughout the last decade, and through this participation, it became apparent that the County's planning did not adequately address renewable wind or solar energy. And due to the rising interest in development of those resources, the County undertook a planning process beginning in 2009 to provide local input into renewable solar and wind energy development and to update the County's ordinances and General Plan to address those technologies.

Today I'm going to focus on our Renewable Solar and Wind Energy General Plan Amendment, and the acronym we use for that is GPA. While our GPA was ultimately rescinded due to litigation, I'm going to focus today on the process and some of the lessons that we learned.

Through our participation in the RETI, preliminary policies began to be developed to reflect the County's position. A Renewable Energy Ordinance was adopted in 2010 to encourage and regulate the development

of solar and wind resources, protect the environment, recover increased County cost, and ensure that Inyo County citizens share in the benefits of renewable energy development.

Concurrently, the effort to update the General Plan commenced, beginning with incorporation of the policies that were developed through our renewable energy ordinance that I just referenced, and review of appropriate and updating specific General Plan policies, as well as mapping areas where renewable solar and wind energy might be considered.

Based on our review of our General Plan, updates were developed for the land use, public services and facilities, economic development, conservation and open space, and public safety elements. These involved encouraging appropriate development of renewable wind and solar energy resources and associated transmission, provided that social, economic and environmental impacts are minimized, minimizing conversions of productive agricultural lands, minimizing water consumption and the use of potable water, providing siting and screening for the visual environment, and maintaining recreational access.

Of particular interest were the land use overlays proposed for the land use element. These identified

areas where renewable energy might be considered, provided compliance with the Renewable Energy Ordinance. The maps were developed based on sensitive habitat and species, scenic resources, slope, access to transmission, and a variety of other factors. The mapping excluded wilderness, areas of critical environmental concern, and other areas of important biological and scenic resources. Specific species of concern such as Black Toad, Desert Tortoise, and Mojave Ground Squirrel were identified on the maps in areas where they might exist. This work ultimately reduced the share of the County in which solar and wind energy projects might be considered in the General Plan from over 90 percent to about five percent.

We undertook a broad public outreach effort, including public meetings in many of our towns and consultation with interested individuals and organizations, as well as tribes, Federal and State agencies, and that included the Department of Defense. We received a variety of input, including to expand and identify new areas for development, input to reduce and eliminate areas for development, and to modify specific language in the General Plan Amendment.

We attempted to balance this input and incorporate it appropriately. Our plan process was heavily focused on solar development, and one of the

recurring comments received was that we should consider wind energy more, which we ultimately did. We also incorporated comments regarding sensitive habitats and agricultural resources to strengthen our General Plan's protection of those resources.

Before I conclude, I wanted to talk briefly about one of the bullet points, and that is about the EPA track sites. We are a grant recipient with four counties in Nevada that focuses on redevelopment of brownfield sites and particularly for renewable energy development, and mine scarred sites. I know it would be difficult to identify sites just because of the concern that agencies and property owners have about brownfields, but it has been far more difficult than I imagined and, over the last six months, we've only been able to identify one site for the study. So it's a challenging process, but we are working on it. And if anyone has any interest in that, please let me know. So that does conclude my remarks. Thank you.

CHAIRMAN WEISENMILLER: Thank you. Commissioner Peterman and her Advisor stepped off for a concern that there might be some overlap with one her siting cases. So, in terms of -- at this point, let's move back to the panel discussion and I'll have them back in, but certainly let's stay away from those issues.

MR. HARLAND: We're about six or seven minutes over, so -- and we've got a tight schedule in the afternoon, so I do have a couple quick questions I want to ask. First question is for Ethan and for John, and I don't know if this is information that you guys know or are keeping track of, but do you know if SB 618 is taking hold in Counties and if the Department of Conservation is reviewing any applications or, I guess, requests for rescission?

MR. GAMPER: Well, Senate Bill 618 was a measure by Senator Wolk that was signed into law by the Governor in January, it took effect in January, was signed into law in October, that allows for a rescission of a Williamson Act contract on marginally productive, or physically impaired land. I did want to make a point that, even though I said this morning the Williamson Act should be off the table, we were essentially sponsors of Senate Bill 618, and didn't want to imply that that meant marginally or physically impaired land because we think that's obviously where the incentives should be provided. Initially, we heard that the Counties believed that it was too complicated, they're under tight budgets, their Planning Departments have cut a lot of staff, and so we worked on a number of documents with our Legal Division, actually drafted a Model Solar Use Easement, a Model

Resolution, a summary of how the bill works, a checklist and frequently asked questions list, and posted that on the Web and sent it out to every County Council, every Supervisor, and every Planning Director in the State, with the help of the California Planning Association, and Tim's County Planning Directors.

We are still hearing that there is some pushback from the Counties. I think there is a misunderstanding about what a Solar Use Easement really is, that it's not an easement in the classical sense that it reduces the value of the property. There are still misunderstanding on whether or not the land is still under Williamson Act contract, although you are rescinding the contract and entering into a different agreement, it's pretty clear that it's not under Williamson Act anymore, the Bill had -- what section of the Revenue and Tax Code it was going to be valued in, which is 402.1, not 423, which is the capitalization of income approach, so it's pretty clear that it's not in the Williamson Act anymore, but, still, there are counties that are dragging their feet and have decided not to implement.

There are several project developers that would like to participant, particularly in Kern County, San Luis Obispo County, and there are a couple in the pipeline at the Department of Conservation, who is having

a workshop next Friday on the 18th, to look at how they should implement the Regulation, so the bill has been in effect for five months and the Department is now considering outreaching to the Counties as to what the Regulations might look like, so me thinks that the Department of Conservation might prefer the cancellation penalty fees, which are 12.5 percent and fund the Division of Land Resource Protection vs. a 6.25 percent that comes from rescission, but that's my cynical nature.

MR. ELKIND: And, John obviously gave a very detailed explanation of where it's at, and I just wanted to add that, in my comments, I mentioned SB 618 as a model and I think it's going to be important to see how it plays out. I mean, as John mentioned, it's only five months old at this point, and some of the renewable energy developers I talked to, they did not feel it was going to be applicable to a lot of the projects that they were doing, and it would be interesting to do at some point, maybe not a post mortem, but a mid mortem as to how it's doing, and we could take those lessons and hopefully use the mechanism involved to incentivize the right parcels for development.

MS. DELFINO: Yeah, I just want to jump in because we talk to developers all the time and we have had anecdotal reports from certain developers that, when

approaching the Department of Conservation, they've received a less than enthusiastic response in using 618 vs. a straight up Williamson Act cancellation, which is unfortunate, I think, definitely with something new like 618, there's going to need to be some kind -- a lot of outreach and education, and working with the counties, but at the same time it would be really nice to have the same level of enthusiasm from the Department of Conservation. I would also note that they need to put Regs together and those aren't really moving forward at a rapid clip, either. So we would like to see 618 implemented, we actually think it's a good model to use and it needs to be given a chance.

MR. SNELLINGS: If I could mention, a quarter of the Counties are using it so far and several are looking forward to this workshop that's coming up next week.

MR. GAMPER: Four -- you said four are using it?

MR. SNELLINGS: A quarter of them.

MR. GAMPER: A quarter.

MR. SNELLINGS: Yes.

MR. GAMPER: So is that a result of that survey question on your…?

MR. SNELLINGS: Yeah.

MR. GAMPER: Wow, good, cool.

MR. HARLAND: Okay, so, Tim, I also had a

question for you about the overlays. So what is the timeframe to complete an overlay like that, given you have everything you need to do it, but you have to actually go through the process?

MR. SNELLINGS: Right. The biggest time is in the public outreach, and then the EIR, so it's 12 to 18 months.

MR. HARLAND: Okay. And then I have one last question for Kim and others in the room, too, that may have been involved. But in Imperial County, there were recently a few projects, solar PV projects, that were approved and they were approved through the local County process, and there seems to be a lot of support from a stakeholders in that process. And so the question is, what is it about those projects and the process in the County of Imperial that garnered a lot of that support?

MS. DELFINO: I think it was very simple, it was location, location, location. They chose well in those sites, they were agricultural lands with very low biological values, and given how difficult some of the siting issues have been in that region, I think people were appreciative of going to low biological value lands. And I think, if I'm not mistaken, this was a company that they were switching from a public land application and went to pursue a private land project, so on this more

low biological value area. But with that being said, I think, for example, in Imperial County there may have been those couple of projects, there's a lot of high value agricultural lands in that area, and so there does need to be some planning done because I could easily see in Imperial Valley a lot of conversion occurring that is going to create controversy because there is so much agricultural land there. So, again, it's all about finding the sweet spot, which I think is what Tim mentioned, which does require a more comprehensive regional approach that's been led at the Local level, and the State level, with robust stakeholder involvement.

MR. HARLAND: Okay, that's all of my questions. I don't know if you guys had any up there?

COMMISSIONER PETERMAN: Well, I'm sure we do, but in the interest of time, I'm going to say we're not going to offer them up. It's always a struggle finding an opportunity to be comprehensive with the panels, as well as having them at least small enough to cover enough topics, and so I'm sorry you all did not have the opportunity to ask each other questions, but please take advantage of the break to do so, as well as in your written comments, note anything you want to say in response.

A couple housekeeping things, first, I wanted to

say to Mr. Hart, who is on the line, my apologies, I chose to step out during your presentation, I'm currently a sitting Commissioner on a case in Inyo County that has some discussion of the General Plan, and I just felt it appropriate for myself, that I didn't want to necessarily hear anything that I shouldn't hear outside of that format. And I appreciate you participating on the panel.

And then I would also ask Ms. Korosec during the break to put up the slide that has the other workshops that we'll be having over the course of the summer. Many of you touched on topics that we're dealing with in separate workshops, simply because this topic of renewables is so big, because we've got eight workshops, it's like Renewable Palooza, and I encourage you all to participate, maybe you'll get a free t-shirt with all of them listed at the end, I don't know, if we could ever afford it, and we're not allowed to do that -- I'm just kidding, we're not allowed to do that, I'm just kidding. No swag, on the record, I'm publicly saying, there's no swag allowed. Yeah, free copy of the last IEPR, and you may have an advanced copy of the next one for your comments, of course.

But anyway, in order to try to get back a little bit on schedule, let's keep the break to 10 minutes. Thank you so much to everyone participating, I found it

very valuable. And thank you to our moderator, Eli, for his wonderful moderation. Thank you. So back at like 3:11.

(Break at 3:02 p.m.)

(Reconvene at 3:15 p.m.)

MS. KOROSEC: We will post the WebEx recording tomorrow or the next day, which will be the full audio recording of the whole day.

COMMISSIONER PETERMAN: Terrific. Well, I suggest checking those out because we had a good agenda today and this is our second of a number of workshops for the Renewable Strategic Plan, you can find the schedule online, and we've got almost one a week coming up. Thanks again to all the panelists that participated so far.

If this is not the first panel you were on for the day, I will say you have an opportunity for opening comments. You don't need to repeat everything, it's on the record, and also keep your comments tailored to this panel topic, as there are many other forums that address additional issues. And with that, I will turn it over to whoever -- Eli, are you moderating this panel, as well?

MR. HARLAND: Yeah, I'm going to moderate this panel, but before we get into this panel, I'm going to do a brief presentation and then, following my presentation,

Mr. Price from E3 is going to do a brief presentation, as well. So each of us -- it will be kind of a good way to kick off the panel. But like I said, I'm going to be brief because we are pushed back on time a little bit. So I'm going to go quickly, so put your seatbelts on.

All right. My name is Eli. I work in the Renewable Energy Office upstairs here at the Commission and pretty much am going to provide a brief presentation on an alternative approach for updating our local soft targets for the Governor's goal of 12,000 megawatts of DG.

I'm going to go through the rationale, assumptions real fast, talk about what we did in our previous approach, and how that relates to this alternative approach methodology, as well as the results.

So basically, why soft targets? From the Governor's direction, the Governor's Clean Energy Jobs Plan asks the Commission to come up with regional targets; these are very soft targets, these are not mandates for anybody specifically, but they are a way to begin geographically looking at what 12,000 megawatts of Distributed Generation may look like.

The assumptions that we used in this round were pretty similar to the last one, with the exception that these soft targets are undefined, so they are technology

and project type neutral. And just like in the last update, they're RPS eligible technologies that are 20 megawatts and smaller, behind the meter and wholesale, both count, interconnected at the distribution level, or, if interconnected, at the transmission level serving on-site load. So that is the only difference is that last bullet from the first round.

And so, in the previous approach, we used the bottom up market-based approach, where we looked at existing programs for behind the meter, and basically projected the build-out of those through the build-out of those programs, and looked at that in those regions that this was occurring.

We also looked at the IOU and the POU contract databases and compared those with some of the local permitting database tracking we were working on, to kind of predict the likelihood of projects coming on line. And then we also created a third bucket in that approach where we had undefined technologies, and we used resource maps with an emphasis on urban areas and capped peak circuits in counties at 15 percent for that. And in that one, we were technology specific within those first two buckets for behind the meter and wholesale; and then, the undefined, we were not technology specific, and those targets were segmented by regions.

In the 2011 IEPR, this is a graph where we try to show exactly how far along we were to achieving those goals, so, as you see, the three buckets there in the triangle in the middle and, on the sides, we have the actual installed capacity which is the megawatt installed, those two triangles, and then we also have the megawatts pending and authorized. So the 12,000 megawatt DG goal is built out at 2020, so it includes everything that is built-up until that time. And in that report, at that time, we were at 318 megawatts installed and 5,960 megawatts that were approving or authorized, which left that remaining balance of 3,017 megawatts, which also that's the undefined bucket.

So in the updated approach, what we decided to do was to allocate the 12,000 megawatt goals based on County shares of other statewide shares that those Counties have, so we used the electric consumption low and moderate income households, the number of unemployed workers, and the distribution grid capacity within each of the Counties, and then we allocated to the utilities based on the utility share of that consumption in the Counties, so that way we can display the goals in a way that is communicated at the County level and also communicated at the utility level.

And the weightings for each of those shares that

we used to break up the goals are shown there in parentheses, it's the 40 on consumption, and then 20 on the low and moderate income, and 20 on unemployed, and 20 on the capacity. And existing capacity, again, counts towards the soft target, it's not included in the final results, but it is -- those results are the build-out at 2020.

Updated approach for -- this is the first two variables that were used, so electric consumption, the rationale there to use electric consumption was that we believe it generally controls for proximity load and, in San Diego County, you can see as an example, San Diego County consumes seven percent of the statewide electricity according to the Energy Consumption Data Management System, and so San Diego County would receive seven percent of the 12,000 megawatt target for that variable, based on the 40 percent weighting.

The Low-Mod Households, the rationale here is that that would support economic development and also start the targets and Environmental Justice concerns and is consistent with other community and planning and investment activities, specifically community development block grant funds that go into the variety of jurisdictions that are planning using the low mod data. And so San Diego County, eight percent of all persons in

the state that are low mod live in San Diego County, and so San Diego County would receive that share of the 12,000 megawatts based on that. And the source for that information comes from the Department of Housing and Urban Development, the acronym is the Low-Mod Data, so….

Unemployed persons, our rationale here was that this would start targeting investment towards communities with maybe a higher need, or to promote policy goals associated with jobs and economic development, so San Diego County has about 7.5 percent of all unemployed persons, and for this one, we used the Employment Development Departments, the Labor Market Info Report.

And in the last piece is the Grid Capacity Numbers, and so the rationale here is that the County Distribution Capacity would help control for some of the comments that we received during the first attempt and the first alternative approach, I guess, at allocating the targets.

So we used data from E3, which is why Mr. Price is going to talk about the E3 study that we used just after this, but basically what we did is we took the total capacity reported in that E3 study, in the Counties, and developed shares for each of those Counties. So San Diego County has about 8.5 percent of the statewide capacity. And as Mr. Price will note,

there is the information for the distribution capacity comes from feeder lines and substation capacity in just IOU territories, so some of these goals don't reflect all of that capacity.

So top 15 Counties. The results are here. You'll see that about 81 percent of the top 15 Counties, or 81 percent of the goal goes into the top 15 Counties, so the complete list of all 58 Counties with the targets and the goals are available in the Workshop Notice for today as an attachment, so you can find that there. And "The Top 10 Utilities and Others" is what we're calling this one, and so what you'll see here is that, like I said, we aggregate the targets from each of the Counties back to the proportion that the utility serves in the County. So it's difficult because, you know, utility lines and County lines are not the same boundaries, so we use the consumption to put the target back into the utility there.

And so you'll see that the top eight utilities, as well as the Department of Water and Power's State Water Project and the Central Valley Project combined have about 92 percent of the 12,000 megawatt DG goal. So this is what it looks like across the state. Sorry if the map is difficult to see, but this Powerpoint is available on the Web.

So what you see here is you'll see the 15 Counties that were identified as the top 15 Counties, and those are everything except for the light yellow. And then we've also included utility boundaries on here just to show where the utility service lines overlap with some of the DG targets.

And then, last, a couple caveats to this, so there is a lot of interaction between consumption and capacity, those go together hand in hand, as well as interaction between Low-Mod Data and unemployed persons in Counties, so as we think about refining the analysis, or thinking about refining the methodology, it might make sense to actually interact, to kind of blend those variables together to create some sort of an indicator instead.

And then, like I mentioned, the E3 analysis included IOU service territories only, so those Counties that have large areas of POU delivery, they have smaller targets. And we do plan to re-visit soft targets periodically throughout future IEPRs, as well as keep updating data. Is there any questions? All right, great. So I'm going to turn it over to Snu, who is going to be presenting online, and then after that we'll get into the end of the panel discussion and so we can address any of the questions after that, too.

MR. PRICE: Great. Thank you, Eli. Can everybody hear me?

MS. KOROSEC: Yeah, we can hear you fine, and I'll go ahead and do your slides, Snu.

MR. PRICE: Okay. Thanks a lot. My name is Snuller Price. Most people call me "Snu." I'm a partner at Energy Environmental Economics. And Eli asked me to give a very quick summary of the technical potential study that was used as one of the inputs into the soft target development. So I'll probably spend about five minutes just giving everyone sort of what the key drivers are and sort of what the purpose of the study was.

So if you go to the next slide --

MS. KOROSEC: Our apologies, we've been having some problems with our WebEx, and it just kicked us out, so we'll have to be back in, but we should have Snu back on in just a second. Snu?

MR. PRICE: Yes?

MS. KOROSEC: Snu, I'm sorry to interrupt you, but we just had a technical glitch and the WebEx cut out for the whole time that you were talking on your first slide, so if you could just start over?

MR. PRICE: Oh, no problem.

MS. KOROSEC: Thank you.

MR. PRICE: Should I take it from the top of

Slide 2 here?

MS. KOROSEC: Yes.

MR. PRICE: The things to know about our study here?

MS. KOROSEC: Yes, exactly.

MR. PRICE: Okay. All right. Well, the first thing to know is that the study was really looking at photovoltaics. So we didn't in this study look at other types of renewable DG. The second thing to know is that it's really a study of local DG, and what I mean by "local" is that all of the electricity that is generated from the PV system is used nearby. So we're not using the transmission -- the high voltage transmission grid -- to distribute the power. All of the sites in all of the cases, the energy is consumed near the generator. And when you look at it that way, the interconnection potential and criteria really drive the results, and we looked, therefore, at a range of sensitivities on that from existing Rule 21 to the case that the Energy Commission used for this, which is a no backflow case; in other words, we're not feeding power back up through the distribution onto the transmission grid.

The potential is constrained by the available land and rooftops, and we did quite a bit of GIS work to try to figure out what that was. And also, we looked at

total cost and total net cost as a way of sort of prioritizing which PV would be developed in each area, and we did some different scenarios on that, which I'll talk about on the next slide.

So we looked at filling up the interconnection capacity through three procurement scenarios, a least cost, which just looks at the busbar cost of the PV system, and generally larger systems in areas with better sunshine are a lower cost. Least net cost, where we looked at the busbar cost, but then we also looked at the utility value side of the equation to get a net; and there, systems that are located in regions of the state with distribution constraints, with expensive upgrades, tend to be prioritized. And then we did a high roofs scenario where we looked at developing roofs first.

We did two cost cases, a high cost case where we just used essentially existing PV costs and extended them out through 2020, and we did a low cost -- and that's the one that the Energy Commission used for soft targets, as I understand it. The low cost case, we added in a learning curve to project how the PV cost will decline over time.

And then, on sensitivities, interconnection criteria, we looked at, well, how much PV we can interconnect to the distribution system reliably, and did

a number of scenarios. And I believe the case that was used was a "Max Without Curtailment," so it's essentially a no backflow case, so it's more penetration than you would get under the existing Rule 21. And we also did an installation rate, although, I think for the purposes of the stat sensitivity, it isn't that important.

So if we go to the next slide, this picture shows the total DG capacity installed. I believe this is for the least net cost case that the Energy Commission used, and it's showing the differences in the interconnection sensitivity, and then that's without curtailment as used. So this is getting something like 15,000 megawatts of solar PV installed throughout the state, broken up the way you see here, given the least net costs or priority of procurement.

And if you go to the next slide, this shows you a difference in terms of the total portfolio, in terms of least cost, net cost, and high rooftops. And again, the net cost number is the technical potential that our study found.

And if you go to the next slide, just to give folks an idea, each of these circles is proportional to the amount of PV interconnection for the case that the Energy Commission installed, so where is the PV, this gives you sort of a pictorial of where it's located.

It's basically very roughly proportional to load, as Eli already mentioned. It's a little bit difficult to see in L.A. because there's so many overlapping circles, but there's actually quite a bit there and, you know, the Bay Area, San Diego, basically the load centers you would expect.

So that's the very quick overview of the study and I think I'll hang on in case there are any questions that come up on the study as we go through the panel.

MS. KOROSEC: No questions? All right. Go ahead, Eli.

MR. HARLAND: Okay. Thanks, Snu, for that presentation. And you are hanging on to the phone line, so you are identified on the panel here, so we appreciate it.

MR. PRICE: Yeah.

MR. HARLAND: So I don't know if everybody here was able to see the last panel, but the way that the panel is working is that everybody has about five minutes to introduce themselves and make opening remarks. In those opening remarks, try to cover some of the questions that are prompted on this projector, right behind you there.

So basically we want to talk about the 12,000 megawatt DG goal and the methodology just presented, and

then also just talk about the DG, in general, and some of the issues that come up, so that's why we have a broad range of stakeholders and we also, again, we have two participants via WebEx right now, so we just heard from Snu at E3, and then we also have Alex Levinson from Pacific Environment on the Web.

Wade, I know you've already introduced yourself and made some opening comments, so Bernadette, it's being passed towards you, so….

MS. DEL CHIARO: I had my best for last comment all prepared and everything. Okay, Bernadette Del Chiaro, Director of Clean Energy and Global Warming Programs with Environment California. Thank you so much for inviting me to speak on the panel.

Environment California is a statewide nonprofit citizen funded environmental advocacy organization. We've been heavily involved in getting the State of California to invest more heavily in renewable energy and, in particular, Distributed Generation. I sensed that, if I was on the end of the last panel of the day, I should keep my comments short, so I will continue to do that. I guess one of the other things I should mention in introducing myself is some of the research we've done that's sort of relevant to this particular panel, on how to sort of visualize where the 12,000 megawatts will be

built out is on two consecutive reports on analyzing where California's solar roofs are today, so obviously it's missing some of the other DG technologies, but looking specifically at solar.

And some of the things I just want to highlight comes from crunching those numbers, combining all of the different solar programs from around the state, including the CSI, but broader than that, is that we're really seeing a maturing solar market that is breaking a lot of the stereotypes that there are about solar, and who is going solar, places like Fresno have more solar than San Francisco. I think another factoid that gets a lot of eyebrows raising is that the City of Inglewood has as much solar power as Beverly Hills. So we're seeing a lot of people go solar, a lot of diversity, and it's obviously the bright spot in California's economy and it's really growing by leaps and bounds, and it's thanks to some big bold visionary policies over the past six years that have been put in place to make that happen.

I have a couple of overarching comments. One is that I think we need to make sure that the 12 gigawatt goal that the Governor has put out continues to be big and bold and visionary, and it takes us to a next level, builds upon the existing policies that the previous Administration put in place. I have some concerns that

I've expressed elsewhere about how we define Distributed Generation. If we define it too broadly, we really miss out on the opportunity of building out what I think most people in California, when we think about rooftop or small-scale energy, you think about energy that is defined a little bit more the way that Snu has defined in his report, or the U.C. Berkeley presenters earlier today were defining it, so really basically designed and built to meet load, whether it's onsite or near-site, and whether you've defined it at 20 megawatts, or five megawatts, or 10 megawatts, I think, is a little bit less important as is this defining idea that it's renewable and it's built close to the load centers, so that we can negate the need for transmission lines, not lose all the efficiency losses through line losses.

But also, something that hasn't been brought up today, which I have been multi-tasking back at the office and listening to the whole workshop today, but one thing that hasn't been brought up is that Distributed Generation, when designed at load to meet some of this on-site load, it actually can also help benefit and maximize energy efficiency and conservation. And that's a really important point.

It's also one of the ways in which the public and voters and the people of California and the ratepayers

can visually see what they're investing in and get invested in that, and get more excited about where we're taking this program.

So, a) I want to make sure that the Governor's vision remains visionary and builds upon and exceeds the policies and the programs of the previous Administration; the second is, as I sort of took a fresh look at this sort of mapping project, I just want to make sure that -- I would suggest, at least -- that the Commission follows sort of, you know, be driven by a vision, and then the driven, then, defines the goals, and the goals help define policy. I sort of wonder if we aren't doing things a little bit too much in the reverse, and I'll talk about this when I get to the different levers in the analysis, but if we're not too much looking at what our current constraints are, policy-wise, and trying to vision backwards based on that, as opposed to saying really where do we want Distributed Generation to be in the State of California, what can maximize the benefits for the people of California? And then, what does that look like? And then that can help define policies, changes that we need to put in place over the next couple of months and years.

And then, let's see, the other couple of points about the overall workshop today, and I know you're doing

tons of workshops, and others will look at Distributed Generation -- continue to look at Distributed Generation -- but I can't help but comment that it does feels as though the whole day was still overly emphasized utility-scale renewable energy. And just two little examples of how things might be different if we put equal attention to Distributed Generation as the maps that were presented at the very beginning of the workshop by the CEC staff, they might look a little different if you were to create maps with a Distributed Generation focus, so you might see a different looking map for geothermal as a Distributed Generation resource, instead of just having it in sort of five areas in the state, you actually could tap into geothermal power from a DG perspective, throughout the state, you know, wherever there is, again, on-site load to make a building more energy efficient.

You might actually look at solar rooftop a little bit differently, instead of just limiting it to how much sunshine is there in the state, and therefore what the solar map would look like at the state. You might actually look at where is demand, where is there consumer interest, where is there load that we can offset and, on the flip side, where are people with private dollars to invest in rooftop solar, and what does that map look like?

And then another overarching comment is, in terms of the paragraph that's presented that's in the IEPR, I just can't help but read that paragraph and think that what's missing in there is, again, this idea that Distributed Generation should prioritize in the loading order as we've articulated in the state already, should prioritize offsetting on-site load, so helping us be more energy efficiency, essentially, through on-site Distributed Generation, and I don't see that in that opening paragraph.

And then, in terms of getting into the levers, so putting aside my sort of overarching kind of question, maybe critique, of where is this sort of mapping going, if we're sort of within this question, to answer your question of are these the right levers. If I were to -- I'd be interested in playing around with what would happen if you were to actually split things up a little bit differently. One suggestion I would have is, you know, this is just rough cut, but basically sort of 30-30-30, or 33-33-33 of consumption because I think consumption gets at what I'm talking about, if you map out consumption, that's going to give you -- you steer the DG vision in the map toward on-site load a little bit more, or near-site load.

The second would be, I would actually pull back

to your first version of this document and look at where momentum has been, so where have we seen the most build out? Where are we seeing the greatest growth in the previous years? And if you kind of map out momentum, what does that map look like? And I would maybe give that an equal -- again, this idea that this market is consumer-driven, it's policy-driven, it's not just utility-driven, and we need to engage the consumers in this whole practice and put them in the map.

And then a third, I would sort of split up -- and I would defer to our other experts at the table -- of what's more important, unemployment or income, and I'm not sure if it's -- you know, to me, I've just put that as a third, either weight one or the other, split it 50-50, or do one or the other, whatnot, but I would sort of weight those three. And the reason why I either would cut out or cut drastically down the grid capacity is because of that overarching comment I made at the beginning, is I wonder if that report doesn't look at what we technically could do, which is really kind of almost a policy question more than anything. I also think one of the -- I was talking to Snu, actually yesterday, to make sure I understood his report -- it doesn't -- I think the high rooftop scenario is something the Energy Commission should look more closely at. As I

understand it, the reason why it wasn't chosen as sort of the primary sort of vision is because of a high cost, higher cost, but actually that isn't really the full picture because the high rooftop scenario isn't necessarily the higher cost to ratepayers, right? Because the high rooftop penetration is going to capture private investment that ratepayers don't have to pay, and that's just something that continually we sort of lose sight of when we look at this purely from a utility sort of perspective, instead of from a customer perspective, as well. So it might be that the high rooftop scenario actually saves ratepayers more money by capturing all of those private dollars to invest in the same technology, essentially, not to mention probably it creates more jobs, creates them where we want them to be.

And then, let's see, last but not least to wrap up, you know, just this question of -- you had a very specific question about the Department of Water resources and also the Central Valley project. I would probably leave those out, these just don't seem to fit within sort of like -- one of these things is not like the other kind of moment. And there's quite a bit of megawatts that we're assigning to those projects that could probably be visioned elsewhere, if you will. So that's -- I don’t have a strong opinion about that, but I'll offer that

answer to you. Thank you.

MR. HARLAND: Thanks, Bernadette. And, too, I'll sort of clarify in that presentation, the scenario that we chose, and I think it's interesting to look at the three scenarios that E3 put together and see how that capacity fits in, and so we chose to use the scenario we did, the least net cost, because it's the same scenario that's being used right now in the transmission planning process for the High DG scenario. So we just wanted to make sure that we were aligning some of our soft targets with other planning processes occurring, so…. But I definitely do think it's good to look at all three.

MS. DEL CHIARO: And can I just respond to that real quickly?

MR. HARLAND: Yeah, of course.

MS. DEL CHIARO: Is it possible that the transmission planning process is a little overly weighted toward a utility perspective?

MR. HARLAND: You know, I'm not as familiar with that process. You know, somebody up on top could probably respond to that.

COMMISSIONER PETERMAN: Well, I'm not exactly going to respond to that question either. What I will say, though, Bernadette, thank you for your comments, and I think you're right, the focus has been more on large-

scale today, and partly that's almost every workshop we have, we could have a whole DG version and a large-scale version, and it's just trying to figure out how to not exhaust all of our panelists. But it also goes to a point that I made earlier, which is that, when we're looking at relatively near-term goals, and the laws that are on the books, the 33 percent RPS, what we've heard from the utilities, is that they're more or less sourced for it, well, at least some of them are. And a lot of that is large-scale. And so there's the immediate issue of, well, what's already in the queue, if you will, regardless of project viability? How do we site that? How do we preference that and do priority areas? But also, we also talked this morning about 33 percent being a floor, not a ceiling, and that we also need to talk about what would 40 percent look like, you know, is that additional change -- is that all DG? How do you plan for that? And so I welcome all comments and I think your point is very well taken about how we are doing some work based on what our existing constraints are, and it's also good to have a complement of those constraints that were in place.

MR. PRICE: Could I just quickly interject a couple points? This is Snu.

COMMISSIONER PETERMAN: One second. The Chair is

about to speak.

CHAIRMAN WEISENMILLER: Yeah, I was just going to ask if you could submit both your reports for our record. Thank you. Go ahead.

MR. PRICE: Okay. I just wanted to make two points. One is that all three of the scenarios that we did in our study do have the PV sited close to load, so I don't know if it's a more utility-centric view, or not, but just all of the scenarios we have, I think, meet Bernadette's criteria of having the system close to load, although obviously some are on roofs and some are on ground.

And then the other thing I wanted to clarify was the cost. The cost that we looked at were based on what the standard practice manual would talk about as total resource cost, so it's really, you know, how much the total system cost is, regardless of who pays for it. And so she is right that we did not do a ratepayer cost perspective; that could be done once a policy for, you know, how we're going to do the incentives, net energy metering, etc., for the different types of systems, but you would need kind of a policy overlay on how this would be implemented to do that, so…. Maybe we could do that in the future.

COMMISSIONER PETERMAN: Thank you for that, Snu.

And one other comment I had, Bernadette, I'm interested in the idea of what a consumer driven map would look like. I've had mixed experiences with, say, consumer preference models, you know, when we look at some, for example, in the Transportation space where there's really little adoption, it's hard to predict what customers will want in a couple years when there's new products on the line. But you've posited that solar is a mature market, and so that perhaps then there is a sense of where consumers want to build. And I'm interested to see the report that talks about the installations in Inglewood being similar to Beverly Hills because, also what we hear regularly, is that we're not seeing the development in communities that are lower income, or even moderate income, because of the high cost, and so I want to be careful when pursuing a consumer-driven model, to make sure it reflects the larger customer base that we do want to install solar. But happy to explore that more.

COMMISSIONER MCALLISTER: So thanks, Bernadette, great comments. So as you know, I have lot of experience in the small-scale solar marketplace. And I think we're seeing -- I agree with you, there's been a very strong maturation of the small-scale solar market, but we're just on the front end of that, really, and we're seeing some consolidation, we're seeing some fairly interesting

fundamental changes in sort of the structure of that marketplace as costs continue to come down, as there's some question about net metering and its long term -- sort of long term future, and rate structures and all the things that sort of mediate the impact to net metering. So, I actually -- so I guess I think that, as costs come down and, even with all these changes, you know, we are going to see some natural scaling up of this industry. I don't know exactly what that's going to look like. And so the question is, how do we define a policy that continues to allow that to happen? And it's not even necessarily going to happen within the RPS because, right now, the net metering stuff is not in the RPS. So, yeah, I think we need a policy that's going to be able to capture all these things going forward and doesn't just exclusively focus on net metering because I think -- I mean, I'm sorry, on utility-scale -- because we want citizens to be able to participate. But both of those things can happen in the same place.

MR. HARLAND: Okay, great. So, Eric, I'm going to send it over to you. Thank you.

MR. PARFREY: Okay. Thank you. I'm Eric Parfrey, I'm a Principal Planner with Yolo County for the last six years. I've also previously served in the Planning Departments of San Joaquin County and Contra

Costa County, over the last 25 years or so.

I think some of the remarks that I wanted to make to you all today were probably more appropriately for the previous panel, so maybe I'll ask you to indulge me very quickly, I will kind of give you an overview of where we are with the various green energy proposals and kind of the politics of what has happened in Yolo County vis a vis our local regulatory environment, and then I can respond to some of your more technical questions, which I probably won't be a great deal of help, but….

In Yolo County, we have dealt with just a handful, just a relatively small number of large-scale solar and wind projects; however, there has been much talk and very little action. So in Yolo County, we have had kind of the -- I would say -- almost the unfortunate circumstance where we proactively planned by approving detailed regulatory ordinances for wind energy projects that we expected to come in, as well as small- to medium- to large- to very large-scale solar projects that we were anticipating.

So, contrary to what Tim Snellings was discussing where local agencies are often not being proactive by updating their plans and their regulatory schemes, and they kind of wait for the very large projects to come in to realize what kind of a regulatory mess they have at

the local level, Yolo County took a very proactive approach; however, the problem has been, now that we have these regulations in effect, we haven't really had a great deal of experience with projects that have gone all the way through the process and come out the other end, so that we can then turn around and figure out what we did right and what we did wrong.

We have had experience with a number of -- just a very small number of fairly large solar proposals. We did approve a solar project on Class 2 land outside the City of Winters on approximately 18 acres, we consider that kind of a medium-sized project, not particularly large, however, that is in litigation; nearby neighbors sued that. That particular project and the update of our Solar Ordinance in Yolo County precipitated a pretty intense debate over the role of solar on prime farmland, on Williamson Act contracted land, all the issues that you heard about during the previous panel.

We also have approved one what I would consider fairly large wind energy project, a single turbine, for one of the aggregate producers along Cache Creek, one megawatt, but very -- you know, a 350-foot tall turbine out in farmland. And that, in turn, went through our Planning Commission process and was appealed up to the Board of Supervisors, and that is not in litigation,

thankfully, but came very close. But that particular wind turbine application precipitated a lot of very very complicated biological issues. Our staff had no idea what barotrauma was before we went through those public hearings, we had no idea that wind turbines can suck the guts out of bats, or whatever the biological issue is there. I mean, that's a little difficult when your staff and you are supposed to know about these things, and identify them in environmental documents upfront, and then, because we have such a large number of local biologists and other academics in Davis, you know, we were kind of on the receiving end of that new information.

So I would say from our experience, just generally, the Ag issues related to solar -- solar on prime, solar on Williamson Act contracted lands, are relatively easy for us to deal with, they're political issues, you either allow it or you don't allow it. Or you try to get benefits and offer disincentives not to do it on prime farmland, it's pretty -- just, in my mind, it's -- maybe I'm being a little cynical, but it's just a political decision, how much solar you want on prime land, how much you're willing to give up. The science is not really difficult, although, of course, we don't know whether you can actually grow crops underneath some of

these solar panels like some of the applicants suggest can be done. But on the Williamson side, the biological issues are much much more difficult. We've got the barotrauma, we've got impacts related to these large wind turbines chopping up Swainson's Hawks in our County, which is a State Endangered Species, of which we're very very protective. And we have issues related to the Golden Eagle up in the highest parts of our County.

So now we do have one very large wind energy project, which has been discussed in our County, it is not yet a formal application, it's not a complete application, but a firm out of Austin, Texas, Pioneer Green Energy, has proposed possibly a project taking over -- sited on approximately 50,000 to 60,000 acres in North Central Yolo County and extending up into Southern Colusa County, that would be somewhere in the range of 200 to 250 separate turbines, about a megawatt and a half each. So that would be just a huge huge project for us to have to do an EIR on. Again, biological issues are very difficult. That particular project is being proposed down in the flatter areas of the Hungry Hollow part of Yolo County, where presumably they're low enough not to be disturbing too much the eagles and they're off the bypass, and not getting involved in migratory bird issues, but it's not that easy.

COMMISSIONER PETERMAN: So, Eric, I have to say you're touching upon a lot of the challenges, and understandably, that you're facing with larger-scale generation, so all that being said, does the Count then have a policy to promote the smaller DG, the rooftop PV, for example, that Bernadette was suggesting?

MR. PARFREY: Yeah, absolutely. And in our Solar Ordinance, as I said, we discriminated between solar and various sizes, so anyone can come in and get a Building Permit over-the-counter, no questions asked, as long as you meet setbacks for DG-type scale solar. I don't know how much we have actually permitted in the unincorporated portions of the county as opposed to the City of Davis, or the City of West Sac, certainly not nearly on the scale of those cities. But Distributed Generation is not an issue, it's politically very powerful, and a powerful concept that everyone supports in the County, it's some of these other larger utility-scale projects that really split the County in various kind of warring groups, and I simply wanted to touch upon that.

And also, one thing we discussed just very briefly is that this whole process by which PG&E and some of these other companies queue up the Applicants to get their -- what are they called? PPAs? Whatever the document is, it's totally a mystery in most Planners down

at the local level. We have just very rudimentary understanding that, while some of these Applicants are trying to go through our land use hurdles at the local level, they're also dealing with PG&E, or Southern California Edison, or whoever, and it directly impacts upon how the processing at the local agency goes because sometimes the Applicants go away for a long period of time because they're running into difficulties at PG&E, and then they come back and they may come back in a different location, and so the whole process is like kind of a black hole for many local planners. We don't understand it, PG&E is not very open about it -- I guess for confidentiality reasons. But Applicants aren't very forthcoming about what they're going through at that level either. So anything that we can do to kind of better coordinate that whole mysterious PG&E, Southern California queue process with the local planning would be very very helpful.

In terms of your factors here, as I understand it, and I just have a very very rudimentary understanding of what you're trying to get done here, this kind of looks like regional housing needs assessment numbers that are kind of generated by the State of California, and then local agencies are told you have to meet these housing goals at the County level and at the various City

level. So there is frankly kind of a negative connotation because many local planners don't like regional housing needs assessment numbers being foisted down from the Council of Governments, or from the State, because many people think they're kind of artificial numbers and the methodology was kind of not real defendable to begin with.

I don't quite understand how this whole factor of low and moderate income households and unemployment rates fit into this, unless you're giving some sort of financial incentive to Applicants to locate in Counties like San Joaquin County, where I live; unless you're giving incentives there for the Applicants to do that, why would they say, "We want to go to San Joaquin County because there's more unemployed people there, as opposed to going to Yolo where there's a lot less unemployed people there?" I mean, it doesn't make much sense to me. I understand there's a good policy reason, but unless you're dangling money as a financial incentive or some other regulatory incentive for the Applicants, it seems to me kind of ridiculous criteria to add in here.

COMMISSIONER PETERMAN: Well, I will say that's a very good point, but currently all our renewable procurement is subsidized by all ratepayers and, so, there is on that the financial incentive engaged, even

though we do have private developers.

MR. PARFREY: Okay. Yeah, that makes sense. But again, I was thinking more the utility-scale, yeah. So I think I'll just leave it at that and I'll be glad to answer any questions, you know, I've had a lot of years in kind of the Local Government level if you want me to answer any of your tough questions.

MR. HARLAND: Thanks, Eric. And then, like I said, the title of that presentation and the targets are very soft, so there's no mandates following those like housing elements, or anything like that. Albert.

MR. LOPEZ: Sure. Albert Lopez, Planning Director for the County of Alameda. I'm also going to give the perspective of a Local Government's Planning Department. We operate under pretty well understood land use tools, such as Zoning and General Plan, so I'll tell a bit about our solar story. Our solar story has relatively two components, it has a rule and an urban component, and there are DG in both areas. Just kind of doing the math, we need about 100 acres to get 10 megawatts of output, so that means that -- I mean, you're not going to find 100 acres in an urban area, so DG in some way does implicate that you're going to be in rural areas to some degree. So I'll talk a little bit about the rural first, that we do have a certificate history

with renewable energy, you're probably familiar with our Altamont Wind Resource Area, we've been doing wind power out there for about, I guess about 20 years now, maybe a little longer. And now we're having interest from utility-scale solar developers, from very small two megawatt to 200 megawatt, and so it complicates things because now you're sort of introducing a new use into an already complicated situation.

Just briefly, if you don't know, there's an issue with Raptor, bird fatalities at the Altamont Pass, and so there's a concern once you start introducing solar into that, you know, at a very large scale, that you're going to increase that particular impact. And so we're studying that right now. That's really more of an aside.

But, really, the point is that, in our rural area, some of the constraints that you've already heard about, we are experiencing, as well, in terms of important farmland, Williamson Act contracts, habitat, but it also happens to be, in our particular case, a really good place to plug into the grid. The Mountain House area of Alameda County, which is basically the northeast quadrant of the County, really is under the hood, sort of, for the Bay Area because a lot of the water comes through there, through the California Aqueduct. There is tons of transmission lines and power

stations and substations and such, so it sort of makes sense from an investor perspective, but it does create some challenges.

COMMISSIONER PETERMAN: A quick question because I cannot mentally place where you're talking about. Can you name a couple of cities in that part of the County?

MR. LOPEZ: Uh, well, there are no cities out there, actually.

COMMISSIONER PETERMAN: Well, that’s why I probably haven't been there.

MR. LOPEZ: Well, unincorporated, it's sort of if you're going over the Altamont and going towards L.A., it's like Byron Mountain House, which is a new community, it's not well known, which is actually another good reason why --

COMMISSIONER PETERMAN: Thank you.

MR. LOPEZ: -- solar makes sense there. I mean, there is what the State considers as being important farmland, so there is actually -- what is it -- AB 618, the local legislation that might have a role in this in the sense that it's not really considered to be that productive in the sense that it's not, you know, the Central Valley, you know, pumping out strawberries and lettuce and things like that, I mean, it's mostly grazing alfalfa and things like that. So, anyway, that's another

aside.

And just to wrap up the rule part, we are trying to address a lot of these issues through a public process, dealing mostly with some stakeholders like the Audubon Society and Sierra Club and such.

But moving into our more urban area, you know, there is also a challenge in terms of doing DG in this particular part of the County. This is, again, my jurisdiction is mostly the unincorporated part, but these are very urban, places like Castro Valley, San Lorenzo, you might have heard of some of these areas, they pretty much look like any other urban area, but they're not cities. So what we try to do there to encourage DG is mostly through our planning processes, through our General Plan, we've created a Climate Action Plan which many jurisdictions are doing, and we've had this concept which is not unique to Alameda County, but we are using it there, which is the Solar Empowerment Zone. And I think this was really more, I guess, truer DG in the sense that it puts it on rooftops and parking lots right where you're going to use it, as opposed to, you know, these larger scale rural models. And from a land use perspective, we don't necessarily have a lot of people coming to us, investors, companies, wanting to do large scale stuff in the urban area, and my sense is because

it's just not a good business model at this point, for whatever reason, maybe because you can't sell enough of it back to the utilities to really make it a viable economic model, or what have you.

So there are Solar Empowerment Zones, it's a new idea for us, I'm not sure exactly what it looks like. What we do know is that we don't want to get in the way of encouraging solar in these areas, but it is more of a rooftop, parking lot model, where we're going to be able to encourage and incentivize through permit streamlining, or fast tracking, or some other sort of financial incentive, to be able to encourage folks to do that. And so that is something that we're just starting to roll out. We have a goal of doing two million square feet, which is just under 50 acres, by 2020, and so that is the goal and we're working towards that.

COMMISSIONER PETERMAN: I just have one quick question about that. Is that altogether, or just in parcels throughout the county?

MR. LOPEZ: It actually would end up being approximately 100 medium to large size buildings or parking lots, so that's roughly two million square feet that is Distributed.

COMMISSIONER MCALLISTER: Can I ask a couple questions, actually? So, do you have a particular sort

of kind or flavor project in mind? Is it on County buildings? Is it -- are there any particular financing model? Are you going to be putting out RFPs and using third-party financing? Is it Bond money? That sort of thing, so if there is one, could you maybe just give a little outline of the typical project structure?

MR. LOPEZ: Well, we have two Climate Action Plans for the County, we have the Municipal Operations Plan, and then we have more the consumer, private market side of the plan, which is much trickier because that's more trying to get people to do things that they're already doing. But on the Municipal side, the County has its own facilities, and we've done a few projects already that were in my offices, we have about an acre or so of PV installed. At Santa Rita Jail, the County Jail actually has solar installed on it, so part of our Municipal operations does encourage it. I think our General Services Agency already sort of factors that into projects that they're doing. But on the private side, in terms of the type of project that we're looking for, it really is going to be, I think, a consumer model, it's going to be an industrial user, a commercial user, or maybe a big shopping center that says, "Hey, we want to do this in our parking lot. What are the regulations that you have in place? What kind of incentives are

there?" And those are -- we haven't had any projects actually come forward, other than very small residential ones, but that is the flavor of the project that we would be looking at, and we would assume that's going to be mostly funded by private money.

COMMISSIONER MCALLISTER: Okay, right. And the County installations would be -- is that Bond money or, you know, third-party ownership experience with those --

MR. LOPEZ: It's going to be -- I don't actually know a lot about how the County funds its own buildings and such, that's out of my area of expertise, but I imagine that, you know, it's a combination of different sources of funds.

COMMISSIONER MCALLISTER: Great. And this is not including the -- I think you might have said this, but I'm not sure I understood exactly -- is this only including the unincorporated areas and your own buildings, or is it all --

MR. LOPEZ: Well, the Municipal part of our Climate Action Plan covers the whole County because we have buildings throughout the County, but for the consumer private Climate Action Plan, our Community Climate Action Plan, that's just the unincorporated parts.

COMMISSIONER MCALLISTER: Right, gotcha. Thank

you.

MR. LOPEZ: So, I just had a couple comments on the actual questions. I think, in terms of the criteria, I mean, it all seems very rational. I think the Regional Housing is a good analogy for us Planners that think in those terms; the 20 percent for Low-Mod and unemployment, it seems to be consistent with other public policy, economic development programs, for example, like the retrofit programs that come from the State and, at Local levels, it seems to be a good way to create jobs where they're needed.

I just had one comment about the criteria, and then the levers, is that every County does it different and there are regional efforts going on in Alameda County, such as through stopwaste.org, and ABAG, and they've talked about doing different more -- and this is sort of smaller DG -- but doing things that would facilitate that to happen. There's the PACE Program that we have a strong interest in the County of Alameda, and I'm not sure where it's at, but I know there's a financing impediment right now that's being resolved at the Federal level, but to the degree that those regional efforts and those programs are implemented at a County level, that might inform the goal in terms of making it -- or that might be one of the criteria that they might

want to consider in terms of assigning percentages, or targets to hit.

And then, I don't have a lot on Question 11, I don't really understand it, but on Question 12, in terms of the Department of Water Resources, there is in Alameda County, and I'm not sure if this actually will help, but just maybe helpful, you know, most of all the water that goes to San Francisco goes through Unincorporated Alameda County from Hetch Hetchy Dam all the way through Sinole, over the Fremont Hills, and over the Bay into San Francisco. We do know that does take a tremendous amount of energy to convey water of that far distance, so it seems like the RPS should apply to them, as well. For example, at the SFPUC, which is basically San Francisco water, if they wanted to cover a portion of their land with solar panels to help convey water, I think that is something that we would look at seriously to reduce GHG. So with that, I'll conclude and thank you for your time.

COMMISSIONER PETERMAN: I appreciate the perspective of both our County Planners on the similarity, perhaps, between this and a Regional Housing Needs Assessment. And, Albert, I think you said it, you said this is very consistent with that approach -- you didn't say necessarily a great approach, but you said it was consistent. And so I would say, whether now, or in

the future, as those who are implementing this work on the ground, who have had experience with, you know, targets in other areas, that if you have a suggestion for how you would do it differently, always welcome as this is all in the development phase and open for lots of new ideas.

MR. LOPEZ: Well, these are soft targets right now. I mean, they don't mean -- for local planners, they don't necessarily mean anything in the sense that, "Oh, that's another thing that we've got to do, we've got to make more land available." I mean, that would be an interesting model at some point if the Governor decided that, well, we want to now start a signing target, an actual acreage, that would be, you know, another mandate, but anyway….

COMMISSIONER PETERMAN: Well, I think the intention, though, is to develop this in a way that could eventually be implemented, so your suggestions now will be welcome. It doesn’t have to be by the end of the day, it's not going to a law tomorrow, but we're moving towards that goal.

MR. LOPEZ: All right.

MS. CERVAS: Okay. Good afternoon. My name is Strela Cervas. I'm with the California Environmental Justice Alliance, and so I wanted to thank you all for

having me here representing CEJA and opening up this process to the Environmental Justice community. We've actually traditionally been sort of left out of these processes, and so we thank you for that.

So just to let you know a little bit about CEJA, we are a coalition of some of the leading Environmental Justice organizations within the state. We represent about 15,000 low income communities of color and there are six Environmental Justice Organizations within -- it usually takes me three minutes to do the introduction here, but I thought it was worth mentioning all the organizations, so the Asian Pacific Environmental Network that works out of Oakland and Richmond; Communities for a Better Environment, that has members in Oakland, Richmond, Southeast L.A., and Wilmington; the Center on Race, Poverty and the Environment, that covers all of the San Joaquin Valley; Center for Community Action and Environmental Justice out of Riverside and San Bernardino; the Environmental Health Coalition in San Diego and the Border area; and then PODER, which is People Organizing to Demand Environmental and Economic Rights in the Mission District in San Francisco. And so, together, we really represent -- span the entire state and represent low income communities that are really affected, and that live right next to dirty power plants

and oil refineries, and freeways.

And so, within the 12,000 megawatts of DG, I'll get into kind of the specifics of what we would like to see, we've really been engaging in energy policy because we see -- because our community members live right next to big oil refineries and power plants, we want to see alternatives to some of these big pollution sources, and so we support a lot of like the California Solar Initiative, and different programs that have actually paved the way and carved out space for low income communities.

Typically, though, what our communities have been complaining about is that, you know, there's a lot of talk about the green economy and how the green economy can really benefit communities, but, frankly, our community members really haven't seen a lot of benefits in the green economy, 1) there's high rates of cancer and asthma and other respiratory illness and unemployment in our communities, and we really aren't really seeing some of the jobs benefits, the local jobs benefits. So a lot of our community members go through lots of green training programs, and I think there's an estimated 300 green training programs in the State of California, so a lot of the community members are kind of trained and ready to go, but at the end of it there is no job. And

so we really have been trying to think through how to make sure that there is actually jobs at the end of the line, and so I'll be addressing that later.

So in terms of what we would like to see in the 12,000 megawatts of DG, I mean, we really appreciate the CEC and listening to CEJA's comments; in the past, it included some Environmental Justice aspects into the methodology. We have a really different approach in that we're really looking at what are the cumulative impacts on communities that are most impacted. And so we've worked with three researchers that are pretty well known, Manuel Pastor out of USC, Rachel Morello-Frosche out of U.C. Berkeley, and James Sadd out of Occidental College. And they have, in partnership with various agencies and communities, specifically Environmental Justice Community, have created a pretty robust tool that both the Air Resources Board and, as I understand it, the CEC has even supported it in the past, and so it's called the Environmental Justice Screening Methodology, and it's a tool, and the purpose of the EJ Screening Methodology is to guide policy makers in identifying areas of high cumulative impact and high social vulnerability. So specifically, you can target geographic areas for things like renewable energy.

And if I could go to the first slide, okay, so

within the EJSM, because you're looking at areas of high impact and vulnerability, it's really prioritizing what areas light up as red; and so, in the EJSM, there are different sort of indicators, and so I know that, in the methodology here, you have electric consumption, low moderate persons, unemployed persons, distribution and system capacity, which is great, but we really have a different approach and we think that this methodology is robust and it's been one of the most peer reviewed tools out there. So it includes indicators such as land use and hazardous proximity, which also includes air quality hazards, health risks and exposure, social and economic vulnerability, and then added -- they've recently added another layer of climate change.

Within these specific indicators, there's actually different sort of indices within these, so, for example, within the land use and hazard proximity, there's childcare facilities that are sensitive, land uses, schools, they look at chrome platers, hazardous waste, airports, and then, under health risks and exposure, you're looking at toxic concentration of hazards, they use Air Resources Board's cancer risk --

COMMISSIONER PETERMAN: Strela, I'm going to interrupt you because I'm not sure I understand, and I want to make sure I do --

MS. CERVAS: Yeah.

COMMISSIONER PETERMAN: -- what I'm looking at. So this is cumulative impact of what?

MS. CERVAS: So this is the cumulative impacts, so this is basically looking at what is the cumulative impact of all of these polluting sources --

COMMISSIONER PETERMAN: Okay.

MS. CERVAS: -- polluting sources. And so when we're looking at, you know, where we should site, for example, renewable energy, you know, there are some indicators, which you've included in here in terms of like unemployment and proximity to, say, power plants, but there's lots of other sort of indices that we really need to look at, and so when you take all of these indices, you basically come up with a score, and so what the EJSM does is it has a cumulative impact score. Here, it's from zero to 20, and so what you see up here is all of the red, is like from 15 to 20, and those are the areas that we see that are the most impacted --

COMMISSIONER PETERMAN: By already existing --

MS. CERVAS: -- yes, correct.

COMMISSIONER PETERMAN: -- okay, I wasn't sure, I was looking at projected options, or something like that. Okay. Thank you.

MS. CERVAS: Correct, yeah. So, for example, in

Oakland you see all the red areas here, and so what we really want to do basically is we really want to see all of these red areas turn into green, and so, in terms of siting renewable energy, Distribution Generation, PV, we'd really like to see it prioritized in some of these areas that have been the over-burdened with areas of high unemployed and all of these factors, and really see these areas prioritized. So if you could go to the next slide, please?

So that's more of a zoomed in map of Oakland. Next slide. This is the City of Richmond. Next slide. San Francisco. Next slide. And that’s all of the Bay Area. Next slide. Okay, and then they've also mapped out the Central Valley. It's kind of hard to see here because it's not zoomed in, but there are areas in the Central Valley. Next slide. Kern. And then this is Los Angeles County here, which is where I'm based out of, and so, if you see a lot of the red, you'll see that it really lines up with where the oil refineries and power plants and the freeways are. Next slide. And then San Bernardino, Riverside County, again, this is not a zoomed in map. Next slide. And San Diego, that's the final map there.

So that's just in terms of, again, where we would like to see the 12,000 megawatts, I'm not saying that we

want to see all of the 12,000 megawatts there, but we do want to see some sort of prioritization or carve-out of the renewable energy of local DG within communities that are most impacted. We had said that we want to see, you know, within the 12,000 megawatts, you know, 1,000 really prioritized to specifically low income communities and communities of color.

The other thing that we would like to see is, you know, there's a lots of different sort of funding mechanisms out there, we are really looking at the feed-in tariff as a model. I think there's lots of different example of where this has worked, but we really like the feed-in tariff because we think that it can be -- with the feed-in tariff mechanism, we think that it can be -- PV can really be available to low income communities.

So a lot of our community members are renters, and so we're really looking at build-out on commercial and multi-family rooftops. We also would like to see really small-scale DG, so when we say small scale, you know, there's a lot of policy out there that looks at, you know, targets, maybe two to three megawatts, for example, and SB 32 is one example of that. And really, what we've identified is that, even really three megawatts is still too big and it won't really be necessarily located in communities that are most

impacted, the poor urban and rural communities that we're most concerned about.

And then we would want to see sort of -- address this gap in terms of solar installation. So, for example, in National City, where there are large pockets of and high levels of pollution and unemployment, there's only 12 solar rooftop installations; their route is -- in San Diego, overall, there's 2,600. So we really want to address that gap.

And then just to address, then, the second question, number 11, the least cost, best fit question, you know, we like the "local PV." We do have some concern about the least cost net scenario because it means that, you know, you're looking at the cost of rooftops, but it doesn't necessarily look at, again, the benefits that you're providing to low income communities and communities of color. So we really want to see sort of a cost-plus benefit sort of model, and so that you're looking at what are the potential benefits and what are the social costs to doing this? And we want to look beyond the least cost, best fit model, you know, there are lots of different things in terms of cost, but what we never really talk about is, you know, the cost to the community in terms of lost work days, or missed days of school, asthma rates, or cancer risks, all these kind of

social costs that are never really talked about and discussed, but it is a cost -- a social cost to the community.

And then the other thing around the least cost model is that it's really done through the RAM, which looks at the lowest installed cost, but what we've found is, again, in terms of the lowest installed costs, we're really looking at the feed-in tariff in Germany, which we found has produced almost twice as many megawatts of solar than all of the U.S., so, you know, we really like the feed-in tariff, again.

And then to the third, or Question 12, similarly, we don't really have a strong -- we don't have a strong recommendation around this. We just actually have more of a question about what -- we don't really understand the point of including the Department of Water Resources. Is it because we want to build some of this in the water systems? And if that's the case, we think that there's a lot of places to put solar and, you know, obviously we have a lot of ideas of where that can happen.

I also do want to say, just kind of to touch on sort of a trend that we've been observing in that, in the -- what is this called -- the Soft Targets Document, you know, it lists out all of the utilities here that might be able to benefit from it. But a trend that we've been

seeing is that some of the small Munis with less than 75,000 customers have been wanting to be exempted from these programs, so we've been seeing that, there's a recent example of that in looking at SB 32, so we just want to kind of point that out and that, you know, if we're really talking about including -- doing this all across the state, that there is a particular effort to exempt some small Munis there. And then I think that the last point that I wanted to make was that we wanted to see the 12,000 megawatts as new megawatts. I know that there's a whole chart about, you know, what is currently happening right now and how it's being fulfilled, but we really wanted to see the 12,000 megawatts as new -- practically speaking because we really want to see new jobs in our communities, jobs and benefits in our communities, and so that's really the point that we wanted to make. So thank you.

COMMISSIONER PETERMAN: Thank you, Strela. I would just say I'm glad you're here, as well, and that CEJA is represented. We are making a concerted effort with the workshops, with this Renewable Strategic Plan, to have representation from Environmental Justice groups on different panels, as community groups, and not only on the panels or the days that pertain to Environmental Justice. I think historically this has been a challenge

by not having representation from a wider group when we're talking about some of the seemingly only technical issues, because all technical issues have a socioeconomic component, and what we're deciding on here, and what we're trying to trade off sometimes between are issues related to technical issues, social issues, economic issues, and for those who care about particular aspects of it, it's important to be a part of the conversations about all the other topics, as well. And so I hope you can continue to participate on panels and, if not, listen in on WebEx, and happy to have that dialogue because ultimately we would like you -- I would like you more engaged in the planning of a system, so that we don't deal with as many Environmental Justice concerns after the fact, once the facilities are built.

I would also just make another comment or two. Can you please submit to the docket, you know, the maps you provided, as well as the background, explaining the project more? I think it's really interesting and the maps really focus on really within a county, or within a city, so it gets to the fact that, even though we're looking at targets here at a county level, there's work that's going to be done by the individual planners, themselves, regarding even how to distribute that within the state.

MS. CERVAS: Can I just speak to that really quickly?

COMMISSIONER PETERMAN: Sure.

MS. CERVAS: So I failed to mention that the Environmental Justice Green Method -- I mean, there's lots of different tools that identify the communities that are most impacted. This particular one uses Census Tract Data, and I know that other ones use kind of -- you mentioned the County, or other sort of regional data, which actually doesn't get to the very specific details, so I just remembered that I failed to mention that.

COMMISSIONER PETERMAN: No, and I think that's important, even with doing -- putting soft targets in at the State level, going down to the County is somewhat a small geographic component, and so there's going to be a lot of differences within Counties and within Cities that we want to be aware of.

And I'll just comment on the DWR point, and maybe someone else will want to explain, but DWR is a major consumer power, so my guess is that it's about the consumption component, you know, do we want to include their numbers in the consumption, or not? But that's more for the -- yeah, so I think that's why DWR is in there, but I can see why it's a confusing question if you're not following which government agencies are using

a lot of energy. Kevin, did you want to comment on the DWR? Was that the reason why it's in there?

MR. HARLAND: They're included, we just included all consumption. So, like you said, just included consumption because they do have a high consumption --

COMMISSIONER PETERMAN: Incredible amount of consumption.

MR. HARLAND: -- they're in that top 10 group.

COMMISSIONER PETERMAN: For legitimate reasons; pumping water takes a lot of electricity. I don't want it to look like they are just wasting energy, but it's significant enough that one could try running it, including and excluding, and I think if you're looking at consumption from sort of a consumer-based component, then I would like to see it with and without DWR because this is a slightly different creature.

MR. HARLAND: Right, yeah. And that changes the targets, too, because DWR has consumption across a variety of Counties, not just kind of specifically like utilities. So it would be interesting to see both.

COMMISSIONER PETERMAN: Thanks.

MR. HOWARD: Randy Howard, Director of Power System Planning and Development for Los Angeles Department of Water and Power. I'd like to just jump in, really, and start talking with the other panelists, but

I'm going to go through a few things because my discussion is a little different and some of the concerns related to DG, DG levels, and how we get there.

So if can go to the first slide. What we have been spending a lot of time on and, in the LADWP 2012 IRP, we're going to put a lot more emphasis ourselves on integration issues. I've made comments in previous workshops as to -- we're operating at levels today of renewables that we've never operated at before. We're already reaching some challenges. We're operating very inefficiently vs. our historical, so our losses are much higher. As well, the cost to our ratepayers, then, are burdened more. And so we have a lot of concerns there.

What this just shows is a stacking of a typical non-summer day dispatch, where we have some volatility in the wind, and in this case, we take our coal facility, our Intermountain Power Project, and we ramp it down substantially, back down to 42 percent. Our natural gas is at minimum levels. So from an operational perspective, within the basin of Los Angeles, we have to have so much natural gas going to keep the reliability of the grid at all times, and it is a spinning process. Also, most of the imports of transmission won't really occur unless you have a level of spin going on within the basin and a lot of people don't understand some of the

physics of electrical flow, power flow. I think a classic would be the San Onofre Units down, those units being down impact the import capacity for a lot of different transmission lines, including ours, even though we don't take anything out of San Onofre. We have the Intermountain Power Project, we've had one unit off for almost six months, and the transmission line had to be de-rated from 2,400 megawatts to 1,200 megawatts, we can't even put wind or other things down it; there's a physics issue at work here. So when you consider these things, you have to make sure operationally it will work.

So what you see is, because of some volatility of wind, we have some of the off-peak hours there where we're able to generate excess with the wind, we have some minimum levels that we have to operate at, that becomes stored power. So we store that in our pump storage to be used in the later hours to meet peak.

You'll see there, as well, for the few hours that we do receive solar, you'll see those aren't in the peak. LADWP, like a number of utilities, has very big differences between their summer peaks and their off-season non-summer peaks, and so you don't see a big spike in the middle of the day that occurs. You'll see that in the summer months, but you won't see that in the spring, in the fall, and the winter, where we don't really have

much of an air-conditioning load that hits our system. So you see more the peak for us is hitting at 5:00 and 6:00 when people are going home, when the businesses still have their lights on. And the solar, or the DG, in most circumstances if it is solar, will not assist there without being a stored energy for those. Next slide.

So we take another look at it and we say that, for a similar load -- we just shut down Navajo because one of our objectives is complete divestiture of our Navajo Coal Plant, with still some Intermountain Power -- we have to back down Intermountain, as well, and natural gas. So these are 2013 scenarios with not a lot of new DG installed, and so we're looking at very challenging dispatch models, again, we're storing in the off-peak hours at Castaic. It's a great pump storage unit, but the problem is there's limited water. You can only pump so far either way because you have to be able to run the unit back down and move the water in order to get the effect, it's not that you have 1,250 megawatts for multiple hours, you do have a limitation related to that.

So we also have some problems here because we have to put minimum levels on our Castaic and Hoover, and typically when we're seeing in the non-summer days, so the spring right now, spring happens to be when we have the best wind, we have hydro that has to move because the

water is flowing, we're having the snow packs melt, so it's productive to produce power from the hydro facilities, and it's also our best solar. While we have great solar in the summer, when we get to the heat issues, it's not quite as good a source as what we're seeing right now in the spring. So we have all these factors that come into play. And while we talk storage, you really have some challenges on how long you can store, and what's the cost of the storage.

So what we're struggling with is, how much additional DG we could put, and how we would fit that in, or sequence it in, as we're going through this major transformation of getting out of coal, changing ocean cooling, how much of the DG could support some of the other issues. Next slide, please.

COMMISSIONER PETERMAN: And as you go to the next slide, I'm going to -- maybe you're about to get into this, but that was 2013, okay, I'm not going to say how many months because my brain is slow at the moment, but it's not very far away, but you've got an Integrated Resource Plan that puts you at least to 2020, so what's your DG expectation that you've modeled into that?

MR. HOWARD: So, for our 2012, we're looking at the scenarios right now and we're trying to come up with the scenario of, by 2020, how much DG could we fit in,

what should we model and see how it does fit, and so we're looking at numbers of maybe 600 megawatts. One of our challenges, and to Bernadette, somewhat one of her statements, while we would love to almost have a lot more DG within the L.A. basin, and we've worked sometimes confrontationally with Los Angeles Business Council and some of the UCLA Studies, the challenge that we see there is, we want diversity in location. So, if I was to put 1,000 megawatts of solar within the City boundaries, I don't have enough diversity in the solar radiation right within our service territory; while we have the Valley, we have the coastal areas, we do have some diversity. But if I take a third of my needs and I put it in the City, and I took a third of it and I put it in, say, the Mojave Desert, and I put another third in one other basis which could be the Imperial County, then I have a lot more diversity, and at any one time I'm going to get some of my needs.

We have days today where we see, out of 50 megawatts or so, solar, in a given hour, we will see that 50 megawatts drop between 50 megawatts and 10 megawatts, and that’s just an intermittent cloud issue within the City. And so, we will see those levels of spikes, and that's pretty substantial when you're talking, then, moving from a 50 to a 600, it's quite a big number for

our system to tolerate.

And so a lot of our work this year will also look at our distribution system, what are we going to need to do to make the investments going forward? Right now, we're investing about a billion dollars a year in our upgrades to our distribution system. We have a large number of poles that are over 70 years old, we have a lot of old cables, a lot of old controls, a lot of old transformers. The system was designed to go from source to load, so it goes from these large central power plants, down to the customers. It really wasn't designed or built to embed a lot of source within the load. We have a lot of work to do. I can't sit here today and tell you what it's going to take. Our comfort level, we know, is about 15 percent tolerance, so 15 percent is a number that our Engineers, who have looked at it and said, "On any given circuit, we're comfortable at about a 15 percent level; above that, we probably need to study it a bit more."

But long term, we have to come up with some planning and look at what it's going to take. Our system needs to transform. We're very supportive of the DG, we think it's a good way to go, we're moving forward on the feed-in tariff, we think there is a lot of opportunity, and our feed-in tariff for our pilot, we do have for our

low income, our nonprofits, a 30 to 100 kilowatt opportunity, and we hope that will be well subscribed going forward.

But what I want to just point out, so this here is our Intermountain Generating Station, this was Sunday, this last Sunday, you can see in this model on Sunday there were parts where we were down to almost 400 megawatts. Now, our take, and this is a take or pay, so our ratepayers pay regardless, is over 1,100 megawatts out of this unit, and there was a ramp down here to 400 because we had so much wind. We had almost 1,000 megawatts of wind. Next slide.

And then this is our in-basin, so this is in-basin that we had on to meet load, and we ramped down to minimum levels, again, because we had so much wind and we had a lot of hydro flowing. So if we had a DG goal of 1,000 megawatts in our basin, we have many many days where we wouldn't ever turn it on. So the capacity factors would be relatively low and, as we look at the economics, it doesn’t seem to make a lot of economical sense for private developers to build some of those systems.

So we're just challenged as to quantities, how much, we know there's going to be a lot more room, we want to make that as we transform our utility, but we

have a lot of work to do, and I would suggest that the CEC in the IEPR, related to these topics, really emphasizes a lot of the work that still is necessary with most utilities as to the distribution capability, the reliability, the distribution, and then the operations. This is really a challenge for many of the utilities on operating our systems.

If you can imagine, too, having curtailment abilities to, say, 1,000 to 2,000 distributed systems, so we have operators there that are trying to manage a lot of system, and if they are going to have to worry about all these very small systems, and how they're going to control those as the load comes up and down, it becomes a very very difficult process, a very expensive process.

A couple other comments that I just wanted to make is, when we talk about solar, as well, going forward is solar really is the most heavily subsidized of our programs today. We do believe the Feed-in Tariff is the right way to go, we think the Net Metering -- there's a place for it, but it is quite expensive for the balance of our customers, we see that and in the Justice Environmental as to where our solar systems are being installed and who is taking advantage of those and we do see the Feed-in Tariffs as fitting a better part of our service territory and we do have 600,000 of our

residential customers that are living in multi-families, so Feed-in Tariff does seem to work where it will be on more commercial rooftops, these are customers that really don't have control over their rooftop, themselves and so we have not been able to target solar into a lot of their locations where they would find it a good match.

And one of the other challenges, we spent a lot of time on looking at low-income Environment Justice issues related to solar; if you saw the maps, most of those maps, well, at least for Los Angeles, you had a high percentage in the coastal region and that's where we are obviously most challenged, where we have many many overcast days, overcast into the morning before it clears, so we don't get the full solar benefits and that's one of the reasons economically we probably don't see nearly as much solar in those locations. We ourselves are installing more and trying to incentivize more related to our lower income areas, but it's been a challenge. So I'll stop there.

COMMISSIONER PETERMAN: So a couple quick follow-up questions, Randy. So the billion dollars that you're investing in the distribution system, are these investments related to making any of your two on the distributed generation? Or what's the reason, the nature of the investments?

MR. HOWARD: The nature of the investments plan early is to upgrade a very old system, but as you're going through those upgrades, ensure that you're going to have sufficient controls, your siting of your cable, your ability then to put more distributed generation on your system, and it will be able to move in multiple directions.

COMMISSIONER PETERMAN: Good. You probably made this point many times, but if we're already investing in system upgrades, it would be good to do it in a way that does make the system work for DG. And I think your flags with the basin thermal and Intermountain do speak to the kind, again, of generating system, but remind me when you're planning to get out of Intermountain?

MR. HOWARD: So the City is in a take or pay contract on Intermountain through 2027. The debt on that facility, I think it will be paid off by 2023, we are certainly working to determine if there are ways to get out sooner, but we think we'll be carrying that cost burden through at least 2023 for our ratepayers, though looking to transform into something else just means, if we do it sooner, it's just incrementally more cost which also has a very significant impact to our ratepayers to the jobs. I mean, we certainly need to talk, you know, as rates continue to climb, what does that mean to the

job growth in California and to our industrial or business customers and their willingness to stay within California?

COMMISSIONER PETERMAN: We've got to work on cost of rates coming up soon. And I just wanted to say, and I'm just asking a couple questions, in particular Randy, because as we look at targets, the L.A. area is a key -- and maybe the number one area, I think -- where we see the potential, particularly with solar PV. And so, I think part of having soft targets eventually become more firm is understanding to what extent and how the utilities would be able to deal with the resources. And so you mention that you haven't scoped out yet what it would take, but I would encourage you, especially as we're having more workshops and refining methodology, to start thinking about what it would take. Because, you know, we're going to support things that have vision, but also work on the ground and we need to hear from you all how to make it work, and reasons why things may not work and what we could do to --

MR. HOWARD: And so I would encourage -- and I didn't get through the E3 study, I asked the staff to look at some of that, because there are times when maybe it would make sense if the utility paid an entity to curtail the system, what we're just concerned about is

the level of frequency that would occur, and whether then the economics really worked out. Our load differential, again, between summer peak and winter peak, is we go from anywhere from 2,200 to 2,300 megawatts in a winter peak to 6,000 megawatts in a summer peak, and so that's a big differential, and that means that there are a number of our generating facilities to have capacity factors that are five percent, 10 percent. And it doesn't make the most sense to have DG installed that's going to operate very little. And so there are ways to work through that. We are going to spend a lot of time this year in our IRP trying to ensure that we've done a better job and try to look at some scenarios where we look at different levels, and how we could insert those levels into some of the transformation.

COMMISSIONER PETERMAN: And, Tim, I know you're up and I'm looking forward to your comments. I'll ask a very welcomed and frequent speaker on our panel, since we're getting close on time, and we agreed to have the second panelists, if you will keep your comments less or just a few minutes, that would be terrific.

MR. TUTT: Thank you, Commissioner, I will try to be very brief.

COMMISSIONER PETERMAN: Okay, I'll let you go first next time.

MR. TUTT: I'll even skip the normal, you know, "We're SMUD, we're buying all these renewables, and we're meeting 20 percent."

COMMISSIONER PETERMAN: SMUD has been a leader of utilities and renewables, say it, I'll get that on the record for you.

MR. TUTT: Okay, thanks. I do want to say, with respect to the topic today, the distributed generation, that we have over 100 megawatts of distributed PV on line in SMUD today and another 40 or so expected to come on line by the end of the year with another year build out of our SG-1 program and the remainder of our Feed-in Tariff projects coming on line. And by our calculation, anyway, that puts us at about 80 watts of solar per capacity, of DG capacity today, and about 110 by the end of the year. And, again, by our calculations, this puts us at about two or more times of most other California utilities. So we feel like we've got a good start on this. We do have support for distributed generation at SMUD, and we're encouraged by participating in the process with you guys and trying to figure out how this 12,000 megawatt goal actually works. 2020 is a long time away, we're fairly full resourced right now, and what we're hoping, we're looking down the line for additional projects.

I guess I'll just go to some of the questions. You asked if the methodology you're currently using is a sound mechanism. For establishing soft targets, I think that it's fine, it's okay, and it pulls in some weight for economic justice and economic development. It also, you know, weights sales and so on. I don't really have a strong opinion on whether you could do it better or whether you should change the weights at this time. I think as long as the targets are soft, and so that they're not turned into, you know, by this methodology, which as I said is good, but it's a bit arbitrary, if I might call it that, you wouldn't want to put hard target space on that, necessarily.

Other factors --

COMMISSIONER PETERMAN: Howard? Where did you come up with "hard targets?"

MR. HOWARD: I don't know that you should. Other factors that you could include in looking at this, and again, this is the one reason why you have soft targets, economics in different areas, SMUD would tell you that we have lower rates, so customers -- it's more difficult to convince them to add solar to their rooftops in some cases. Land use constraints, I'm not really that familiar with the Black & Veatch study that E3 used for looking at the land areas around cities, but when we put

in our Feed-in Tariff projects, we ran into local permitting issues that we didn't necessarily assess when we were first planning all of this, including having to set aside -- habitat and, you know, looking at the aesthetic issues of where these PV systems were located, so that the neighbors across the street have maybe some landscaping between them and the PV system, they didn't have to look at them all day, and so on and so forth.

And you might also look at resource need, overall in different areas; in some areas, you may not really have as much of a need for local generation than others. You might look at the best at the local load shape. Randy talked about how in many instances the solar is coming off in the afternoon or evening, early evening peak is happening, but there might be areas where solar fits better in the state, I haven't looked at that.

And again, Randy talked about the effect of geographic diversity, so, I mean, we're doing research on that in our service area to the extent that -- I don't know that you're looking at County level, but, again, within Counties, spreading the photovoltaics out in particular ways, provides a better overall resource, perhaps, than if it ends up being concentrated in certain areas. And that helps mitigate intermittency that Randy was talking about. So those are just some thoughts that

I had.

Is this a proxy for -- I mean, is the capacity part of this a proxy for least cost best fit? Again, I would say no, not really, it's a much bigger concept than that, and so, I mean, least cost best fit might get into a lot of the issues that Randy was talking about, rather than where within a County a particular solar system should be located.

And then, I guess one other point I was going to make, in regard to the capacity portion of the methodology, is when you're looking at capacity from, I guess, a historical perspective, 2010 data, but the state also has a goal of putting a million electric vehicles into operation by 2020, and that's certainly going to affect minimum load by then, so maybe that's a factor to take into consideration.

Finally, I'll just end by saying, one of the goals, of course, of the California Solar Initiative, which Commissioner McAllister has worked on that, I've work on it in the past, we're all still working on it, frankly, is to have a sustainable solar industry by 2016. And to me, that means kind of that, after 2016, looking at the 2020 goal, and to some extent we're talking about even more market oriented incentives-based structure. So I think some of the things -- I think we've mentioned

this in previous comments, that what you could look into as you're moving towards this goal are things that aren't necessarily additional incentives, but allowing the market to work, easing the cost of permitting in certain cases, and reflecting the full value of these resources in some of the other State policies like the Cap-and-Trade and the Renewable Portfolio Standard, so that that value can be captured by the market and consumers are more willing to be part of this grand experiment we're undertaking. And I hope that was brief enough, I'm going to stop there.

COMMISSIONER PETERMAN: Thank you, that was good. I have a follow-up question for you, though. SMUD has a pretty innovative Feed-in Tariff in that it includes, I believe, it was greenhouse gas considerations, or certain aspects that haven't been included traditionally in procurement mechanisms, and I was just wondering if you could speak to the process for developing that, and the process of thinking about that aspect, have you thought about some of these other goals like socioeconomic, etc., and then kind of how you got to this point because we're going to be looking forward to things about whether procurement mechanisms could be designed in a way to address more of these goals.

MR. TUTT: Sure. Well, one of the innovative

things about our Feed-in Tariff, in comparison to the one that's brought on so much distributed generation in Germany and other parts of Europe, is that ours was based not on some estimate of the value of the need for the PV system in order to make money over its life, but the value of the energy go us. And so it's based on our avoided costs, effectively, with adders that reflect the value of reduced need to be subject to gas price volatility and the greenhouse gas attributes. We've added those two attributes and then we have a time of use factors that works out so that it comes out to about $.14 a kilowatt hour for solar. I mean, out budget costs, as we all know, has gone down somewhat with the reduction in gas prices these days, so if we did the Feed-in Tariff again, if you added some capacity so that it would be slightly lower prices, the monthly solar costs would come down, too. So we would probably still get some good response to that.

With respect to Environmental Justice issues, I don't think that came in CEQA -- to the Feed-in Tariff -- it does provide solar energy to all our customers, and that's a good thing. We also have, as you know, a solar shares program where we're able to sell shares in a solar system to renters and low income customers and others that aren't able to easily take advantage of having solar

on their roofs, and get that private investment involved, and we're looking to expand that, we haven't started recruiting for additional customers yet, but we hope to this year, so that we are looking at at least another megawatt there, and maybe adding more as time goes on with that.

COMMISSIONER PETERMAN: Thank you. That's a good model and I think some of the other utilities are starting to develop also community solar and solar farms, so that would be beneficial.

MR. HARLAND: And we also have one more panelist, too, through the WebEx, and we're at 5:00 right now, I don't know what --

COMMISSIONER PETERMAN: Well, we started late and we're going to end late. I want to have the panels talk to each other, and so if people need to leave, so be it, but let's hear the panelist from the WebEx, and then I know there's at least one question on the WebEx, but --

MS. KOROSEC: But there's one commenter who wants to --

COMMISSIONER PETERMAN: So I'll take a brief comment first and then get quick to the panelist questions, and if you have a question on a slide or something, don't hesitate to raise your hand and interject a comment if you like.

MS. KOROSEC: Alex, your line is open.

MR. LEVINSON: Yes, thank you. This is Alex Levinson. Do you hear me?

COMMISSIONER PETERMAN: Yes, but we're running a little bit behind time, so glad you could join us, so if you can keep your comments to a few minutes, that would be appreciated.

MR. LEVINSON: I'll certainly try to do that, thank you, Commissioner Peterman. I'm the Executive Director at Pacific Environment. All around the Pacific Rim, we oppose huge fossil fuel projects because of their threats to wildlife and to local communities, often indigenous ones, and so we are very interested, as well, in supporting clean energy. We have just put out the Bay Area Smart Energy Report 2020, called *BASE 2020* which is a roadmap to rapid cost-effective convergence of local clean energy in the nine counties of the Bay Area.

And I will just say a few things remarks about the Bay Area Smart Energy Report and then a few specific comments about the soft targets. What the Base 2020 report does is, with more ambitious targets, it analyzes how to meet those targets, PV, geothermal, etc., and it lays out the policy pathway to achieve those targets. It particularly links distributed generation and energy efficiency, and it does so most notably because of

California's commitment to major advances in Net Zero Energy buildings, both commercial and residential, and you could only really do that by linking the two. And in those, the fundamental conflict between the very laudible state's strategy center on Net Zero Energy buildings, which will substantially reduce utility's electricity and the current revenue models of our State Investor-Owned Utilities. In terms of the targets themselves, while you could go well beyond this in terms of just pure technical capacity, what the BASE 2020 does, it estimates that the Bay Area nine Counties can achieve targets of 4,000 to 5,000 megawatts, with the lion share of that coming from local PV, and significant contributions from combined heat and power, geothermal, phase in of high efficiency air-conditioners and energy storage. And then it also focuses quite a bit on the local policy and financing tools that are how are you actually going to get there. I mentioned three, particularly today, paid financing which Sonoma County is the leader in, really, a national leader in at this point, the Clean Energy Payment, as it is sometimes called Feed-in Tariffs, which Palo Alto is, I think, about to become a national leader in, and Community Choice Aggregation, which Marin County is a leader in. And what stands out to me, and what I think Pacific Environment strongly supports, is that there is

indeed no one pathway to salvation, Clean Energy Salvation, these three are very well respected and competent local governments, and they're each experimenting with these different tools, all of them quite popular with their constituents, and we should learn quickly what's working and what needs to be modified.

Let me make some specific comments about the targets. We do agree that distributed generation should be built near load centers and that it should be technology neutral, and that the targets -- what we'd like to add -- is that the targets really must be redundant and abundant. When you allocate by consumption where adjustments create economic factors, that makes a lot of sense to us. We're less supportive of the technical criterion and believe its weighting should be lower. Just as industrial scale renewable energy will require some transmission upgrades and, in some cases, new construction, something that Pacific Environment supports in appropriate circumstances, we should not fail to develop distributed generation capacity that's otherwise available for all the other factors, but because of, we should not fail to develop eminently solvable and relatively inexpensive distribution upgrades or other technical obstacles to be overcome. So, our

specific recommendation is to both weight less the technical factors and perhaps to parse them more finely so that the technical barriers that can be resolved quickly and cheaply and with minimal environmental cost, should be weighted differently than more intractable expenses or other environmental expenses and technical barriers. I think that the point boils down to you don't want to avoid solar in places where there's a lot of load and perhaps the economic factors at play, and relatively solvable technical issues involved in the distribution grid.

And then two comments about the 12,000 megawatts overall and how the soft targets are going at them. I know that other folks earlier today talked about the 12,000 megawatts not being a ceiling. In the most strong way, I want to emphasize that, that when President Kennedy tried to put a man on the moon, he didn't build the Space Program to stop at Apollo 11, he built it to, you know, in his words at the time, to conquer space, which is an old-fashioned language, and then the man on the moon was the audacious goal to get there; 12,000 megawatts and 20,000 megawatts overall is a great target, but what we're really trying to do is blow the doors off and build a solar industry that's going to take California to be the first state in the country to be 100

percent clean energy, and completely off fossil fuels.

Secondly, as a practical matter, each county won't achieve its targets. So the county targets need to have that redundancy built in and the best way to do that is to be sure that we're building it with incentives that continue to drive the numbers up, even after the targets are met. That's what the Bay Area Smart Energy Report does, by having higher targets for the Bay Area.

And then finally on this point, the 12,000 megawatts should not count, at least to the extent they do, with ready-installed solar, solar that was installed prior to Governor Brown's call to action. I look on the upside down pyramid that was shown earlier in this panel and there's already 9,000 megawatts on that triangle. Some of it may well be things that happened after Governor Brown's call to action, but it feels disconcerting to say, "We're going to do 12,000 megawatts of DG and, oh, by the way, we've already got 9,000." I think that's not doing what the spirit of it is or what California really means.

So finally, I just want to close by saying we strongly support this exercise and targets, I like what Tim Tutt said about -- we support them because they're soft targets, because the exercise is important, but that ultimately my

prediction is that the targets are going to prove wildly inaccurate. That some counties moving well beyond the renewable production call for new targets, others are lagging, but hopefully quickly catching up. So I'm appreciative of the Commission's work on this and the Governor's work in this, but I'm also very eager to move beyond the targeting steps and begin to figure out how we're actually going to produce this power. Thank you, Commissioner.

COMMISSIONER PETERMAN: Thank you. That was a good statement over a short period of time. There's a couple -- I'll keep my comments and questions brief. One, regarding your comment about weights and perhaps weighting lower some of the technical characteristics, particularly for me from that, is I think it is important to see what different types of weights will look like in different scenarios and then, to the extent one can, later on that what's the cost? Because I think, ultimately, these engineering and technical costs are going to be important because they do affect rates and we do want to use our existing system to the extent we can. But also, as we're at this part in the process, I think it's also good to look at what a scenario looks like when you are not constrained by the engineering characteristics. And, again, we talked about there's a

real need right now, that we're developing DG now without some of this guidance, the same with large-scale. And so looking at our current system, if there's any additional guidance that the State can give, I think that's useful, but also looking forward to what we will build that we haven't thought about, and then there could be an entirely different approach you can take with that, and so your point there is well taken. I would also just ask that, if you could submit, and from your comments, the plan you're referring to, that would be useful background, as well. And I'll just leave it at that.

MR. LEVINSON: Thank you. Will do.

COMMISSIONER PETERMAN: And thank you for your participation.

MR. LEVINSON: Thank you.

COMMISSIONER PETERMAN: We've got a question from Commissioner McAllister.

COMMISSIONER MCALLISTER: This is to Tim and Randy. And I'm wondering, so on the point that Commissioner Peterman just said about, well, okay, we need to use our existing system more effectively, and with all this DG going in that would make the utilities, to varying degrees, nervous about the incorporation of, you know, different levels of solar and other DG. So I guess my question really has to do with this integration

with the Smart Grid and potentially other technologies, that sort of intelligent management of the grid. And also, on the system side, from a solar system or a DG system side, there are other technologies that can -- and could potentially -- they're actually in the market now -- provide ancillary services or at least allow the utility to avoid some of the impacts to that critical moments by say, moving off …(inaudible) and things like that. So I'm wondering how you see the changing of the upgrading in LADWP, for example, you have a huge change for upgrading your distribution system, but in the near term, and maybe with more targeted investments, could you squeeze more out of the system that you've got with sort of intelligent management of that existing system. And managing the individual system there in particular areas, using controls to allow higher penetrations of DG in the near term. So, what's your review of sort of how realistic that is? Or, you know, what work is being done along those lines? And I would ask the same questions to Tim.

MR. HOWARD: I think you heard, Commissioner, yesterday as you were involved in approving a million dollar grant towards our Smart Grid efforts, we have $120 million being expended. As you really look at that model, develop that model, as well as customer interface

issues, it's a joint effort with UCLA, USC, JPL Cal Tech, we brought in some of the smartest brains to help us develop what might be that platform, and how we could involve it with consideration of a lot of demand response. It's still in the early stages, we're doing a lot of work, but it's still in the early stages as to coming and saying, you know, "Here's the way we think we can accommodate the whole thing." As we do make the investments in the upgraded system, we are trying to, again, ensure that we're doing it in such a way that we will be able to do a lot more in vetting of the DG within the system. Where we still struggle is, you know, how the overall operational work in the DG, if it was say 600 megawatts of solar even if that number was allowed to be higher within the basin because maybe we've divested of some of the imported asset, is it enough, robust enough, to operate consistently? Solar itself is, as you probably know, it's quite a challenge to operate a grid from -- it's almost like -- you just don't have the force behind it, you really need to have some larger generation to move the power around. And so we're just trying to find where that number really -- what it would be, how it would be done, but it will require if you can get the 33 percent for us, it's going to require a fairly robust demand program. Actually, through 2020, our forecast

shows no growth. Our General Manager, who has made a commitment for a very significant investment in energy efficiency to the tune of about $100 million a year up through 2020, and what we almost need is almost a negative growth through 2020. So we have to take what we have and we have to look at those resources as we can fit in these additional DG elements and try to, again, minimize costs to our ratepayers.

COMMISSIONER MCALLISTER: Okay, thanks.

CHAIRMAN WEISENMILLER: I think we have one public comment on the line and I'd like to remind them that you have two minutes. Actually, let’s take that public comment.

MS. KOROSEC: OK, Lynn, your line is open, you wanted to make a comment?

LYNN HARRIS HICKS: Yes, please. I am an advocate for --

MS. KOROSEC: Ms. Hicks, are you on the line?

LYNN HARRIS HICKS: Yes. Can you hear me? Can you hear me?

MS. KOROSEC: I think we lost our caller. We do have one public comment in the room.

LYNN HARRIS HICKS: Oh, no.

MR. TUTT: Yeah, I was going to answer Commissioner McAllister's question, and I'm not trying to

be funny, Commissioner McAllister, but it really depends on what you mean by the "near term." We think that 2020 is near term where this is -- we take this kind of step by step, we just finished rolling out the Smart Meters in our service territory, we are looking at establishing a strong demand response system that's connected to that, we are looking at a variety of research projects involving solar and storage and intermittency and geographic diversity, trying to understand that, as we move towards 2020, how all this stuff works together, and the Smart Grid will be valuable. As you probably know, one of the research projects that we have involves an inverter that has the ability to move off of one tracking and we may be able to take a signal from our Smart Grid system to help do that, but that's a research project right now, and maybe by 2013, or 2016, or 2020, we'll be a lot further along in being able to understand how those kinds of projects will help with this.

COMMISSIONER MCALLISTER: There have been a lot of studies on our environmental state, and a lot of examples, and each utility is kind of doing it in their own way and there's lots of flavors in the questions and answers, or the questions and the approaches, or methodologies, but it's really critical -- I guess we ought to try to get as much of that on the record as

possible, there's the PUC, there's individual utilities from the south all the way up to the north, and each of these examples, I think, is super important, and to demonstrate some kind of best practices in some way over time to be able to incorporate more DG, more non-dispatchable DG, more quickly, in a way that still doesn't sacrifice reliability. And obviously that's what we all want. So I'd just like to hear about what happens with each of your cases and hopefully that can sort of go into something bigger that demonstrates California's leadership, again, in this area. Thank you.

COMMISSIONER PETERMAN: Great. So back to public comment. Ms. Lynch, why don't you come up and give your public comment, and then we'll take the caller on the phone.

MS. LYNCH: I feel like I come up at my own peril, but I promise I'll be very very brief.

COMMISSIONER PETERMAN: No, you take the -- we have public comment, but since you have waited throughout the day, you take the time you need.

MS. LYNCH: My pleasure to have been here , I learned a lot. I'm Mary Lynch. I'm Vice President of State Government Affairs for the newly merged Exxon Constallation Company, and I'm here speaking on behalf of the Alliance for Retail Energy Markets. And my comment

is just to add to a couple of things, one thing that I heard from Bernadette, and a little bit from the speaker from Pacific Environment, that a lot of these efforts towards more DG should be very consumer driven , and I just wanted to remind the Commission that there is a program in California called Direct Access that allows, at this time, just commercial and industrial load, to elect competitive suppliers. And, as a competitive supplier to the commercial and industrial load on Direct Access, we have a variety of products and services that we're able to offer customers who are able to get into Direct Access. Products and services that allow them to customize a whole suite of solutions, including distributed generation, including demand response, including energy efficiency, and we can also offer them financing when that's necessary to make some of these investments. So I just wanted to remind you that Direct Access is out there. As you probably know, it's currently capped, and the cap is full, so it's not an option that is available to customers right now, to new customers. So we'd like to just encourage you to support further expansion of Direct Access as a way of trying to help meet the distributed generation goals. Thank you very much.

COMMISSIONER PETERMAN: Thank you for your

comment. Now we'll take our caller on the phone. Ma'am, thank you for waiting and I will remind you that we've got about three minutes on the public comment and, so, if you go longer, I will interject. Thanks.

MS. KOROSEC: All right, Lynn, are you still on the line? All right, I apologize, I think she went off and we were not able to hear her the first time.

COMMISSIONER PETERMAN: Well, we'll listen for her again and when she calls, we'll give her our apology.

MS. KOROSEC: We will apologize to her, thank you.

COMMISSIONER PETERMAN: Other questions?

MR. HARLAND: I don't have any questions. There are questions that the panelists will have, I would like to ask you if you, ourselves, or amongst each other?

MS. DEL CHIARO: I have one quick one at my own peril here, my fellow panelists, at this late hour asking questions. I do have one, I have one quick comment which is there were a couple of different examples of Net Metering and Net Metering-like programs benefitting non-traditional single-family home, or business-type installations, and I just want to highlight that Net Metering and Feed-in Tariffs both can help broaden the market and it's not just limited to one of those two policies in that part of the market.

I have a question for Strela. I'm wondering, one of the other kinds of questions, I think, in ways you could look at building out 12 gigawatts, and I should commend LADWP for the goal of veering out the load growth over the next eight years is really commendable, and I really applaud that, that's exactly how -- the model we should be applying in meeting and exiting out our dirtiest energy with renewables. If we were to actually map out or plan out the 12 gigawatts as being, you know, assuming ideally we meet load growth with efficiency and conservation, and then what we'd do is install that 12 gigawatts such that it is physically placed and/or otherwise in a way that enables us to map out our dirtiest power, whether that's dirty, outside of our state, or dirty, and so as a state we can figure that out at another time, but would that kind of green up your map, if you will? Even if it meant, just hypothetically speaking, even if it meant that not even the bulk of that were to be installed actually on rooftops, just in the red areas, right? So what if backing up the dirtiest power meant putting the solar, you know, some kind of spread out, say, throughout the City, and would that sort of meet your priority goals?

MS. CERVAS: Yeah, I think that's a good question. I think, I mean, the maps are so they are

cumulative impact of lots of different things. One of the things that we're looking at, especially in terms of benefits to the communities are -- you know, the health impacts, obviously, and also the local job impacts, and so if it meant we, by doing that, so maybe there's some installation outside of our -- maybe kind of on the outskirts of the community, that also provides for local jobs, I think that scale would move a little bit, but, again, there's like 24 different indices indicators in the Environmental Justice Methodology, you know, it's not just about employment, but it's also -- it's a number of different factors. So it wouldn't turn it completely green, but I think it would move it a little bit further.

MS. DEL CHIARO: Then I just have one quick question for Randy if you'll allow, it's really quick. Randy, I'm just curious, why did you choose to prevent spring time grass when, you know, a lot of the DG, while granted we're going to hopefully see a diversification of the DG through the 12 gigawatts, it's not just all PV, but why wouldn't you look at the peak times since that’s such a big topic of today?

MR. HOWARD: It's really not, because I think E3 really needs to look at the low peaks -- really the off peaks of all the utilities because when we look at the economics of all the utilities because, when we look at

the economics, you know, what's going to operate during those off-peaks or low peak periods, who is going to pay and how do we curtail the DG? What type of DG becomes quite important and how we operate the system and the load peaks. You're right, if we look at just the high peaks, we come up with really big numbers that are achievable when you've got peak, but if for our service territory, if we only have three months or less out of the year where we're in those ranges of numbers, and then we have nine months out of the year where we're not even close, we should be looking at those others. Now, if there's something else in between, those are things that we still have to look at, but where the economics of a private entity making a decision to install and provide service to a utility, then how do we come up with these programs that would say, "Here's what I'm going to pay you if I tell you not to run versus to run." And I'm talking solar run, you know, run a solar system, and that's pretty odd for us at this stage of the game to be thinking, you know, I'm thinking into the future of our installations and how we install a system; right now we're trying not to curtail wind, but we've seen we've had some of our wind curtailed in the Pacific Northwest and we've seen some plans here recently where we're storing the wind and you lose an additional 20 to 30

percent on a storage, and that's a single solar, so if we were to put in more peaking solar, and we choose to store it because we don't need it during that period of time, that's an additional adder. So the direction to take is that we're looking at how do we operate the system, what's it going to take going forward? A lot more work to do there.

MR. TUTT: Just a point of clarification, if I could. I just had one comment and that's related to the upside down pyramid that's been discussed today, I'm just estimating, but I think we have about a thousand megawatts of distributed PV, maybe a little bit more on line today, and I bet a good portion of that has been installed since Governor Brown first talks about 12,000 megawatts of distributed generation, so I just didn't want to leave the impression that we're somehow three-quarters of the way towards our goal, much of that is still in the future.

COMMISSIONER PETERMAN: And, Tim, I think you got a point and that’s a fair one, I'll try not to delve into that, but we have a number of targets, but for an example is the Solar Homes Partnership, although a dollar amount was identified, there's not a funding source on legislation and so the ability to reach these targets even our existing ones will depend on in additional

policy action and commitment, and so we can't forget that, as well.

Anything else? I'm thinking this is an early evening because we didn't get out of here until almost 7:00 yesterday from the Business Meeting, so….

MS. KOROSEC: We do have someone on the line who wants to make a comment.

MR. PRICE: I know it's late in the day, but if I could make a clarification or a technical point, but I just wanted to point out that, as the approach we took for the technical potential study, we actually looked at hourly load for the full year, and sized the PV so that the PV output would not exceed the local load in any hour of the year, including very low load times with high solar. You know, we have done the work on the minimum load, just to the point that I think the gentleman from L.A. was making.

CHAIRMAN WEISENMILLER: I think, we look forward to reading your report. Thanks.

COMMISSIONER PETERMAN: Okay, on that, I think we'll wrap up. Thank you, everyone, for participating. I encourage you all to have dialogue outside of these workshops with each other and look forward to your comments. See you next time. Good night.

(Adjourned at 5:25 p.m.)