

**ECONOMIC DEVELOPMENT, ENERGY, AGRICULTURE,
AND RECREATION COMMITTEE**
Council of the County of Maui

MINUTES

Council Chamber

November 12, 2013

CONVENE: 1:30 p.m.

PRESENT: VOTING MEMBERS:

Councilmember Don S. Guzman, Chair
Councilmember Robert Carroll, Vice-Chair
Councilmember Gladys C. Baisa
Councilmember Elle Cochran (arrived at 1:32 p.m.)
Councilmember Stacy Crivello
Councilmember Mike White (arrived at 1:44 p.m.)

NON-VOTING MEMBERS:

Councilmember Donald G. Couch, Jr.

EXCUSED: Councilmember Michael P. Victorino

**STAFF: Kirstin Hamman, Legislative Attorney
Pauline Martins, Committee Secretary**

Ella Alcon, Council Aide, Molokai Council Office (via telephone
conference bridge)

Denise Fernandez, Council Aide, Lanai Council Office (via telephone
conference bridge)

Dawn Lono, Council Aide, Hana Council Office (via telephone
conference bridge)

**ADMIN.: Jeffrey Ueoka, Deputy Corporation Counsel, Department of the Corporation
Counsel**

Kalbert Kobayashi, Energy Coordinator, Department of Management
Douglas McLeod, Energy Commissioner, Office of Economic
Development, Office of the Mayor

**OTHERS: Lee Jakeway, Director of Energy Development and Planning, Hawaii
Commercial & Sugar Company**

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Mat McNeff, Renewable Energy Services Manager, Maui Electric
Company, Limited
Kelly King, Vice President, Pacific Biodiesel
Brad Albert, Rising Sun Solar
Plus (3) other people

PRESS: *Akaku Maui Community Television, Inc.*

ITEM EAR-6: ALTERNATIVE ENERGY PRODUCTION

CHAIR GUZMAN: ... *(gavel)* ... May the meeting on the Economic Development, Energy, Agriculture, and Recreation Committee will now come to order. The time is 1:30 p.m. on Tuesday, November 12, 2013. Good afternoon, Members. Before we begin, may I ask everyone who has a cell phone to please put it on silence. I would like to also introduce our Committee Members; starting to my left, Vice...Committee Member, Bob Carroll --

VICE-CHAIR CARROLL: Good afternoon, Chair.

CHAIR GUZMAN: --Stacy Crivello --

COUNCILMEMBER CRIVELLO: Good afternoon, Chair.

CHAIR GUZMAN: --and Chair Gladys Baisa.

COUNCILMEMBER BAISA: Good afternoon, Chair.

CHAIR GUZMAN: And coming in, we have Member Elle Cochran. Excused for the time being is Member Mike White and also excused is Member Mike Victorino. For the Administration, we have from our Deputy Corporation Counsel, Jeff Ueoka.

MR. UEOKA: Good afternoon, Chair.

CHAIR GUZMAN: From the Administration side, we have Kal Kobayashi, Energy Coordinator for the Office of the Mayor. Good afternoon. And we also have Doug McLeod, Energy Commissioner for the Office of Economic Development.

MR. McLEOD: Afternoon, Chair.

CHAIR GUZMAN: Our Committee Staff this afternoon is, Pauline Martins is our Secretary and our Legislative Attorney is Kirstin Hamman. Before we begin, I'm gonna check in with our district offices. Hana District Office, Dawn Lono, are you there?

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MS. LONO: Yes, good afternoon, this is Dawn Lono at the Hana Office.

CHAIR GUZMAN: Good afternoon. Also, Ms. Fernandez, from Lanai District Office?

MS. FERNANDEZ: Good afternoon, Chair. This is Denise Fernandez from Lanai.

CHAIR GUZMAN: And Ella Alcon from Molokai District Office, are you there?

MS. ALCON: Good afternoon. This is Ella Alcon on Molokai.

CHAIR GUZMAN: Okay. Thank you. If we have anybody that's going to testify, please sign up at the lobby. Also, testimony is limited to the item on the agenda. You're also pursuant to the Council Rules. You'll have three minutes for the testimony and one minute to conclude. Please state your name and any organization that you're affiliated with. And so, at that point, I'll just have Ms. Hamman...can you please call the first testifier? Oh, no testifiers today, very good. So is there anyone in the gallery that's wanting to testify? Seeing none, I'm gonna turn to the district offices. In Hana, is there anyone there to testify?

MS. LONO: The Hana Office has no one waiting to testify.

CHAIR GUZMAN: Okay. How about Lanai District Office?

MS. FERNANDEZ: There is no one waiting to testify at Lanai.

CHAIR GUZMAN: Okay, thank you. Also, Molokai District Office, is there anyone there waiting to testify?

MS. ALCON: There's no one here on Molokai waiting to testify.

CHAIR GUZMAN: Okay, thank you. Seeing no persons in the gallery as well as in the district offices that are here to testify, without any objections, I will now close public testimony.

COUNCIL MEMBERS: No objections.

CHAIR GUZMAN: Thank you. Members, we have one item on today's agenda, which is EAR-6, the Alternative Energy Production. The Committee is in receipt of a Miscellaneous Communication, dated February 19, 2013, from the County Clerk, referring the matter relating to the alternative energy production pursuant to Budget and Finance Committee Report 13-8, adopted by the Council on February 15, 2013. I have invited representatives from different sectors of the alternative energy industry to talk to us today about alternative energy production in Maui County. Hawaii is one of the most fossil fuel, dependent states in the nation. In 2008, there was

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a partnership between the State of Hawaii and the U.S. Department of Energy that launched the Hawaii Clean Energy Initiative. Setting goals to achieve 70 percent clean energy by 2030 with 30 percent efficiency measures and 40 percent coming from locally generated, renewable sources; as a result, Maui has a growing portfolio of power production. We have community-based biodiesel, wind, solar, biomass and hydroelectric sources. Today, we have a panel today. And I'm gonna introduce from the panel that will basically talk about the different type of alternative energies that we have in the County. There are four, basically, questions that we wanna be raising during the panel discussion: what is the industry, what does it do and how does it work, what is the current status of alternative energy in the County, and what is the future of alternative energy for Maui County and how can the County support the growth of alternative energy in the County? So today we have Kal Kobayashi, our Energy Coordinator from the Office of the Mayor; we have Doug McLeod, Energy Commissioner from the Office of Economic Development; we have Lee Jakeway, Director of Energy Development at HC&S; and we have Mat McNeff, Renewable Energy Services Manager from Maui Electric Company; and we have Kelly King, Vice President of Pacific Biodiesel. At this time, we're gonna have presentations of PowerPoints, and we'll take a short recess for them to set up. After the PowerPoints, we'll have an opportunity to discuss their various industries. Okay, we'll take a two-minute recess. . . . *(gavel)* . . .

RECESS: 1:37 p.m.

RECONVENE: 1:41 p.m.

CHAIR GUZMAN: . . . *(gavel)* . . . The EAR Committee is now reconvened.

. . . BEGIN PRESENTATIONS . . .

MR. McNEFF: Okay. Good afternoon, everyone. My name is Mathew McNeff, and I'm the Renewable Energy Services Department Manager for Maui Electric. I'm gonna give a quick overview of renewable energy in Maui County today. So high level some of the basics, some of the more common types of renewable energy that we currently have is solar photovoltaics or PV; wind turbines or wind energy; hydroelectric; biodiesel and biomass as well. Solar, wind, and hydroelectric are all considered, "as-available" resources or "intermittent". And, basically, that means that they're only available when the resource that they depend on, such as the sun or the wind, is available. Solar is one technology that's very popular in Maui County with the residents today, and it's reflected in our rankings from the Solar Electric Power Association. So just going off the #1, last year, 2012, we were ranked number one in the nation for our cumulative number of solar systems per customer. And that is the second year in a row that we actually received that honor, to be number one in the nation. Continuing on with solar, so the graph on the right represents both the capacity of installed solar in megawatts as well as the number of customers that currently have PV on their rooftops or residence. So, right now, the combined capacity of

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PV is about 37 megawatts; and that's larger than any single wind farm we have on Maui, it's also larger than any single generator Maui Electric owns. As far as number of customers goes, there's about 5,000 customers that participate in one of our programs that allow interconnection of photovoltaic systems. So wind energy also plays an important part in Maui County. Currently, we have three wind farms for a combined capacity of 72 megawatts, and Maui Electric is constantly making system improvements to be able to better utilize that wind energy. The graph on the right represents how much of that available wind energy we were able to accept for the first three quarters of this year. And, as you can see, that's been steadily increasing due to improvements that we've been making on the system. So, with regards to the future of renewable energy, most people have heard of the Renewable Portfolio Standards. And representing on the left hand of the graph is the State mandates. So 10 percent by 2010 was the goal; the next upcoming goal is 15 percent by 2015; and the one after that, 25 percent by 2020. So the graph represents where we were at the end of 2012; we reached about 21 percent of our sales were derived from renewable energy sources. And currently, this year for 2013, we're on target to be somewhere around 30 percent, so a significant improvement over last year. So, again, Maui Electric is concentrating on strategic growth versus maximum growth. In particular, some of our renewable-energy programs that have been heavily incentivized to help promote renewable energy when it was just in the beginning stages now are probably aren't necessary being that renewable energy is so dominant. We're continuing with grid improvements to help facilitate renewable-energy integration, we're pursuing smart metering and energy-storage projects. How the County can support is just to continue our collaborative relationship. For example, you know, we've worked with the electrical permitting department here at the County to come up with a system that helps protect customers financially as well as, you know, operationally from the County's side, Wastewater and Water continue to use our time-of-use and demand-response programs that we currently have; and that will be coming out in the future. Thank you.

MS. KING: Aloha, I'm Kelly King, Vice President of Pacific Biodiesel. I'm gonna run through these slides really quick. When I first put this together I thought I had 15 minutes, so but this will help with the questions hopefully. You'll have these handouts. I'm gonna talk about the biofuel industry and, specifically, biodiesel on Maui and where we've come since our first production in 1996. Biodiesel, just to summarize, is a fuel for any diesel engine. It's nontoxic and it biodegrades at about the rate of sugar; so one of our big goals for the immediate is to try get more fuel into the harbors as well, because it's a lot healthier if you have a little spill. Benefits of biodiesel, and you can see the difference here in the energy output between biodiesel which is 1 unit energy input for 5.4 units energy output and how that compares with ethanol is 1 unit in, 1.6 units out; so it's got a much higher energy balance. It can be produced from local crops, recycled oils, from animal fats; and then all the safety and security issues are pretty well known. The other benefit of biodiesel is stable pricing. And you can see here, on the left, the ultra-low sulfur diesel CARB index from LA for the exact same period as the Pacific Biodiesel retail station. So I jogged them a little bit because the one on the left is without taxes; so if you added the dollar tax on, you'd have that line being equal right there. And you can see the stabilization

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of the price for biodiesel. Our motto has always been to do the sustainable biofuel model, which is sourcing feedstock locally, sequestering first all waste oil and waste grease--sorry--and supporting local agriculture. So the idea is you want the smallest footprint as possible, local feedstock, local production, locally delivered fuel, local jobs; and the greatest energy security comes that way. Pacific Biodiesel, in the 17-18 years we've been in business, has developed the business model of more vertical integration than any other biodiesel company in America. And so we're doing collection of waste grease, grease-trap pumping, we've got fleets on four islands now, we're doing biodiesel production, fuel-quality testing, fuel distribution, retail pump stations, we've got research and development going on especially for the feedstocks and the biofuel crops, and we do engineering for new technologies as well as management contracting. Now this is the picture of our latest constructed biodiesel plant. This is on the Big Island. And this refinery is 5.5 million gallon capacity of production. Now you see where the fuel is at. If you look at that little picture on the right, because it's got distillation now, it's extremely pure. It far surpasses the ASTM standards for biodiesel. And it's clear now, so we're not selling anymore amber fuel. It's the highest quality in America, and we believe in the world. This is happening on the Big Island and we're employing...oh, I got a slide a little bit later to show you that. So a summary of the benefits for the community: we've got obviously the CO₂ reduction; we've got millions of gallons of FOG, fats, oils and grease, diverted from our landfills on Oahu and Maui; the jobs; the stable fuel prices; the dollars that stay in the community. For every dollar of revenue, 90 cents of every dollar stays in the community with our model; for the petroleum model, it's the exact opposite, 90 cents leaves the state. And then we're working on the bottom picture, which is the diversified agriculture and trying to increase farmers and infrastructure. This is a slide that was done by Hana Steel of the landfill diversion office, and we did a webinar last year for the Solid Waste Association of North America. And I just wanted to show you, from her slide, the bottom line between the green waste, the biosolids and the fats, oils and grease model out at the landfill. The County, the bottom-line number on the right-hand bottom corner, 615,000 is the benefit to the County; so that's what the County basically made off of this model. Just to let you know where we're at, in Maui County right now, this is a graph of gallons of biodiesel sold on Maui; and you can see, it's growing. There was a dip in March when we started producing on the Big Island and we got some big accounts over there, and then from April, it started growing. Retail is growing, the blenders are--especially Hawaii Fueling Network--are starting to really catch on to biodiesel blends and the benefits to the community. So we're seeing, every month, more and more biodiesel sold. And these are some of our customers: Maui Electric Company, who you just heard Mat talk about it; Alamo Shuttle buses--these are some of the bigger customers that we have on Maui that are using biodiesel now--DHX fleets; Extended Horizons, which is one of the charter boats in Lahaina; and then the Chevron station in Paia. And, also, HFN is getting ready to open in a couple of weeks in Lahaina, and their station will look a lot like this. This is their station on the Big Island. And if you can see, if you look at their prices, biodiesel is the cheapest of all the diesel offerings. They also have 100 percent biodiesel on the left there and then there's a B20 blend and then the diesel is the most expensive. So they're able to offer it at a very good rate. And that's the retail pump station that has a card lock on it. Just real briefly, I wanna go over where we're at now and

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where we're trying to get to is this biofuel crop plan. And we were doing some demonstration crops in a project that was Federally funded. On Oahu, we're getting ready to move that project to the Big Island and turn it over. Our new sponsor will be the Navy, so I'm going to D.C. next month to get some new funding for that. And these are the issues that we're looking at, because these kinds of crops have not been grown in Hawaii before, and we have some new things to learn about how they do grow in Hawaii. We've also built a crushing mill, the first crushing mill in the State of Hawaii, which is right next door to the Big Island biodiesel plant. And we're starting to crush things that we aren't even growing ourselves like macadamia nuts and kukui and jatropha. We're getting some good data on those as well. And working with the cattle industry on how they will do the offtake of the meal to help support our ranchers on all islands. It's very exciting. They're excited about, possibly with this model, being able to grow the cattle industry back to where it used to be. And then, finally, I wanted to talk about what the County can do on what we're looking for from State and County Governments. And these are some...I listed here some of the Federal and State and City mandates that our industry receives on and off; and the biggest problem with those is that they're not very stable, they're very inconsistent, usually two years at a time. But the real thing I wanted to focus on was that very bottom line, Portland, Oregon was the first U.S. City to enact a biodiesel mandate, which was B5. All of the fuel, in all of their retail stations, in the city of Portland are 5 percent biodiesel. And this would be an incredible area of support for our locally produced biodiesel for the jobs that we have here and what we're trying to get to, environmentally, if we could do this in the County. We're gonna be proposing it at the State level, but it's also possible to do it county by county. That's my presentation and I'll be available for questions after. Thank you.

MR. JAKEWAY: Aloha, Chair Guzman and Maui County Council members. My name is Lee Jakeway, and I'm Director of Energy Development at HC&S Company. Thank you for the opportunity today to describe our renewable energy production at HC&S. First of all, some background on our operation. First and foremost, we are a sugarcane grower and producer of raw sugar. We cultivate 36,000 acres in sugarcane in the central valley of Maui. And all told, we employ 800 people; that includes the other Maui divisions of Kahului Trucking & Storage and East Maui Irrigation Company. In terms of revenue-generating products, on a normal production year, we produce 200,000 tons of raw sugar equivalent; 65,000 tons of final molasses, which is an animal-feed supplement; and we self-generate our electricity, 200,000-megawatt hours we're capable of producing, and of that amount, 55 to 80 thousand megawatt hours are sold to Maui Electric Company under a PPA with them. That amounts to about 5 to 6 percent of Maui's grid power; and of that amount, 75 percent of the amount that we sell to Maui Electric is from renewable biomass and hydro sources. And I'd like to point out that this is the only product that is produced and consumed here locally, whereas the other two are export products. And most of the fuel that we use in our combustion boilers are called bagasse, and that's the fibrous residue from the crushing of the sugarcane stalks. And in terms of volume, it's the largest volume product that we produce. We produce four to five hundred thousand tons of this material a year. But you don't normally see that in our operation, because it's consumed immediately as soon as it comes out of the factory. And in terms of equivalent fuel values, one ton of bagasse is

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equivalent to about one barrel of oil in heating value or about a third of a ton of coal. And so that's our fuel of choice because that's produced as a byproduct of our process. This schematic here just shows how we convert the fuel into electricity; it's through a process called, cogeneration, sometimes referred to combined heat and power. You take the fuel and, with air, combust that in a boiler to produce high-pressure steam which operates a turbine that's turning, connected to a AC generator that's producing electricity; and that's sold to the grid and we use our own as well. But the work of the steam is not done yet. We still use that steam to run the factory process as either mechanical drives or heating of the cane juice in order to produce crystalline sugar, and then the steam returns as condensate and the cycle begins again. And I'd be remiss if I didn't mention our hydro-generator plants. The largest generator plants is the Kaheka Hydro Plant, which was commissioned actually in 1924. There's three units operating there at 4,500-kilowatt, full capacity; and these only run when we have high-ditch flows like we had over the past weekend. The Paia Hydro Plant is actually older; that was commissioned in 1912--it celebrated the centennial last year--and that has 1,100-kilowatts capacity and that actually runs more than the Kaheka plant. But these are intermittent type of renewables that supplement our system. So one of the questions that was asked of the panel is, how can Maui County support renewable energy development? And we have been and are still looking at biofuel production as an alternative to raw sugar production, because raw sugar has its cyclical ups and downs as a commodity product. One of the things that was discovered when we did a deep dive in ethanol a few years back is that two departments in Maui County would be impacted. First of all, would be the Public Works Department with all the construction permitting that was needed for the footprint needed for the size of plant that we were envisioning. And then, most importantly, the Fire and Public Safety Department would be impacted as well; so we would need to have fire protection measures in place for large-scale biofuel production and storage. And mahalo for your attention.

CHAIR GUZMAN: Okay. At this time, Committee Members, I'm gonna take a brief recess. We have Brad Albert who is from Rising Sun Solar, and we need a brief recess for technical set up. Two minutes, thank you. . . . *(gavel)* . . .

RECESS: 1:59 p.m.

RECONVENE: 2:01 p.m.

CHAIR GUZMAN: . . . *(gavel)* . . . The EAR Committee is now reconvened.

MR. ALBERT: So just a quick correction as far as I am one of the owners of Rising Sun Solar, which is a PV company that's been operating doing PV installations for over ten years now; but, as it relates to this meeting, I'm representing the Hawaii PV Coalition, which is a State nonprofit that promotes PV integration in the state. And, in that role, I was the head of the PV subcommittee for the Reliability Standards Working Group. And that group was a docket or a working group that was, I would say, it's a little out of the norm for the PUC; so instead of a docket, it was a

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working group that was requested by the PUC. The process went on for over a year and a half, and our final report was given to the technical review committee in January of this year; and the PUC is yet to act on our recommendations. But I'm sort of picking up what's going on in Maui and giving you a little overview about some of the things that were developed in this working group. And so, without further ado, I'll move on. So there's these location value maps. There's a lot of acronyms in the PV industry. LVM maps stands for location value maps; and this is something MECO does to provide consumers and contractors with an idea of where they can interconnect. And this comes off of a slide that I did for the Maui County Energy Summit that shows October 2012 to April 2013, the difference in PV integration in different areas. The red areas are areas that you essentially couldn't connect to unless you did what was called an "interconnection study" that generally costs around \$3,000 per customer. And this was sort of the way forward in April. And then sometime this summer, MECO realized that a number of these circuits were compromised and there were technical issues where the studies wouldn't accommodate customers who performed these studies to move forward, so they kind of paused things until they could come up with a better solution. But these areas in red are essentially areas that I believe this map is showing PV integration versus peak demand. But the more important metric is the percent of minimum load in different areas. So you look at what a PV system or a number of PV systems in the area might produce at any given moment in the day, during daytime hours when they're making power, versus what the minimum load is in that time. And if the PV production could exceed the minimum load, then there's fears that...or not fears but, you know, justified, technical reasons why that would cause problems, one of them being backfeed at the substation. So, at the time that I did this in April, I think there were around 28 circuits that were above the supplemental review limit. But now--and, Mat, correct me if I'm wrong--MECO's gone from 75 percent of minimum load to 100 percent of minimum load, daytime minimum load. And I believe that when they did that, as well as made some other adjustments, that the number of circuits that you couldn't interconnect on went down. And it's about ten circuits now, roughly, give or take? So, in a way, we have more interconnection opportunities today than we did in April; at the same time, things are continuing to fill up very fast. And you see how these maps are very dynamic and they keep changing. So I think I'll just keep going on here. So what our group was doing in the Reliability Standards Working Group was to look at changes we could make to the existing interconnection rules that would allow for more interconnections. And one of the things that the PUC Commission has to look at was the Rule 21 in California, which essentially was 100 percent of minimum load. And so, a year and a half ago, MECO's threshold was 50 percent of minimum load, and now they've adopted that already. So a lot of things that MECO are doing are really just whether they're getting these queues from the Reliability Standards Working Group or not, they're really, I would say, meeting or exceeding our expectations for what we could do to meet the challenges of interconnecting more customers. And I'll keep kind of going on and telling you different things that they're doing. So this was what the work product for the Reliability Standards Working Group did. We looked at monitoring on different circuits, and that's going on in MECO, too. And so, like anything, the more data you have, the more--instead of having proxy limits--you can have more exact, knowable limits for your interconnection standards. We looked at different changes to the

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flowchart on the Rule 14H standards. We suggested that they create a interconnection queue, which MECO's also doing, now, to keep a list of customers that have applied but can't interconnect at this time due to technical reasons; so they're queuing those people. The proactive approach proposal is something, again, that MECO's already adopting and moving forward with, looking at areas of the grid that are becoming full or are already full and how they can change things to allow more customers on. And so all of these four recommendations were unanimously approved by our group and submitted to the PUC. And, like I said, it seems that MECO is adopting a lot of those things. So this is a flowchart--I won't take a lot of time--but there's a progression where you can see that we had different proxy limits, and these things have gone on, you know, from 2010 to 2012 and now we're in 2013. And we're making the jump up to the upper arrow, which is more, instead of looking at proxy limits, looking at actual data and trying to proactively look at interconnecting, you know, areas of the grid that are compromised and how we can connect those people. So instead of reacting to interconnection requests, the utility's taking more of a proactive approach. And so, just like it says up top, refining the precision of the policy approach from coarse to fine. And this is something that's happened out of necessity, because there's so many customers that are wanting to interconnect. So this slide isn't really necessary, totally, but I would say that the percentage versus minimum load isn't the only issue. As you get more PV on a given area of the circuit, there's other power quality and voltage issues that occur; and so you can't just look at things in terms of percentage and just say, well, if we're below 100 percent, everything's fine, that's not always the case. So when we're making these interconnection rule changes, we're giving MECO more ability to look at other power quality and voltage screens as well. This shows what the screens were and what they should be. And if you look at the lower, right-hand corner, it says, circuit penetration equals installed PV divided by the minimum load from 10:00 to 2:00, and we're saying that that would be anywhere from 50 to 75 or 75 to 100 percent. MECO's already adopted this 100 percent standard, and so that's a really good thing that MECO did. What we're a little unsure of--and Mat could maybe speak to this later on the panel discussion--is how they're measuring minimum load. And this is a little bit technical, but what this diagram is trying to show is that the net minimum load in the middle is the minimum load that's observed by the utility. But, in fact, the gross minimum load, the line at the top, is the actual minimum load; but they don't get to see that because they're not monitoring all the PV systems. So what we're trying to say in this equation here is that the denominator, the minimum load, needs to be adjusted to be accurate. And I believe that MECO is also planning to do that or has already done that; and so Mat can talk about that later. By the same virtue, the numerator, the installed PV capacity, needs to be derated because all the systems don't peak at once. Having to deal with a number of issues, including each system has its own orientation, so they don't all line up to the sun and maximize their output at the same time. This is just another way of looking at the same thing. The lower graph on the bottom is the PV; the green is the PV production; the blue line would be the net minimum load that's observed, but, in fact, the red line at the top would be the gross minimum load. So this is my last slide. MECO's adopting certain RSWG, or Reliability Standards Working Group recommendations, and I really feel like they're doing an excellent job of whether it's because they're taking the queue from RSWG or just doing what needs to get done, a lot of their changes are making sense. They're,

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again, adopting different elements with a proactive approach in doing away with the IRS studies. They're creating a queue for the customers that can interconnect that are over 100 percent. I believe that they're going to be adjusting, or have already adjusted, for this minimum load calculation that I just reviewed. A quick review discretion for need of a IRS; I think that's part of what they're doing, grouping people into different percentages. Formally, again, a lot of customers that would be between 50 and 100 percent are now able to interconnect without a lot of review. But, like I said, there can be voltage or power-quality issues. Let's see here. One thing I wanted to point out is that hopefully the PUC will still act on the Reliability Standards Working Group docket. And there's a number of small issues as well as just, I would say, memorializing a lot of the things that MECO's already doing and trying to standardize these things across all three utilities is really the goal of the PV industry. And, you know, one thing the County can do is encourage the PUC to do that, because it would be really helpful to have these things in rules versus just the utility kind of making changes on the fly to accommodate more customers, which is great, but it's helpful to also have these things in actual PUC interconnection rules. So my conclusion is that while many of the circuits on the grid are above 100 percent minimum load, we can expect higher levels of distributed PV for the next 12 to 24 months. And then I foresee that once we hit the true limits on a lot of circuits, and a lot of circuits that may have already had mitigations to allow more customers on, that I would see a rapidly declining PV market in Maui County as well as across the state. So as far as economic development in Maui County, I still think that the PV installations will be fairly robust at least for the next 12 months. But my company employs roughly 100 people as well as some outside contractors, and I would see that number, over the next 12 to 18 months, shrinking to about half the size and then getting even smaller after that. So not very encouraging, but I could be wrong. But I do think that PV installations will slow down, but that we have another fairly strong year next year. Thank you.

... END OF PRESENTATIONS ...

CHAIR GUZMAN: Thank you. So, Members, we're gonna go ahead and take a two-minute recess to reset the Chambers. Thank you. ... *(gavel)* ...

RECESS: 2:13 p.m.

RECONVENE: 2:16 p.m.

CHAIR GUZMAN: ... *(gavel)* ... The EAR Committee is reconvened. I would like to recognize the presence of Councilmember Mike White as well as --

COUNCILMEMBER WHITE: ... *(Inaudible)* ...

CHAIR GUZMAN: --Councilmember Don Couch.

**ECONOMIC DEVELOPMENT, ENERGY, AGRICULTURE,
AND RECREATION COMMITTEE**

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COUNCILMEMBER COUCH: Good afternoon, Chair.

CHAIR GUZMAN: Thank you for joining us. Before we begin, I wanted to basically go down the panel and have each of you give a brief opening remarks and just to identify yourselves once again to place a face behind the voice. And we'll go ahead and start with the Department of Management, Kal Kobayashi, Energy Coordinator, and we'll just go down the line.

MR. KOBAYASHI: Thank you, Mr. Chair. For the Administration, Doug McLeod will be giving the opening statement.

CHAIR GUZMAN: Okay, thank you. Doug, go ahead and give us a status of the County in terms of your role as Commissioner.

MR. McLEOD: Thank you, Chair. And, if you don't mind, what I'd like to start with, as I was sitting there listening to the PowerPoint presentations, I really felt there were one or two points that you, as the audience, would really wanna know so that you can have some context for the information you're getting. You know, I think you saw a number of people make comments essentially talking about kind of a change in attitude with MECO. And so that the piece of information I think that was not said explicitly is that there was a really a major order issued this year by the Public Utility Commission. And we need to talk about that because I think that it does connect to some of the other things that you're hearing. So in that order, what had started as a fairly routine rate case--in which, to be honest, the County was not raising major objections along the way--became a case in which the PUC rejected the company's rate request and, in fact, required a refund. And when you read through the order from the Commission, what you could really sense was a level of frustration that things weren't being done that, you know, really seemed to make economic sense or common sense. And since that order was issued, we are taking the optimistic approach, because we have seen some change, you know, with the utility and it does seem like there's more of an openness to talk about some of these things. I would, in particular, point out that on the utility's charts today, I saw the word "fairness" listed at the very top of one of those charts. And that's not something that we're used to seeing, but it goes to some of the major issues that are really coming up with the utility. So, again, as far as what you need to know for background, you need to know that the PUC did issue this order and that it was, in essence, viewed as punishment or a reaction to the ways that the utility had been participating in some of these processes. The second thing I think you need to know that maybe wasn't clear from the presentations is that the major change for solar from the homeowner's perspective is that, in the past, you were told that if you were willing to pay for a study that it was, theoretically, possible to kind of study your way out of a problem. And what has changed here is that the utility has gone and said that for certain circuits, we will not accept a study, that door is shut. And it was a very important distinction because, for most of the time period that these interconnection studies existed, the people were batting 1,000, every single one was going through. So it was viewed by people, in a practical sense, as a burdensome thing; but it was possible if you persevered to get solar. And the real difference, now, is the IRS is off the table as

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an option once your circuit reaches a certain level of penetration. So, again, it's a complicated situation because they are now using a metric in measuring solar that makes more sense and will open a number of circuits up. But, again, what the Council needs to know is there are also people at the other extreme who have simply been cutoff here in terms of options. The option that did exist before, the interconnection study, you know, now seems to be off the table. As far as more general introductory remarks, we spent the last five years working under the Hawaii Clean Energy Initiative, the HCEI. And in a field that moves as fast as renewable energy, five years is a long time; long enough to reveal certain aspects of HCEI that are flawed, well, at least playing out in unanticipated ways. You know, first the good news. HCEI imposes mandatory, renewable portfolio standards, and you heard about those from the utility. These RPSs, as they're called, require increasing levels of electricity to be made from renewable sources. The first target is 15 percent for 2015; and, as you saw, the utility has already gone past that target, comfortably. I say this is good news because we've already achieved the RPS levels through the year 2020 here in Maui. We're not quite at the final 40 percent level; but, in all honesty, I expect it will be in the range of 25 to 30 percent if we can use the curtailed, wind power more effectively. I think that last year we didn't have a full year of operation from all of the wind farms, and as we get 2013 data, we're probably, again an estimate, in the range of 25 percent renewable energy. So, again, a lot to be happy with. In the problem areas, there's another part of HCEI outside of RPS that relates to energy efficiency, and it creates what are described as energy efficiency portfolio standards; these are known as EEPS. And the EEPS were presented to the public as a way to get us to what was described as 70 percent clean energy. And when you think about it, solving 70 percent of a problem is fundamentally different than solving 40 percent of a problem. In our dealings with the public, we try to avoid using the 70 percent number without a really detailed discussion, because there's several issues with EEPS, not least of which is the fact that they're not comparing the amount of power used by the same customer at different points in time. EEPS is not a failure of the HCEI so much as just an area where savings were, perhaps, overestimated. First, a word here about energy efficiency, and sometimes in the business we call it EE. It's incredibly important, early in the transformation from oil to renewable energy, EE as it is called is always the lowest cost way to make electricity. An aggressive use of EE early on helps to size the utility operation correctly. On an ongoing basis, EE is the way to avoid needing new utility units to compensate for natural population growth. There are limits to what you can do with efficiency, however, and you'll quickly find that it is no longer always desirable to lower energy use. What's a good example? Solar. The utility's allowing people to add grid-tied solar based on a percentage of the load on a circuit. If you drop the daytime minimum load due to efficiency projects, you have the unintended side effect of limiting the number of your neighbors that can get solar in the future. One area of HCEI has been probably closest to being an outright failure, and that comes in the area of transportation fuel. HCEI had a goal to reduce the amount of fuel imported for transportation by 70 percent. And we've heard from Pacific Biodiesel, which is a fantastic company headquartered here in Maui, and really, you know, highlighting one of the areas of relative success; I'm calling this out as a failure primarily because of jet fuel. We simply have not had progress in terms of coming up with available substitutes for jet fuel. And as you look at what's being brought here into the island, that is really critical to the visitor

