

INFRASTRUCTURE AND ENVIRONMENTAL MANAGEMENT COMMITTEE

Council of the County of Maui

MINUTES

October 14, 2013

Council Chamber, 8th floor

CONVENE: 1:33 p.m.

PRESENT: VOTING MEMBERS:

Councilmember Elle Cochran, Chair
Councilmember Stacy Crivello, Vice-Chair
Councilmember Robert Carroll
Councilmember Donald G. Couch, Jr. (out 2:59 p.m.)
Councilmember Don S. Guzman
Councilmember G. Riki Hokama
Councilmember Mike White (out 2:59 p.m., in 3:02 p.m.)

NON-VOTING MEMBERS:

Councilmember Michael P. Victorino (out 2:32 p.m.)

STAFF: Scott Jensen, Legislative Analyst
Yvette Bouthillier, 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.: Kyle K. Ginoza, Director, Department of Environmental Management
Richelle Mary Thomson, Deputy Corporation Counsel, Department of the Corporation
Counsel

Seated in the audience:

Michael M. Miyamoto, Deputy Director, Department of Environmental Management
Patrick K. Wong, Corporation Counsel, Department of the Corporation Counsel
Michael J. Hopper, Deputy Corporation Counsel, Department of the Corporation Counsel
Robert Parsons, Administrative Assistant II, Office of the Mayor

OTHERS: Gerry Ross (IEM-21)
Bill Greenleaf, Greenleaf Farm
Irene Bowie, Maui Tomorrow Foundation (IEM-21)
Jeff Stark, Maui Recycling Group (IEM-21)
Dr. Allen Hershkowitz, Senior Scientist, Natural Resources Defense
Council (IEM-21)

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Others (15)

PRESS: Akaku: Maui Community Television, Inc.
Eileen Chao, *The Maui News*

CHAIR COCHRAN: . . . (*gavel*) . . . Aloha. Will the meeting of the Infrastructure and Environmental Management Committee now come to order? It is Monday, October 14, 2013, around 1:33 in the afternoon. Welcome, I am Councilmember Elle Cochran, the Chair of the Committee. And it's also, looking over at Bob Carroll, it's his birthday; so, everyone, happy birthday for Bob Carroll, in my opening comments. And before we would begin, please silence any cell phones or any other noise-making devices, please. Thank you. And I shall introduce the Members that are here today. Vice-Chair of the Committee, Stacy Crivello.

VICE-CHAIR CRIVELLO: Good afternoon, Chair.

CHAIR COCHRAN: Aloha. And the birthday boy, once again, Mr. Bob Carroll.

COUNCILMEMBER CARROLL: Morning [*sic*], Chair.

CHAIR COCHRAN: Aloha. And we have Don Couch.

COUNCILMEMBER COUCH: Good afternoon, Chair.

CHAIR COCHRAN: Good afternoon. Councilmember, Mr. Riki Hokama.

COUNCILMEMBER HOKAMA: Chairman.

CHAIR COCHRAN: And Mr. Mike White.

COUNCILMEMBER WHITE: Aloha, Chair.

CHAIR COCHRAN: Mr. Don Guzman.

COUNCILMEMBER GUZMAN: Good afternoon, Chair.

CHAIR COCHRAN: And last, but of course not least, Mr. Michael Victorino.

COUNCILMEMBER VICTORINO: Good afternoon, Chair.

CHAIR COCHRAN: Aloha. And here, from Administration, I have Kyle Ginoza, Director of Environmental Management; also, in the gallery, it looks like Deputy Director Mike Miyamoto; and for Corporation Counsel, we have Richelle Thomson. Aloha, nice to see you, Richelle. And also, in the gallery, I guess if needed, Mr. Mike Hopper. On my Committee's Staff, I have Yvette Bouthillier, Secretary; and, also, Legislative Analyst, Scott Jensen; and Legislative

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Attorney, Regina Gormley, I'm sure, is somewhere at our beck and call if needed. Members and the public, testimony will be on the agenda that is the items that are on the agenda listed today. And pursuant to the Rules of the Council, each testifier will be given three minutes for testimony with one minute to conclude; and there'll be a lighting system at the podium. When testifying, also please state your name or any organizations that you may be affiliated with. And I want to mention that we also have a connection to our outlying district offices so residents from those sites can testify. And please sign up at your participating offices there. And, at this point, let me see about our connection to Hana. Dawn Lono, are you there?

MS. LONO: Aloha, this is Dawn Lono at the Hana Office. Good afternoon, Chair.

CHAIR COCHRAN: Good afternoon, Dawn. Thank you for being there. At our Lanai Office, Denise Fernandez?

MS. FERNANDEZ: Good afternoon, Chair, this is Denise Fernandez on Lanai.

CHAIR COCHRAN: Aloha, thank you. And on Molokai, Ella Alcon, are you there?

MS. ALCON: Good afternoon, this is Ella Alcon on Molokai.

CHAIR COCHRAN: Thank you. And, Members, at this point, I shall now proceed for testimony, with no objections.

COUNCIL MEMBERS: No objections.

CHAIR COCHRAN: Great, thank you. And, right now, let me see on my list. I have, in the Chamber, Gerry Ross, who will be testifying on Item No. 21. Mr. Ross, please come to the podium.

...BEGIN PUBLIC TESTIMONY...

MR. ROSS: Aloha, Members of the Infrastructure and Environmental Management Committee. My name is Gerry Ross. And with my wife, Janet Simpson, we run Kupa`a Farms, an organic farm in Kula. We recognized the value of compost as part of our agronomic plan since the very beginning of our farm more than ten years ago. We routinely capture about 200-300 pounds of food waste a week and use that as feedstock for our compost. We produce 20 cubic yards of high-quality compost a year, which unfortunately is not nearly enough for our four-acre farm. The benefits to our farm have been striking. Our erosion rate, soil erosion rate, has dropped from six tons per acre per year to less than 600 pounds per acre per year; that's a 95 percent drop, which means cleaner water around the shores of our island. Our fertilizer bills have dropped dramatically because we only need to add 30 pounds of nitrogen per acre per year compared to conventional farms that might use upwards of 250 pounds of nitrogen per acre per year. Compost has been and remains an essential ingredient of our farm, and I believe it has a future in the long-term health and agricultural sustainability of Maui. The addition of compost confers many benefits to the soil through the increase in organic matter and addition of beneficial

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microbes. Increased organic matter in soils results in superior water retention. Each percent of organic matter in soil can help retain 16,000 gallons or more of water per acre, reducing our water bills. Increased organic matter content also means less fertilizer, decreased loss of agricultural chemicals from farmland, and long-term sequestration of atmospheric carbon dioxide in the soil, which is something we should all be worried about. On an island such as Maui, soil erosion runoff is a critical problem that contributes negatively to the deterioration of the reef ecosystems and our beaches which are the core of our economy. A recent report from the United Nations estimates that about 25 percent of the food we produce globally is wasted. Additionally, they calculated that greenhouse gas emissions associated with this food waste makes food waste the third largest individual source of greenhouse gases in the world after China and the United States. On Maui, the waste composition analysis conducted by SAIC last year revealed that about 20 percent of material received at the Central Maui Landfill is food waste, more than 27,000 tons annually. Composting of food waste on Maui will provide a valuable mechanism to divert waste from the landfill and turn it into a resource that can be used by the home gardener, landscape industry or the commercial farmer. Compost provides an option for mitigation of methane from the landfill which the County of Maui will spend an estimated \$5.1 million on compliance measures with the EPA. And, in addition, food waste compost provides an alternative use for food waste. Maui will benefit from job creation for a compost facility as well as preservation and improvement of soil health and ecosystems which form such an important part...

CHAIR COCHRAN: One minute to conclude, Mr. Ross.

MR. ROSS: Yeah, I'm right there. We are faced with an opportunity to demonstrate our commitment to our environment, create jobs, reduce waste and demonstrate the power of proper repurposing of a valuable commodity. Burning this waste is a missed opportunity. Thank you.

CHAIR COCHRAN: Thank you, Mr. Ross. Members, any need for clarification or re-emphasis of the testimony given? Seeing none, Mr. Ross, thank you for your time. And let me go over to the Hana Office. Ms. Lono, anyone there to testify in Hana?

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

CHAIR COCHRAN: Thank you, Ms. Lono. On Lanai, Ms. Fernandez, anyone waiting there to testify?

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

CHAIR COCHRAN: Thank you. On Molokai, Ms. Alcon, anyone waiting to testify?

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

CHAIR COCHRAN: Alrighty, ladies, I'll check back with you to see if anyone does show up for testimony. At this point, it looks like I have someone signing up in our Council Chambers. And, sir, you may approach the podium and turn in your sheet when you're through. Thank you. Please identify yourself or any group you may be affiliated with.

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MR. GREENLEAF: Thank you, Ms. Cochran. My name's Bill Greenleaf. And this is our tenth year of farming here at Greenleaf Farm. And I think I won't reiterate the points that Gerry made. The point I wanna make besides the benefits of certainly soil erosion and water retention, in every study you read, subsistence farmers need inputs for the land. And Haiku, West Maui, South Maui, are especially vulnerable; the Kula area as well for Upcountry, where inputs are really needed. You heard...Gerry's an amazing composter, and that happens to be my specialty, too. And we're able to do wonders with the...by feeding the soil which feeds the plants and then brings out wonderful food plants that feed each one of us. So just the idea of forward-looking communities such as San Francisco, and I don't have...I didn't do research on this, but it's pretty easy to see there's been very many forward-looking communities that took the amount of food waste, which I guess is 23 percent on Maui, and have turned it into a composting program that can be used by the community. I can't really think of many things that would be much better in this day where food scarcity and really good food scarcity are a problem. Farmers, the average age of farmers is over 60; it was 59 last year, so I'm gonna guess it bumped up a little bit. I don't think too many young people are getting into farming. We do have a chance on Maui. The Grow Some Good in South Maui and the work Rebecca Kuby did with Community Work Day--and I know it's been renamed--I think they have 40 gardens now with young people working in 'em. So this is a really important topic that would be forward looking to find a way to take this food waste and turn it into a product that farmers could use. I think we can help you with the research on it. There's some people in the country that are really skilled that could help and would help Maui. Bob Shaffer moved from San Francisco to the Big Island; and I know he's volunteered to help over here. So I would ask the Council to take a look at this resource really carefully on it. I know once it's gone, it's gonna be really hard to recapture it; and it's a tremendous opportunity. Thank you very much.

CHAIR COCHRAN: Thank you, Mr. Greenleaf. Members, any need for clarification from the testifier? Seeing none, thank you, Mr. Greenleaf, for being here.

MR. GREENLEAF: Thanks, Ms. Cochran.

CHAIR COCHRAN: Mahalo. And, Mr. Jensen, any further testimony from the Council Chambers? Oh yes, Ms. Bowie?

MS. BOWIE: Good afternoon, Chair and Committee Members. I'll sign up when I get done. And I just wanted to say, I'm mostly here for the presentation and to learn more, but the one...

CHAIR COCHRAN: Sorry, Ms. Bowie, your...

MS. BOWIE: Oh, I'm Irene Bowie with Maui Tomorrow Foundation, sorry.

CHAIR COCHRAN: Thank you.

MS. BOWIE: The one issue I have with this that I hope that this Committee will really look into is that we have definitely heard strong differences of opinion on whether Environmental Management's

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numbers are credible. And I hope that you will, you know, really vet those numbers whether that is something that the new County Auditor can take on or another way of really examining the figures, I think, is very important. Along with that, as I read more about this, I've read that there are estimates that about 80 percent of the municipal solid waste stream is either recyclable, made from a non-renewable resource or is otherwise not well suited for combustion due to low BTUs or it's a combination of all three. So, again, I think before we just go, you know, full-steam ahead on this--no pun intended--we really need to check these numbers and also listen to what the experts are telling us, you know, from around the country that have experience with this. That's all. Thank you.

CHAIR COCHRAN: Thank you, Ms. Bowie. Members, any need for clarification from the testifier? Seeing none, thank you, Ms. Bowie. And, yes, please turn in your form at the desk, thank you. And let me go back to the outlying districts. To Hana, once again, Ms. Lono, anyone came in for testimony?

MS. LONO: There's no one here to testify at the Hana Office.

CHAIR COCHRAN: Thank you. For Lanai, anyone there?

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

CHAIR COCHRAN: Thank you, Ms. Fernandez. And on Molokai?

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

CHAIR COCHRAN: Thank you, Ms. Alcon. And here in our Chambers, anyone else willing to come up and testify, please step forward to the podium. And seeing none, no one approaching, Members, at this point, I will now, without objections, close the floor for public testimony.

COUNCIL MEMBERS: No objections.

CHAIR COCHRAN: Thank you, Members, so ordered.

...END OF PUBLIC TESTIMONY...

**ITEM NO. 11(1): COMMITTEE'S PRIORITIES AND PROCEDURES;
PRESENTATIONS FROM COUNTY ADMINISTRATIVE
AGENCIES (ORIENTATION WORKSHOP BY THE DEPARTMENT
OF ENVIRONMENTAL MANAGEMENT)**

CHAIR COCHRAN: Alrighty, moving on. We have two items on our agenda today. And the first one relates to a presentation from the Department of Environmental Management regarding the organization of the Department and current efforts in solid waste management including waste to energy opportunities and landfill diversion. The second item will feature a presentation by

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Dr. Allen Hershkowitz, Senior Scientist with the Natural Resources Defense Council. This presentation will focus on the basics of recycling, composting and waste to energy. So let's turn to IEM-11(1), and this is Committee's Priorities and Procedures; Presentations from County Administrative Agencies (Orientation Workshop by Department of Environmental Management), which is the first item on today's agenda. And, as the Committee may recall, the Department last reviewed the organization of the Department and current efforts in wastewater reclamation and solid waste management at the Infrastructure Management Committee meeting of February 11th of this year, 2013. Today's presentation will update us on the current status of these programs. I look forward to the Department's update regarding the status of ongoing negotiations with Anaergia, also. Today, we have Director of Environmental Management, Kyle Ginoza--aloha--to present this update to us; and he will be here, also, to respond for questions that the Members may have today. So, Mr. Director, I shall turn the floor over to you if you have opening comments, and then we shall prepare the room for your PowerPoint.

MR. GINOZA: No comments, thank you.

CHAIR COCHRAN: Okay. Thank you, Mr. Ginoza. So, at this point, we shall be in a brief recess to set the room up for Mr. Ginoza's PowerPoint. We are now in recess. . . . (*gavel*) . . .

RECESS: 1:48 p.m.

RECONVENE: 1:50 p.m.

CHAIR COCHRAN: . . . (*gavel*) . . . Will the Infrastructure and Environmental Management Committee please reconvene? And we are now open to the presentation from Director Ginoza. Mr. Ginoza, the floor is yours.

MR. GINOZA: Thank you. Thank you for the opportunity to be present before you today for an item of extreme importance to the Department landfill diversion programs. Before I delve into landfill diversion, I'd like to give you an overview of the solid waste program. As you can see, we have roughly a quarter of our budget being funded by the General Fund. And because of shortfalls of revenues versus cost in the second through sixth bullets, that's what really prevents the Division from gaining self-sufficiency. So why do we divert, and for that matter, what is landfill diversion? Landfill diversion is a practice of diverting or redirecting materials from being landfilled. The practice of landfilling negatively leads to fugitive methane, a harmful greenhouse gas, being generated and released; wasted resources; high costs of operation and compliance; and, basically, trash-filled `aina. Instead, diversion protocols include reduction, reuse, recycling and repurposing of resources. Conversely, landfilling may be thought of as re-nothing since landfilled resources have limited beneficial use. Instead, opportunities like recycling, which strive for the highest and best use of materials . . . (*short pause*) . . . --sorry--and preserve natural resources are the most favorable. Really, the highest and best use is typically turning recycled plastic into plastic, metal into metal and paper into paper. The bottom line is that we, as a community, must weigh the cost of diversion versus negative impacts of landfills. In order to better understand solid waste management in the County, this slide shows the solid waste flows. So, as you can see, roughly 22 percent--and this is using Fiscal '11 full-year numbers; that's the

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most current that my staff had--so residential represents roughly 22 percent of the waste stream; commercial, about 53 percent; and construction and demolition waste, approximately a quarter of the waste stream. And, as you can see, there's an...for simplicity, I grouped some of the programs. So, as you can see, we have some County grant and drop-box programs, which we divert roughly 1.7 percent of the 100 percent total. The commercial side, we look at taking out recyclables, food waste, metals and a number of other things. From the construction and demolition waste stream, the private sector recycles metal and concrete. And so what you're looking at is a total diversion effort of roughly 42.9 percent for these programs shown in this shaded, light area. And so what is left over of what is not diverted is what goes to the County of Maui landfills, which is a little bit more than 150,000 tons per year, and what goes to the private Maui Demolition & Construction Landfill. And, again, this number is from Fiscal Year 2011. But in sum, the Maui County total solid waste stream is roughly 375,000 tons per year. This is kind of a breakdown of that last slide of the 42.9. So, as you can see, the unshaded portion is what the commercial and C and D sectors basically take out of our waste stream, and these are really the programs that the County is involved in and the County funds. And so, in total, this total's the 42.9 percent. But the majority of the diversion programs, basically, are run by the private sector. So as far as the County's diversion program, salaries and operating costs are just over 600,000 a year with three County personnel in the diversion section; they oversee Maui programs which, excluding EKO, divert about just over 1 percent, and Lanai and Molokai programs which divert just about two-thirds percent. And then, again, there's that County compost program through EKO Compost which cost around \$2 million and diverts on the order of 17.3 percent. So, as you can see, in sum, the County invests quite heavily into diversion. . . . *(Short pause)* . . . Sorry. In 2009, the County completed an Integrated Solid Waste Management Plan whose primary goal was to increase the lifespan of the Central Maui Landfill. To reach this goal, the plan advocated at least 60 percent diversion primarily through the implementation of residential curbside recycling and through laws to prohibit food waste and other materials from the landfill. Once diversion programs reach 60 percent diversion, the plan advocated the implementation of a proven technology waste-conversion facility. The County basically would find out that many of the diversion efforts proposed had an associated high cost of implementation. The ISWMP assumed that the annual solid waste budget would grow from an average of \$50 million per year, over the next 30 years, to an average of...I think it's 109 million, actually. For reference, the current solid waste budget is a shade over \$25 million. The plan also assumed curbside recycling revenue of \$55 per ton when curbside recycling costs, not revenues, are \$250 per ton, roughly. Extended producer responsibility, or EPR, entails having businesses pay to recycle the materials they bring in which, in turn, may increase the price of goods for the community. The upshot of the ISWMP is that the lack of viable funding mechanisms severely hinder the plan's implementation. So this slide basically tries to answer a question I get a lot is, why don't we have the same recycling services as in the Mainland? And really it's due to, in the Mainland, you got economies of scale, competition for services and access to resource markets; whereas on Maui, there are additional shipping costs which adds cost to programs. And, based on our isolation, there's limited markets for manufacturing with the recyclable materials; so, for similar services, it would require some additional funding. So, over the last few weeks, the Department performed one-on-one surveys to obtain primary information on our diversion efforts. Survey participants from the DMVs, County offices and shopping centers only included adult, Maui residents. The next two slides gives highlights of the data we

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collected from a shade under 300 unique surveys. The survey data indicates that more than half of the participants would not pay for curbside recycling service. Over two-thirds of the participants currently utilize County drop boxes for their recyclables, and participants feel like we should pay less to recycle something than to landfill it. This slide shows that roughly 97 percent of people surveyed generally feel that waste conversion is good; with those against it claiming high cost, it seeming too good to be true and claims of incineration which we're not proposing. And on the chart to the right, more recycling programs was in the top five priorities of the people that we asked. The Department's landfill diversion program can best be broken up into current efforts and future efforts as shown. The County has taken a holistic effort to develop its diversion strategy. There are eight County-funded, drop-box facilities where residents separate recyclables based on their type. The drop-box program results in 1.5 percent diversion from the Central Maui Landfill or roughly 0.61 percent overall at a cost to the County of over \$500,000 annually. The recyclables, though, are fairly clean since they are separated by the resident at the source. EKO Compost operates the County's most successful diversion program where it diverts green waste and sewage sludge into compost; and, through its subcontractor - Pacific Biodiesel, diverts fats, oils and grease, or FOG, into biodiesel. EKO Compost diverts roughly 17.3 percent at a cost to the County of roughly \$2 million. The Department also has a number of miscellaneous grants and contracts with the first four in the first bullet representing current grantees and the last three being existing contracts we have for services. These contracts and grants total, roughly, 350,000 annually and represent a total landfill diversion rate of roughly 1 percent. Next, I would like to speak about our pilot residential curbside recycling program. We now have one year of data to analyze. The estimated ten-year amortized cost is roughly \$80 per year per account, so it'd be an increase from \$216 per year for a residential refuse collection bill to roughly \$300 per year. The cost in the first bullet are basically on the first year of collection, what the processing cost would be for the mixed recyclable and green waste when you factor in cost of the carts and processing, et cetera. So if we project out from the pilot program, which has 1,750 accounts to the roughly 20,000 accounts in large-scale implementation, there would be...we extrapolated the data to show that mixed recyclables would represent about a 1 percent total landfill diversion and, green waste, about a 2.1 percent landfill diversion. So that's for the 20,000 accounts which are roughly what we have as far as single-family residential on Maui, which we collect. So if you look at the 20,000 accounts times the roughly \$80 per account, it'd be a ten-year amortized cost of \$1.6 million per year for around just over 3 percent diversion. Here are just some of the pros and cons that are received, some input I received, about the program thus far. So, as you can see, you know, obviously there's a lot more recycling than no service, creates jobs; but some input I've received are the cons as shown there where refuse pickup is cut in half, people have to find room for three carts and there's no glass. So, for some reason, people in the public think that we're pursuing an incinerator as a waste-conversion alternative. This is not what the County is proposing. Instead, the County is exploring an integrated, waste-conversion system which takes in various waste streams, as shown in pink: municipal solid waste; landfill gas; green waste; fats, oils and grease; and sludge and takes it through several mechanical and biological processes where we, at the front end, would sort out marketable recyclables and inert materials. And then it would go through a couple of separation steps which would then separate the inorganic material from the organic material. So the organic materials such as the, to some extent, green waste, FOG, sludge and the organic portion of the municipal solid waste would be digested in an anaerobic digester,

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which would create methane, be refined to liquefied, natural gas. The inorganic portion would be basically dried and made into a solid fuel. So the residuals from the recycling would basically go into becoming solid fuel, which would be a coal replacement. And so these streams are downstream of the existing programs or any new programs we develop as far as trying to bolster the two point...sorry, 42.9 percent diversion rate. So this is just looking at what would come to the landfill as MSW, municipal solid waste, and trying to result in the best possible use and least possible landfilling. So the waste-conversion project we're looking at would be increased recycling, because it would look at all of the municipal solid waste entering the landfill including the residential stream and the commercial stream including multi-family. And it would be islandwide and, as I said, multi-faceted. And we'd be looking at recycling paper, plastic, metals, glass and cardboard, primarily. It would result in over 85 percent Central Maui Landfill diversion by creating solid and liquid fuels from the residuals of the recycling effort. What that does, by creating renewable fuel, is reducing the importation of fossil fuels that are currently being brought in to either power the island or to be utilized on island; and, therefore, it increases the island sustainability. And based on not landfilling, not importing as much fossil fuels and other factors, there would be an estimated large reduction in greenhouse gases, the equivalent of taking off roughly 25,000 cars off the road. And, as I mentioned previously to this body, the way we've structured it is that the project would be privately financed and funded. The energy proposal that I received basically proposed a lower municipal solid waste management cost of \$68 per ton versus--this is the last number we published--at \$100 per ton cost of landfilling. And because we'll be landfilling less, it requires less resources to maintain permit compliance for our landfills. The process also, as I mentioned, processes recyclable residue such that it would be fuel generated rather than it just being landfilled. Of course, that's an option if we wouldn't wanna make fuel instead. And it'd be significant economic development on the order of 150 construction jobs, 20 to 40 permanent jobs and tens of millions of dollars in capital investment. And, like I mentioned, this is what we received at the landfill and does not cannibalize programs that currently exist. So, in summary, the current diversion rate is roughly 42.9 percent, at least as of a couple years ago; but there is still significant opportunity for increasing diversion. We have been, and will continue to, evaluate and maintain existing County diversion programs. Obviously, private programs are not under the jurisdiction of the County. We'll evaluate extended producer responsibility. Again, that's to have the commercial sector pay upfront for the materials they bring in so they can help deal with the life-cycle cost of dealing with the materials. We continue to evaluate the pilot curbside residential recycling program, and we'll evaluate the waste-conversion project. And so it is my hope that, this week, I'll transmit to the Mayor to transmit to the County Council a resolution to consider the waste-conversion project. But what we do know is that not any of these programs by itself would represent what the diversion program on Maui needs. A complimentary, integrated approach is what we're looking for as we move forward with diversion on the County of Maui. Thank you very much.

CHAIR COCHRAN: Thank you, Director Ginoza. Members, we will now be in recess to reset the room, and we can get questions and answers with Kyle Ginoza. We are now in recess. . . . (*gavel*) . . .

RECESS: 2:08 p.m.

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RECONVENE: 2:10 p.m.

CHAIR COCHRAN: ... (*gavel*)... Okay. We are now back from recess. Infrastructure and Environmental Management Committee is now reconvened. And thank you, Mr. Ginoza, for that presentation. At this point, Members, the floor is open for discussion. Any questions that you folks may have with the Department and Director? Mr. Couch?

COUNCILMEMBER COUCH: Sure.

CHAIR COCHRAN: Okay.

COUNCILMEMBER COUCH: Thank you, Mr. Ginoza, for your presentation. I wanted to ask you, there was a comment made about the accuracy of your numbers, and I just would like to know if you have a response to that or can you talk to us about the accuracy of your numbers?

MR. GINOZA: Sure. May I?

CHAIR COCHRAN: Yeah, go ahead, Director.

MR. GINOZA: I am not...I'm not sure what the testifier was talking about. I was never apprised of information that was inaccurate. I provide, you know, spreadsheets either...I mean I get the data from the Solid Waste staff and use a spreadsheet and give them back the data to verify the veracity of the data. So I'm not sure what piece of information is being questioned.

COUNCILMEMBER COUCH: Okay. You also mentioned in your slide, on Slide 21, a reduction in importation of fossil fuels. I'm not sure how that would be achieved if we're not burning the municipal solid waste. It's being shipped off...the RDF pellets are being shipped off somewhere else or are they just kept on island?

MR. GINOZA: The two fuels to replace or supplant some of the fossil fuel usage are the solid fuel, which is from the recycling residue and the liquefied, natural gas. So those are the two fuel sources that would replace existing fossil fuel importation.

COUNCILMEMBER COUCH: But not for this island, for the RDF, or is the RDF gonna stay on this island?

MR. GINOZA: The developers is still in negotiations with various users of the RDF, of the solid fuel. And so I'd rather kinda get into that when we, because of how it was agenda'd, get into it more when we talk about the project in particular. But I mean that, basically, that's where they're negotiating right now, is on that solid fuel whether it's used on island or off island.

COUNCILMEMBER COUCH: Okay. I have more, but let...

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CHAIR COCHRAN: Okay. Thank you, Mr. Couch. Members, any other further questions or...yes, Mr. Hokama?

COUNCILMEMBER HOKAMA: Thank you. I'm kinda interested in Slide 20 and 21, 22, Director.

MR. GINOZA: Sure.

COUNCILMEMBER HOKAMA: In your slide, you have four dark-green boxes. One is recyclables; two, compost; the third is solid fuel; and the last is liquefied, natural gas.

MR. GINOZA: Yes.

COUNCILMEMBER HOKAMA: Okay. So, for me, that is potential revenue for the County, am I to look at it in any other way?

MR. GINOZA: In theory, yes. If it was a County-funded capital improvement project that these would be revenues that would be available and would come to the County. But the way that we structured it, as I kind of went back --

COUNCILMEMBER HOKAMA: Uh-huh.

MR. GINOZA: --and forth with you guys in this Committee, is that because of some level of risk we structured it such that it would be privately financed and funded and that revenues coming to the County would really be transferred to them. So we pay a tipping fee, and any delta in the tipping fee we'd keep; and that they would benefit from that whatever tipping fee they set, which is \$68 per ton as well as the off-take revenues of the recyclables; the liquefied, natural gas; and the solid fuel.

COUNCILMEMBER HOKAMA: Okay. So I'm assuming that we negotiating a point where after a certain reasonable return of investment, the numbers change back to more a County advantage?

MR. GINOZA: Sure.

COUNCILMEMBER HOKAMA: Is that part of the ongoing direction of what we trying to get agreement on with the parties?

MR. GINOZA: The rate is set based on...we did a procurement and the actual tip fees were set as part of the proposals within the procurement. And so, right now, we're just ensuring the off-take markets are there and viable.

COUNCILMEMBER HOKAMA: I guess your projections is...what kinda timeframe are we looking at, Director, for this to kinda like take place and mature? This is a, what, 15-year project, 10-year project?

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MR. GINOZA: So we're looking at hopefully getting in front of, with our transmission of the proposed resolutions, getting to your Committee or a Committee --

COUNCILMEMBER HOKAMA: Yeah.

MR. GINOZA: --either by the end of next year or early next. And, from there, basically doing...upon your favorable approval --

COUNCILMEMBER HOKAMA: Right.

MR. GINOZA: --then we'd look at doing the environmental documentation and land use entitlements.

COUNCILMEMBER HOKAMA: Okay.

MR. GINOZA: So that's looking at a development of, say, three to five years before start of operation.

COUNCILMEMBER HOKAMA: Uh-huh.

MR. GINOZA: And we're looking at a 20-year contract.

COUNCILMEMBER HOKAMA: Okay. Thank you, Chair.

CHAIR COCHRAN: Thank you, Mr. Hokama.

COUNCILMEMBER HOKAMA: But things move fast in this industry; and, five years, we're gonna have newer technology. Thank you.

CHAIR COCHRAN: That's right, it moves like the speed of light. Thank you for your time, Mr. Hokama. And questions, Members, anyone else have some questions? Mr. White? I'll just go down the row here. We'll go next to Mr. White.

COUNCILMEMBER WHITE: Thank you. One of the testifiers mentioned that SAIC study that put our food waste at 20 percent versus the number that you show at 1.4. Are you familiar with the SAIC study?

MR. GINOZA: Yes. Actually those aren't apples to apples numbers. Twenty percent is the composition of the municipal solid waste stream that comes to our landfill. The 1.4 whatever number I used, was the current diversion rate, commercial diversion rate, of food waste.

COUNCILMEMBER WHITE: So...

MR. GINOZA: Currently, hotels and other businesses utilize for the pig farms --

COUNCILMEMBER WHITE: Right.

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MR. GINOZA: --commercial food waste diversion. So that's what that number represents.

COUNCILMEMBER WHITE: So...

MR. GINOZA: It is true that the SAIC study, which we did commission last year, so about a year-and-a-half ago, that did show that from a waste-composition study that food waste is roughly 20 percent of the MSW coming in.

COUNCILMEMBER WHITE: Okay. So we're...that 1.4 means that's what we're diverting?

MR. GINOZA: Currently, yes.

COUNCILMEMBER WHITE: Okay. And then the other question, what's the long-term viability of being able to sell the solid fuel product?

MR. GINOZA: It is something that the developer is negotiating something. And they will only basically contract with us if they're able to, in a sense, guarantee that there is a solid fuel market for them to sell to. And so I'm not privy to those discussions of exactly, you know, what it would take to secure a long-term agreement. It was something that I know there's other jurisdictions in the world that basically just landfill that component, that inorganic component; but we felt that, you know, it's something that why landfill it when we can utilize it.

COUNCILMEMBER WHITE: And then I guess you don't have the answer then to what happens if all of a sudden other fuels become more viable or more attractive?

MR. GINOZA: It is something that they're working toward getting a long-term agreement.

COUNCILMEMBER WHITE: Uh-huh.

MR. GINOZA: And, absent that, then we run into that situation of, do we landfill it? It'll be a higher cost for the County or, you know, what do we do? But it's something that in light of the atmosphere we had or environment we had with this project that the local utility, Maui Electric, did not wanna take us as base-load power. We really deviated or ventured away from doing a typical energy-generation project. And so now we're left with certain constraints that we have every intention to move forward from; and, really, only time will tell. And we'll find out relatively soon, in the next year or so; versus by battling to try to get base-load power, that could be five, six, eight years. And so, from a how do we try to reap the most diversion as quickly as possible as we try to develop a recycling programs to utilize the highest and best use of these materials, we wanted to try to divert as much as possible in the interim. So it's not a kind of an either-or proposition, it's almost like a stop-gap measure that the plan had, the Integrated Solid Waste Management Plan, had advocated after doing all of these other efforts. But in light of over the last few years, the Department not really gaining traction as far as additional funding to implement these higher value recycling programs, we felt that it wasn't in the County's best interest to just sit back and not do anything or just maintain a status quo. So that's kind of the environment we were in.

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COUNCILMEMBER WHITE: And will this contract include terms such as, they have to accept all of the materials that we can tip --

MR. GINOZA: Yes.

COUNCILMEMBER WHITE: --into their facility?

MR. GINOZA: Yes.

COUNCILMEMBER WHITE: And what happens if we run short of whatever they're able to generate? Is there a penalty payment if we don't supply --

MR. GINOZA: Yes.

COUNCILMEMBER WHITE: --them with enough...

MR. GINOZA: Yes, so what we looked at is the historical solid waste generated in the County. And we took a roughly 20 percent reduction from the minimums that we've received recently to give us some buffer. Could we go below that? Sure. If we do go below that, that's great. But indications of, you know, right now we're at the bottom of our kind of solid generation, and it's really because development has been quite low. And so as things pick up, you know, we expect to see it increase even if we implement more recycling programs. And so there is some risk; because, as you can imagine, because it's privately funded, they require some level of guarantee that they'll get the feedstock, the inputs.

COUNCILMEMBER WHITE: Okay, thank you.

CHAIR COCHRAN: Thank you, Member White. Mr. Guzman, did you have some questions?

COUNCILMEMBER GUZMAN: No, not at this time.

CHAIR COCHRAN: Not at this time? Okay, Mr. Guzman. Over to Mr. Victorino. And I wanna add, Members, that Mr. Victorino must be completely interested in this subject matter. He is one of our non-voting Members, but obviously here to learn and participate. So thank you for being with us, Mr. Victorino.

COUNCILMEMBER VICTORINO: Thank you, Madam Chair. And being one of those who was on the taskforce that put together this initial plan, I do make it a point to follow it very closely. And the dynamics have changed. And I think Mr. Hokama also mentioned that systems and processes are changing very quickly, and then that's what makes it very difficult even when we did this back three, four years back, the same problem, you know. There was so much to be done whether it was plasma arc or, you know, on and on and on. And you almost come to a point where one day along the line you gotta decide this is what we need to do and move on. 'Cause if you're waiting for the next change to come up, it will come, but how long do you wait?

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And then the landfill does not have an infinite amount of space to continue unless we wanna keep buying land from A&B or whomever to continue this trend. So I agree with you, Mr. Ginoza, something, you know, has to be done. The question I have for you, Mr. Ginoza, is really a simple one, and I think some of the Members have touched upon it. But, at one point, we had looked at at least 50 percent or more of diversion, recycling and all that, right; that was part of the plan. And I understand that because world markets tanked in China and other areas now are not buying as much of the recyclable materials, such as aluminum, steel, et cetera, et cetera, it's made it economically not as feasible as it was to recycle, am I correct in that statement?

MR. GINOZA: I wouldn't say that the Asian markets have tanked. I mean definitely --

COUNCILMEMBER VICTORINO: Dipped?

MR. GINOZA: --the demand for --

COUNCILMEMBER VICTORINO: Uh-huh.

MR. GINOZA: --recyclable commodity materials really go with the demand of China --

COUNCILMEMBER VICTORINO: Yeah.

MR. GINOZA: --and the Far East. And that...I mean there is fluctuation day by day.

COUNCILMEMBER VICTORINO: Uh-huh.

MR. GINOZA: And so I don't think that is the cause of why something, say for instance, like residential curbside recycling has been not just year by year being implemented, it's really a matter of that slide I showed you of the U.S. Mainland versus Maui. When we did the pilot program, the reason for doing the pilot was to get data to be able to determine whether or not, you know, what the cost would be, what kind of participation we would have. And utilizing that data is how we then extrapolated from the 1,750 households to the roughly 20,000 households. And so it's still looking at it's now requiring an investment on the order of, if you amortize it, about 1.6 million a year. But if you look at the Integrated Solid Waste Management Plan, the consultants thought that there'd be a revenue of \$55 per ton; and it's costing us on the order of \$250 per ton.

COUNCILMEMBER VICTORINO: Okay. And the other question I have for you is, one of the testifiers, you know, and you just brought up earlier as far as the numbers in the overall, is there anybody who independently looks at those numbers? I mean not to not, and I'm not trying to say your staff is not properly trained and doing a good job; however, like everything else, sometimes you need a third eye or a third set of eyes to look at something to make sure that it's viable. Because once we commit, you don't quit. You know, I mean you're here, you know, you know exactly what I'm saying, the commitment is a lot of dollars for the future of this County. And I understand that from our own Energy Commissioner, at times, there has not been the real support

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for energy usage from this landfill and in what we're talking about today, waste to energy, yeah. So it's something that we're making a giant commitment, we're making a leap of faith in what you're saying and your staff; and if it doesn't pan out, yikes, we're stuck with it. And so, again, although I agree with going forward and making sure that this will pan out and pay for itself, I don't wanna see other industries...and you mentioned that earlier about food waste, you know. Grant you, we only have one piggery left here in Maui County, one viable, commercial piggery; but there's always that hope that one day there may be one or two more. Because it gets very expensive to ship in, but it's almost more expensive to raise here than it is to ship in. But things can change, you know, like you've said that. So, anyhow, so all of this has been put into these calculations and your evaluation, is that correct? I mean overall.

MR. GINOZA: Yeah, and that is something that we're not preventing is for people to try to take the waste streams prior to coming to the landfill.

COUNCILMEMBER VICTORINO: Uh-huh.

MR. GINOZA: Ultimately, people rely on the municipality to deal with what they don't want. And what we're looking for is a comprehensive, holistic solution of what we have at the landfill that does not prohibit other programs from occurring either from the County funding it or the private sector funding it. As far as the numbers, I mean from what the numbers the Department generates, we bounce it off people in my office and then give it down to the staff and vice versa, from the Division. And like I know...I didn't hear about what the testifier disputed a number, but one of 'em was that I heard before that I had talked to staff about was the curbside projection. And so it provided...this is the spreadsheet I provided at the last meeting that I was before this body, and I provided it to Staff. And so I mean it's not like we're trying to, in any way, not vet the numbers to ensure the veracity of it. I mean we are doing our due diligence in that respect. And as far as this project, really what we're looking at is the developer putting in a lot of investment to put in a facility. And the guarantees from the County are basically the minimum guarantees and that we would give them our waste streams. And so the risk, while there is some risk on the County, it is really that they're putting their money where their mouth is as far as ensuring that the technology...and in this case, it's really a mechanical technology not gasification or plasma arc. I mean the project that we looked at and we're pursuing does not preclude technologies such as those, any kind of gasification and whatever, if the public wants it, if the utilities want it. You always do a...almost always do a preprocessing of the waste; and then, from there, you do these advanced technologies. And where we're stopping is the preprocessing of the waste, of the residue. And so it doesn't preclude, you know, some years down the line, if the community wants a true waste...your kind of conventional waste to energy where we're either gasifying or doing something with the solid fuel to create electricity if the grid wants it. I mean that's really for another day in the future. We're really looking at trying to divert as much as possible as early as possible.

COUNCILMEMBER VICTORINO: Alright, thank you, Mr. Ginoza, I think you've explained it fairly well. I think for myself and the public, at least we have a better understanding what direction you're moving. Thank you, Madam Chair, I appreciate that.

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CHAIR COCHRAN: And thank you, Mr. Victorino, for being here. Mr. Carroll, did you have any questions for Director Ginoza, or comments?

COUNCILMEMBER CARROLL: Not at this time.

CHAIR COCHRAN: Thank you, Mr. Carroll. Ms. Crivello?

VICE-CHAIR CRIVELLO: Thank you, Chair. Thank you, Mr. Ginoza, for being here. When you talk about the private sector's involvement for the eventual that we may have all these new facilities and you also mentioned capital improvement funding, I guess first of all, when we hear the involvement of private sector, will that somehow infringe on our existing employees?

MR. GINOZA: No, I don't think so.

VICE-CHAIR CRIVELLO: You don't think so, okay. And then, secondly, if we're talking about CIP funding, will that be to...if private sector will do it, will they do the construction and fundraise their monies for the facility and sell?

MR. GINOZA: Yes. So the County would not have to issue bonds for the capital improvement project.

VICE-CHAIR CRIVELLO: Okay, so...

MR. GINOZA: They would get private funding, private financing and it would really be like what we currently do where we utilize the private sector. For instance, even like if you look at our recycling currently, we don't do recycling with our County employees. We have contracts with existing processors who then take the material and do something with it. So it'll be a similar type arrangement where we'd give them some material and they do something with it. And, you know, as far as like the employees, it's not like we would lay people off or anything if that's what you were getting at.

VICE-CHAIR CRIVELLO: Well, I question that, too, for the protection of our existing employees. And am I to understand, also then, that we'll be utilizing less land space?

MR. GINOZA: For landfilling? Yes, with the project implementation of the waste conversion, you look at reducing on the order of 80 to 90 percent of what we landfill.

VICE-CHAIR CRIVELLO: Oh, okay.

MR. GINOZA: And so I mean, obviously, we'd still have to keep the landfill open and people employed, but we wouldn't be basically landfilling resources.

VICE-CHAIR CRIVELLO: So I guess my next question would be, in the rural area, would you be coming up with, you know, there's no guarantee that you're gonna be able to provide that kind of tonnage that the contractor or whoever will be operating the facility to provide what they need. How will you deal with the rural landfill area for these kinda conversion?

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MR. GINOZA: Sure. So for Molokai, Lanai and Hana where we have three what we call, the remote landfills, what we're exploring are three options for each. One is, the current cost of landfilling. One is, what is the viability of doing some kind of waste-conversion project? And for that, we've engaged with Maui Electric to see, you know, for a smaller-scale facility, you know, what is the viability of connecting? And they've been supportive. And the third option, more for Molokai and Lanai, is basically shipping the trash or the refuse to Oahu, because there's currently a barge that, I forget which way it goes, but it goes something like Oahu, Molokai, Lanai, Oahu. And so, as we explore what would be most cost effective from a waste-management perspective, that's what we're trying to finalize numbers. And, in fact, I was just speaking with the City and County of Honolulu Director today about, hey, we need to have a number for what it would take if you guys took our trash. And so we are exploring particularly for Lanai where we're running out of landfill space --

VICE-CHAIR CRIVELLO: Right.

MR. GINOZA: --not in the next year or two, but in less than a decade--we really have to consider what does it cost to develop a new landfill versus being more sustainable and utilizing the resources for energy versus letting City and County of Honolulu utilize those resources and having that diversion from the island. And so we're still in the midst of trying to flesh out those three options, at least three options for Molokai and Lanai and for Hana, for transporting it to Central Maui; that's what we're looking at. And, frankly, I had hoped to get it earlier than now, but we're still working on it. And so that is something that it is top of mind for us, and hopefully at one of the next meetings we will have the data to talk about it.

VICE-CHAIR CRIVELLO: Speaking of data, is it your employees or do you have a private surveyor or contractor or consultant to extract all these information for your data, where do you get that from?

MR. GINOZA: Well, for the kind of rudimentary survey that we did, it was just basically my employees. I just kind of had 'em, like, couple of 'em went to DMV and just got survey data.

VICE-CHAIR CRIVELLO: I see.

MR. GINOZA: Because I wanted primary data. I always suspect data that, you know, you just put it on the website and you don't know how many people are voting more than once. And so it was really a nice mix of responses. And for instance, to give you an idea, you know, we asked, how much would you pay for residential curbside service? The low was zero, the high was in the hundreds of dollars; and I think the highest was \$500 a year.

VICE-CHAIR CRIVELLO: Oh.

MR. GINOZA: And so some people are willing to pay.

VICE-CHAIR CRIVELLO: Uh-huh.

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MR. GINOZA: And that's what I wanted to find is while it is a somewhat small sample, it is something that at least gives us feedback as for you guys, policy makers, or for me, you know, trying to give options for this body. At least we got some primary data. So I'd be the first to admit that it's quite rudimentary; but, at the same time, it is primary information that I can attest, you know, kind of at least for that sample set, gets the pulse of the community for what we're looking for.

VICE-CHAIR CRIVELLO: Thank you. And, Chair, may I follow through with another question?

CHAIR COCHRAN: Sure, go ahead, Ms. Crivello.

VICE-CHAIR CRIVELLO: And I know one of my colleagues already asked you, but when you say you want to get matters in perspective earlier as possible, what sort of definite or estimated timeframe that you have or are you taking it by component by component, would curbside recycling be first or are we talking about compost second or are we looking at the whole slew all at once?

MR. GINOZA: So with this project, we're looking at what would come to the landfill. This is not kind of upstream program such as, you know, we're still looking at residential curbside recycling. You know, there is a lot of merit of even getting the recyclable materials before it comes to the landfill. And so that's something that we, or really you folks, have to kind of decide how much we're willing to invest as far as full-scale implementation of the program. We have had success with the pilot; and associated with that, we found some hard costs. And so it is something that, you know, in light of the economic times, you know, if you guys can find more money, then, you know, we take direction from you. And so I try to get you the best information based on information we have in order to engage you and give you the information you need. And so, as I mentioned, it's not one or the other. We're looking at this waste-conversion project as being something that either for the next X-amount of years we just continue to landfill while we decide what to do in the front end or we do something and then harvest out at the front end what the community values. And so it's not an either or. Timing of this is, I expect the resolution to come before one of your committees in the next month or, you know, few weeks from now. And I hope that we can have a discussion before Budget so you can look at this in the context of other programs that either have available that need further funding or other ones that you'd like us to explore. And so, really, it's trying to kind of come up with a menu of options as we really try to digest this solid waste management issue.

VICE-CHAIR CRIVELLO: So thank you. I appreciate you going ahead and looking into all the different avenues. And hopefully the main component out of all of this with the conversion we can look at how it becomes a commodity for us to generate revenues instead of just looking at the cost, but how can the County generate revenues at the same time taking care of our environment by being innovative. Thank you.

CHAIR COCHRAN: Thank you, Ms. Crivello. Members, I know...Mr. Couch, we're back around to you.

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COUNCILMEMBER COUCH: Thank you. Kyle, you talk about the one thing...one of the things that I'm very interested in is the fats, oil and grease right now. Because, right now, we're producing, this island is producing, a significant amount of biodiesel, something that keeps foreign, you know, reduces the fossil fuel consumption. You mentioned in your slide on Slide 20 that that fats, oil and grease is now going into some other process. It's my understanding that the fats, oil and grease really is collected by a private company and taken to be processed into biodiesel. How would that change under this?

MR. GINOZA: So that is correct that a private hauler basically sucks out the residential...sorry, restaurant grease trap or grease interceptor and then is able to decide for him or herself where they wanna dispose of it. So right now, at the County landfill, we...actually earlier this year, we issued a RFP to deal with that; that doesn't preclude someone from taking it before it gets to the landfill. So if you wanted to start your own pumping service and associated refining service, you could do that prior to it coming to the landfill. What we did, because it's a procurement process, a State procurement process, is we made available these various waste streams and looked at which integrated solution would be good for the island. And, as I mentioned in the presentation, it doesn't preclude an entity from taking it before it comes to the landfill. I mean that's actually what we want is for us to get less at the landfill. And so that's kind of how the process goes.

COUNCILMEMBER COUCH: Okay. So, in essence, we really don't take very much FOG right now or...

MR. GINOZA: I really...

COUNCILMEMBER COUCH: It's my understanding most of it goes straight to the biodiesel refinery.

MR. GINOZA: Where it goes through our gates, we pay EKO for the tip fee that we get and they, in turn, give their subcontractor, Pacific Biodiesel, the tip fee for the fats, oils and grease. So, currently, they are our subcontractor through EKO Compost. And so they also bid into this project, you know, for this integrated, waste-conversion project. Their tip fee for the fats, oil and grease was higher than the one we selected, but that doesn't preclude them from working with the developer we selected to try to continue operations. And my understanding is they've had communications along those lines.

COUNCILMEMBER COUCH: Okay. On your proposal that you came up with, with an RFP and you're reviewing your proposal, were you working with any...I mean what kind of expertise in waste to energy and solid waste were the people who were reviewing the bids and coming up with the proposals, is that just you or...

CHAIR COCHRAN: Yeah, Ms. Thomson?

MS. THOMSON: I just wanted to caution that we don't wanna get into the project specifics or the contract details and too much because of the way the matter was agendized today, it was much more of a general discussion.

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COUNCILMEMBER COUCH: Oh, okay, alright. Lastly, for now, you say you're looking for 85 percent diversion. Is that realistically achievable? Has that been achieved in any other community that you know of?

MR. GINOZA: Yes.

COUNCILMEMBER COUCH: That's a realistic number or is it...

MR. GINOZA: Yes. I mean basically this type of, what they call, mechanical biological treatment is quite pervasive. Not so much in the continental U.S., because there is not this market for or as good of a market for that solid fuel. But in Europe and Asia, there is that better markets for that, and that's where this is more prevalent.

COUNCILMEMBER COUCH: Yeah, but that's where they can ship off the stuff real easily as opposed to us being in the middle of nowhere and having to pay exorbitant transportation fees, right?

MR. GINOZA: Well, the way we control that is that we charge them a tip fee for what they try to landfill. And so if they...and we have that as a measure looking at ensuring that they do what they say they will. And the safeguard for us is that we're not letting 'em get rid of any residue from the residues for free, we are charging them for that to basically keep them honest, right; so that there is a penalty if they don't meet the diversion goals that they set.

COUNCILMEMBER COUCH: Okay. Thank you, Chair.

CHAIR COCHRAN: Thank you, Mr. Couch. Members, another go around? Anyone else have further questions or comments to make at this point? Seeing none, I just wanted clarification. I think Mr. Couch was just touching upon it in regards to a proven technology. So what you're proposing...and did you state that it's not so much here in the United States, but more so in Asia and Europe? It's a technology that's being utilized in those parts of the world?

MR. GINOZA: Yes.

CHAIR COCHRAN: Okay. And I guess, Ms. Thomson, your caution to us is not to speak particularly about the contract with a certain company and not to vet in more towards that conversation, I guess?

MS. THOMSON: Right. Just for Sunshine Law purposes, not to get too deep into the actual project details at this point, but handle that at a future meeting.

CHAIR COCHRAN: As in company name and whatever might be in discussion with contracts and things? Okay. Thank you. I think...and Mr. Couch also touch on this comment in regards to accuracy on numbers, and I think Ms. Crivello mentioned auditor to sorta...and you weren't quite sure what numbers people are talking about and stuff. Because there's been some comments run through my office, also, in regards to the community drop boxes in particular, I think, where the bids went out. And then there was a, you know, a challenge on it and the higher

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bidder had gotten the contract. And, thereby, this County is paying \$300,000 more than it could be if the original contract was accepted. So I mean I know that's been asked of you and my office, and so I didn't know if you had any comments in regards to that, Mr. Ginoza.

MR. GINOZA: Well, with regards to that, we awarded a contract to a bidder who ended up not having the necessary permits to operate. And my office, as well as Solid Waste Division, checked with the Department of Health and they verified that the bid we awarded it to, the proposer that we awarded it to, was not permitted. And so the County was in a situation of, do we just landfill materials or do we go with the permitted, second bidder? And so that is really what happened. And I know that, recently, that previous bidder finally got his permits, but unfortunately I mean we cannot wait in a procurement process to have somebody who does not otherwise meet the requirements. We cannot wait for that person. It's not fair in State procurement. So it was unfortunate; but, in a sense, my hands were tied from the perspective of either we tell the public that they're putting material in the drop boxes and we're landfilling it because we don't wanna contract with a permitted vendor or we go with the second bidder. And that's really what it came down to. And so it is a, I believe, a five-year contract, and that that vendor is allowed to bid again. I mean there's nothing prohibiting that person or that entity from bidding again.

CHAIR COCHRAN: Thank you, Mr. Ginoza. Just a quick follow up. Contracts are never revisited? I mean you said, they have a locked in, I guess, locked in five year; and so there's no way to go...that's it?

MR. GINOZA: With contracts of this nature which require a significant amount of capital investment to carry out the function, we try to have a longer-term contract with the standard provision of, as long as the County has money. Because if we do one-year contracts, it's very difficult for contractors to amortize that cost of doing business. And so, for those types of contracts, that was five years. I think the previous contract before that was five years. For instance, the EKO Compost contract, you know, that before we just redid it was ten years. And so we try to do longer-term contracts when there is a significant amount of either capital investment or equipment investment. And so that's kind of where we're at. I mean we were very upfront in the RFP that this is the term of the contract. And, as you can imagine, when, you know, people don't get it, they wanna find ways to get it. So that's kind of how it played out from our perspective.

CHAIR COCHRAN: Thank you, Director Ginoza. Members, any further discussion? Looks like...Mr. Couch?

COUNCILMEMBER COUCH: I thought Mr. White . . . (*inaudible*) . . .

CHAIR COCHRAN: Oh, okay.

COUNCILMEMBER COUCH: How many more years are left on that contract? Can we ask that? Okay.

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MR. GINOZA: I believe just little over three years, like almost four years I think. I think it was like August or something of last year was when we did the contract.

COUNCILMEMBER COUCH: And there's no provision in there for rebidding for due cause?

MR. GINOZA: What is the due cause, though?

COUNCILMEMBER COUCH: Much lower price.

MR. GINOZA: I don't think there...I mean anybody, after a bid is open, can say, oh, I can do it at a lower cost.

COUNCILMEMBER COUCH: Okay.

MR. GINOZA: And that's where...and we follow the State procurement laws, and I don't think there is a...I mean I know there's not an out of if somebody else says they're claiming a lower price that we can just opt out. I mean that's the whole point of trying to do a longer-term contract, to amortize cost.

COUNCILMEMBER COUCH: Okay, thank you.

CHAIR COCHRAN: Thank you, Mr. Couch. Members, any further comments, questions of Director Ginoza? Seeing none then, at this point, Mr. Ginoza, thank you for your time.

MR. GINOZA: Thank you.

ITEM NO. 21: SOLID WASTE MANAGEMENT POLICIES, PROGRAM AND TECHNOLOGIES (CC 13-281)

CHAIR COCHRAN: And we have another item today, and it is IEM-11(1) [*sic*]. And it's on Committee's Priorities and Procedures, and this would be presentation again. Well, let's see. The second item, sorry, is from a presentation by Dr. Allen Hershkowitz who is Senior Scientist of the Natural Resources Defense Council (NRDC). And Dr. Hershkowitz...Hershkowitz, sorry for mispronouncing it, is here at the invitation of the Maui Recycling Group. And we thank Jeff Stark who's here in the audience, Chair of the Education Committee of the MRG, the Maui Recycling Group, for coordinating the visit. And Dr. Hershkowitz would like to make an introductory remark prior...would you like to make an introductory remark prior to your presentation? If so, you may come down and then we shall do a brief recess. Mr. Hershkowitz, if you'd like to join us, come to the podium. And if you'd like to do some opening remarks to introduce yourself to us, visiting our wonderful island of Maui County, and then we will have a brief recess to set the room for your presentation. And I appreciate your attendance here today.

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MR. HERSHKOWITZ: Thank you, Madam Chairwoman. It's a real honor and a privilege to be here. Honorable Members of the County Council, thank you for the opportunity to speak to you. Happy birthday, Mr. Carroll; and, Mr. Ginoza, aloha.

MR. GINOZA: Aloha.

MR. HERSHKOWITZ: It's really a privilege to be here. My presentation, actually, I think follows very well on Mr. Ginoza's presentation. I think my presentation is a little more basic, which I think will help clarify some of the arguments that Mr. Ginoza makes, which in many cases have a lot of validity. Just by way of background, my name is Dr. Allen Hershkowitz. I am Senior Scientist at the Natural Resources Defense Council. NRDC is a 45-year-old environmental research and advocacy group, an international organization. I've been there for 25 years. We have 1.3 million members throughout the world and a \$100 million budget with 400 staff members. I direct NRDC solid waste work. I'm also the Distinguished Visiting Scholar in Sustainability at the Presidio Graduate School. I've written a number of books on garbage management, references to Europe and Asia. I wrote the book, *Garbage Management in Japan*. I wrote the book, *Garbage Burning: Lessons from Europe*. I'm the former Chairman of the New York State Advisory Board on Operating Requirements for Waste Incinerators. I served on the National Academy of Sciences' National Research Council Committee on Waste Incineration and Public Health. I served on the EPA Science Advisory Board on Sludge Incineration. I am on the DuPont Biofuel Advisory Board. I've been working in the waste field for about 35 years. I believe that I have met and spoken with Anaergia, the company that has made a proposal and I believe is in negotiations with the County. They reached out to me and asked me to hear about their presentation. I visited their offices in San Diego and have had other conversations with them. I've also been in receipt of information from some concerned citizens on Maui who shared their perspective on the proposal. My presentation is sensitive to the comments that I've received from both sides. I cannot take any funds from this organization or any organization that I work with. By the way, I'm also the Principal Environmental Advisor to Major League Baseball, the National Hockey League, Major League Soccer, the U.S. Tennis Association and the National Football League, as well as I oversee the greening of the Oscars and the Grammys, I'm the Environmental Advisor to the Motion Picture Academy and the Recording Academy. So I do a lot of advisory with governments and businesses; on the ground implementation, that's basically...but I have no horse in this race. Basically I do have to say that if I heard Mr. Ginoza's presentation correctly, I believe that on the residential side, about 1.7 percent--correct me if I'm wrong--of the non-compostable, recyclable material from residences is recycled right now; 1.7 percent of material coming out of residences being recycled, that means more than 98 percent of the materials being generating by residences in Maui is not being recovered for recycling. I think that is, without a doubt, one of the lowest residential recycling rates in the world; certainly one of the lowest I've ever heard of. So there's a lot of opportunity to improve, which I think this discussion is about. In the commercial sector and the C and D sector, clearly there's a lot more going on. And I understand, I met earlier today with Pacific Biodiesel, and they seem to be doing a wonderful job collecting fats, oils and grease at very high levels of recovery and turning it into a good commodity there. So clearly there are sectors that are succeeding. But with your approval, Madam Chairwoman, I'd like to go to my presentation --

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CHAIR COCHRAN: Yes.

MR. HERSHKOWITZ: --and take questions afterwards?

CHAIR COCHRAN: Yes, that's the plan.

MR. HERSHKOWITZ: Thank you so much.

CHAIR COCHRAN: So thank you again. You have a laundry list of, you know, interaction; and thank you for finding some time to be here on Maui with us.

MR. HERSHKOWITZ: Well, it's always...I've spent many visits to Maui, many months' visits to Maui. I love this place, and thank you for letting me be here.

CHAIR COCHRAN: Thank you. So, Members and the public, we shall now be in a brief recess to reset the room for Mr. Hershkovitz's presentation. We are now in recess. . . .(gavel). . .

RECESS: 2:59 p.m.

RECONVENE: 3:01 p.m.

CHAIR COCHRAN: . . .(gavel). . . Will the Infrastructure and Environmental Management Committee please reconvene? We have Allen--if you don't mind --

MR. HERSHKOWITZ: Yes.

CHAIR COCHRAN: --here to do his presentation from the NRDC. Thank you for being here. Go ahead.

MR. HERSHKOWITZ: Thank you, Madam Chairwoman. So I gave you my introduction about my background. Let's just go through some of these slides. I apologize in advance for speaking rapidly, but I spent the first 33 years of my life in New York City. So I think if there's one thing that I'd like everybody to walk out of this room understanding it's this, every category of waste has its proper disposal route. Maui actually doesn't generate waste. Maui generates a lot of highly refined valuable resources. Government policy and private investment should encourage the proper routing of all materials to their ecologically optimal route that's also economically realistic, okay. Again, every category of waste has its proper disposal route. When you look at the waste stream, you realize--and, again, I spent most of my career dealing with waste combustion issues, and that's what I am is an expert on waste combustion--most materials in the municipal waste stream are not suitable for combustion. And I know that combustion is not on the table here; although, there is the RDF component for the recycling residue which I could talk about later. But I think understanding municipal waste in the context of energy makes sense. Now, these data on the percentages are EPA national data for 2009, they're not Maui data. So actually, the percentages, we could ignore the percentages for purposes of this presentation. But

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if you take a look at the waste stream, basically--and I think Mr. Ginoza said this--that 75 to 80 percent of the materials in the municipal waste stream, if you look at their physical attributes and you look at their market attributes, they should be recycled. Most of the materials in the waste stream are manufactured using nonrenewable petroleum, ores or minerals that are not coming from renewable resources, okay. And actually, just as a reminder, about 12 percent of municipal waste in the United States is currently combusted; that's actually down over the last 15 years from 17 percent. And most of the material going to existing combustors is not suitable for combustion, so we are wasting money; and I'll explain that in a minute. So if you take a look at plastics, plastics are made from petroleum and natural gas, they are not a renewable fuel. Just converting oil into a plastic bottle does not somehow convert it into a renewable resource. Plastics, right now, are very valuable; your water bottles and your detergent bottles rival aluminum in value in the marketplace. There is a positive value on plastics. If you burn it, you burn it once, it goes away forever. If you recycle it, you can recycle it over and over and over again. And when you recycle it, you get paid for this material. Burning plastics is like burning money. Putting plastics in a landfill is like burying money, and it's ecologically destructive. Remember, 95 percent of a product's impacts happen before you open the package. It's in the acquisition of the oil and the transport of the oil. There's more than 5,000 oil spills every year of the 10,000 gallons or more on the high seas. The conversion of oil into plastics--I've worked at plastic refineries--they are major sources of hazardous waste emissions, major users of water. So plastics should be recycled even though they have a high BTU value. And, by the way, when you recycle one ton of plastics, you produce a hundred times more jobs--and I'll show you the study supporting this--a hundred times more jobs than combustion. So if ecologically and economically, plastics should be recycled. Unfortunately, in the United States, 92 percent of all plastics discarded in this country are not recovered for recycling. A lot of it is winding up in the ocean. According to the United Nations, there's 46,000 pieces of plastic per square mile in the ocean. In the central Pacific, there's five pounds of plastic for every pound of plankton. We are treating the ocean like a sewer for plastic pollution. Plastics should be recycled. Metals, of course, are not a renewable resource; they're made from nonrenewable minerals. Moreover, they don't burn. The BTU value of metals is about 300 per pound compared to oil which is 12 to 14 thousand per pound; or plastics, 12,000 per pound. You don't put metals into a combustor, you don't convert metals into RDF; they don't burn. And yet, in the United States, almost 70 percent of incinerator ash, waste to energy ash, is glass and metals. We are paying to bring non-burnable materials to furnaces and then paying again to bring that material as contaminated ash to a landfill. That does not make sense. I live in an area where...my home, I have two fireplaces in my home and I do not put metals and glass in there when I wanna get warm. Recycling a ton of metals produces 1,700 times more jobs than putting it in...recycling a thousand tons of metals...I'm sorry, recycling a ton of metals produces 1,700 times more jobs than combusting a ton of metals. Glass also, not combustible, low BTU value, 60 BTUs per pound, it shouldn't go into a combustor, eminently recyclable, it is manufactured using nonrenewable fossil fuels. Although, of course, silica is a plentiful raw material, it's not being made from renewable resources. Recycling a ton of glass produces 785 times more jobs than combustion. Paper, perhaps the number one export from the United States, by volume, is scrap paper. The number one export from the port of New York is scrap paper. The paper industry cannot get enough scrap paper to make recycled fiber. And remember, forests are not necessarily renewable resources. Tree plantations process 40 percent less water than a natural

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forest and host 95 percent fewer species. Converting irreplaceable forest or ecologically rare forests into paper that we use once and then flush down the toilet makes no sense. Paper can be recycled over and over and over and over again. Burning it once for energy recovery produces less energy than recycling paper saves at the manufacturing facility. And when you recycle a ton of paper, you produce 410 times more jobs than you do when you burn it. Food scraps should be composted or sent to a sewage treatment plant. They are high in moisture and low in BTUs. They have about 2,000 BTUs per pound which is low, high in moisture, high in nitrogen. If you put 'em into a combustor, they're a big emitter of greenhouse gases, nitrogen, which is a greenhouse gas. Obviously, nobody puts food waste into a fireplace, into a boiler. Food should be composted; I'm sure there's no dispute about this. But what I'm trying to get you to understand here is we have to look at each category of the waste stream and then decide where it should go and how to get it there in the most economical way. Same thing for yard waste, yard waste should be composted. Not all the yard waste can be composted. Where I come from, in the northeast, there's a lot of large, wooded debris which is actually hard to compost. We chip it, some could be composted; but in northeastern Connecticut, there's a large, base-load, power plant that burns wood waste for energy recovery. Wood can be combusted for energy recovery if it can't be composted or reused. Wood from municipal waste, however, you know, from construction and demolition debris, has to be assumed to be contaminated with paints or preservatives or sealants. You cannot take wood from the municipal waste stream, from C and D, and compost it, it will contaminate the compost. Also, you cannot take wood and put it into a landfill; it is a large source of methane. Methane is a potent greenhouse gas; it's 22 times more potent than carbon. And when wood breaks down in a landfill, it releases methane. And not only that, but when wood is contaminated with preservatives or paints or leads or sealants, the breakdown, the methanogens that break down the wood in the landfill, actually mobilize those hazardous pollutants into the air. So the methane gas coming out of landfills is not only a greenhouse gas pollutant, but as the EPA confirms, it's also an...landfills are also emitters of hazardous and carcinogenic air emissions, and a lot of that comes from the contaminates in wood. Wood from municipal waste should be burned for energy recovery to...you don't wanna fill up a landfill with contaminated wood for the methane emissions plus you're filling up your landfill. And if you put it in a combustor with high-efficiency air pollution control devices, you can with very careful operation, successfully burn wood. But basically, and rubber and textiles and leather, these are eminently recyclable. In fact, along with food waste, one of the most under-recycled, but very recyclable materials are textiles and leathers. These should be recovered from recycling or, of course, they could be donated. But, you know, if you can't find a market for them or the material is soiled or in such condition that it can't be recycled, although so much of it can, then you might think about landfilling it or recovering it for energy. If you recycle rubber and leather, you produce 920 times more jobs than combustion. So, basically, when you look at the waste stream material by material, you see that only a small fraction, wood and a portion of yard waste is really non-recyclable and combustible that should be considered for conversion into energy. This is important to remember when we talk about the RDF idea for Maui. And RDF has a long history, frankly, a long--in the United States--a long and unsuccessful history. But I think what you need to remember is recycling itself produces a residue. Residue contains energy. So the question is, do you wanna put the residue of processing recyclables into a landfill--and, again, it would be a small fraction, and you'd basically be able to divert 80 percent for composting and recycling--do you want to put it into a

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landfill or do you want to combust it for energy recovery? This is a cover of a report produced for Congress by the Tellus Institute sponsored by the BlueGreen Alliance, a coalition of environmental groups and labor groups. And this--I'll speed it up a little bit--but it shows the jobs-producing potential associated with recycling compared to combustion. Again, if you recycle a thousand tons of paper, you produce 40 times more jobs than...I'm sorry, 400, 10 times more jobs than incinerating a ton of paper. Plastics, a thousand times more jobs. Rubber and leather, 900 times more jobs...I'm sorry, 90 times more jobs, 100 times more jobs, 41 times more jobs. But you can see that from the perspective of building a recycling-based economy, diversion from recycling is much better than having to do with combustion. In the United States, if we move from our current 33 percent recycling rate to a 75 percent recycling rate, we could create a million and a half new jobs. Also, remember that burning garbage for energy recovery is not the cheapest way to produce energy; it's not a good way to produce energy. Actually, the price of solar has drastically declined since this chart was put together just two years ago because of an overinvestment in solar manufacturing in China. But even when solar was more expensive, you could see that producing a kilowatt hour of energy from solar was half the price of producing kilowatt energy when compared to burning garbage. And when you look at coal, that CCS means, carbon captured in storage. IGCC is, you know, integrated gas carbon capture, which basically means you're capturing the carbon when you burn coal. It's the most expensive way, and it's still in the R and D stages of burning coal to capture carbon. And even that, highly sophisticated form of coal burning, is less expensive per kilowatt hour than burning garbage. And garbage is the most expensive form of energy production not only from the capital cost, but also from the operating and maintenance cost perspective. Ten times more expensive than using coal, 20 times more expensive than solar and, you know, more than, you know, 15 times more expensive than wind. So it's not an efficient way to produce energy. Let's go to this chart, Greenhouse Gas Emissions, which of course we're all concerned about. Burning garbage produces about as much greenhouse gas emissions per pound per megawatt hour as does natural gas as a fossil fuel; it produces about half as much as coal; a little less than oil. But it is an emitter of greenhouse gas emissions compared with recycling. Just think about it, when you take that plastic bottle or you take that paper and you send it back to be made into paper or plastic again, all the upstream impacts, all the energy intensive and water intensive and waste-generating impacts associated with refining those raw materials into that plastic and paper are avoided. Those impacts emit carbon. By avoiding them, you actually reduce the carbon associated with manufacturing. So recycling is a greenhouse gas net benefit compared to...it's actually the only greenhouse gas net benefit option when it comes to municipal waste. Landfilling emits greenhouse gases. In fact, as recently as 15 years ago, 7 percent of all global carbon emissions, greenhouse gas emissions, came from just U.S. landfills alone. Landfills are big, greenhouse gas emitters and, of course, so are incinerators. How do you pay for this? Unfortunately, in the United States for packaging and most consumer products, we don't have what's called, producer responsibility legislation. Mr. Ginoza made reference to it. Forty-seven countries around the world have what's called, EPR, producer responsibility laws. Basically, the companies: Proctor & Gambles, Coca-Colas, Kraft, the companies whose products wind up as waste throughout the EU, in all of Canada, increasingly in Asia, in Japan, increasingly in Latin America, help pay for the infrastructure to manage the materials that they put into the marketplace that wind up as waste. As you know, a lot of consumer packaging is not just to protect the product, but it's also advertising. I was gonna bring with me a little prop that was just

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a little makeup, women's makeup, in a box that was 90 percent package and 10 percent product. The package-to-product ratio was 9 to 1; that's not uncommon. And then the taxpayers will have to subsidize the disposal of that marketing. This is where producer responsibility's happening in, and has been for 20 years, throughout the EU. I've led a number of congressional research tours, I've taken members of the Senate and the House back when Congress worked to study producer responsibility. And all of Canada has producer responsibility legislation, and this is how they allocate the cost in British Columbia. The consumer products companies, right now, are under negotiation to actually pick up the entire cost of municipal collection for recycling. It goes down to 50 percent in Ontario and in Quebec. I'm happy to make these slides available if they haven't been distributed to you already. EPR is growing in Latin America, Uruguay, Brazil, Argentina, Mexico, all moving forward on producer responsibility. We have, in 22 states, producer responsibility laws for electronic waste, which is the most toxic and fastest growing component of the municipal waste stream. We have it for mattresses in three states, we have it for paints. Alameda County just recently passed producer responsibility laws for pharmaceuticals. And producer responsibilities is growing throughout Asia. In Rhode Island, where I'm working now with the state legislature on advancing producer responsibility, a study that we produced--actually not us, but an independent consulting firm that works for the state--produced a study that said that the municipalities in the first year alone will get almost \$18 million in revenue to help support their solid waste infrastructure by a producer responsibility law for plastics, packaging and its associated printed paper. This is where Maui can get the funds to do the right thing, okay. As long as Maui continues to rely on taxpayer-financed, recycling programs, it will never have the money to achieve high recycling rates. You enact producer responsibility laws, you put the money on the table, and I believe that Maui can go from its 2 percent residential recycling rate to 70 or 80 percent in the next five years; that's not unrealistic. So here's what I just said, okay. If you look at the plastics--and, again, these data are EPA data, they're not Maui specific in terms of percentages--but if you look at plastics, where should plastics go? They should be recycled. Where do metals go? They should be recycled. Where should glass go? It should be recycled. Where should paper go? It should be recycled. Soiled paper, soil that are contaminated with food can be composted. Food scraps should be composted, yard waste should be composted. Rubber, textiles and leathers can be recycled or reused. Wood can be combusted. The other, you'd have to do a composition study to see what winds up. What I would say is that in processing these materials for recycling, in processing the plastics, in processing the paper, in processing the wood or the textiles, there's gonna be some residue. As you know, matter cannot be created or destroyed, only transformed. And the transformation process is never 100 percent efficient; there's gonna be some residue. Recycling itself produces residue. If that residue contains energy, why would you put BTUs in a landfill, fill up your landfill, when you could actually recover energy for it? That is the idea behind the RDF or that's what the idea behind the RDF should be. But what we need to remember is that RDF is, you know, it'll be a very small fraction. And I don't even like calling it refuse-derived fuel, I like calling it the residue of recycling and then you decide what to do with it. Do you wanna put it in the landfill, it's a small percentage, or do you wanna even save your landfill even more? Because replacing a landfill, as you know, it's about a million dollars an acre, right now, to build a landfill according to Federal regs. I don't know what the State regs would impose on top of that. But you're looking at, you know, landfill development costs in excess of \$100 million for a 100-acre landfill. Of course, composting anaerobic digestion for food waste, this is what we should be doing with food waste.

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It's a grossly underdeveloped component of the recycling infrastructure in the United States. I was very pleased to see the data that Mr. Ginoza presented that showed high levels of recycling. I think it was 17 percent coming out of all three sectors: commercial C and D and residential; that's a much higher rate than the national average. It still means that about 85 percent of all the green waste on the island is not being recovered for composting. It should be the other way around, 83 percent should be composted and maybe 17 percent could be missed in conversion. But composting has to be strengthened. What else do you do with food waste going to landfills, a big source of methane in combustors, a big source of greenhouse gases and it could be composted. The Seattle Mariners compost their food waste and they give it out to fans, and it's one of the most sought after products going to the baseball games at the Seattle Mariners' stadium. Anaerobic digestion is a way to produce natural gas from green waste, from sludge. You could take food...I was just recently at a digester, I've been to a number of them. I was just recently one in Sacramento that takes liquid food waste, old Campbell soup cans, old liquids with some solid food, converts it into 500,000 diesel fuel gallons equivalent of natural gas every year. Anaerobic digestion works in combination with composting. It goes to the digester first, you extract the natural gas, you keep some of the carbon in there, you put in the compost and you have a soil amendment. But there's different types of anaerobic digesters. The one on top is Monterey, California; the one on the bottom is Sacramento, California. They handle different types of food waste, so you need to be very specific about what your digester is gonna process. Right now, I'm actually...I've had meetings with the Mayor of Kauai and a meeting with...Mayor has set up a taskforce on Kauai that I'm advising to develop an anaerobic digester for food waste for Kauai. San Francisco, I mean, you know, is achieving an 81 percent diversion rate; this is just an example. There are many cities throughout the country that are achieving high diversion rates. But, basically, there needs to be diversion requirements that, at minimum, wet and dry have to be separated, at minimum in Maui: residences, hotels, restaurants, everybody. I advise, I formed, the Broadway Green Alliance. I advise all the Broadway theaters in New York. In 220 productions, everybody is separating wet from dry. You don't want wet food waste contaminating paper, plastics, metals, glass for marketing. And then you could send...have just...you could have two bins - wet and dry. The wet goes to a composter, the dry goes to a MRF, a material recovery facility, where everything gets sorted and separated for marketing. And, actually, the County then should get revenue. As I said, PET and HDPE is more valuable than aluminum or as valuable as aluminum now. You should not be paying to send that to a combustor or paying to send it to a landfill; you should be getting paid for that. There's a positive value on paper now. There's a positive...even with the green fence set up by China, there's still a positive value for plastics, there's a positive value for paper, there's a positive value for metals. You should be having reduced hauling rates or actually have a revenue stream from the materials diverted for recycling. That is my presentation, and I'm happy to take questions. And, once again, thank you so much for the privilege and honor of being able to speak to you.

CHAIR COCHRAN: Thank you, Dr. Allen Hershkowitz. And with that, Members and public, we shall take a brief recess to reset the room. We are now in recess. . . .(gavel). . .

RECESS: 3:25 p.m.

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RECONVENE: 3:26 p.m.

CHAIR COCHRAN: . . .(*gavel*). . . Thank you. Will the Infrastructure and Environmental Management Committee please reconvene? And thank you, Dr. Allen Hershkowitz, for your excellent presentation. And, Members, we are now open for questions and answers of our presenter here today. And there you have it. So if anyone would like to ask any, you know, clarifying or more emphasis on certain areas of this wonderful presentation, please go right ahead. And I can start with...Mr. Guzman, are you good to go at this point? I can go down the list or down the row and --

COUNCILMEMBER GUZMAN: Oh.

CHAIR COCHRAN: --have everyone --

COUNCILMEMBER GUZMAN: Sure.

CHAIR COCHRAN: --give them opportunity.

COUNCILMEMBER GUZMAN: Okay. Thank you, Chair. I believe...gosh, I'm gonna butcher your name here.

MR. HERSHKOWITZ: Hershkowitz. Allen Hershkowitz.

COUNCILMEMBER GUZMAN: Hersh-owitz, okay.

MR. HERSHKOWITZ: Hershkowitz. It means we're mailed to your congregate.

COUNCILMEMBER GUZMAN: Okay. In any regards, I'm interested to find out more about the digester that you're working on I believe with the island of --

MR. HERSHKOWITZ: Kauai.

COUNCILMEMBER GUZMAN: --municipality of Kauai.

MR. HERSHKOWITZ: Yes.

COUNCILMEMBER GUZMAN: In what ways would you, I guess, recommend or advise our County in approaching something like that? And another question as a follow up would be, on some of these I guess categorizations of recycling, does it also...have you also included the fact that we do live on an island and transportation of those recyclable or residues would have to go someplace else and cost the County more monies than it would be in terms of effectiveness?

MR. HERSHKOWITZ: I was born and raised on an island, too, which...Manhattan.

COUNCILMEMBER GUZMAN: Yeah.

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MR. HERSHKOWITZ: But I'm just...it was a bad joke I just said. So in Kauai, they have actually, at their wastewater treatment facility, they have capacity available to operate an anaerobic digester. I just met, actually, with the Mayor and many of his staff. I spent last week, all last week, meeting with them. And the first step is to take a...so the way they're proceeding on this, at least based on my last conversation--I'm not here, I can't represent, obviously, the county government, but I could report to you what I know--is basically, they're doing a composition analysis of what wet waste they have, how much food waste do they have on the island. Unlike Maui, which recently had a waste composition study done, and I applaud you for that, Kauai has not had a waste composition done since the early 1990s, so they don't even know really how much food waste and green waste they have and they don't know where it's coming from. And so they wanna study what's the fuel stream, potential fuel stream, of food waste for this digester. Then they wanna look at the treatment facility and see what has to be done to design the treatment facility to accept the food waste in the context of an anaerobic digester; as I said, there's different designs. So I think their plan is to put out an RFP to submit proposals for adding an anaerobic digester at the waste treatment facility. And then, you know, evaluate those proposals based on the type of food stream that they have coming in from the residences. And they plan to start with resorts and then move to the restaurants and then, last, to the residences. This is kind of interesting because, in my experience, food scraps typically were the last to be dealt with; that was certainly the case in New York, Los Angeles, Chicago, big cities. But it's funny, in Kauai, that seems to be the first opportunity they have. So what kind of wet waste do you have, how much of it? And that will determine the kind of anaerobic digester that you could develop. I understand Anaergia is looking to mix some sludges in. You need liquid for an anaerobic digester. Like the one in Sacramento gets it from a lot of soup cans. The supermarkets have a lot of expired soup and liquids, and they have a can and bottle breaker in front of this digester which actually separates the cardboard, the plastic from...it opens it up, the liquids leak into a tank that get pumped into the digester and then the plastics and the corrugated that held the...and the metals that held the liquids get pumped out for recycling markets. And it's amazing how dry those corrugated and plastic items are even though they were broken up to allow the soup to go out because it only touches the soup very briefly. So and then they're gonna get a RFP to evaluate proposals for someone to come in and modify their existing treatment facility to include an anaerobic digester then they're gonna convene a meeting with the haulers and the resorts to set up a community-acceptable way to collect the food waste. Again, as long as we're separating wet from dry, that is really critical. You gotta separate wet from dry. Then the question is, how can we set up the most cost-effective and logistically seamless way for the resorts and the restaurants and, then later, the residences to get the wet waste to the digester. And they also have a composting operation already on Maui. And when you do anaerobic digestion, you produce something called, digestate, which is a liquid. It's a very rich liquid that should go to a compost facility to help with soil amendment. And that's where we're at on that. I hope I answered your question.

COUNCILMEMBER GUZMAN: Yes. Just a follow up, Chair.

CHAIR COCHRAN: Go ahead, Mr. Guzman.

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COUNCILMEMBER GUZMAN: So you mentioned that in the normal I guess processing, anaerobic digestion would be something that would be at the latter priority or...

MR. HERSHKOWITZ: Oh, just in terms...my experience in terms of planning, food waste is very, you know, it's hard...historically, I've noticed that food waste has been very hard. Especially from residences, it's been very hard to get people to separate food waste. And, you know, people wanna get rid of it; that's putrescible. You know, where I live, I separate wet from dry, and I can keep my papers and my bottles and cans in there. I have collection once a week, and I can keep my dry stuff in my garage all week and it's fine, you know. Keeping food waste like that, I have a compost bin in my home where I put my food waste. But some things can't be composted like I don't really eat much meat, but sometimes we have meat bones or certain things that can't be composted. Keeping that, you know, putrescible stuff, especially in a warm environment, is a little bit harder. So there's been more challenges, historically, in getting food waste from residences. However, from commercial establishments, like I've been overseeing the greening of the Oscars, you know, Wolfgang Puck, all food preparation waste is separated. The Yankees, the Mets, I mean so many teams are separating food preparation waste. There's a big push for food separation waste to be separated at stadiums and arenas. And New York City is now separating food waste at residences as well as commercial establishments, and it's a cost savings. In every case that I know of, diverting for composting is cheaper than diverting for landfilling and incineration. The Seattle Mariners save over a million dollars a year because of the way they changed their waste management and their energy use.

COUNCILMEMBER GUZMAN: Okay. Very interesting. Thank you. Chair.

CHAIR COCHRAN: Thank you, Mr. Guzman. Mr. White, did you have some comments or questions?

COUNCILMEMBER WHITE: Thank you, Chair. One of the challenges I believe we have with some of our recyclables is the fact that we have a large transportation cost. How have you seen other municipalities address that where the cost of transportation may exceed the commercial value of some of the recyclables?

MR. HERSHKOWITZ: Yeah, I have to apologize 'cause I have not studied the Maui market specifically. But I'm intrigued by it because, in New York, we send our scrap paper and plastics to China. In L.A., they send their scrap paper and plastics to China. Last I looked, you're a lot closer to China than we are. So I'm sort of intrigued and, you know, again, look, let's remember, five out of every six products on the shelf of Walmart are manufactured in China, okay, and that's a fact. We get products from all over the world. You know, sometimes New York will send its waste to a landfill 1,500 miles away and people say, oh, you're sending it 1,500 miles away. I said, yeah, but that's material that came to us from 10,000 miles away. I mean we're in a global environment. So, again, I don't know what specific marketing barriers you're facing. The Asian markets are variable--like, it's a commodities market, you know, the price of metals go up, your price of paper varies depending on the grade and cleanliness, the price of plastic varies--but they're pretty strong. But there's Asian markets and there's U.S. markets, you know. Again, with all due respect--and Mr. Ginoza knows much, I don't know anything about this--but it just seems to me that you got a port, you're between Asia and the continental United States,

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seems to me like maybe there'd be some markets, you know. And I think that answers your question earlier as well. But again, you know, there must be something I'm missing.

COUNCILMEMBER WHITE: Yeah, thank you. Thank you, Chair.

CHAIR COCHRAN: Thank you, Mr. White. Mr. Hokama, did you have any questions or...okay. Moving to Ms. Crivello, do you have any comments or questions?

VICE-CHAIR CRIVELLO: No, but thank you very much for this impressive presentation, I appreciate it.

MR. HERSHKOWITZ: Thanks.

VICE-CHAIR CRIVELLO: Thank you.

CHAIR COCHRAN: And, yes, Mr. Carroll?

COUNCILMEMBER CARROLL: Thank you, Chair. For many years, ever since I can remember when I was involved with politics and with the community, we've been working on trying to get really true recyclable programs started. And I touched on that. I mean cardboard alone, we sent to China, too; I forget what would take...the loss a ton on that. And I would be just happy if we could have all of our materials recycled and cost us no more than we run our landfill today. I think it would be a great step forward. And that's always been the problem because of our geographic location, too, we are hampered. New York and other places on the Mainland, they do have much more opportunities to expand and to be more versatile in --

MR. HERSHKOWITZ: Yeah.

COUNCILMEMBER CARROLL: --the use of the products. So it costs us a fortune just to bring recyclables out from Hana since we are doing recycling over there.

MR. HERSHKOWITZ: Right.

COUNCILMEMBER CARROLL: And I would hope that...I really appreciate what you're doing, and I hope that we can work something out, too --

MR. HERSHKOWITZ: Yeah.

COUNCILMEMBER CARROLL: --make it good for our taxpayers, too. One of the questions is, how much is the taxpayer willing to pay to have a true recycling program? And I hope that we can keep that down, at least.

MR. HERSHKOWITZ: Well, you know, it's interesting. You're absolutely right, recycling markets vary, but the price of a landfill, you know, I mean you're stuck with, you know, they're not making any more land. Well, actually, maybe in the Big Island they are. But, you know, last I

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checked, they're not making more land. And being able to find opportunity for a landfill, I mean that is one of your most valuable and precious resources is that landfill. And you should do everything you can. And so it really is--and I'm sure, you know, Mr. Ginoza, you know, is on top of all this--but, you know, amortizing out what would it cost to replace that landfill. And, you know, and you have to factor that in. I mean an asset that is undervalued is always wasted. And if you're sending recyclable materials, even if you have to give them away for free, it would be better than paying to bring it to a landfill plus adding on the cost of what that new landfill development is going to be.

COUNCILMEMBER CARROLL: Again, that's what I just said.

MR. HERSHKOWITZ: Yeah.

COUNCILMEMBER CARROLL: If we can do it for the price that we're paying now to run a landfill, I think we'll be way ahead --

MR. HERSHKOWITZ: Right.

COUNCILMEMBER CARROLL: --and that's something I'd be very happy with.

MR. HERSHKOWITZ: Right. And just, of course, remember we all, you know, in terms of global climate disruption, you know, we look up at the atmosphere, at the sky, we say, wow, there's such big sky, how could we destabilizing the atmosphere. You know, it's only five miles up to the top. And if you're riding 60 miles an hour in a car, you're at the top of the atmosphere of five minutes. I advise NASCAR. I have a, you know, so a NASCAR car gets up there in like two minutes in terms of, you know. We're pumping 90 million tons of carbon into the atmosphere every day and, you know, heating up the planet. I don't need to tell you about this, but sea level rise, what is that gonna mean in terms of coastal property values? You know, climate change, you know, what is it gonna mean if Hawaii is, you know, in 20 or 30 years is so hot, you know, as recently was predicted that it makes living much less enjoyable. I mean what we do today, what you are deciding to do, there's no one single answer to the problems we face. The problems we face are a result of millions of environmentally ignorant decisions, and now we need to make millions of environmentally intelligent decisions. And what we do today and what we do here will affect thousands of generations in the future. And the way to get at it is by can by can, bottle by bottle.

COUNCILMEMBER CARROLL: Thank you, Chair.

CHAIR COCHRAN: Thank you, Mr. Carroll. Members, any further comments or questions? Any comments from Department, Mr. Ginoza, or...I just wanna mention that we do have Environmental Coordinator, Rob Parsons, here in the gallery. And we have Corporation Counsel Director, Patrick Wong, also here. Aloha, gentlemen in the gallery.

MR. GINOZA: I just would like to --

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CHAIR COCHRAN: Yes.

MR. GINOZA: --make a quick comment --

CHAIR COCHRAN: Sure, Mr. Ginoza.

MR. GINOZA: --just to make sure that Mr. Hershkowitz doesn't think that we are poor stewards of the land. When I said the 1 percent, it was basically of the total landfilling. So it's not saying that 98 percent of the recyclables on the residential sector is being landfilled. It's basically a larger portion of it, but because of how small the residential component is, it's only 1 percent of the total landfilling.

MR. HERSHKOWITZ: Sorry for that...

MR. GINOZA: Similarly with the composting, I mean we divert a lot of green waste.

MR. HERSHKOWITZ: Yeah.

MR. GINOZA: And so the 17 percent represents 17 percent of the total. Here, we talk about total landfilling versus by...total diversion versus by sector. And so the residential and commercial sectors divert a lot more than 17 percent, so I just wanted to provide that clarification. Because we do produce quite a bit of compost; a lot which, in development times like these, the provider isn't able to sell a lot or, you know, to keep up with the amount of supply that's being generated, which is why we're looking at a kind of bifurcated option of anaerobic digestion with green-waste composting to make sure that we can meet demand of compost. But I just wanted to provide that clarification. We are quite good stewards of the land.

MR. HERSHKOWITZ: That's very helpful, thank you.

CHAIR COCHRAN: Thank you, Director.

MR. HERSHKOWITZ: And I apologize for my misunderstanding; that's very helpful. And what reminds me is that there's great opportunity in building on the existing infrastructure that you're pointing out. I mean, for example, I had the good fortune this morning to visit, you know, with Pacific Biodiesel. And, you know, you don't want to replace an existing, thriving business. You wanna help that business make the transition to the 21st century to grow. And the same goes for the people who are now processing your metals or your paper or your plastics. Seek them out and find out what it could take to help grow those businesses. Recycling offers the greatest jobs-producing potential of any solid waste management. So, as you know, the other side of danger is opportunity, so if you have a way to go in recycling, just look at it as a great economic development initiative opportunity. And, again, this may be a five-year plan, it could be a ten-year plan; don't think of it having to be done overnight. This takes time. The infrastructure, patience is genius. And, you know, I think with your green waste, you already have a good composting infrastructure, you could build on that. Certainly with your FOG, you already have the infrastructure on that, you've got those things pretty good. And, by the way, you could be

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marketing Maui compost all over the world. Where I come from, there's big demand for agricultural products from Maui. And compost could be, you know, a very desirable product.

MR. GINOZA: Even sludge derived?

MR. HERSHKOWITZ: I'm sorry?

MR. GINOZA: Even sludge-derived compost?

MR. HERSHKOWITZ: Well, you know, in New York, we take our sludge, you know, municipal sludge is...I don't know if you have a combined system that allows industrial discharges into the municipal. 'Cause like in New York, our municipal and industrial are separate, so municipal sludge from New York is very clean; there's not a lot of metals, there's not a lot of chemicals because it's coming from residences. There are some pharmaceuticals which is increasing problem which is why we try to get producer responsibility to pull the pharmaceuticals out. And I'm sure that there's composting operations that you don't have to mix the sludge in a way.

CHAIR COCHRAN: Thank you, good.

MR. GINOZA: Thank you very much, Chair.

CHAIR COCHRAN: Thank you. And so your very first page of your slide, you know, you reiterated the two sentences, "Every category of waste has its proper disposal route." And then the "Government policy and private investment should encourage the proper routing of all materials." And so I'm interested, the government policy part; and then, I think further halfway through your slide, in regards to the producer responsibility legislation. I've actually never heard of that, so I'm quite intrigued and very interested in that and seeing how, I guess, Europe has really taken off with that. I think the only thing the producer-produced, packaging-type program I guess that I've heard at Dell, I think, Computers; and I believe it is in existence here where they take back your dead computer and what have you, so I think on a bigger level, if we could tap into that. And I definitely would like to follow up with you into these other countries and municipalities that are, you know, looking into this type of legislation.

MR. HERSHKOWITZ: Well we, my colleagues and I at NRDC, we're available to you; we'd be honored to help you. If you were to mandate that residences have to separate wet from dry, by three years from now...and in the interim, either work with your existing...you have a MRF on the island already, a material recovery facility that separates?

MR. GINOZA: No public one. There are two private ones.

MR. HERSHKOWITZ: Okay. So in the interim, you know, put out an RFP--and I assume that the existing operations would be very well positioned to compete for that RFP--that says, by 2016, Maui is, you know, based on the composition study, we expect that we're gonna get X tons of metals, X tons of glass, X tons of paper, X tons of plastic; we're looking for someone to build and operate a MRF to process these materials for marketing. Now let me tell you, in New York

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City, when Mayor Bloomberg first arrived, we worked with his administration on his recycling program. And they were putting out a bid, New York City was putting out a bid, that asked haulers, waste haulers, what price they were gonna charge the City to take away New York City's recyclables. And we looked at ourselves, we scratched ourselves, we said, wait a second, these are valuable; so we contacted commodity companies, scrap steel companies, auto shredder companies. Make a long story short, the cheapest price from the hauler to haul away recyclables--okay, if my memory serves me right, and I'm pretty sure I got this down--the cheapest price for a hauler to take away New York City recyclables was \$68 a ton. The commodity brokers, the one who won the bid, his price was to pay New York City \$5.15 a ton for their recyclables; and that's happening now. He won the contract, he got a 20-year contract with New York City, invested in MRFs; and he is now, that company, Hugo Neu, which was then sold to Sims...and that company, when they made that bid, was a \$90 million valued company. Because they got that New York City contract, they were bought for \$640 million, okay. New York City produces...has more cellulose fiber than the Brazilian rain forest per acre, okay. We produce, as you know, New York City has a lot of waste, but we don't look at it as waste anymore. These are valuable materials. Maui does not produce waste. Maui produces highly refined materials that should be introduced into our manufacturing sector or composted or digested for compost or natural gas, and you could achieve zero waste. And Maui, I mean Maui is synonymous with beauty and sanity, and I mean it's one of the greatest places in the universe. And when I say, universe, I mean universe; because we've never found life anywhere else in the universe but except around this planet, five miles up to the top of the atmosphere, five miles down to the bottom of the ocean. The biosphere, the only place in the universe we have life, and this is one of the most beautiful, most diverse places of life in the universe. And so if you were to tell people to separate wet from dry on Maui, I think you, you know, with a good education, public education is critical. You gotta mobilize the public. But you need the money, and that's where I think producer responsibility comes in. You put out a law like Rhode Island is contemplating doing, like California's doing, like 22 states have done for electronics, which says, you know, Proctor & Gamble, you put in ten tons of material into our commerce every year that winds up as waste, here's what it costs us to get rid of that material, you now have a waste bill. Municipal waste, I wrote an article about this in the *Atlantic Monthly* in 1993 after I led a congressional tour to study producer responsibility in Germany and Sweden and Switzerland, 20 years ago they've had this law. And their recycling rates are 60 percent, 70 percent, 80 percent. Japan has this law, and they recycle two to three times as much. As long as we rely on taxpayers...I mean you have to pay for police and fire and social services and libraries and education. And recycling, when the waste is defined by the producers who designed the products that are laced with heavy metals and composite plastics that are impossible to separate? If they're responsible for getting rid of this stuff and seeing it recycled, they will redesign their products with waste production in mind. The only examples we have of waste reduction happening are in those countries that have producer responsibility laws, because suddenly DuPont, Coke, Proctor & Gamble had to pay for waste disposal, so they figured out how to reduce the amount of packaging. Here, it's going the other way because taxpayers subsidize the marketing on packaging. You could market a diamond ring in a refrigerator box in Maui and the taxpayer here would have to pay for it.

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CHAIR COCHRAN: Thank you. Thank you for that different perspective. And, Members, if there's any further discussion or comments, questions needed or, Department, anything? I just wanna thank everyone here for participating; especially, you Doctor, for coming all this way and enlightening us in a different way that we have not seen before. And, for the Members and public, there was a part one of Talkin' Trash that had occurred at the UH Maui College campus, and so part two, Talkin' Trash: Solid Waste Solutions for Maui's Future will happen on Tuesday, October 22nd, 6:00 p.m. at the new science lecture hall, 'Ike Lea building, UH Maui College campus. And hopefully everyone can attend and learn more. And, again, the education awareness part is definitely very crucial to our island, to our people and to our environment. So, again, thank you, Director --

MR. GINOZA: Thank you.

CHAIR COCHRAN: --thank you, everyone, Staff and Members. And with no further business scheduled today, this meeting is adjourned. . . .(gavel). . .

ADJOURN: 3:51 p.m.

APPROVED:



ELLE COCHRAN, Chair

Infrastructure and Environmental Management Committee

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Transcribed by: Raynette Yap


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CERTIFICATE

I, Raynette Yap, hereby certify that the foregoing represents to the best of my ability, a true and correct transcript of the proceedings. I further certify that I am not in any way concerned with the cause.

DATED the 29th day of October, 2013, in Kihei, Hawaii



Raynette Yap