CalRecycle's State of Recycling and State of Disposal in California in 2013 Workshop Transcript

The following is a transcript of the March 24, 2015 workshop on highlights of the CalRecycle State of Recycling and State of Disposal in California in 2013 reports. Microphone issues caused some audio interruptions during the webcast and are noted below.

Caroll Mortensen: Good morning everybody. Thanks for coming. We have two very impressive, lengthy, detailed and very informative reports that we're going to go over with you guys today. At a long time coming on the State of Disposal and the State of Recycling in this great state, that everybody in this room had a part in building and growing and expanding. We're seeing it as a good way to kind of show folks where we are in the state, where we've been, and more importantly, where we need to be in the future to get us where we need to go to reach our 75 percent recycling State goal. So, it's going to be good. I think today will be a chance for you guys to go through the report and ask some questions; kind of a springboard for future discussions on different topics. I want to get your input on the info in the report - maybe what's lacking, what you'd like to see next time. I don't want to take too much time because we have a lot of good info to cover, but one of the reasons that we're all here today is assembly bill AB 341 which was offered by our very good friend, Assembly Member, Senator, and former board member Wes Chesbro, who joined us today. I'll ask him to say a few words, but one of the exciting things about our little industry, and I joke about it a lot, but it is so cool that we've all been together for so long and there's so many new exciting things to do and lots of new exciting young faces to carry on when we finally decide to retire. So it's good to good to see that as well. Wes? [01:58]

Wes Chesbro: I'm here mostly as a cheerleader to celebrate the continued progress and to urge on the surging forward that I anticipate in response to the 75 percent, the organics and commercial recycling, and the organics legislation, which we were successful with. I had a chance to go online and look at the two reports, and the most striking thing looking back to the struggle in the late 1980's to get AB 939 passed was the landfill capacity. I mean, that is truly remarkable because for those of you who remember, who were there, remember it was a landfill capacity crisis that finally got us in a leadership position that we got into with waste diversion and reduction was that we were running out of landfill capacity in California. Apparently that's no longer the case, and I think that's an indication of our success. But of course, the purpose for doing it has grown and become more complex and perhaps more compelling. More global, literally. And that is that we are looking at, the importance of climate change and the role that waste has in relation to climate change. It's not a perfect report card. It could be perfect if we just keep at it in the areas that I think 341 was designed to address. We clearly went more slowly on the organics front than we did in a number of other areas, particularly residential waste. Now we have to catch up, especially in light of the state's priority and hopefully humanity's priority. **[missing audio]** landfill generated methane plays in climate change. The other area that we've talked about since before 939 was passed, and

it's still far short of where it needs to be, is markets. Of course those two are interrelated because organics don't ship to China very well, you know. And so, I think that the necessity is that to the extent we find we expand composting, and we move towards more **[missing audio]** and environmental and economic benefit from waste reduction and diversion, I think really will come true with regards to our expansion of organics. So we're on the verge of a whole new stage. But I'm very sad about how **[missing audio]** pleased that CalRecycle was continuing to push forward and I look forward to stand on the sidelines and being a cheerleader. So, congratulations and I'm really looking forward to hearing the presentation of the two reports.

Caroll Mortensen: All right with that we'll jump into it. Mark are you ready to take over?

Mark Umfress: Yeah.

Caroll Mortensen: All right. [04:52]

Mark Umfress: So good morning and thank you for joining us here today. Also a big thank you to all the staff who worked on these reports, and that's what we're here to discuss today. My name is Mark Umfress, with me are Karen Morrison and Peter Staklis, and we are here to present the highlights from the State of Recycling and State of Disposal reports in California. For this workshop, we will begin with a short history of the laws that helped shape recycling and disposal in California. Then Karen and Peter will cover recycling and disposal infrastructure and questions and policy issues raised in the reports and after that will open up for stakeholder comments and discussion.

In the 1986 California passed AB 2020 the Beverage Container Recycling and Litter Reduction Act and this act administered by the Division of Recycling set up the California Redemption Value or CRV system for beverage containers sold within California and is one of the most successful systems of its kind. A few years later, the Integrated Waste Management Act was passed in 1989 and this legislation essentially created the Integrated Waste Management Board and established a mandate that local jurisdictions divert 25 percent of their waste away from landfills by 1995 and then 50 percent by 2000 and beyond. In 2010 SB 63 consolidated the responsibilities of DOR and the Waste Management Board into one agency; the Department of Resources, Recycling and Recovery, also known as CalRecycle.

Although it's not required under AB 939. CalRecycle calculates a statewide diversion rate to show California's overall progress in waste reduction. The blue line shows our progress as calculated under the old adjustment method and the green line shows progress under the new method introduced by SB 1016. As the graph shows California has made steady progress in waste diversion over the past 25 years.

In 2011 AB 341 was passed and did a couple things. It required CalRecycle to adopt regulations for mandatory commercial recycling and it established a new state wide goal for California to achieve 75 percent recycling by 2020 through source reduction, recycling and composting. The statewide goal did not change the diversion mandate for local jurisdictions under the Integrated Waste Management act. There are in fact

several differences between the 50 percent mandate and the 75 percent recycling goal.

First, looking AB 939 as mentioned there's the 50 percent mandate to divert waste away from landfills. This is not changed for local jurisdictions. The base generation rate calculated under AB 939 is the average generation totals from 2003-2006. This generation number is unique for each jurisdiction and it's not comparable to other jurisdictions or statewide totals. The target disposal rate is half of the base generation representing 50 percent diversion. The numbers shown above are the calculated statewide numbers and again, these will be different for each jurisdiction. Looking at AB 341, there is the 75 percent recycling goal by 2020. The years 1990-2010 were used to calculate the average generation of 10.7 pounds per person per day and to achieve 75 percent recycling that means the state could landfill no more than 2.7 pounds per person per day, which is the target statewide disposal rate under AB 341.

Looking at what counts in each system under AB 939, disposal includes California waste sent to in-state and out-of-state landfills, excess transformation, engineered M.S.W., and green waste ADC after 2020. Under AB 341 disposal also includes all ADC, AIC, other beneficial reuse, and waste derived fuels along with the landfilled and transformed waste. As you can see the only items that count as recycling under AB 341 are source reduction, recycling, and composting. Because of the two different systems, California has a 65 percent diversion rate but under AB 341 California as a whole has achieved an estimated 50 percent recycling rate in 2013. The bottom green pie pieces represent California's estimated recycling whereas the top half shows California's disposal. In order to get to 75 percent recycling an additional 25 percent recycling source reduction and/or compost mulch will be needed by 2020. This is estimated to be around 22 million tons more needed in those categories. So in other words, to meet 75 percent statewide recycling we need to cut our disposal in half.

The State of Recycling and State of Disposal reports primarily intend to look at recycling and disposal through the lens of AB 341, the 75 percent statewide recycling goal. But information related to other bills such as AB 1826 for mandatory commercial organics recycling and AB 1594 regarding green waste ADC are also incorporated.

So at this point I'll turn the microphone over to Peter who will focus on the disposal side and to Karen who will focus on the recycling side.

Peter Staklis: So this map shows the recycling and dispose facilities in California to give you an idea of our solid waste infrastructure. There are many maps in this presentation, but legends or other details may be hard to see. All these maps are in the reports so you can refer to them for more detail.

So looking at the solid waste infrastructure, generators make the waste, haulers take waste from generators to facilities, intermediate processing facilities include transfer stations and material recovery facilities that process and consolidate the waste, and then landfills bury waste. Transformation facilities burn waste, disposal related

activities use the waste, and then some material must go to hazardous waste facilities. And finally the waste flows in many directions and materials are pulled out for recycling at any stage in the process.

Karen Morrison: On the recycling side, once materials are collected they are then processed, sent to manufacturers, and then sold to consumers or businesses as recycled content commodities thereby reentering the solid waste stream. In addition, materials may be exported for processing at various stages along this pathway and we'll get into the significance of that later in the presentation. There are many facilities subtypes within the rest likely infrastructure based on material type or handling. For example recycling collection could include curbside pickup or a specialty facility collection point or drop off location for any of the following materials. Beverage containers, e-waste, household hazardous waste, and others. This is also the case for material processing and manufacturing where glass, paper, plastic, scrap metal, and other materials may be handled separately. Recycled organic materials are generally handled separately from commodity recyclables through a variety of processes but primarily include composting, chip and grind, and anaerobic digestion. More generally we can consider the entire network of facilities that handle solid waste in California as well as recyclables by adding the recycling facilities onto the disposal flow chart and this provides a relatively full picture of the in-state processing of solid waste.

Peter Staklis: Three California data systems contain infrastructure information. They were designed for different purposes and contain different information, so they may not always agree. There's the Solid Waste Information System or SWIS was set up to track facilities for public health and safety and environmental concerns. It tracks things like permit conditions, inspections, and capacities for each permanent facility. And then the disposal reporting system was set up to track disposal origins and amounts for the jurisdiction diversion mandates. It tracks both disposal and disposal related activities such as ADC, AIC, and other beneficial use at these facilities. And then finally the facility information toolbox or FacIT, was set up to track all recycling and disposal facilities in California. It tracks things like materials handled, capacities and throughputs. Data in FacIT comes from other CalRecycle databases and facility operators can update their info but participation in the database for FacIT is voluntary.

Karen Morrison: So these three tracking methods provide CalRecycle with important information such as the number of facilities. I'd like you to note that this is the first time that we've really pulled this data together from these different databases for this type of analysis. We have firm information based on permitting and report data on the number of landfills, transfer stations, and transformation facilities in the state as shown in bold. It is important to note that the transfer station number is reflective of what we track and FacIT that is facilities that behave as transfer stations rather than the permitted number of transfer stations listed in SWIS. We have reasonable numbers for the number of composting and anaerobic adjustment facilities, the number of MRF's, as well as facilities engaging disposal related activities. For disposal related activities that includes landfills that use ADC and other beneficial reuse as well as for cement kilns that process used tires in California. I'd like to point out that there's no single definition for what a MRF is in California. So the

reported number will vary depending on how they're defined and to what purpose that definition is being used. The MRF listed on the slide in throughout the presentation include both permitted and non-permitted MRF'S as well as clean and dirty MRF'S that are listed in FacIT. Finally we have estimates for the number of haulers as well as recycling collection, processing, and manufacturing facilities. Hauler counts can range from one hundred forty to thousands depending on how they are defined and since we do not track or require permits for most recycling facilities and the data that we do have is based on estimates or voluntarily reported data, we don't know exactly how many there are in the state. Similarly we have estimates on the annual throughput for facilities involved in solid waste handling and processing. These numbers have similar caveats to those I mentioned for the number of facilities. We estimate how much waste is generated annually as Mark described earlier and we track the amount of materials that move through landfills transformation and disposal related activities shown in bold through DRS. Many of the remaining members for facilities through but are based on department estimates or self-reported and broad ranges on throughput for transfer stations, MRF'S, and chip and grind facilities reflect discrepancies between the self-reported data, department estimates, and contractor reports. In addition we don't have any throughput data for many of the facilities listed in FacIT and ultimately this makes it very challenging to assess whether we have sufficient processing capacity in California to meet the statewide 75 percent recycling goal.

Peter Staklis: So here are the permitted and active landfills according to FacIT. The stars are privately owned landfills and the squares are publicly owned landfills. There are more publicly owned levels at about 70 percent but more available capacity of privately owned landfills which tend to be larger. More of the privately owned sites are in high population areas. And here the transfer stations in FacIT. FacIT only includes transfer stations primarily collecting consolidate waste for transport to disposal. The SWIS database has a broader definition of transfer stations that includes other types of facilities such as construction and demolition processors, chip and grind, or composting operations. So the SWIS list is larger and differs in counts. There are clusters of transfer stations in the Los Angeles and Bay Areas and in urban areas transfer stations consolidate the waste for transport to more distant landfills often in less congested areas. And then here are the material recovery facilities from FacIT. This includes both clean MRF's that only process recycles and mixed waste MRF'S that process MSW. It also includes permitted facilities and those not required to have a permit. Similar to transfer stations, MRF's are clustered in the Los Angeles and Bay Area to process the larger amounts of waste and recyclables generated in these regions with larger populations.

Karen Morrison: This set of maps shows the distribution of recycling processors and manufacturers for the major recyclable commodities glass, paper, plastic, and metals, as listed in FacIT. We know of almost a thousand processors in the state as shown on the left and these are primarily located in Los Angeles, San Diego, and the Bay Area. We have identified fewer than 200 manufacturers that use recycled content feedstock as shown on the right. But we suspect that there are probably more in California that do so and as a department we're interested in getting more information on facilities that do use recycled content feedstock. Composting facilities are currently located throughout the state although most composting facilities are

privately owned as shown in blue circles. Twenty composting facilities are owned by local governments shown in red. There are currently 13 anaerobic digestion facilities in Los Angeles, the Bay Area, and Sacramento area. But CalRecycle expects this number will increase over the next five to ten years as new facilities come online.

Peter Staklis: Solid Waste haulers transport about 80 percent of waste from generators to landfills. The other 20 percent is self-hauled by generators. Local jurisdictions often have contracts and regulations controlling hauling. A jurisdiction may contract with a single hauler, shown in yellow on the map, or have a more open system where multiple haulers can operate. Those are the ones shown in red. For both the residential sector on the left and the commercial sector on the right about 90 percent of the jurisdictions have contracts with a single hauler. The map looks so red because many large unincorporated areas have agreements with multiple haulers. So there are many private solid waste haulers operating in California.

This shows a top ten who serve the most jurisdictions for the residential and commercial sectors. Each color represents a different hauler. The gray represents haulers that serve less than six jurisdictions. Over 90 percent of jurisdictions use private haulers for both residential and commercial hauling service and then only about 40 jurisdictions are served by government haulers shown in yellow. So many jurisdictions use the same hauler for both the residential and commercial sectors. So we gathered this data by researching hauler and local government websites. So basically it's a preliminary data. In cases where jurisdictions had multiple haulers we list the primary hauler based on the website emphasis or placement. If we got it wrong we encourage you to help us get the data right. We plan to add the hauler data into FacIT in the next year.

Once waste is generated, haulers or self-haulers take it to a facility. The flow of waste in California is dynamic and can cover significant distances. So at CalRecycle we created a new tool that shows these flows based on DRS data. The tool can show disposal data from 2007 to 2013 and also can show the flow disposal related materials. This is hard to see on the slide but it is available online. The link is at the bottom of the slide. And then this example shows the inflow waste into Los Angeles County in 2010. So more than half the waste disposed in the county is from within the county shown in red. But small amounts of waste shown in blue comes from many other counties and Arizona too. This is another example of the DRS Inflow/Outflow tool, basically showing the waste from San Francisco to about 20 landfills, the triangles, in 2011. So the red shows that the majority of the city's wastes goes to Altamont landfill. So we think this will be a handy tool so please let us know what you think. It just went online about a week ago.

Karen Morrison: In addition to waste flows within California waste also flows across the border. Although we do track way sent to landfills out of state there is relatively minimal import and export of solid waste into and out of California. Most of the imported waste comes from tribal lands located within California's borders and the solid waste that is exported to out of state landfills typically originates from border counties and is sent to Arizona, Oregon, and Nevada. On the recycling side we do not generally track the import or export of recyclables. However data available from the U.S. government reveals that 18.6 million tons of recyclables were exported from

California seaports in 2013. Anecdotally between 60-80 percent of this material originates in state and this means that between four and seven million tons of recyclables are imported through the state annually. California began tracking the import of beverage containers by truck or car in 2014 in order to reduce fraud in the beverage container recycling program. Initial data from the imported material reports under that program show roughly 50,000 tons of mostly beverage containers were imported last year. However we don't have a fuller picture for imported recyclables. If we revisit how our generated waste is handled less than one percent is exported to out of state landfills. However if 70 percent of vessel exported recyclables originate in California, this means that 17 percent of all generated waste was exported for final processing manufacturing or potentially disposal in 2013. And these exports account for at least half of all commodity recyclables in California. This would exclude organic waste. [24:07]

Peter Staklis: So California determines the types and amounts of materials in the disposal waste stream through waste composition studies. The last study was in 2008 and the chart on the left shows the composition of disposal by category. So the biggest slices are other organics such as food waste and green waste and inerts and other materials such as concrete and lumber.

Karen Morrison: Unlike the disposal stream CalRecycle does not conduct general surveys of the recycling waste stream. However the department does track materials for waste streams with a financial component including beverage containers, the carpet and paint the EPR programs and used tires. It's important to note that many of the programs that we track such as used oil and covered electronic waste are hazardous waste in California and so aren't included in this particular analysis. The programs that we do track account for less than four percent of all recycling in 2013 and this means that we do not track or routinely survey what happens to over 96 percent of all recycling in California.

Peter Staklis: The 2008 study showed that two-thirds of disposal comes from the commercial sector; the other one-third comes from the residential sector. It's interesting to note that while other organic is a larger percentage in the residential sector more other organic waste is thrown away in the commercial sector because there's more commercial waste overall. So this sector data also shows that many materials that can be recycled like plastic, metal, and paper make up a significant portion of both sectors. CalRecycle can only estimate the percentage of how waste gets to landfills because we do not track disposal flows between facilities. Using DRS, waste characterization, and a 2006 MRF study data we found that about 40 percent is sent through transfer stations then sent to landfills, about 20 percent comes from both clean MRFs and mixed waste MRFs sending their residuals to landfills and then about 40 percent of California’s waste is directly hauled to landfills. So there's a lot of material that does not get processed at all before being dispose of a landfill.

Karen Morrison: It's very challenging to track how recycling is processed in California due to both the lack of tracking and reporting as well as the complex movement of recyclables among facilities and as a result we really can't identify what percentage of the recycling stream flows through which facilities. [26:38]

Peter Staklis: So I'll be highlighting a few of the disposal issues covered in the stated disposal report. So that means that we are talking about the top half of the generation pie chart. So the report looks at many issues and in this section I'll touch on a few of the questions raised. Disposal data in relation to reaching the 75 percent recycling goal; how will we know what is in the waste stream, how much will we dispose of, do we have enough landfill capacity to handle it, will the flow of waste effect goal achievement, how do disposal related materials figure into the mix, with the quality of disposal information be good enough for the 75 percent goal measurement, and what will be the impact of these and funding on goal measurement and vice versa.

We use disposal characterization studies to determine the composition of the disposed waste stream. These studies consist of sampling and sorting garbage into individual material types. So data from these studies are useful for policy development, planning recycling programs, market development, and also assessing the impacts of recycling laws, programs, and policies such as the 75 percent recycling goal, mandatory commercial recycling, and mandatory organics recycling.

So waste characterization studies are a snapshot in time. They only look at data for a single year. The waste stream changes over time due to factors like economic changes, demographic changes, and changes in manufacturing and consumer behavior. So the studies are not conducted regularly. The data becomes less timely and less useful. CalRecycle has just finished a 2014 waste characterization study and the report will be available this May. A study in 2017 would help us evaluate our progress so far and allow us to make mid-course corrections as we approach 2020 goals. We plan to do a study in 2020 to see if we are meeting the 75 percent recycling, commercial recycling and organics recycling goals.

So then looking at landfill disposal capacity the key questions we looked at are for landfill capacity were, by region do we have enough annual landfill capacity to handle disposal from year to year? Annual capacity is the ability of landfills to handle the waste generated each year. By region, do have enough available lifetime capacity to handle disposal in the near future? And then how many years of available lifetime landfill capacity does California in each region have? And then available lifetime capacity is the overall amount of space left to be filled in the landfill. So for annual capacity landfills need to be able to handle the amount of solid waste destined for disposal annually. The state and most regions dispose less each year, that's the last column, than its landfills can accept, the second to last column. So for example on the last line Californian's throw away just under a ton per person per year but we have enough capacity for over two tons per person per year. So the exception is the mountain region which disposes just a little more than it has in annual capacity to landfill within a region the region sends much of its ways to landfills outside the region. [30:16]

Switching to lifetime landfill capacity, we can see that most regions have more than 40 years of landfill capacity left. Because we do not have population projections at the regional level, this assumes population will remain at current levels. We know it will rise, however it also assumes that disposal will remain at current levels. We

believe it will decrease. The last column shows regional capacity of up to 121 years in the Central Valley. Again the mountain region has the least with 18 years of landfill space remaining. But this analysis assumes that all those created in the region will be disposed within the region and in the mountain region only one-third of their waste is sent to landfills in the region while the rest leaves the region. So the regional capacity is likely to last considerably longer for the mountain region.

So and here we see available lifetime capacity by the facility. Larger dark green circle circles represent the landfills with the most available lifetime capacity while the small red circles represent the facilities of the smallest amount of available lifetime capacity. Available lifetime capacity is not spread evenly over the state. There's more capacity near the higher population areas that generate the most wastes and more rural areas there's far less capacity.

So the blue line here on the chart is historical disposal. But let's look at disposal amounts going forward. We use three scenarios for looking at disposal. The red line represents a steady increase in disposal such as the situation with a large economic boom and decreased recycling, the yellow line represents disposal rates with increases in population but no change in recycling programs, and then the green line represents a decline a disposal to meet the 75 percent recycling goal in 2020. I'm sure everyone in this room is probably working to help us get on to that green line.

So then, using the three disposal projections from the last slide we looked at statewide available lifetime landfill capacity and found that if we meet the 75 percent recycling goal and stay on the green line we would have 60 years of state wide landfill capacity that will last into the 2080's if disposal continues at the current rate and stays on the yellow line we would have about 40 years of statewide landfill capacity that will last in the 2050's and then if we have runaway disposal and stay on the red line we will still have at least 25 years of statewide level capacity that will last in the 2040's.

Looking at waste flows, some of the key questions we addressed in the report were, where is the waste generated, how far does waste travel to get to its final destination, and why does waste flow how it does? So the map shows that a considerable amount of waste flows between counties. The blue color counties do not have any disposal facilities so they send all their waste outside of their borders. The orange counties send more than half of their waste outside their borders, and then the yellow counties send less than six percent of their waste out of their borders, and then the green counties send between six and 50 percent of their waste outside of their borders. No county landfills all its own solid waste at facilities within its borders.

Waste flow between counties may be influenced by many factors such as a county may not have any facilities. The facilities in the county may reach a daily limit so the waste must be sent elsewhere. Some landfills can only accept certain material types and distances, road conditions, and weather can cause changes in destinations. Local ordinances may prohibit waste from leaving a county and then some solid waste companies may be vertically integrated and prefer to send waste to their own facilities. And then travel time, landfill fees, distance, and fuel costs affect how far

and where haulers travel to dispose of waste. So we hope to research flow issues more in the future and to get a better understanding of the reasons why waste flows as it does in the state.

When looking at disposal related activities. A few key questions here are how much disposal related activity is there in the state and how will disposal related activity impact the 75 percent recycling goal. [35:17]

6.7 million tons of material went to disposal of activities in 2013. This includes alternative daily cover, which is materials used as cover landfills to cover garbage on the working face each day; other beneficial reuse, which are materials used for other purposes at landfills such as road base or for erosion control; transformation and waste-derived fuels, basically the burning of solid ways to create energy; and alternative intermediate cover, materials used to cover areas at the landfill for longer periods of time.

So here are the amounts of disposal related activity use from 1995 to 2013. The green line shows ADC is the most used disposal related activity at 3.3 million tons used in 2013. ADC reached its peak in 2005 at over 4.5 million tons so it has declined by more than a million tons. The blue line shows other beneficial reuse is the second most used disposal related activity at 2.4 million tons in 2013. Other beneficial reuse increased by almost a million tons since 2006. The orange line shows transformation is the third largest disposal related activity at almost a million tons in 2013. Finally the yellow line shows AIC is the smallest used material at less than 500,000 tons in 2013.

ADC comes from many jurisdictions. This map shows the percentage of material that is used as ADC out of the total amount that goes to landfills from a jurisdiction in 2013. So the darkest green jurisdictions have more than half of their material used as ADC. The white jurisdictions have none of their material used as ADC and then the light green and yellow fall in between these two extremes. So ADC is used at many landfills. The big green circles on the map show landfills that have the most ADC use and then the smaller circles show those with the least ADC use. 80 landfills used ADC in 2013. Most of the ADC use is in the southern region and the Bay Area as is most of California's population and waste generation.

So of all the material types it could be used for ADC in 2013, green waste, which is a green slice on the pie chart, construction/demolition the blue slice, and auto shredder waste the yellow slice, were the top three ADC types used. These top three materials make up over 75 percent of ADC use and then these three materials have been the top three ADC material types used for the last decade. [38:29]

This chart shows overall ADC use and green waste use over the last 15 years. Green waste ADC the green bar has been the most used material but has declined from its peak in 2005 to less than a half in 2013. Reasons for the declining green waste ADC use could be the overall decline and disposal, changes in facility operations, jurisdiction bans on ADC use, drought conditions causing less green waste, and then more green waste material going to composting facilities or other uses. So the map shows green waste ADC use at California landfills with the larger

green circles representing the most use. Two-thirds of green waste ADC use is in the southern region. Another cluster of ADC use is in the Bay Area region. [39:25]

Moving on to transformation here we see the county sending ways to transformation facilities. The larger orange circles mean more waste was sent. So the map also shows the location of the three transformation facilities in California and highlights that most transformation comes from counties near the facilities. Transformation has remained relatively steady for almost 20 years while landfill disposal has fluctuated considerably. This may be due to a combination of factors. Facilities need a constant stream of solid waste to keep the plants running. The facilities have contracts in which jurisdictions must send a set amount of solid waste to the facility and then the upper bound exists because there are only three facilities and no new facilities have been built and the facilities have operational and permit limits on how much material they can accept daily and annually.

Then while AB 939 allows jurisdictions to receive up to a ten percent credit toward their diversion rate for transformation, only three jurisdictions needed the credit to reach 50 percent diversion in 2013. Those are the jurisdictions on the map with the red outlines. So the white and blue areas on the map and the pie chart did not use enough transformation to receive even a one percent increase in their diversion rights or the orange and yellow jurisdictions got a one to ten percent diversion credit.

Now we look at compliance issues with DRS reporting and the impact. So now let's talk about a few issues that impact the usefulness and reliability of disposal information. In 2013, 65 percent of counties, in blue, had at least one compliance or data quality issues. These include the following types, issues, later incomplete disposal reports, submitted disposal data that needs to be revised, or finalized disposal data that needs to be modified by jurisdictions in annual reports. So while the county was required to submit data to CalRecycle data can also be late or incomplete due to facilities submitting late or incomplete reports to the counties. So we need accurate and complete DRS data for jurisdiction level mandates and the state wide recycling goal.

We have very limited options for persuading direct participants to submit accurate data on time. We can report that a facility or county is a late at a CalRecycle month or we can publish the name of the facility or county on the CalRecycle website. There currently are no provisions for enforcement or monetary penalties for non-compliance. We work hard to get better data by reminding the counties and facilities the requirements through phone calls, e-mails, and public meeting announcements. And we also work with them so they meet the requirements and provide accurate data. [42:41]

So now let's talk about tipping fees and funding. A few key questions here are how do landfill tipping fees in California compared to other states, what is the integrated waste management fee and how does it impact CalRecycle funding, and then how do other states fund their solid waste and recycling programs? So we research publicly posted self-haul fees at landfills in California. It's important to note that this fee represents a small portion of fees charged for disposing waste at landfills. Negotiated fees of the commercial haulers probably cover about 80 percent of landfill

waste. These negotiated rates are not included in this discussion other than to say that anecdotal evidence suggests that negotiated rates may be around $25 less per ton than the posted rates. That is a big difference when you consider that the median posted in California is $45 per ton and the California average of the posted fee is $54 per ton.

This map shows public gate fees, with darker blue circles showing facilities with higher fees, and lighter blue circles showing lower fees. There's a large range and lots of variety in the fees charged by landfills in California. We just released a detailed report on publicly posted gate fees so you can check it out on CalRecycle's website.

This map shows a relationship between the percentage of waste landfilled in a state and the average landfill tipping fee in that state. In general states with higher tipping fees had a lower percentage of waste landfill while states with lower tipping fees landfilled a larger percentage of their waste. California falls in the middle we have a lower percentage of disposal than would be predicted given our relatively lower publicly posted landfill fee. This is likely due to the aggressive and ambitious recycling laws policies and programs in our state as well as a commitment and cooperation between local governments to solid waste and recycling industries and the state. [45:03]

A large portion of CalRecycle programs are funded by the $1.40 per ton integrated waste management fee or IWMF. The last time the IWMF was raised was 13 years ago and is currently capped at $1.40 by statute. This chart shows our total obligations as the blue dashed line. But this projection assumes that there are no extra costs or extra expenditures on CalRecycle programs in the future. It also assumes obligations will not increase due to inflation or other normal growth factors. So our projected revenue from the IWMF, if nothing changes and disposal continues to slowly increase is shown as the dashed line in the middle. Even in the scenario the IWMF does not supply enough funds for programs now so we currently have a revenue gap. Our projected revenue if we meet 75 percent recycling is the descending dotted line. Overall revenue from the IWMF will decrease dramatically as disposal goes down and we reach 75 percent recycling. In 2020 that gap would be about 29 million dollars under this very conservative scenario.

So what do other states do for funding other solid waste programs? This map shows whether a state has a solid waste fee (gold states) or does not (white states) and the amount charged for the solid waste fee per ton. Most state have a Solid Waste Fee used to fund their solid waste programs. These fees ranged from 12 cents a ton to 13 dollars a ton.

This map shows whether a state has any other fees such as annual facility fees, facility permit fees, e-waste program fees, or beverage container program fees. The almost impossible to read symbols provide the details much more clearly in the report. Many states, whether or not they have solid waste fees, often have other types of fees to fund all or specific portions of their solid waste programs. For example, unlike California, 15 states have Annual Facility Fees (represented by the A symbol) and 21 states have Facility Permit Fees (P symbol). California does have

a mix of funding mechanisms as well. Karen will discuss CalRecycle's funding a little later in this next section. So take it away Karen. [47:45]

Karen Morrison: Thank you. So at this point we're going to transition into a discussion of the data, questions, and policy issues presented in the State of Recycling report.

So visiting the lower half of this generation pie chart. The first question that we looked at in the State of Recycling report is what materials are recycled in California? So I mentioned earlier that California does not broadly track recyclables. But efforts through the beverage container recycling program provides some insight into what materials and commodities are being recycled in California. The annual rate determination study is used to determine the return rates for CRV materials by evaluating both the size and weight of CRV and non-CRV containers. This data is from the 2013 survey, which is before recycling centers and reverse vending machines stopped accepting commingled loads, or loads with non-CRV containers, and the data combines information from all recycling programs. The rate of CRV return varies by material. Almost all aluminum containers returned are CRV, whereas roughly one quarter of glass is wine and distilled spirits. Although these containers are recyclable and may be dropped off at facilities, they don't receive a CRV payment. For plastics, PET is a mixture of about 85 percent CRV and recyclable large juice containers and domestic food. In contrast, only ten percent of all returned HDPE containers are CRV. Over half of the containers returned are milk jugs, and laundry detergent, domestic food, and cleaning products are about 20 percent of returned HDPE.

This data leads to several interesting questions: First is that we're seeing a lot of non CRV containers coming back through the beverage container recycling program. How are these materials being processed? We don't again track materials after collection but are the non CRV materials being handled differently once they get to their collection point. Second is that in 2014 we started implementing a new law which states that recycling centers and RVM's will no longer accept commingled loads and so we're interested in seeing how this affects the amount of non CRV containers that come back at other locations. Will this material go to curbside programs or community service programs and if not where is that material going. And finally this really raises the question of how are recyclables handle in general. The waste characterization study as Peter described earlier shows that many recyclables are thrown away and in fact roughly a third of the disposal stream is recyclables and of those two-thirds are clean enough even after having been thrown away to still be recycled. [50:41]

The next set of questions that we looked at are what are the impacts of mandatory commercial recycling and mandatory organic commercial recycling. These are both relatively new initiatives by the department as Mark mentioned in the introduction. Mandatory commercial recycling, which was established under AB 341, targets two-thirds of the overall disposed waste stream and went into effect on July 1, 2012. Specifically, this law affects businesses that generate more than four cubic yards of commercial solid waste per week, and multifamily residential dwellings of five units or more, or apartment buildings. The businesses must arrange for recycling services.

Although the bill specifies several ways that this can happen, it allows for mixed waste processing (that is, solid waste and recyclables collected in the same bin), if it yields diversion rates comparable to source separation. As this program comes online, we're looking at how to evaluate and track our progress.

So our first question is very simple: How effective is mandatory commercial recycling? We know that all jurisdictions have at least some sort of commercial recycling but we don't yet have enough detailed information at the state level to determine the specific business impacts of this law. We're also hoping that the 2014 waste characterizations study will provide some information on the effectiveness of MCR by allowing us to compare the disposal stream in 2014 to 2008. We're also looking at trying to define what comparable to source separation means in practice. This is very difficult to define and one of the parts of the 2014 waste characterization study is to assess the effectiveness of source separation which could potentially be used to establish a baseline for this metric. And then finally as we increase the amount of recycling that's happening in California how much additional in-state infrastructure is necessary in order to support these efforts.
[52:50]

In 2014, California established a new law, AB 1826, phasing in mandatory commercial organic recycling. Local efforts have been in place for decades, but the impacts have not been as dramatic as CalRecycle would like to see, which is where this law comes in. Again we know from the 2008 waste characterization study that the total organic waste thrown away in the residential and commercial sectors is roughly equivalent, or six and seven million tons of this material respectively in 2007. Although AB 1826 does target multifamily dwellings, this does leave a substantial portion of entities that throw away organic material. So AB 1826 is aimed again at diverting organic material from landfills and its phased implementation will begin in 2016. As this is this is a new program there are several questions that we're hoping to track as implementation begins and thinking about these before the program comes online lets us get ahead of the ball a little bit. The first is how much additional infrastructure is necessary to handle the organics we're hoping to divert out of landfills and second how will the impacts of this program be evaluated?
[54:06]

The next major question that we looked at is how do imports and exports of recyclables affect the California infrastructure? As I mentioned earlier a significant amount of recyclables are exported from California by vessel at sea ports. Of the exported material, over half is mixed paper, cardboard, and paper board by weight. Ferrous and non-ferrous metal account for roughly 40 percent of exported recyclables by weight. Plastics and other materials account for the remaining recyclable exports. In addition to export by vessel, it is likely that recyclables are also leaving California to other states, Mexico, or Canada by rail or truck. However, we do not track these exports. We also don't track general recyclables that enter California, despite recent efforts through the beverage container recycling program to reduce fraud. Those IMRs show 46,000 tons, but this is much less than the amount of imported recycling that we think is happening.

And so this leads to several questions many of which center on getting better data on exported and imported recyclables. How many tons of recyclables are imported into California? How much of our exported recyclables actually originate in California? Again most of our data on this is anecdotal. And how much is exported through other means such as train or truck? We're also interested in trying to understand better how exported recyclables are handled at their destination. We know that exported bales of recyclable materials may contain trash, non-recyclable materials or incompatible recyclable materials such as plastic in a paper bale. What happens to these bales when they reach their destination? Are these materials being recycled or are they being thrown away or burned? And if half of all of our commodity recyclables in California are exported, what are the implications of its final handling on whether we are actually meeting our 75 percent state wide goal? What and how many green jobs are we potentially missing out on through this exportation? And for the extensive export of recyclables coupled with our new programs that are designed to increase recycling lead us to the question of how much additional infrastructure would be required to reach 75 percent recycling if we wanted to handle more of it in state and how will we know when we actually reach 75 percent recycling?
[56:38]

So we have data on the tons of material collected through the beverage container recycling program. The amount of recycled plastic and glass that is processed for manufacture in California and receives grants from the department to support its activities as well as the manufacturing capacity of facilities in California based on self-reported data or estimates in FacIT. And this analysis excludes organics which I'll get to on the next slide as well as C&D which are a large portion of the recycling stream.

In 2013 the beverage container recycling program collected almost a quarter million tons of plastic and roughly a quarter of this received incentive payments for processing and manufacturing in California. However this accounts for almost all of our estimated plastic manufacturing capacity in the state and this is before accounting for non-beverage recyclable materials that are made out of plastic. Almost 700,000 tons of glass were collected in 2013 under the BPRC and a quarter of this receive processing payments for color and size sorting. Now not all glass is color and size sorted so this is only a subset of glass manufactured in California. Our current manufacturing capacity is over one million tons which is likely sufficient for most of our glass in California and this is consistent with the limited shipping of glass due to its weight. We currently don't have sufficient information to evaluate metal manufacturing capacity. There are no listings in FacIT for this kind of processing and paper is not collected through the beverage container recycling program so we don't know exactly how much is being generated in California. However, the 200,000 tons of manufacturing capacity is probably not enough to handle all the paper generated in California. Given that an estimated seven million tons of paper generated in California were exported by vessel in 2013. And so as a result I think it's fair to say that we don't have sufficient capacity currently in state and we would need to dramatically expand in order to accommodate our growing recycling initiatives. Although there is likely additional capacity available for manufacturing in California that we don't know about. And again if you do we would love to hear about it. And although it's difficult to predict how much additional capacity would be needed to

handle all of these materials. We estimate that we're working on the order of 50-100 manufacturing facilities to be built or converted for recycled content feedstock. Similarly we have a limited organic processing capacity in California. The map on the left shows our estimates for available capacity for composting and anaerobic digestion facilities currently in California. And we estimate that there's about 1.5 million tons of additional capacity. Now this is not enough to handle all the organics it would need to be removed from the landfill in order to meet the mandatory commercial organic recycling goal or the state wide 75 percent recycling goal. And we estimate that in order to have sufficient capacity to meet those goals or to remove ten million tons of organics went to landfills and 2013 that we would need to at least double our current infrastructure or add roughly 100 new facilities. [59:57]

So in order to gauge whether we have reached 75 percent recycling, CalRecycle establish a baseline generation using the 20 years between 1990 and 2010 as Mark described earlier. Starting in 2011 and going forward the average generation is 10.7 pounds per person per day. In order to reach 75 percent statewide recycling this means our disposal, which is the one thing that we do measure, must reach 2.7 pounds per person per day. And in 2013 we were at 50 percent recycling which is 5.4 pounds per person per day. However estimated generation does not provide an accurate single metric for setting the 75 percent goal. Generation can vary wildly. What if generation is much lower in 2020? In addition just because disposal goes down does not mean that we have an increase in recycling. Decreased disposal could result from a declining economy or from untracked disposal at a variety of places. Although disposal reporting is sufficient for evaluating 50 percent diversion at the jurisdiction levels for a 50 percent mandate, we feel that 2.7 pounds per person per day is only one indicator of 75 percent recycling and as a result we're thinking about how to accurately assess whether we've reached 75 percent in the absence of tracking recycling in California.

In addition to considering how we measure 75 percent recycling it's also important to consider how we will fund the programs necessary to reach 75 percent recycling. CalRecycle is currently funded through a range of funding sources. So this table shows the department's revenue sources for fiscal year 2012 and 2013 which include the solid waste fee of $1.40 per ton as well as various fees on single items such as tires, used oil, e-waste, and beverage containers. More recent fiscal years also include our carpet and paint EPR programs. So these product fees bring in a substantial amount of money but most of it is paid back to consumers or recyclers. So for example the over one billion dollars we received through the beverage container recycling program largely goes back to consumers. The integrated waste management account is not the largest single source of revenue for California under this table but it does fund the majority of the programs and operations for the department. [1:02:25]

And as Peter mentioned decreases in disposal as a part of our 75 percent recycling goal significantly impact the Integrated Waste Management Fund. If we reach our goal there will be a $29 million funding gap in 2020, again assuming that there is no increase in our costs and obligations. However in reaching 75 percent recycling it's likely that there will be additional financial burdens the department will need to take on as it moves towards the 75 percent recycling goal. Our current estimate suggests

that between $165 - $295 million per year in additional resources for the next ten years will be necessary in order to achieve and maintain the 75 percent recycling goal.

Now this funding breaks down into three key parts. The first is to account for the $29 million to make up the reduction in revenue that's been historically generated through disposal. The second portion is an estimated $11 million to fund increases in CalRecycle staffing. Now this is necessary to support the development of new programs, to regulate, permit, and oversee a new and diverse array of waste management facilities in the state, as well as to ensure public and environmental safety in these new recycling efforts. The final piece on what's really the largest portion of this estimate is the estimated $125 to $255 million needed to develop our physical infrastructure, recycling programs, and market incentives to recycle the additional 22 million tons of material annually by 2020 under the 75 percent statewide recycling goal. This is a critical component for reaching 75 percent recycling as businesses and local governments may need significant financial and technical assistance in order to expand or develop new recycling, composting, anaerobic digestion facilities, and to develop appropriate programs at the local level. As more material is recycled CalRecycle also anticipates that landfills will begin to close and this will require substantial resources from CalRecycle to oversee both post closure maintenance and management as well as potential post closure liability that may be incurred from the state. And these costs could range from half a million dollars to fifty million dollars per year over the next ten years.[1:04:54]

And so these funding requirements have led to a robust discussion on CalRecycle’s long term funding structure in light of the 75 percent statewide recycling goal and I'd like to take you through five of the major questions that we're considering in the context of this.

The first is how will CalRecycle provide resources to achieve and maintain the 75 percent goal? As I mentioned on the previous slide meeting the 75 percent goal will require significant investments in infrastructure recycling programs and market development. How will we fund such initiatives?

Second how will the department account for funding shortfalls resulting from achieving 75 percent recycling? Addressing the funding shortfall is very important for us because CalRecycle’s charged with overseeing waste management in a way that protects public health and the environment. As material is diverted away from landfills and toward recycling the state must manage a broader array of facilities and materials and assess new technologies. Additionally as more material is recycled landfills will begin to close requiring additional resources and oversight from the state.

Third how will the funding financially discourage disposal of organics or other recyclables? That is, how do we consider broader policy drivers that influence our recycling practices especially in the context of funding reform? One example of this is that the existing tipping fee structure fails to discourage disposal of organic material. And in the context of funding reform CalRecycle plans to look at financially discouraging the disposal of organic materials so that organic recycling options are

more financially viable and we imagine this type of approach could be used for other materials as well.

Four, how will we ensure the disposal related activities are not exempt from fees? Exported waste and disposal related practices such as ADC and transformation are currently exempt from fees and in order for a CalRecycle to regulate the environmental impacts that result from these practices additional resources would be necessary.

Finally what funding structure would provide a diversified and sustainable funding source that reduces CalRecycle's reliance on a disposal based revenue structure. Achieving and moving beyond 75 percent recycling will require CalRecycle to fund its oversight operations by charging a fee on a wider array of activities. CalRecycle can't feasibly fund 100 percent of its oversight activities on recycling and solid waste by only collecting revenue from a minority of the material that it regulates. If we did only use a tipping fee this would lead to at least an order of magnitude increase in that fee and CalRecycle does not believe that this fee alone in a sustainable way to fund the department going forward. [01:07:51]

The last section that we looked at in the state of recycling report is how does California compare to other states and their recycling programs. Last year CalRecycle staff evaluated other state's recycling programs based on information available from their websites, so this may not be completely comprehensive. CalRecycle as I've mentioned before only tracks recyclables in the beverage container recycling program shown with red stars and at disposal facilities for diversion shown with green circles as do several other states. However over 30 states track recycling in a broader array of collection points than what California does as shown in blue. And this raises several questions. How do other states track those recyclables? What policies are in place in those other states to support the overall recycling infrastructure? And are there lessons that California can learn from those states in moving forward?

So over the course of the state of disposal and recycling reports we cover several broad themes regarding the handling of solid waste and recyclables as well as the infrastructure in California. We have extensive infrastructure for solid waste and recycling in the state. And although we have regular tracking and reporting for landfills there are still some challenges in getting sufficient information from those facilities. We currently have only voluntary information, estimates, or contractor reports for the number of facilities or the throughput of those recycling facilities in California. Incomplete data makes it challenging to assess our policies and grow the overall infrastructure for the state.

In terms of material flows, a significant amount of waste and recyclables flow within California and across its borders. It's a very dynamic system. We highlighted a brand new tool that we've developed, the in-flow out-flow maps that allow for the tracking of landfilled waste in-state and they also discussed the implications of export for a robust in-state recycling effort. We looked into the capacity of our infrastructure to handle solid waste and recyclables. And unlike in the 1990's we currently have sufficient landfill capacity. If we reach 75 percent recycling we will have a statewide

landfill capacity for another roughly 70 years.

On the recycling end, our current facilities in California, that we are aware of, are insufficient for instate recycling. Waste characterization studies provide crucial information that inform our policies and we have only limited information on the composition of the recycling stream. Future waste characterization studies will allow CalRecycle to assess its programs it and its progress toward its goals and our 2014 study again will be released in May of this year.

CalRecycle is currently evaluating its funding structure especially as declines in the amount of landfill waste decrease the department's revenues. This is particularly important as CalRecycle takes on additional responsibilities under the 75 percent recycling goal and other programs. And finally we evaluated California to other states and found that there are several other policies in place that could be useful both in terms of funding the department and for developing the recycling infrastructure and so with that I'd like to thank you very much for your attention.

We're going to take a short break and then regroup for questions and discussion relating to the reports and also asked if you haven't had a chance to sign we have sheets in the back of the room and invite you to do that. Thank you very much. [1:11:37]

Karen Morrison: All right, so at this point we're going to transition to public comments, questions, discussions, about the State of Recycling report and presentations. So, we have a couple of mics going around to use, and with that, open up the floor. [1:11:47]

John Sitts: If you raise your hands we'll bring a mic to you. Okay.

Chuck White: Okay, Chuck White representing Waste Management. I was interested in the discussion on the need for additional revenue for CalRecycle but the large chunk of that is to provide increased recycling capacity in order to meet the 75 percent goal, like in the hundreds of millions of dollars. I think it would be difficult to impose that as an increase in disposal fee and the idea of other types of fees, but I don't-- Is it really CalRecycle's responsibility to figure out ways that you should be funding these projects? Or is that kind of an open question as what should be the shared responsibility to develop the infrastructure necessary to provide this increased capacity? Are we looking at using greenhouse gas revenues? Other types of programs? Kind of-- What role do you think CalRecycle ought to be playing, in not only building the infrastructure, but also driving the markets? Because you can only push the stuff out of landfills so far, you've got to figure out a way to pull it out through increased demand. And that's always been a challenge for CalRecycle and the board before it, for the last 20 years, is to create those markets. [1:13:35]

Scott Smithline: So Chuck, thanks for the question. Before we dive into that particular discussion, while these guys are still up here and fielding the majority questions, I just want to ask if there's any questions that are specifically about the information in the report or questions about, you know, technical questions or the data or anything like that. And then if we handle those first, then we'll come back

around to the broader policy questions.

Chuck White: Okay, I've got one of those too. *[Laughter]*

Scott Smithline: Okay, thanks. [1:14:00]

Chuck White: You show that there's about a need to divert about 50 percent of the waste currently being disposed of in landfills in order to meet the 75 percent goal, and yet on slide 44, it looked like there was somewhat less than a 50 percent reduction in the disposal necessary to get that. And you don't have to respond to it now, but at some point in time I'd like to understand why. I think it is that slide you used to have there.

Karen Morrison: So, to respond to that specific point. So, it's not only disposal at landfills but disposal related activities as well. It's not just specifically looking at the land filled component of that.

Chuck White: So things like ADC as well? Is that you're talking about? The disposal related and other types of things that….?

Karen Morrison: Correct.

Chuck White: Okay, thanks.

Audience Member: Biosolids and sludges. Is there any-- What's your opinion?, What will happen in the future with that type of material?

Karen Morrison: So, we didn't specifically cover biosolids and sludges in the report. If those materials enter a landfill, we track those because we're tracking at landfills. In terms of the broader policy with regards to biosolids, it's something that we're continuing to discuss, and I don't know that we have a single solid answer for you today.

Ed Boisson: I'm Ed Boisson with Boisson Consulting. Is this on? Another popular topic **[missing audio]** about how you might have legislative authority on the books already, to require reporting from processing facilities and other facilities that take recyclables. Is that on the table at all? [1:15:00]

John Sitts: Well, we do have them **[missing audio]** Public Resources Code 41821.5 B, there is language that allows for the department to develop regulations for recycling and composting facilities. In my opinion that's always an option. [1:15:15]

Mike Hart: One of the questions for me on data that was missing in the report, I think it's, by the way it's a very good report overall, but I think there's a section that's definitely missing, and that is the amount of greenhouse gas that's coming from the landfills in the state of California. Because that represents, as Chuck White pointed out very correctly, **[missing audio]** in that revenue shortfall to taxes on greenhouse gas. So monitoring should absolutely be in there. It's consistent with all the

Governor's policies. So I mean, right there represents the biggest missing gap in that report. [1:16:15]

Audience Member: We were looking through the report, primarily in organics, and there was very little discussion of the recycling streams that aren't regulated by CalRecycle, such as the handling of the material that goes to cattle feed. There's a significant amount of organics that go that waste stream. Animal kitchen grease is an organic recycling that's been going on for years, as well as rendering. So those are-- It seemed a little bit incomplete what the State of Recycling is, when there's a significant amount recycling that wasn't addressed. [1:16:56]

Audience Member: [missing audio] Every time I read it in the report, curbside source separation, it doesn't seem to be anything that you called out when you talked about waste flows. It looks like you're just referring to materials that are being taken directly to landfills. Sort of an… almost an implication that the curbside program, that there's recyclables going to landfills when in fact there's a significant amount of source separation occurring at the curb, particularly in residential pick-up. When you're talking about waste flows you talk about materials going directly to landfills and there's really nothing in the report that discusses source separation and the amount of materials that are being source separated at the landfills that are going directly, sometimes to recycling or going through material recovery facilities. *[Audience Comment/Question: So the recovery that's happening at the landfills?]* Well, and not necessarily at landfills. Recovery that's occurring right at the curbside too. Source separation; so the material that goes into the green bucket is going to the landfill. Some of that is going to be, maybe picked through at the landfill, but again, I don't see any discussion about source separation here. There's a lot of talk about material recovery facilities but the impact that source separation has on recycling— [1:18:27]

[Audience question / comments]

Scott Smithline: So, your point is that we're not talking enough about curbside and basically the volumes of curbside? Or how that's participating in the State program? I think it's largely because we don't have the data. Right? We have-- we pointed curbside out as one of the main mechanisms in the flow chart because we know it exists, but none of that data is reported to us so, we don't know what to say about it, but it's a good point. [1:18:42]

Neil Edgar: Neil Edgar with Edgar & Associates. As someone whose, our firm's worked on developing this disposal capacity in market share information for… since 2002, and has encouraged the board, and now the department, to undertake this work. We're really encouraged to see this come to fruition. We also represent the California Compost Coalition and in specific to talking about the decline in green waste ADC use but there are a couple other factors that probably have not been identified and the major issue is land application of that material. In many areas it's cheaper than landfilling, and you folks received a comment letter on your compost and transfer processing rates from Kelly Astor in Southern California where it says 80 percent of the material that his clients collect, goes to land application. Trying to track that and quantify that would be helpful. I think that's a significant factor to the

lack of development of composting facilities, particularly in Southern California, is a lack of available feed stock. Also, green waste collection programs across the state continue to transition into co-collection for food scraps. There are over 50 jurisdictions now that are doing that. And there appears to be a disconnect regarding the use of green waste as ADC, once co-collection programs are implemented. Since Title 27 provisions forbids the use of green waste and food waste once they're collected for ADC use, is there a guidance to LEA's or have any programs been developed to improve the communication between the jurisdictions developing those programs to the LEA's and the landfill operators that are accepting the green wastes? Because we see evidence out there that there are landfills continuing to use green waste where co-collection programs have been implemented. [1:20:44]

Scott Smithline: Neil thanks for the kudos. I think we agree that this is important work for the department to be doing as well as me also. Thanks for the kudos on that. Also thanks for the comment on land application. Obviously that's a significant concern of the department too, simply because we don't have enough information about it to understand whether it's fully safe from an environmental perspective or what role it's playing in in the State. But it counts as diversion and as long as it counts as diversion, it's something that we need to know about and understand. So we're working on that. I don't want to go too far down a rabbit hole on ADC and food waste. If Mark DeBie is in the room and he wants to answer at this time he can. Oh, there you go, he just popped up. So take it away. [1:21:30]

Mark DeBie: [missing audio] ADC and found that for the relatively small sample that we looked at, some of the sites did have or were in areas of co-collection of green and food waste, that there was no use of that material as ADC. They were able to keep the green waste separate from the co-collected material. But ongoing, we continue to refine our evaluations of landfills and their use of ADC. We've done some recent training with our local enforcement agencies, as well as our internal inspection staff on methods to determine whether or not there might be potential use of co-collected material and how to evaluate that. It's an ongoing process, we'll continue to refine our ability to identify those issues. I'll finish my statement that co-collected green waste with food is not one of the ADC types included in the regulations. We have internally some strong opinions against the use of food as part of your cover. One of the ideas of cover is to reduce the attraction of vectors and odors and having putrescible material in your cover does not help with that situation. [1:23:20]

Audience Member: [missing audio] There we go, now I'm working. So anyways, good report and I've got a lot of comments on some of the policy stuff which I'll hold for later but I think those jurisdictional annual reports may be the place to find some of that data you're looking for.

John Sitts: Okay, and we do have some comments online that Mark will read out. [1:24:05]

Mark Umfress: Okay, so this one is from Diana Ramirez and she asks "*Has the analysis today included the Green Fence as a variable in the projections*?" and I know that the Green Fence has made aware,…. made us aware of the materials that

are not recyclables that do go to our partner countries and so, that is something that we are aware of. She also asks "*CalRecycle has projected a need for 50-100 new recycling facilities. How would we fund building those new facilities*? " [1:24:40]

Karen Morrison: So on to the second question first. That's part of our funding projections is to look at supporting the development of infrastructure and where we see ourselves going toward 75 percent recycling. In terms of the Green Fence, we're certainly very aware of that, and the implications for what the recycling markets look like in California. We didn't specifically include that in our projections, but it is something that we're starting to track, of what our exports look like and what the impacts of international policy are on what happens within California. [1:25:40]

Mark Umfress: We have another one from Patrick Owen "*Progress towards 75 percent State wide waste diversion goal will come more quickly if CalRecycle removes the artificial barrier between its sustainability and enforcement branches. We should all be working together.*" Just a comment there. And, I'm sorry there's one more from Ramesh and he asks "*Why not share some of the profits from recycling to address the gap in funding?"* [1:25:54]

Audience Member: Chuck with Republic Services again. I neglected to say also in the beginning of my other comments that I thought this report is extremely well done, and very, very useful. So, add my kudos to the kudos that are piling up on your shoulders John. This is more of a question I think, and I'll probably comment when we're looking at the solid waste program funding in the fee section,… I think when you're comparing it to other states, one of the types of fees that might have been overlooked here, because of its relationship to the tip fee, is the waste disposal - the WDR fees, that we pay the State Water Resource Control Board. They haven't been hugely significant in the past, but they seem to be becoming more and more significant every year in terms of increases. I think, you know, with a landfill now 50 to 70 thousand dollars goes into that. The other is local fees that play into this. I didn't see those being worked into the equation. I think when you come to the conclusion that perhaps, tip fees in California are lower than other states, compared to the amount of disposal we do, I think policy does drive that discussion to some degree, but there are a lot of other local fees that we tag on that do make a difference. [1:27:30]

John Sitts: So, in the report we do address that a little bit and acknowledge that in California we have shared responsibility with locals, and therefore, that fees and funding is a shared issue and that local fees figure in. And some other states, the states do almost all, and you know, so they would have a higher fee as well. So.

Scott Smithline: Okay, I didn't answer your question before. Do you want to grab a mic and ask it one more time Chuck? Because now we're getting into policy stuff. [1:28:15]

Chuck White: Okay, this is Chuck White again representing Waste Management. I guess. I mean, I would echo what others have said, it's a great report. It seems to me it does set the stage for a lot of pending legislative action that is out there Even though you're not sponsoring it, there's going to be some of these issues the report

raises I think that are going to be addressed this year. And one of the big issues is how are we going to fund these increased facilities? Is that going to be through CalRecycle? Is it going to be through local government? What is expected from the private sector? Private sector could make these investments if we saw a rate of return because the recycled materials-- The one comment we heard from a person '*well why not use the profits from recycling to help fund this*?' Well, my immediate response is what profits? Recycling is not necessarily a particularly profitable activity right now and so, in order for the private sector to step up and make investments, we're going to have to be shown that there is a sustainable revenue from the production of these recycled materials into commodities. And I'm just not clear how that's going to happen and maybe you aren't either. But it's something we're going to have to work together on because that's got to be the ultimate driver in getting these materials diverted from landfills. There has to be a profitable market for these materials to be used in the private sector and in California or elsewhere for that matter. So, I guess I'm just trying to understand where we're going to go with this and to what role should CalRecycle play in helping fund these. Through incentive programs? Through grant programs? But it can't all fall on the shoulders of CalRecycle. It seems to me it's got to be, it's got to be broader than that. [1:30:01]

Scott Smithline: So thanks for the question Chuck and I think you kind of answered it. I think we all have to figure it out together a little bit, and I think CalRecycle has a role to play. I think this meeting is part of our role; is to lay out these questions, develop these types of reports, and to establish a framework for that conversation. I also think that we do have a role in specifically funding some of this infrastructure. How we go about raising that money I think is another conversation we're about to embark on. Whether part of the reform involves raising that money in addition to just providing funds for CalRecycle to manage and oversee the infrastructure but to actually distribute funds in some form or another to help develop infrastructure is an open question. I also think that our sister agencies stand to benefit from the development of this infrastructure and I think that they also stand with a certain willingness to help invest in that infrastructure. So hopefully this begins that conversation of how we achieve that. But… we don't have clarity right now, you're right.

Chuck White: And I have to admit, I haven't read the report in detail, I've just skimmed it a little bit. But, is there any role for increased recyclable content of material in manufacturing of products that are either made in California or sold in California? That's kind of a huge issue that has all kinds of ramifications and I'm sure all kinds of different arguments on one side or another. But it seems to me, if you're going to increase recycling, you're going to have to stimulate the markets and one way to do that is require the various parties that use virgin materials or materials that could be made from recycling to have some sort of increasing recycled content if we're going to drive this thing from a market side. [1:31:53]

Scott Smithline: So I think part of the takeaway message that I have from this series of reports is that reliance, to the extent that we are an export market for recyclables, is complicated. Having in-state infrastructure, manufacturing infrastructure, won't solve all those problems, right? It didn't solve it when there was a global recession and if there's a global recession, State manufacturing is going to

suffer as well as out of state manufacturing. But it does solve some of the problems and when you start talking about how do you develop that in-state manufacturing base. Minimum content laws are one of the tools that we do look at, and are considering obviously. They're fraught with their own set of problems and they're very difficult in resource and intensive to implement. So, if there are ways and ideas of how we can develop and implement minimum content laws, you know, that's something we should be thinking about too.

John Sitts: And let's go to the e-mail questions.

Mark Umfress: This one is from Mike Mohajer. It's "*Did you mention that if we reach 75 percent goal by 2020, then the State will have enough disposal capacity through 2070 based on CalRecycle projection? If so, does it address regional basis capacity? Thanks.*" [1:33:10]

John Sitts: Yes. In both in the report and the presentation, we talk about having about 70 years of landfill capacity left and we do look at the regional breakdown. Both, you'll see it in the slides which we'll post probably tomorrow and in the report which is already posted, there's regional breakdowns for capacity as well. And hello Mike Mohajer.

Audience Member: [missing audio] from Republic. On the funding slide, I think the last slide that you showed, you talked about the need for 165-295 million dollars for infrastructure. **[missing audio]** from the 75 percent. So are these,… Are you envisioning **[missing audio]** [1:34:23]

Karen Morrison: Sure, I mean I think that would include incentives, grants, loans, payments to help stimulate the infrastructure as well as assistance to local governments and cities to get the programs up and running. I think that, you know again a portion of that 165-295 also includes staffing at CalRecycle, as well as making up budget shortfalls so that's all included within that number. [1:34:55]

Howard Levenson: The estimates on some of that upper, that larger chunk of what might be needed to help us meet 75 percent; they are very rough estimates. But they are based on the idea of either increased grant and loan funding for infrastructure of all types or the development of some kind of incentive approach. Dollars per ton, cents per kilowatt hour of energy, X cents for cubic foot of gas produced, things like that. And so they're estimates at this point. But it's the idea that if we had to overcome the differential between cheap landfilling and the cost of recycling, it would cost a lot and we need to have a very long term sustainable source of funding. *[Audience Member Comment]* Well I think Karen said order of magnitude. It's large, it's multiple. So-- [1:35:49]

Scott Smithline: The other thing to keep in mind, is that if we achieve 75 percent, it's a lot smaller base, we're down to somewhere between 18 - 20 million tons that we're actually using to leverage revenue. *[Audience Member Question / Comment]* Yes.

Audience Member: [missing audio] testified before the former board in this

department to do the town data track it's great. I think you've caught up. I really like a lot of it. I still think you know, now that we've caught up to this point, **[missing audio]** I'm concerned in two ways **[missing audio]** and it doesn't start in any open canyons **[missing audio]** report. It would be great if you could share a little bit more of the data, so we get a little more granular on this stuff. Otherwise you know what they **[missing audio]** [1:36:57]

Scott Smithline: So, for those who are having trouble hearing because the mic is cutting out, Matt Cotton was asking or reaffirming the point that we all did a great job on our report, but that he wants us to look further into land application and is looking for access to additional data. And so maybe I can be a little more granular in my response. So, the land app issue is not lost on us Matt. We're working diligently both with our sister BDO's and the Governor's office on this particular issue right now because we understand how important it is. It's consistent managing land app and understanding land and land app is consistent with us managing 75 percent. It's consistent with what CDFA is doing right now in the Governor's office issue work on sustainable soils and healthy soils initiative. So, we're working on it.

John Sitts: Well, and I just wanted to add that a lot of the data is available in the Facility Information Tool Box on our website and it'll get better as more people go in and put more information about their facilities in there. We are actively adding new facility types and activities such as curbside collection and, what's the other one we mentioned today? Oh, hauler information to that system. So, if you have additional suggestions or things that we should be tracking, we will pursue that. But we also have a plea to people to please help us get that data and keep that data up to date in FacIT. [1:38:28]

Rashael Parker: Hello, my name is Rashael Parker and I'm with Sierra Energy and we'd just like to express our appreciation for the efforts involved in creating this report. We believe it's a critical step in understanding and taking ownership of the waste that's generated in our State. So thank you for that. Former Assembly Member Chesbro referred at the beginning of this meeting about the role that waste has in climate change. We'd like to expand a little bit on that. Landfills are the largest human created source of methane. So this accounts for 8.2 percent of the greenhouse gas profile. Now, 8.2 percent doesn't sound all that great of a deal, except that the Intergovernmental Panel on Climate Change and California ARB has expressed that methane is 84 times more harmful and that is in climate change impacting than CO2. So in California, that 30.4 million tons of waste that's being put in landfills has a climate warming impact of over 56 million metric tons of CO2 equivalent a year. This is comparable to the emissions of 11.8 million vehicles on the road. It's also on par with the fourth largest CO2 producing industry in the entire nation. So, what we would like to see is more growth in the conversion of waste. The conversion would divert these greenhouse gases. It would create jobs. And if it was used to create hydrogen, it would generate millions in revenue for California and it would have the climate control impact of removing over 50 percent of the cars off of California roads. California is in its fourth year of record breaking drought. Nine of the ten hottest years on record of the earth's surface have now occurred in the 21st century. So climate change is a real issue. It's backed by science and President Obama has said that we need to meet this challenge by driving smart policies that

lead to greater growth in clean energy generation. So, what we would like to see in the report and in the future for CalRecycle, is to clarify and discuss the future of non-burning technologies, non-burning conversion technologies, such as gasification, independently from incineration. To expand the gasification categories to include new and emerging technologies. Currently they cover some outdated gasification technologies. To track the recycling exports that are coming out of California to better understand what the implications are that are happening at the destination To eventually include gasification and other non-burning conversion technologies under the 75 percent landfill diversion and to help establish a path forward for the regulatory structure of these new and emerging technologies. And most importantly we'd like to see the implementation plan be goal centric, performance based, and technology neutral.

Scott Smithline: Thanks. Mike, are you talking?

Mike Hart: Mike Hart, CEO of Sierra Energy. I'd like to amplify on what Rashael said. Again I'd like to compliment the work that's been done; it definitely does lay the foundation for the next steps. Again amplifying further on the comments about how we're going to pay for all of this infrastructure. I'd like to point out the mechanism already exists and it's here in this building. CaARB and their carbon tax already exists. If you take the 58 million tons of greenhouse gases created by the landfills in the state of California, and applied just on new emissions coming out in a year, at the current rate, you're talking about well in excess of 600 million dollars a year in revenue that could be generated to pay for new facilities, to help create that diversion. Obviously as time goes on, people would move less and less into landfills with these new tax costs, which satisfies the objectives of not moving towards 75 percent, but moving towards 100 percent, which is the real goal we should all be sharing. I would like to amplify again that gasification is the best proven technology to reduce greenhouse gas with waste and we would like to make sure that CalRecycle makes sure they use a scientifically accurate description of gasification and uses that in their reporting. Thank you. [1:43:00]

Scott Smithline: Thanks for your comments both of you. I'm trying to just to respond briefly. With respect to tracking of exports, I mean I think part of the reason that we've put forth this data here is because we have some level of concern about, not a high level of exports, but a high level of uncertainty of the ultimate fate of some of that material. And so that's something that's important to the department. 100 percent material that is exported is considered diverted and recycled and that's not technically accurate. How off it is from accurate? How inaccurate it is….We're interested in that equation. With respect to fugitive methane emissions from landfills, this is obviously something that's very important. The department, obviously it's more important Air Resources Board - that's within their regulatory purview, but it's important to us as well. We are very focused on eliminating the disposal of organics in the state of California. And one way or another, over time, we're not sure exactly how it's going to work-- We've taken some significant steps already, more need to be taken and we are working very closely with the Air Resources Board on that issue. And something that's being tracked very closely, particularly in the context of the short lived climate pollutant plan that the State, the administration, is delivering to the Legislature and is ultimately working on anyways. So more will be coming on that

front as well. With respect to other technologies, I think while there's not a significant amount of movement at this particular moment, there is still an interest within the Administration to look and see if there is alternative ways to take material that's otherwise disposed, that doesn't have a higher, better use and extract energy value from that material in an environmentally safe way. That is still and nut that we have failed to crack in it. It's still on our list and something that's important to the administration. Thanks.

John Sitts: And I do want to add that we have an annual report out of the Policy Office on exports of recyclables. So, we'll be coming out with this year's version in a couple more months. And we can go to questions online. I think we have one or two….

Mark Umfress: This question is from Ramesh, "How much of an impact can EPR (Extended Producer Responsibility) have on sharing recycling efforts / burden?" [1:45:10]

Scott Smithline: I'll try to answer that one. I think it's unknown. I don't think we know. I mean, I think EPR efforts the state has obviously prioritized those; there's been a number of them over the years. But, the approach we're taking on EPR in the State has not led to, you know, I would say,… it's not fast paced. You know, we're still focused largely on product-by-product EPR approaches and we're doing what we can in terms of singling out the products that are the best candidates. And you know, I think it remains to be seen. At current pace, I would say it's not providing a huge help in terms of moving tons on a per ton basis. EPR is not something that's significantly helping. It's helping on problem products in a significant way, and that's very important. But in terms of reaching 75 percent on a per ton basis, it's not something that's carrying a heavy lift right now. And I'd like to make one comment. This is also an opportunity for you all to tell us where you would like to see this data go in the future. This is obviously an initial series of reports and workshops. Part of the process here is to talk about the policy questions that this information raises. But another part of the process is for you all to tell us what type of information out of all this would be useful for you to see on a regular basis, on a biannual, an annual or quarterly update, an Annual Report update…. So you don't have to respond to that at the moment. But you know, a significant amount of staff resources went into developing this information. It's a much smaller list now to continue to update and track this data as we move forward. So, just be thinking about that and if you want to respond now, you can. [1:46:55]

Chuck White: Chuck White again with Waste Management. Scott, there had been some discussion, and there may be further, on what our friends with Sierra Energy were saying about increasing conversion as an option for handling some of these waste materials. There was a discussion a year or so ago, about waste to energy fuels and chemicals. That was something that I think you and others had talked about; it hasn't really moved further. There was a bill last year that opened the door a little bit to allowing some conversion technologies. Is there ways that we can work together to find a path going forward that these kinds of conversion technologies might be made more acceptable?

Scott Smithline: Thanks for the question Chuck. The question was “Are there additional ways to move forward on what was previously referred to, as waste to fuel energy and chemicals, in the state of California?” I think the answer is yes. I mean, I don't have anything new in particular that I can share with you at this moment, but I can tell you that this is still of interest and a priority to the Administration to address this issue. The Administration does recognize that the statutes are outdated, the Administration does recognize that there is at least the potential to be using material to a better use that currently it’s not. It's been difficult from a technical and political process to have this conversation. So, we are interested in pursuing it, and if you have ideas, please continue to share them with us and we'll be considering them.

Chuck White: And then the other part of what our friends at Sierra Energy were saying. They kind of jumped on landfills as a source of methane emission and with some reluctance, I want to respond to that a little bit. California has the most stringent controls over landfill methane concentrations of any place in the nation. We think the industry's done a very good job of responding to methane emissions. The whole history of how much methane is coming off of landfills dates back to a phone survey that was done by Chad Leatherwood about 15 years ago, where he called around to all the landfill operators and what was the emissions; and then basically a range anywhere from 50 percent capture to 95 percent capture and the mid-range of that is 75 percent, which has resulted in the default assumption that landfills are only capturing 75 percent. The point is, that there's a lot more I think we all can do, to determine what is the actual amount of methane emissions coming off of landfills. It's virtually impossible to put methane under a cap and trade program now from landfills because there’s just simply… there’s not any accurate way, People are working on ways to improve the methane emission calculations, but simply more work needs to be done before we start jumping all over landfills as a huge source because no one really knows. [1:49:47]

Scott Smithline: So thanks Chuck. In case anyone didn’t hear the question, it was a response to the amount of fugitive methane emissions coming from the landfills in the State, and Chuck's premise was that a lot of work had been done to landfills and California has the most stringent fugitive methane emission controls in the Country. So, I can assure you that our estimates are not based on a phone survey done 15 years ago. I don't know if I have any of our engineers in the room, but they spend a considerable amount of time and energy studying, and doing frankly, their own analyses. But you're right that this is a difficult subject because the sources are large area sources that are heterogeneous in emissions and very varied in feedstock and in construction. So you know, as far as the department’s concerned, this is one of those areas where we have to work with the best information available to us at the time. Make the best decisions we can based on the information available to us. Continue to get better data as we move ahead. But frankly, this is one that's easier to solve than it is to measure. And given the fact that there are a number of existing state policies that are all geared towards moving organics out of landfills, I mean, I think there's no question that's the path the state is taking. So whatever the fugitive methane emission rate is, and however close we get to being accurate with that, it's not going to change the outcome of the rest of the State policies, which is to divert organics from landfills. [1:51:15]

Bob Helton: Bob Helton, HF&H. I want to make a couple of comments about your funding discussion, which probably isn't too much of a surprise coming from me. I'd really encourage you to think about alternative funding mechanisms for the department and that you're really careful about furthering the addiction to disposal based funding. Really be thinking about diversifying; simply doubling, tripling, multiplying by ten won't solve your problem in getting to your funding needs, particularly if you start to look at that incentive funding. That isn't to say that there shouldn't be some differential between disposal syntaxes as they were, and what you collect from non-disposal activities. But I think you've got to look at broadening that. And in concert with that, then tracking the recycling related activities. Your report states 20-30 other states track more comprehensive recycling facility export data than we do is really important. As well with regard to the CRV program, tracking the import of materials to California MRF's upon which we then pay processing payments. Some of the biggest processors in the state have been recently self-reporting, I guess, that they're importing single stream materials to MRF's may have received those processing fee payments. I think that's something you guys ought to be looking at and dedicating some resources to, as we look at reforming the bottle bill funding. I think I'm convinced that a few dollars a ton at the facility, based on host fee payments, and franchise fee payments, and for interest fee payments on disposal facilities that exist at the local level, aren't going to significantly shift the behavior away from recovery activities and so you know, don't be too afraid about broadening that. And I think you know the comment from Republic earlier that you need to look at local fees on disposal and the impacts of those. You have communities like San Jose that gets $13 a ton or Alameda County that gets into the double digit dollars per ton in taxes on the facilities. What impact is that really having and does that form some informative baseline for you? And then in response to your question about the data. You know, we've got five years to get to the 2020 goal, and an annual update of this sort of data would help all of us understand: Where are we going? How quickly are we getting there? What are the gaps? And maybe getting more granular as Matt said. What are some of these other areas of diversion, quote unquote, that are happening? Are they the right types? Are they the wrong types? Is gasification or other thermal destruction processes really appropriate? What are all of the material flows? Getting some updates on that more regularly would be good. [1:54:12]

Scott Smithline: So with respect to the imported materials, obviously, that's like a big red flag. Like, why is that happening? We've invested in the beverage container program and we do invest a significant amount of resources into that. There are legitimate reasons why that material would come through the state. Obviously, if we're saying that only, you know, X-percent of the material leaving California ports is generated in California, that material is coming through to hit the ports. Is it grabbing some redemption and processing fees along the way? Well that's a problem if that's the case. And so we are devoting a significant amount of resources to addressing that. With respect to not being afraid to put a fee on recycling or non-disposal facilities, I mean I think we agree with you. One of the bullets that was up on the slide was how do we have a sustainable or I think was a diverse or sustainable funding mechanism for the state and I think part and parcel of that, of sustainability, is not being explicitly and exclusively reliant on disposal. How we implement that? What a fee looks like at a non-disposal facility, I think, is an open question. It might

look very different than what's happening at disposal facilities. With respect to the issue of what are the impacts of local fees? I don't think we know the answer to that question. I think there are some instances where material is leaving counties to evade fees, but I don't know how pervasive that is. So that's something that needs further study as well. And I'm off, I forgot the rest. Sorry, help me out. What did I forget? *[audience comments]* Oh right, so okay, two points on that. One is, what additional data do we need for it to be meaningful, to determine whether we're getting to 75 percent? And that goes to Section 41821.5 B of the public resources code. And then, annual updates. I think maybe that's an obvious one that we need to do. Thank you. [1:55:28]

Veronica Pardo: Veronica Pardo, California Refuse Recycling Council. I had some private conversations with Karen earlier about some information that I would like to see, more granular information as Matt has talked about and Mr. Helton, specifically around food waste recycling. I'd like to see that organics map maybe focused a little bit more where food waste processing is currently occurring, including animal feed and renderers and other outcomes or other processing facilities for that. Both what is currently happening and what our capacity is you know right now with the POTW's and some other facilities. I think that would be a really interesting subset especially as we move forward with 1826 and commercial organic recycling in California. [1:56:46]

Scott Smithline: Boy, I don't know how we access, I don't know how CalRecycle accesses food processing waste data. I know that the Water Resources Board has some of that data and some of that data was made available as part of the program EIR they did a while back, and some of that research was done but I don't believe we have access to that data, nor do I think. **[missing audio]** Oh, I'm sorry I misunderstood your comment. When it's happening at a solid waste facility, absolutely we would have access. I thought you meant food processors. *[Speaker Comment]* **[missing audio]** Oh that's, okay, yes. So that's something that we should be able to continue to develop. Yes, thank you. [1:58:08]

John Sitts: We do foresee this as an annual report that we'll update, and again, the more comments and ideas you give us, and the better data you share with us, the better these reports will be. Let's go to the question on the e-mail.

Mark Umfress: This question is from Veronica Baker in Canada and she says "In light of initiatives like the 75 percent initiative, AB 341, AB 32, which seek to divert organics from landfills, increase the production and markets for compost, and reduce greenhouse gases, are there any plans to move away from using compost as ADC material and counting it as diversion credit?"

Scott Smithline: So, I'm not sure I understand the question completely, but I think I can be at least partly responsive, which is the state of California has already adopted policy that would discontinue green waste ADC as counting as diversion in the year 2020. So with respect to that, I think the State has spoken. As far as the use of the material as ADC, that's not something that the state has taken a position on so there's no plan at this time to prohibit any material type used as ADC as long as it meets the functional requirements of cover. [1:58:48]

Alexandra Hoffmann: Hello, Alexandra Hoffmann, Recycle For Change. In CalRecycle's efforts to get to the 75 percent diversion goal, bearing in mind that in the 2008 study, textiles make up 2.2 percent of the overall waste stream and 4.5 percent of the residential waste stream, are you looking to develop any policy that addresses and promotes the diversion of textiles from the landfills? [1:59:11]

Scott Smithline: I'm not aware of any specific programs that we have right now that are focused on textiles specifically, but if there are any program staff in the room who can prove me wrong, stand now.

Howard Levenson: I wouldn't dare prove you wrong Scott, but I would just note that under the Greenhouse Gas Reduction Fund grants, textiles are eligible as part of that.

Audience Member: There was a brief mention of the 2008 Waste Characterization, the forthcoming May Waste Characterization Study. Do you still anticipate that that will have some useful data on generation rates by food generator types: restaurants, large--

John Sitts: Absolutely. The 2014 Waste Characterization Study looks at both landfill disposal with our usual study, and also looks at generation from different business groups. So yeah, if you thought this was exciting, Nancy Carr has paid me to say that the waste characterization presentation will be even more exciting. So that will be in May.

Scott Smithline: Okay, well then if there's no further questions? Okay, we'll wrap this particular workshop up. So thank you everybody very much for coming. Let’s give a round of applause to the staff.

John Sitts: And I just want to say what a great job that Karen and Peter and Mark did. Both preparing these reports and in these presentations, and I appreciate that greatly. Thank you. [2:00:43]