Economic Incentives Workshop Q & A Session (June 15, 2009)

1. Chuck White (Waste Management) - "My question is related to the issue of the Renewable Portfolio Standard and greenhouse gas (GHG) reductions that may be associated with the development of renewable energy projects and how those are connected or not connected; or bundled and not bundled. The example that Syd talked about was this anaerobic digestion process where you're basically getting GHG reductions associated with where the waste would have been managed, for example in a landfill and the methane that would have come off that landfill, but in addition this project would also produce power that would be a very low carbon power, it would be a biomass power and Syd's protocol doesn't address those GHG reductions that are a result of displacing power that would have otherwise had to be provided by fossil fuel or other energy sources that make up the California grid. So, I think, Syd, and correct me if I am wrong, you say that is already addressed with other programs like the Renewables Portfolio Standard (RPS), for example, the anaerobic digestion project would sell power to a utility, they would get RPS credits and so that's how they would get the money as a result of reducing GHG's. And I guess my question is primarily then to Mr. Leaon, is that the way it works, is that really what the intention is that GHG reductions associated with renewable energy projects are totally subsumed into the RPS or is there potential opportunity for additional credits to be generated through these types of anaerobic digestion (AD) projects that can produce renewable power and also generate GHG reduction credits in addition to RPS? And I've never really heard a clear answer from anybody. And maybe I'm in the right forum, but exactly how the RPS meshes or does not mesh with potential GHG reductions. I don't know maybe Lucille might have some thoughts about that as well? Thank you very much."

    A. Syd Partridge [Climate Action Reserve (CAR)] - "Actually I think Lucille might be a better person to answer this question, but my understanding is that for RPS projects they don't create offsets because they're under the mandatory program. So you couldn't participate, or you couldn't sell offsets in the voluntary market from an RPS project and the environmental attributes that are generated with that particular project are retired along with the energy for compliance purposes so they're bundled."

    B. Lucille van Ommering, Air Resources Board (ARB) - "This is something that sometimes confuses people. When we talk about the electricity sector, there are sources within the sector, like the power plants. There are sources outside the cap, that are part of the electricity sector, so in this case, if landfill gas was being used to produce electricity and the landfill itself wasn't in the cap and trade program, it would still be considered part of the electricity sector, in that respect, and therefore, would not be, there would not be offsets available for that."

2. Tim (County of Santa Cruz) - "I have related question. I hate to pick on Lucille, but I think you're the best person for this one as well. As the cap and trade concept has evolved, a lot of us in local government have been watching and waiting to see what will be, if any, a lot of our GHG reductions fall to local government. Whether it's maintenance of parks or open space, fire suppression, food conversion, waste diversion, landfill management, a whole host of things. I was hoping , really, that Syd was going to answer that in his presentation, but he kind of left us hanging with that underlined word, may. And I'm wondering if you'll have anything further to say whether there might be set asides or offsets for local governments to participate in this program?"

    A. Lucille van Ommering - "Yeah, and actually that's a kind of a follow up to what I just said. You would not be eligible for an offset. We are as I mentioned before, looking at the question of a set aside. In that case, what a set aside does is it takes somebody who is the sector, that is not necessarily in the cap, and gives an allowance to a particular project. Whether it is from a local government's side or a voluntary renewable project or proponent who is aggregating a whole bunch of them. It gives them the allowance to sell back into the market, which because it has a value, can recoup some of its investment. What we're trying to figure out is, number one, and we had a public meeting on this the other day, whether we allow renewable energy projects to be sold back into the market or just retired because that is green power and you want retain that green power classification, but other types of projects, such as energy efficiency or other types of ways of reducing waste in a landfill can be a good example of something that would constitute a set aside. And if that were the case, what kind of documentation would we want to see. When we've met with people we, especially with local governments, we try and tell them that cap and trade is not necessarily a silver bullet, that in order to be able to give you an allowance it also comes with a lot of requirements that also cost money. There are some people in the business who say they can do the documentation, they can do the tracking at a relatively low cost to the people who can't do it themselves. We'll see, but we do want to establish some kind of documentation so that in fact we make sure that not only are those reductions permanent and enforceable but that they can't just be turned on and off. There has to be some kind of auditing function associated with that. We also want to establish in the regulation some kind of criteria by which we would allow such projects to be proposed. If we're only talking about maybe one to two percent of the total cap, we think it's a manageable number."

3. Chuck Helget (Republic Waste Services) - "Kind of a three part question, so take notes because this is going to be tough to follow, I think. First of all, I'd like to get a reaction from all the panelists on this. From the programs that we've discussed today and the tying it back to organics diversion, how much organics diversion do you envision from the various programs that we've talked about today? How much cost is going to be related to those programs? And where are we going to get the money or who do you envision paying for those programs or how are we going to get the money to pay for those programs because I think today in the reality of this economic environment that we're living in, there doesn't appear to be a surplus of revenue floating around to fund additional diversion or organics diversion."

    A. Syd Partridge - "I'll start. From my perspective that is the role that we look to play, is to provide some extra incentive, some of that extra finance to these projects that otherwise are basically not viable. Not economically viable. That's one of the reasons why we chose organics in particular is we feel it's a sector that is ready to cross that threshold from sort of pilot scale projects to sort of a larger scale type of project. I can't specifically comment on the financial system right now, but from a market perspective, from a carbon market perspective, the organic diversion industry is sort of prime for using the carbon market to take that first step to get some of these projects off the ground."

    B. Mike Leaon [California Energy Commission (CEC)] - "That's a really great question. From the renewable energy standpoint and the RPS program one of the challenges have been there's lots of contracts in the pipeline, but the projects aren't getting built and a large part of that is financing. The project developers have to go out and get financing for those projects. The feed-in tariff program, that I discussed, Europe and particularly Germany and Spain, have been very successful in developing renewable energy projects through a cross based feed-in tariff program that looks at the cost of generation by technology and establishes a tariff that covers that cost plus a reasonable rate of return. And that's the direction that the Energy Commission is heading in and their 2008 IPER update they made a recommendation for a cost based feed-in tariff for projects up to 20MW. And where the funding is going to come from that it would be from ratepayers. That's where the money would come from. But I also think you have to ask yourself, what are the cost impacts of doing nothing in regard to the climate change and so it's a difficult balance, difficult question to come up with a definitive answer to. Specifically in regards to cost the CPUC has just released a report that does look at the cost of meeting the 33 percent goal. You can look at that report, it's on their web page, it's a significant investment both generation projects and transmission on the order of $110 million dollars. I don't know that we necessarily from the Energy Commission standpoint agree with all of the factors that went into that determination, so may not agree that it'll be quite that much, but for renewable energy I think the most effective thing we can do is to move to a cost based feed-in tariff to support renewable energy."

C. Paul Yoder [Solid Waste Association of North America (SWANA)] - "I'll just take a quick stab to what Mr. Leaon even said. In terms of the amount of diversion, I think, with all due respect to all these wonderful programs that's primary focus is to really clean the air and produce renewable electricity I don't think you could expect quantifiable diversion in organics any time soon. And so, unless I'm missing something, I don't know that any city or county would start writing into its 939 plan, for example, "We're going to access this program. We're going to access these funds. We're going to achieve 10% diversion by 2015", let's say. I think more work needs to be done in terms of examining; this workshop is a good start, in terms of examining demonstrably how cities and counties can get that diversion credit. In terms of who pays, staff has laid out a couple different options at the back of their background document; it's basically a statewide tip fee, local tip fees or EPR. SWANA has supported EPR, supported the Wes Chesbro bill AB 283 and I think that's really the direction that a lot of people need to go and more people need to get behind, because it turns everything on its head and enforces the fee in a different way, forces the payer in a different way. In terms of tip fees whether you apply it statewide or apply it locally or one versus the other, I should say, I think most local governments would tell you that they don't want the state to impose additional tip fee, because ultimately they get less than a dollar for a dollar. They get 95 cents on the dollar and 90 cents on the dollar and I think they'd rather just impose locally and get a dollar for a dollar, so those are just some other things that need to be wrestled with when you're talking about diverting organics."

4. John Cupps (Independent Consultant) - "And I guess my question is best directed to Michael Paparian, with the Energy Commission. On the, and I guess it's a follow up to Chuck White's question about the RPS portfolio standards and selling into that system and, if I understood you correctly, in essence if you're getting RPS credits, then what

you're saying in essence, is that's a mandate and so there are no other green, there are no other opportunities for obtaining additional revenues for the green benefits of renewable energy above and beyond that RPS credit, so to speak. Is that accurate? (Michael Paparian - "Yes, that is accurate. Yes.") But then, I guess it strikes me that your market price referent is based upon generation from natural gas, which admittedly is clean, but it certainly does not have the same environmental benefits of biogas, if you will, and so there's some, there's an additional green value to that biogas that is not reflected in the market price referent that is currently being offered through either the standard or negotiated contracts offered by the major utilities. And realistically until there is some way to monetize that additional, you know, green benefit of biogas compared to natural gas in the RPS system, you're not going to see any real project development, so, I guess in follow up or to specifically get to the question, in your presentation there was a footnote that apparently the utilities have the ability to offer prices above the market price referent, but in the footnote to that it said basically PG&E and SDG&E funds were all gone or all used up. Is that funding source renewed on an annual basis, you know, how large is that fund where they can pay those above market prices?"

A. Mike Leaon - "Well in regard to the above market funds, that's a good question. Yeh, two of the investor owned utilities have exhausted the amount of funding. The funding comes from rate payers, I do believe it is renewed, but I'll need to check on that specifically, so you might want to give me a call on that one. In regards to the market price referent, is it recognized that it is a weakness in the RPS program and, again, that's one of the reasons the Energy Commission has recommended a cost based feed-in tariffs, which I think would capture those attributes by paying the generator the cost of generation and helping the generators to secure the financing that they need to develop that project.

5. Howard Levenson [California Integrated Waste Management Board (CIWMB)] - (tape change cut out beginning)"… tax exempt bond financing that a lot goes on there. Are there discussions going on federally about expanding that or are there things that the congressional delegation ought to do or things the Waste Board ought to be involved in or is it pretty broad as far as you're concerned?"

A. Michael Paparian [California Pollution Control Financing Authority (CPCFA)] - "There have been discussions going on for several years and they're on-going. The IRS has promised a number of times to come up with some revisions to their definitions of what they consider to be recycling, but they haven't yet. I think their latest is they're going to say they're going to come out sometime this year, but they've been saying that every year for the last few years. More broadly, though, at the congressional level, I mentioned there are about 15 categories of the projects that do qualify, if they're privately owned, for this preferential financing through tax exempt bonds. There is an effort that the Treasurer's office is very actively engaged in, in trying to add renewable energy projects and energy conservation projects to the list of those things that qualify for tax exempt financing. Congressman Mike Thompson has been helping take the lead on pushing for that, either in context of some of the climate change proposals going on in congress right now or perhaps if there is some other opportunity through some energy legislation.

6. Arthur Boone (Northern California Recycling Association) - " Mike, on your fifth slide, you talk about 10 million dollars as the income. I think you mean sales there, right? You don't mean profit. (Mike Leaon - "Gross revenue, thank you.") Thank you. The other question regards to Mr. Yoder, my understanding was that the South Coast Air Quality Management District had backed off on its search for emissions from compost yards in their district, and I think that was correct, but can you confirm that?"

    A. Paul Yoder - "I think that's right and I think that San Joaquin, who I also mentioned is actually, maybe the best way to put it, is trying really, really hard within the letter of the law to try to not shut down or have to really restrict compost operations. The point I was really trying to make is, they've gone there already, they may have to go there again in those issues, but right up to one another, if not overlap. I think everybody, especially when you're in a California Environmental Protection Agency (Cal/EPA) building, under one umbrella; everybody just needs to be conscious of how the issues interact.

    "Ok, and to the man from the Climate Registry, the Chicago Climate Exchange recently essentially agreed, as I understand from Sally Brown, that all of the methane that would be made before the gas collection system is installed in a landfill would be considered lost. It's not part of the package, it's not part of what the landfill can claim to recover and does your organization intend to follow that lead or are you consider yourselves, are you providing an alternate market to the Chicago Climate Exchange?"

    B. Syd Partridge - "In general we're taking a similar assumption. In order to deal with landfill gas collection systems you have to make some assumptions on when they come online and when gas starts being collected in new cells of landfills. So, we are taking, our draft right now is taking a similar approach in that for the first couple of years after waste has been deposited into a new cell it's likely that that will be emitted to the atmosphere, minus an oxidation value.

7. Greg Stangle (Phoenix Energy) - "I just had, sorry to beat a dead horse, but again a follow up to the questions earlier we find with distributed generation systems that it

doesn't really make sense to export into the grid, what you really want to do is capture that retail power so you're avoiding the customer's 18 cents, but you're still going to end up exporting a marginal amount at this 11 cents. So what we find is we're RPS eligible but maybe only 10 percent of the power is flowing to the grid. Are you saying that that RPS eligibility and that sale of 10 percent of your revenue invalidates any type of carbon reduction, GHG offset that could be available to the balance of the project?"

A. Syd Partridge - " Let me just quickly comment on our program and sort of the reason why we do not provide additional credits for the offsetting of fossil fuels, and it is because there is too much of a chance of double counting those credits if you're providing credits for offsetting fossil fuels then the actual reductions are taking place at a power plant somewhere that's actually under a cap. So, to avoid the double counting issues that's why we don't provide additional credits for fossil fuel displacement. But that's about all I can comment on from my perspective."

B. "I don't know that I have much more to add to that. If you're part of a, again I think the crux of the matter if you're part of a mandatory program, you can't play in the offset market."

8. Brian Mathews (Alameda County Waste Management Authority) - "Kind of a follow up on that, the mandatory program, if a jurisdiction implements a food scrap collection program and we use money to, or the stick or removing money if they do not participate in that program. Does that make it mandatory?"

   A. Syd Partridge - "You're bringing up all the issues that we're struggling with in our work group actually. That is another issue we're going through is from a typical standpoint if it is required and there's a financial fee, or financial inducement of some sort, or a penalization for not doing so then it's typically not considered voluntary and not eligible, but the specific scenario you mentioned is likely to occur with food waste projects where, you know in order for a digester to get off the ground they have to have guaranteed feedstocks essentially. And the only way to get that maybe through mandatory diversion in local communities. So we're sort of wrestling with those projects still could be additional under an offset program, but there has to be some sort of, some stringent language around what we would allow and what we wouldn't allow, to sort of weed out those projects that are just riding on the backs of mandatory legislation versus the projects that are actually truly additional(??)"

   "Thanks. And then for Lucille, I notice in your pie chart that only 6 percent was residential, 40 percent was transportation and almost half was the electrical generation.

Has the Board considered doing cap and trade on the residential level where individuals can participate, because they're making the consumer decisions of where they're getting electricity from, whether they're installing solar panels, are they buying electric cars, or whatever else. And if the individual was able to participate, I know the reason for going to industry is that they've got the big dollars, they can make these things happen, but they all get push back to the consumer anyway, so if the consumer had an incentive to be able to participate in the cap and trade or in offsets or whatever, like say if the next time I buy a car I'm getting half of an offset credit, or if I install solar panels I'm getting full offset credit because the system allows twenty years, there would be an additional buying or voting with their pocket book and getting these programs online much more quickly."

B. Lucille van Ommering - "Yeah, few responses to that, a few points. Number one we are not going to have a cap and trade program for 35 million Californians. The whole purpose is to create incentives to get the reductions by establishing a cost to those GHG. Now if you can put the point of regulation, right now we've got about 800 facilities that are reporting their emissions, and we feel that's manageable. To then start adding to that all consumer's transportation fuel and all households would be completely unmanageable, we can accomplish the same purpose by Imposing the costs at the distributional level, in this case the local natural gas facility or at the refinery or importer of fuel level, who in turn will pass along the cost to the consumer. The consumer then has a number of options, one of which, in the case of transportation fuels, is to buy more efficient fuel. Another one is to carpool or take public transportation or to incur the additional costs. The data shows, that in fact, in fact the most recent data when you went to $4 a gallon, people looked for other ways of transportation. Similarly, with regard to natural gas and electricity, as the price is reflected in the cost of the electricity or natural gas that you consume at the commercial or residential area, you start looking for ways of conserving the electricity or natural gas that you use. Now that the thing that we are, that we have in the state is a very active, aggressive rebate program that the utilities use with their customers so that there are inducements as well as choices for the consumer, when they get appliances they get rebates. I think that will not even continue, that will be accelerated and expanded so that there will be even more inducements to go to those more fuel efficient alternatives. Finally, as I mentioned in the auction the monies that go to the state are not just kept in the state, we just recently announced the establishment of an economic and allocation advisory that's composed of a number of very influential economists and policy experts who are going to be advising our board as to what are good ways of redistributing the revenues from the auctions in such a way as to go back to the people who incur the greatest cost, which is the consumer. So again those costs that are incurred by the consumer will then be somehow the revenues from the auction will be redistributed back to them in a number of different ways, none of which have been decided, but there certainly have been different discussions or ideas proposed, including a cap and dividend approach similar to what Alaska does, they just cut a check to each household based upon the taxes that they get from the revenues from taxes they impose on the oil industry, that's one alternative. There could be a number of different alternatives that we look to in order to be able to pass that revenue back to the consumer's pocket book. "

9. Email question from Dianna Mckinn (Town of Apple Valley) - To Lucille - "Is it the ARB's sense that offsets will cost the same as allowances that will be available for purchase? Will the cost of offsets be regulated under California's cap and trade program?"

    A. Lucille van Ommering - "The whole purpose of the offset is really as a cost containment mechanism and that is that since those sectors are uncontrolled, the idea is that they could actually make the reductions in a more cost effective way than sources who are in the cap can make it. So the idea is to go out there and purchase reductions that are cheaper and then use them to help you meet compliance obligation. In terms of regulating cost, no. There is no sense that we will regulate the cost, however, of the offsets what we would though is to work with organizations, like CAR and The Climate Registry to make sure that whatever those reductions are that they can be documented as being real, permanent and enforceable so that the buyer of those offsets knows that what they're getting is a good reduction."

10. E-mail question from Cheri Chastain (Sierra Nevada Brewing Company) - "Are any of the presenter's aware of any other incentives for businesses with more than 100 employees to purchase or install composting equipment? We are looking to purchase equipment to compost post consumer food scraps and other organics onsite since there is no

regional facility in our area capable of accepting this material. We are looking for incentives, tax credits, etc. to help offset the cost so we are not sending this material to landfills."

A. Michael Paparian - "In a situation like that, they might qualify for industrial development bonds or some of the bonds I described. And again, over about 2½ to 3 million dollars in costs would make the most sense for something where you'd issue a tax exempt bond. And again, it's lower cost financing, like when you buy a home and you get a lower interest rate, you're very happy. A lot of us refinance our homes to get that lower interest rate; it is something that is advantageous over time. I'm not sure if the Waste Board still has something that might help in a situation like that?"

B. Howard Levenson - "Waste Board still has its Recycling Market Development Zone (RMDZ) loan program if the facility is in that zone. We used to have a recycling investment tax credit, that sunsetted over ten years ago, I think. So that's a policy issue that ought to be explored in the future."

C. Paul Yoder – "I just want to add to that Howard. That's the point I was trying to make in my opening remarks. We all should have an answer to her question. It's important to business in that part of the world, it's one of the biggest employers up there, it's important to the elected members of the Chico City Council, to the elected members of the Butte County Board of Supervisors. The next time she asks that question we should have a good answer for her or anybody like her. That's the point I was trying to make earlier. Thank you."

11. Email question from Ari Eldon (Kennedy Jenks) - directed toward Leaon - "You mention that the American Recovery and Reinvestment Act (ARRA) 2009 renewable energy grants that will be made available through the US Department of Treasury. The details in your presentation seem to be rather vague. Do you have any idea or information of when and how to apply for the grants? Who and what types of projects will be eligible? Also in an ARRA funding opportunity was released by the Department of Energy (DOE) called Recovery Act Deployment of Combined Heat and Power, or the Combined Heat and Power (CHP) Systems, district energy systems, waste energy recovery systems and efficient industrial equipment. There is a specific area of interest, number 3, called waste energy recovery, this description reads: the term waste energy recovery means

the collection and reuse of energy from resources, such as exhaust heat or flared gas from any industrial process, waste gas or industrial tail gas that would otherwise be flared, incinerated or vented. Is anyone familiar with this opportunity? And do you think that an anaerobic digestion project, which co-digests food waste, fats, oils, and grease (FOG) and biosolids at a waste water treatment plant would qualify, assuming the treatment plant currently fires their digester gas?"

A. Mike Leaon - "I think perhaps it would be best for me to have an offline conversation with her on those questions, as I don't have a detailed response, but would be happy to talk to her offline and work with her to hopefully find some solutions for her."

B. Michael Paparian - "There was a series of types of facilities that were mentioned and all of the ones that were mentioned are, as I heard them, are among those that qualify right now for tax exempt financing. District heating and cooling, anaerobic digestion, the food waste incorporating that, all of those are in the realm of qualifying now. I'm not sure what the specifics in the ARRA, although the ARRA did expand slightly the types of tax exempt bonds that are available, but all of those projects do qualify right now and I would be happy to talk offline if that would be helpful."

12. Nick Lapis[Californians Against Waste (CAW)] - "I have a question for Lucille. I have a question about the set aside, that you mentioned, I really didn't think you were going to go into them, but I think it is an appropriate forum to discuss this issue. Traditionally, set asides have been considered for renewable energy projects, potentially for energy efficiency in low income developments and things like that. Have you considered using set asides in cap manufacturing sectors for the use of secondary material, for instance if you are producing virgin materials and you have a set number of emissions and you want to increase your use of secondary materials, which would reduce your emissions, but you wouldn't be eligible for any offsets, would that be a good candidate for a set aside?"

A. Lucille van Ommering - "Why wouldn't you use that to reduce your compliance obligation? In other words, the extent that you're reducing your emissions onsite, you don't have to go into the market and buy allowances. "

"I guess arguably for going beyond your compliance obligation, so similarly the way a power plant would use renewable energy to meet their compliance obligation, a manufacturer might, let's just say a glass producer was using 40 percent cullet to meet their obligation might be able to use 50 percent but they're not necessarily going to because they have no way of selling a credit."

B. Lucille van Ommering - "Let's see if I understand this. Two examples, one is we're freely distributing allowances to all the sectors or all the sources in the cap, because it's at the very beginning of the program. And based upon what we think this glass manufacturer needs at the startup of the program, say he probably would operate using reasonably available control technology, probably would need a 100 tons or 100 allowances, we would give him that. If at the same time, he decides that he can actually reduce his compliance obligation, by going beyond the amount of cullet that he uses, he could take the difference in the allowances between what we gave him and what he really needed and sells them back into the market. Similarly, if it was a total auction based program, he would not have to go into the market for all 100 he would only have to go in for the 90.

"I guess that's a fair statement and I think last might be an interesting example because I'm not sure you've decided whether they're going to be regulated more under the cap or if they're going to be under direct regulations. I think that's still open for discussions, if I understand correctly."

C. Lucille van Ommering - "If the glass manufacturer is over 25 thousand metric tons, it's in the cap as a cap sector and in the industrial sector. If it under 25 thousand tons it probably would not be."

"So let's just say if they're under 25 thousand. I guess a broader question is would using secondary materials potentially be something that would be eligible to receive a set aside offset?"

D. Lucille van Ommering - "I can't answer that, but I can tell you that the concept of the set aside is to go after those smaller than 25 thousand metric tons who can reduce emissions from the regulated sector, in other words, they're not in the cap, but they're hoping sources in the cap to meet that cap. One thing to consider, and it's one thing that we understand and we've not made any decisions about. Remember that in the second compliance period we are capturing natural gas use, so to the extent that, you're using natural gas and you're under 25 thousand metric tons, you still, while you don't have a compliance obligation, are having to realize the added cost of natural gas, in the way you do business and so again, it's to your advantage to reduce the need to bring in natural gas by looking at other ways of conserving."

"I guess this is a broader conversation we can keep having, thank you."

13. Glenn Acosta (LA County Sanitation Districts) - "I just want to touch on what Paul was saying earlier as far as air regulations really hampering the development of further organics diversion facilities and this is particularly the case as a South Coast Air District where the rules are so stringent that you almost have to enclose the entire facility to be viable in the air district and on top of that there is the current freeze on public projects that have to tap into the priority reserve. And so I think it might be helpful if there is some discussion about a statewide priority reserve for priority organics diversion projects, composting, anaerobic digestion that produces power, landfill gas to energy facilities, things of that sort so you have one set aside for these priority projects across the state where the air districts would no longer have to be hampered by federal regulations or what have you."

    A. Lucille van Ommering - "Those requirements are there, not for GHG, but for criteria pollutants so to establish a statewide repository for them, really doesn't help because the emission reductions that I may be able to establish as a credit in Northern California has absolutely no influence on the air quality requirements in Southern California. And the whole purpose of the criteria pollutant program is to get the reductions within the air basin that is experiencing the harm. "

    B. Howard Levenson - "I'll just add, as I take this over to Steve, that the Waste Board has been involved with many, many discussions with South Coast, with San Joaquin, on air issues, as well as with regional water boards and state water board. Pulling these things together and figuring out ways to compare tradeoffs, quantify some of the benefits, has been really extremely difficult. And I kind of liken it to the unified field theory of physics, not something we should be trying for, but it is exceedingly difficult when you've got federal drivers, different state drivers and as Lucille said they've got non-attainment issues in particular zones, particular districts, so if there's any, I think it's great to have those kinds of ideas on the table to stimulate that discussion and we're very open to further discussion on those kinds things and what the board itself can do in those discussions."

14. Steve Schaffer (Independent Consultant) - "Two questions. First of all, I'm a member of the Biomass Collaborative as is Fernando and Chuck and one of the issues being wrestled with there that we heard a fair amount about is the opportunity to use a number of different renewable technologies, so an integrated type system or approach. Examples, PV as well as biomethane on dairies or at food processors and what have you. Biomass gasification at Russ Lester's almond orchard and PV, and there are these market barriers, in terms of syncing those up for access to the market. Any discussions with PUC or any initiatives moving on, I'd like to hear about that. The other one is what's the role of municipal utilities in terms of a market place, and what have you? Thank you."

    A. Lucille van Ommering - "I'll start and then I'll give it to you. Number one, we are working very closely with the CEC and the California Public Utilities Commission (CPUC) just because they are the regulators for the utilities, so I know that there are different discussions going on both for cogeneration as well as feed-in-tariffs, I'm not involved in them, but they are going on and we trying to remove those administrative hurdles so that those kind of things can occur. In terms of your second question, munis are part of, would be a part of the cap and trade, we don't distinguish, even though they have their own boards and they're not necessarily subject to PUC requirements, they're still subject to the requirements of the cap and trade regulation."

15. Email question from John Dewey (The Dewey Group) - On the topic of the tariff price issue and the CPUC and he states - "Obviously the MPR is not high enough to incent development." ("Which we've been talking about." - Brenda) Specific question is - "How about the timing for them, for CPUC, to resolve that critical topic?"

    A. Mike Leaon - "Well, they are engaged in rule making to expand the existing tariff offering and they haven't taken up the price issue yet, but I think that's going to happen fairly soon in that particular preceding. The question is what authority do they have to do something different from the Market Price

Referent (MPR), in terms of setting a price. It doesn't appear that they have sufficient standards authority to set, right now, a cost based tariff. This goes back to an earlier question about what authority do they have to provide payment for environmental attributes and the MPR methodology does allow them to look and the environmental attributes of renewable energy and include an adder on top of the MPR to, for instance, reflect GHG values for particular project, I believe they have done that in previous contracts. Really need to send that particular question to the CPUC to get a specific answer, and I have a contact in my presentation for the CPUC. I'm kind of rambling and losing the second part of that question. Does that address the question?"

("I think so" – Brenda Smyth)

16. E-mail question from Wayne Davis (Harvest Power) - "Could you please elaborate on the comment you made at page 4 regarding the non-eligibility of certain systems for RPS, specifically your footnote mentions fermentation. Does that mean that a process that takes food waste, ferments it under controlled conditions and produces a biogas that is used to generate electricity would not be eligible?"

    A. Mike Leaon - "The challenge for these types of technologies is that they have to comply with the guidebook requirements and those requirements specify that a facility is eligible for RPS if one is a two step process to create energy whereby in the first step, or the gasification conversion, a non-combustion thermal process that consumes no excess oxygen is used to convert municipal solid waste (MSW) into a clean burning fuel and two it is located in the state and satisfy that out of state, eh well I don't think I need to get into that. There are a few other requirements. I think the major hurdle is that that requirement that it consume no excess oxygen and the problem has been meeting that requirement."

    B. Fernando Berton - "If I can chime in. That deals specifically with non-combustion thermal process, but if it's a fermentation process that converts food waste that is something other than thermal, would they still be eligible, so biological process, because that definition there refers specifically to thermal processes"

C. Mike Leaon - “Yeah, I believe they would still be eligible, yes.”

D. Fernando Berton - “So then a biological process would be eligible.”

E. Mike Leaon -“ Yes, I believe so, again maybe that’s an offline conversation that I better make sure I have all the details.”

17. Greg Swangle - “One quick comment, with all due respect to financing being the issue for development. I don’t see that so much, what I see the biggest impediment to development is our interconnection costs and the lack of transparency. Interconnection could cost you a million dollars, it could cost you a hundred thousand, and you don’t find this out till the very last end of the road, after which time you already have to be financed with, sort of, equipment moving money on the ground. So, you know, to me, especially when we talk about biomass conversion, that’s one of the things that can be done profitably today, from a customer, from an industrial users point of view, you don’t really need more incentives to get them to see the good in putting such a system in, but the fact that you can’t tell them how much it’s ever really going to cost until the last day is a problem. So I wonder if you’re doing anything on that at the PUC, or CEC level? Thank you”

    A. Mike Leaon - “The interconnection costs are definitely an issue for renewable energy projects and the question is who pays? The developer or the utility or rather if there can be some sort of hybrid approach, where there is some sort of cost sharing that goes along with that, but it’s the California Independent System Operator (Cal/ISO) that is dealing with those interconnection issues. And for projects up to 20 megawatts (MW), the feedback that I’ve had from Cal/ISO staff is that since they connect at the distribution level it requires no new transmissions, so those projects should be able to go forward, but for smaller projects, I understand that question of who pays for interconnection is definitely an issue, but again I think that the appropriate place to go for more information on that question would be Cal/ISO. Again, I’d be happy to talk to you offline to give you the contact person over there.”

18. John Cupps - “I have another question, I guess this would be for Syd and for ARB, and that is with an anaerobic digestion project, if you were able to qualify for offsets, but then decided rather than selling into the RPS you cleaned up the gas and sold it as

compressed natural gas (CNG), would you be precluded from getting credits under the low carbon fuel standard system and offset credits from CAR."

A. Syd Partridge - "I don't believe so because I believe the low carbon fuel standard doesn't account for the actual avoided methane component of that biogas which is what we are crediting. That's why we only credit that portion. "(Syd had to leave to go to Los Angeles (L.A.)

B. Lucille van Ommering - "Actually you bring up an interesting point and that is transportation fuels, including whatever we get from the low carbon fuel standard doesn't come into the cap and trade program until 2015. There is a system of crediting, in terms of meeting that standard that has to be accounted for when we bring it into the cap and trade program, we've not resolved that yet. There are different values associated with different types of biofuels, carbon values, I believe, I'm not very closely familiar with the Low Carbon Fuel Standard (LCFS), but I believe that everything has an assigned value. There's very little that's carbon neutral, per say. So, when we bring them into the cap and trade program we need to make sure that everything is seamless and that the values that are in the carbon standard for fuels are also incorporated in some way into the cap and trade program, including if you're using CNG. And I'm not sure how that's going to work. We are having a meeting later on this month, it's been posted online, that will be talking about the transportation fuels in the cap. So if you're interested, I would definitely encourage you to attend that meeting and it's webcast as well, so you can also watch it online and give us your comments the way you're doing today, by people who are attending this one online."

19. Chuck White - "My question relates to the whole issue of how do you generate GHG credits and potential revenue from recycling, and the whole purpose of this group here is to talk about zero waste and how do we get to that point and it's always kind of been amazing to me why there hasn't been more focus on how can we generate GHG credits from recycling and waste reduction. The WARM model, which everybody talks about, isn't perfect but it does have these huge numbers. When Waste Management did our carbon footprint for California the amount of GHG reductions associated with the recyclables we collect and process vastly exceeded the emissions from our landfills that we estimate or emissions from our trucks and all of our other sources, but there's no way to get a credit for it. And a large part of GHG reductions associated with recycling

were the result of energy efficiency, that if a producer of a widget uses a recyclable material they demand less electricity to produce that widget and so therefore, I think the argument has been, well that's already accounted for in the electric power sector because they're the ones that are going to get the benefit of this reduced demand for electricity as a result of using recyclables, but how does that credit flow back to that person that makes the decision, I'm going to use recyclable materials as opposed to using virgin raw materials. And the answer I seem to only be getting so far is, well because the GHG process is going to force the increase in the cost of fossil fuels, so therefore a person using recycled material has an indirect incentive to lower energy cost by going to recycled materials, but it just seems to me there ought to be a better more direct way. I think this kind of follows up with my friend Nick Lapis's comment is how can't, why can't we figure out a way to give more direct credit to companies that are using recycled materials or using source reduction. There's the idea of the extended producer responsibility, which is more of a stick than a carrot, maybe a stick is fine, but can't we find a carrot way where someone who does source reduction, who uses recycled materials can get some sort of GHG reduction credit that is marketable and tradable because they're the ones that are actually making the decision to use a recycled material and therefore resulting in lower GHG reduction. A concept that's been talked about a little bit is maybe give a little indirect GHG reduction. The same way that when you turn on the lights you're not generating GHGs here, they're being generated by the power utility, SMUD, someplace. Well, using recycled materials you may not be directly resulting in GHG, but you're creating a demand for lower electricity and maybe like you're getting indirect cost, indirect GHG penalty for using electricity, maybe you can get an indirect GHG credit by using recycled materials; it would be worth something on some kind of market. And I just don't understand why there hasn't been more discussion about trying to create, if we have a zero waste concept here at the Integrated Waste Management Board, and we have this emerging GHG program, we got all this discussion about how much GHG reductions are associated with recycling and source reduction why there isn't more of an effort to make that direct connection. That's a long question I guess, but…"

A. Fernando Berton - "Yes, and actually that's a good segue after answering, if the panelists have a response to that, we ask that you stay. I think that's a good transition into our discussion on, I think broader topics for this workshop. Including some policy recommendations that may have an economic downstream benefit. It's not just economic incentive, maybe some policy incentives that have an economic effect. Any responses to Chuck?"

B. Lucille van Ommering - "All I can say is that the advisory committee is looking at ways of redistributing auction revenues and that would be a perfect question, they're all public meetings by the way, I believe the beginning of July. And again I keep emphasizing that the cap and trade program is not supposed to be the silver bullet, if there are other ways of recognizing, acknowledging, or otherwise getting incentives to these companies or consumers for the stuff that they're doing that involves increased recycling or use of recycling materials, then we ought to look at the broad variety of ways we can get those incentives in place, but the cap and trade program is really intended to put a price on sectors that are using fossil fuels in the market and to some limited extent, allowing for the use of set asides to further encourage what would otherwise be required of these sources. So in other words, we're not necessarily looking to get additional energy efficiency from the sources outside of the sector, but we're helping by the set aside to, because they're so aggressive, we've hoping to get to energy efficiency types of projects in underserved areas where the utilities can't seem to do a good enough job themselves. That's kind of a short answer, there's a lot to it, but we're trying to make things more achievable by helping the sources in the cap to get those reductions."

20. Art Boone - "I really have more of a comment, I didn't have a clear idea what was happening today, I was asked to come and on the train coming up here I was thinking about what the real issue is from my perspective, is the disincentives. Ok? I'm going to tell you about a couple of them, so you're aware of it. In Orange County, the county takes all the shredded green material at the public landfills without charge. They take like 12-18 hundred tons a day and use it as alternative daily cover (ADC). Does anybody talk about that here? No. Can compost yards get going in Orange County? No, why because they can't compete with free dumping. What's the board of supervisor's doing? Are you talking to them? I don't think so. Two years ago a big apartment building in Oakland asked me to come and evaluate, do a little consulting work, ask me to evaluate them for a more intensive recycling program. I came up with a big proposal, the manager of the building looked at it and he said "I have to pay the same rate whether I recycle or not." The City of Oakland used to charge everybody in multi-unit buildings, more than 8 units, by the actual cubic yards of material that went out of that

facility. Probably because the city started feeling poor, what they did was say everybody pays a per unit charge in a multi-unit building whether you got 2 yards a week or 10 yards a week. So the manager of the apartment said "I get no gain from this, looks like a lot of work. We have a chute that gets everything to the basement. We got to pay the same whether we make 6 tons a week or 12 tons a week. I don't care." And that was the end of the discussion. That's a disincentive, that's local governments decision, but that's what you have to deal with. Market based recycling. In Oakland we have 10 people who pack cardboard and other waste papers, we have 7 companies that pack glass and metals and all that kind of stuff. Those businesses have been there for years. Population of California has doubled since (end of tape)…those businesses in all those towns that didn't exist 50 years ago, 30 years ago, but those are the people that make the engine of recycling work in Oakland because people running pickup trucks are out there. A guy says "this is my Reno money" - these are not poor people. These are people who can afford to buy a truck and keep it going. They patronize those operations and in 1989 when I spent 2 months at Davis Street Transfer Station there wasn't very much cardboard in the trash because it was all going to these people. And to this day the state and nobody else has figured out how to enable this. We don't have these kinds of facilities that are privately owned and operated, that are working in the market. We don't have them in a lot of the newer parts of the state and we're doing very little. I say why can't the city figure out a way to take the hotline, call these private businesses up and then contact the people doing the hauling. Do they know where they're picking this stuff up? Probably not, but maybe they can find out. So somebody calls up from some part of Piedmont and says "I got a lot of cardboard every week, our guy runs this truck in that area. Can we find a way to tie that? " Nobody's doing that. So there's all these disincentives that exist because the system that exists today doesn't work very well. Saint Vincent DePaul is another one of my clients, they have a feeding room at Oakland, and they make about 12 hundred pounds of food debris a week that they want to get rid of. When they go to talk to Norcal or Waste Management to haul that material away, they want to charge them about 80% of what they charge them for hauling garbage. Building manager, he's got people learning the trade of being culinary people, he's got excess people working off tickets working for him, he's got 300 people a day coming in there to feed. He's upset about that, he wants a deal. I go to East Bay Municipal Utility District, and say "Hey, you're supposed to be running this composting program and anaerobic digestion stuff. I can buy them a trailer if we can load that stuff up and take it in there." I've talked to 5 different people at East Bay MUD and everybody tells me a different story, and the food waste is still going to the garbage. They've got a truck, they can drive the trailer and all that stuff. So there's a lot of problems on the local level that have nothing to do with offsets and all this other kind of stuff. And I think that unless this is looked at and identified and talked about, that we're not really gonna get very far in a lot of this moving forward. Thank you."

21. Terry Brennan (California Integrated Waste Management Board) - "There's a lot to talk about digestion, anaerobic digestion and it's very popular now. Of course the Board's been promoting the use of compost for a lot of other benefits as well. Do any of your programs that deal with anaerobic digestion require diversion of the digestate, the resulting material after you do the digestion? We're focused so much on energy here and recovery of the gas, which is good, and there is a reduction in the amount of the material that would go to landfill if you have, say co-digestion at a utility, at a waste water treatment plant, if you couldn't market the resulting material because it's a biosolid based material. You know, it sort of defeats the purpose of the Waste Board trying to keep this stuff from a landfill if that's where it ends up going anyway. So do any of your programs require that the digestate is also diverted? If you get funding to set up an anaerobic digestion program, I mean you could put a requirement in there that the digestate also has to be diverted."

    A. Fernando Berton - "That's certainly something I don't think the CEC, I don't want to speak for Mike, but being somewhat familiar with some of the programs, I don't think they look at the downstream management of the materials. (Mike "no we don't") Yeah, so is that something that in coordination with the Waste Board that we could look at - that whole process holistically for the overall benefits."

"Looking at even the bigger picture, you know. The use of the organic materials in soils reduces consumption of fossil fuels because you use it for fertilizers, for pesticides, herbicides; all those things are reduced by getting the best use out of the material itself. So I mean bigger picture."

    B. Mike Leaon - "The requirement that the CEC has is that the recyclables be sorted from the feedstock prior to the conversion process."

22. John Cupps - "In looking at the 118 program, isn't there some type of sustainability review associated with the use of those funds?"

A. Mike Leaon - “Yes there are sustainability requirements, I don’t know the details of those requirements.”

“An argument that you made that if your anaerobic digestion process results in a digestate that is not good for anything else but dumping it back in a landfill, that’s really not quote/unquote a sustainable program as opposed to those processes that result in a digestate that actually can be used for, you know, composting and the liquids can be used as a fertilizer. But that hasn’t been factored into the…”

B. Mike Leaon - “As I say, I don’t know all the details on the program. I do know that there are sustainability requirements, but I’d have to refer you to the program staff working on AB 118 for specifics on that.”

C. Fernando Berton - “And John, I have some contact information for the AB 118 staff if you’d like.”

23. Brian Mathews - “So Mike, kind of following up on that question or the previous question about source separation of the material prior to digestion. If you were to just do a wet/dry, in taking your wet loads to digestion with some kind of pre-processing, would that qualify? And then my second point is, Lucille, I think that if individuals or smaller entities could get cap and trade credit, Mr. Boone’s concern about Saint Vincent DePaul, he would be incentivized to participate in the program, you’d have a broader understanding of what we’re trying to accomplish rather than just kind of creating these hurdles that, I mean just seems like it’s a big hurdle with the cap and trade system that only big boys are going to be able to play.”

A. Mike Leaon - “In response to the first part of your question, Brian, there is a distinction and the guidelines, RPS guidelines between MSW and biomass. For MSW the waste has to be, recyclables have to be separated from the waste. For biomass, you don’t have that same restriction, so that feedstock, I’m not sure what you meant by exactly wet/dry, but I don’t think you’d have an issue there.”

24. Greg Swangle - “My comment was getting back to Michael and you certainly threw up a lot of programs that I wasn’t aware of before, so you might have rendered this point moot, but what I find for distributed generation is that the biggest impediment is a lack of guarantee programs that qualify for programs of smaller size. Federal EPA, the fee

structure is based on $150 million project, well if you're doing 1 MW that's just not even, those programs aren't even relevant. When you had asked for policy concerns earlier, one of mine was the lack of guarantee programs available for smaller projects, but I'll be very interested to check out CalCAP."

A. Fernando Berton - "Actually, I've got a quick question, on the, there's been some discussion about grid interconnection and regeneration, and I know that with the accelerated to 33 percent by 2020 RPS, one of the choke points that I've read about is the transmission lines. You know, it's one thing to produce the energy, it's another to deliver it. So, is any of the financing that's available through the treasurer's office or anywhere else, can that pay for interconnection? And some of those kinds of things? I just don't know. Mike would you know? Or something to incentivize distributed generation as opposed to using the major grid."

B. Mike Leaon - "Um, who would own it? And the reason I'm asking that is, if it was a government entity owning it, then that government entity, if it can show a revenue stream ought to be able to finance that. If it's a private entity and they can show the income stream again they ought to be able to finance it. I think that the challenges are more on the energy regulatory side as I understand it, but I may be wrong, maybe getting into an area I don't know enough about, but in terms of can they make the generator and the utility they're tying into create enough of an income stream that it makes sense to be viable. If it's a private entity owning that it is possible to get bond financing that isn't tax exempt, that's taxable bond financing. But in most cases it probably would make more sense to get a conventional loan. I have a sister agency, the Alternative Energy and Advanced Transportation Financing Authority, that does have the capacity to do bonds in a situation like that, but again it might make more sense to go with the bank loan arrangement than a bond. "

25. Art Boone - "I'm also on the Energy and Climate Committee of the Sierra Club for the State of California, and for 100 years we have been dependent upon the electric utilities to create and distribute energy for us and they have increasingly found places far away from where we live to make that electricity. And they have distributed a lot of the electricity to us on the existing transmission grid. As we talk now about alternative energy being produced, people like to talk about the desert. Sierra Club has a

committee specifically focusing on the question are we going to have all the desert tortoises basically overrun by power lines, is that the plan? Is that what the future is? A group in Oakland called Bay Localize did a survey recently of a section of Oakland and they tried to figure out if you put a solar panel on every roof in this neighborhood, what percentage of the power needs of this community would be met by what's on the roof? What do you think that number was? 70 percent of the energy in that community, which is a residential community, multi-unit buildings, single family housing, would be met by the people in that neighborhood. The cities have to be able to find a way to make money on that, I can't imagine they can't, but the power utility companies can't figure out how to make money on that. You follow that, because they're used to a hundred years of bringing us power from a long way away and we pay for that transmission, when that transmission is gone then the leverage they have on us is lost. So I don't know who can answer this, but that's what the real fight is about, that's why they're dragging feet, why they're talking about building power plants a long way away. And the Sierra Club, I'm quite sure is going to fight them unless we're very careful about the transmission lines are, we don't want to go through the middle of state parks, we don't want them going through the middle of habitat, all those kinds of questions. But there's a tremendous resource locally, that's the key thing and the power utility companies, the IOU's do not want us to develop that, that's what's behind Community Choice Aggregation (CCA) and a bunch of other things."

A. Mark Collins - "With all due respect to the Sierra Club, it's pretty obvious to me that the power transmission is far away because nobody wants it in their backyard. And we have to site sites, composting sites, we have to site power sites and somebody has to be equally concerned about the public good as well as the tortoises."

B. Lucille van Ommering - "Can I just add one other thing. Just so that you know there is a group of people including the Energy Commission, the PUC, the Cal/ISO, who are looking at available pathways to establish new transmission lines to bring the renewables to where the people are and they are specifically looking at avoiding the environmental problems associated with some of those pathways, so yes, we're taking those kinds of things into account."

C. Mike Leaon - "Just to follow up on that. The Energy Commission is working with Fish and Game on something called NCCP , National Communities

Conservation Plan - for the desert region. We also have something called the Renewable Energy Transmission Initiative or RETI, that's also looking at where to site transmission. Well, there is an MRT, but I don't know what that acronym is." (Someone talking to panel without microphone, can't make it all out) "The Energy Commission does recognize that the potential for distributed generation, there's a lot there, and that's where the feed-in tariff could really help and that's why it's focused initially under 20MW as to unleash that potential for distributed generation that doesn't require new major transmission lines. We also have a program called the New Solar Home Partnership, which offers rebates for residential solar."

26. Michael Paparian - "I was actually looking back through Mike's presentation, he mentioned clean renewable energy bonds and these are something that help local governments and state agencies to get cheaper financing for renewable energy projects. My sister entity at the Treasurer's office, the Alternative Energy Authority, just closed a deal for Caltrans for $20 million in financing for solar PV projects, on I think 70 Caltrans facilities. There's a new deadline the IRS has for applications, August 4th. I can get anybody information if they want that, but it's something that we're able to help facilitate and there's a range of alternative energy, renewable energy projects that could qualify, again for local and state government entities. "