

September 27, 2004

**RESPONSE TO COMMENTS: 30-DAY PUBLIC COMMENT PERIOD FOR THE REVISED LEGISLATIVE REPORT REGARDING THE STATUS OF, AND RECOMMENDATIONS PERTAINING TO THE MINIMUM CONTENT REQUIREMENTS OF, THE PLASTIC TRASH BAG LAW (AUGUST 2004)**

**INTRODUCTION**

Board staff is appreciative of all stakeholders who submitted comments pertaining to the draft report. This document summarizes staff response. Staff recognizes that the draft report fails to mention some of the comments from the Plastics White Paper specifically about the trash bag program. The Board did not adopt all of the recommendations contained in the Plastics White Paper. However, at its June 17-18, 2003 meeting, the Board did adopt several preferred recommendations stemming from the report. Specifically, to increase the diversion of plastic discards from disposal, the Board directed staff to work on the following topics:

1. Continuation of a Board-led collaborative process;
  - a. Monthly Interested Parties meetings;
  - b. Workshops (Ag film workshop; plastic trash bag exemption workshop; recycling rate workshop; etc.)
2. Research and development of technologies;
3. Development of an approach to product stewardship and financial responsibility for plastic; and
4. Development of educational and outreach materials, especially regarding the plastic litter problem.

Board staff are currently working on several projects consistent with this direction, including: the continuation of a collaborative process through monthly interested parties meetings, and workshops addressing specific plastic recycling issues; development of Quality guidelines for use by plastic processors to improve the quality of post-consumer material (PCM) available to end users; researching the performance and compostability of biodegradable plastic products; assisting in the promotion of industry sponsored litter prevention and plastic film collection programs; and engaging stakeholders in a public review process for this very report.

While the Board recognizes the plastic trash bag law in its current form does not divert significant amounts of plastic from California's landfills, and that it results in PCM being used in products destined for the landfill, the law does, however, for the most part accomplish what it was intended to do, help support markets for PCM produced in California. Board staff makes this assertion based on what processors have reported to Board staff, specifically that this law has been important to them in that it has provided a market for their PCM. However, Board staff agrees that there are other, better end uses for PCM than trash bags. In that regard, one important affect of the trash bag law has been to keep stakeholders engaged in a process to develop a better solution to film plastic recycling.

In summary, when the Board accepted the PWP, it recognized the limitations of the plastic trash bag law, and directed staff to work with stakeholders to develop possible alternatives. However, the Board did not support elimination of the law without a more comprehensive solution first being proposed as new legislation. This draft report follows through on that direction by making specific legislative recommendations to provide for a more comprehensive solution. The recommendations delete the certification requirements on trash bag manufacturers, and instead establishes a certification program on a segment of the plastic film industry that will have a much more significant impact on diversion. In the recommendations Board staff proposes to include a wider range of compliance options in a refocused certification program, and also recommends a financial means for supporting the increased collection and processing of plastic to provide regulated manufacturers with the quality PCM they need to fully comply with the law.

The draft report has been updated accordingly and is now available for a 15-day comment period beginning September 28 through October 15, 2004. Board staff will continue to work with stakeholders in a collaborative process as the report is finalized. The report is scheduled to be considered by the Board at its November meeting.

### **GENERAL COMMENTS**

**Comment 1:** We have a long history of working with CIWMB to source quality PCR and feel the report was not vetted with stakeholders before it was released. It doesn't reflect stakeholder input. We would recommend that the board withdraw the recommendations in the current report and implement a comprehensive approach to the film and bag sector after the waste characterization study is complete and we know what film segments are being diverted and which are taking up landfill space. At that time, all stakeholders should be drawn into the discussion - from retailers and grocers, to agriculture users and recyclers- in addition to the plastic manufacturers themselves. It is strongly recommended that prior to final recommendations and implementation that input be received from the distributors and ultimate end users of the various films and bags as to whether recycled content film would meet their requirements and packaging needs.

**Response 1:** The public review process we are currently engaged in is for the express purpose of allowing public comment on the draft report. There are many stakeholders who have an interest in the outcome of this report, so staff did not believe it appropriate to meet with individual stakeholders prior to releasing the draft report. Staff believed that the appropriate course of action was to release the draft report to all the stakeholders at the same time for a 30-day comment period; thus giving all stakeholders equal time to submit their comments on draft report.

Regarding stakeholder input, the recommendations in the report were developed specifically based on consideration of the compliance challenges reported by regulated manufacturers. If it is implied that the report doesn't reflect stakeholder input because staff does not recommend repeal of the law; then that is true. The Board has made clear that it would not support repealing the law in the absence of some more comprehensive solution.

**Reference: 2, 3, 4, 5, 10 and 11**

**Comment 2:** We support the reference that grants and low interest loans could further the development of the state's plastics recycling infrastructure, however, we are adamantly opposed to any specific fee or tax on plastic manufacturers or products to fund such initiatives. Instead CIWMB should examine its array of existing resources and programs, streamline those that appear to be obsolete and ineffective (e.g. plastic trash bag program) and redirect available funding. Assuming that SB 1729 (Chesbro) is enacted, funds previously spent on calculating a statewide rigid plastic packaging container (RPPC) could be made available for plastic film supply and market development activities. The trash Bag Report clearly states that it is not possible to enforce the current requirements on imports of plastic bags. By proposing a mil tax on all plastic film and bag products, imported bags will become even cheaper and more readily available.

**Response 2:**

The PWP recommendations adopted by the Board direct staff to incorporate the concepts of product stewardship and financial responsibility into its existing efforts to increase the diversion of plastic, and in the development of a more comprehensive solution to plastic. Plastic manufacturers must adopt these principles if plastic recycling is to increase significantly. A mil fee could be implemented in such a way to provide money for financing plastic collection and processing initiatives, and address the issue of imported bags not being impacted by the current trash bag law.

Simply redirecting limited staff resources and contract dollars toward efforts to increase collection and expand markets for recovered plastic will not have a significant impact on plastic recycling markets. The staff resources available for redirection are the equivalent of one staff position (approximately \$100,000), and some assistance from the Department of Conservation. There are no contract dollars available for plastic film recycling. Rigid plastic packaging container contract dollars cannot be redirected for development of collection and processing efforts for plastic film. However, staff resources will be redirected to plastics market development.

That does not, however, by any means, relieve industry responsibility, whether voluntary or mandated, for end of life management of their products. To that end, a mil fee assessed on film products could provide significant capital to invest in the systems and facilities that could make a real difference on the amount of plastic recovered for recycling. For example, after the Board led workshop on agricultural film recycling, the consensus was that a washing facility for agricultural film was needed. However, no one in the private sector is willing to accept all of the financial risks associated with this type of project. A mil fee could help fund these facilities, thus reducing financial risks, and making possible the construction of these types of plants.

**Reference: 1, 3, 4, 6, 10, and 11**

**Comment 3:** I am totally supportive of a mil tax to fund the necessary improvements to the collection and processing infrastructure in California to supply the amount of plastic resins necessary to meet the current minimum recycled content requirements.

**Response 3:** Comment noted.

**Reference: 9**

**Comment 4:** Enforcement will be extremely difficult to manage and will put CA manufacturers and distributors at a disadvantage in regard to price and quality as there are many out of state manufacturers, as well as products being imported that will have no PCR requirements. The report's recommendations create a greater regulatory burden. What penalties have the wholesalers been subjected to as a result of their disregard of the law? Why should manufacturers subject themselves to the difficulties of sourcing PCR, processing this material, and enduring the customer complaints received as a result of its usage, when the penalties for non-compliance are non-existent?

**Response 4:** Staff recognized that regulated wholesalers needed to be held more accountable for their actions, and that a level playing field is essential for maintaining the competitiveness of domestic manufacturers. The current law only penalizes wholesalers for failure to report locations from which they ship regulated trash bags into the state. The only penalty for failure to report is that non-compliant wholesalers are not allowed to contract with the state.

To redress this situation, Board staff believes that there should be a financial mechanism to collect fees from wholesalers or retailers to help support collection infrastructure and market development for film plastic. Per bag fees assessed at the retail level is one mechanism for accomplishing this. Such fees have been, and are actively being considered at both the state and local level. While Board staff supports the need for assessing fees, staff believes there is more efficient, fair and equitable approach to assessing fees.

Specifically, Board staff is proposing to collect fees from non-compliant wholesalers and/or manufacturers who fail to meet one of the compliance options proposed in the draft report. This approach deals with concerns about wholesaler accountability by recommending that any wholesaler buying from a non-compliant manufacturer itself be deemed to be non-compliant. Furthermore, to introduce an element of fairness into this approach, the draft report also recommends that the mil fee be waived for from compliant wholesalers and manufacturers. The result being that the correct incentives and disincentives are given to industry, and a fund is established to support collection and market development projects using money collected from non-compliant companies.

**Reference: 2, 4, 5, and 6**

**Comment 5:** Plastics are subject to strong market forces and international dynamics. It is difficult to artificially force closed-loop plastics recycling when market forces may dictate open-loop plastics recycling. Fees and penalties won't increase compliance because the PCR supply is still lacking and the cost of compliance is already high even though with equipment modifications we are only getting 2-3% PCR into the products. The University of California, Chico study has shown that PCR manufacturers will be required to invest large sums of money in terms of time, training, capital equipment, and manufacturing/quality control technology if they have any reasonable expectation of manufacturing a film extrusion grade material. We question whether this is the best way for California to spend its limited resources on a grand total of 5% of the solid waste stream in the state.

**Response 5:** The 1999 Waste Characterization Study found that plastics comprised 8.9 percent of the waste stream, plastic film comprising about half that amount. In addition, on a volumetric basis, plastic is between 15-20 percent of disposed waste. Furthermore, Board staff believes that the plastic component of the waste stream has grown since then, while at the same time there has been no increase in the percentage of the plastic waste stream being recycled. Board staff believes that the recycling rate for all plastic is still less than five percent. Far behind other material types (glass, aluminum, paper, organics, metals) which all exceed a 20 percent recycling rate. If the Board is to help achieve a statewide diversion rate of 50 percent, and more that that, meet its zero waste goal, then the intractable problem of plastics recovery and recycling must be overcome. In addition, plastic released into the environment continues to have significant adverse environmental impacts. The state needs to continue to examine approaches to help mitigate for this problem as well.

Board staff agrees that truly effective comprehensive solutions will be expensive to implement. That is precisely why Board staff is proposing a mil fee to fund those programs and projects that would increase the available supply of high quality PCM. These funds would be used to establish the necessary systems and facilities for increasing the availability of quality PCM that can be competitive with virgin resin, and conducive to use in open loop recycling alternatives. The PCM made available through increased collection and processing of plastic materials should greatly exceed the amount needed by plastic film manufacturers, and would be available to other end users. Thus expanding open loop recycling opportunities.

**Reference: 4, 6, 7, and 10**

**Comment 6:** We do not feel industry groups should be allowed to demonstrate compliance through an industry - average. Because PCR costs more than virgin material, and is more difficult to utilize in making trash bags, manufacturers have a financial disincentive to comply with the spirit of the law.

**Response 6:** The recommendations allow for individual companies to comply through the use of corporate averaging, but does not provide for a demonstration of compliance based on an industry wide average. The mil fee would also provide an effective incentive for companies to comply with the law. In addition, the mil fee could help to further reduce the cost of PCM, while at the same time increased crude oil costs should increase the cost of virgin resin. Making high quality cost competitive PCM, a highly marketable commodity.

**Reference: 4 and 8**

**Comment 7:** Increasing the gauge to meet the 10% PCR has resulted in more plastic into the landfill which is counter to the goal of source reduction and is against the industry's natural direction of using improved virgin resin technologies to make the bags thinner and stronger. Given the maturing recycled plastic film markets, this material would have likely been collected and recycled into longer life applications. Use of PCR requires thicker gauge product especially in trash bags, pallet covers and tarps. Instead of reducing waste there will be a considerable increase as products will need to be up-gauged as much as 15% in order to meet the same functionality as a product made of virgin resin.

**Response 7:** Staff agrees that increasing the gauge of plastic film products in order to comply with minimum content is counter-productive from landfill diversion viewpoint. Minimum recycled content mandates do, however, support markets for PCM. Staff believes that there is another consideration to take into account on this issue. Specifically, a mil fee could also be used to incentivize light weighting, as well as fund washing plants, and possibly chemical recycling plants, that will allow for the production of very high quality PCM that is near to virgin resin in quality. Thus a mil fee could support both source reduction and production of a value added recycled content manufacturing feedstock.

**Reference: 1, 2, 4, 5 and 6**

**Comment 8:** The draft report concludes, "by expanding the minimum content requirement to all film products a significant incentive would be created for the recovery and recycling [of] more post consumer material. The demand for recycled plastic film already exceeds the available supply. Such a policy would only widen the gap. CIWMB should focus its efforts on increasing the available supply of plastic film material instead. Forcing other film manufacturers to use PCR demonstrates a fundamental lack of appreciation for the technical and economic challenges

in other film applications. Agricultural film is an engineered product, requiring specific additive packages to protect it against sunlight, specific color, and processing ability. Construction film has similar requirements for color, outdoor life, and production processing. Stretch film is a poor candidate for PCR addition, as the slightest imperfections or contamination in stretch film cause the film to break during its application to the shipping pallet. Since there is not enough quality material to support the needs of the trash bag industry, which itself is not in full compliance, the idea and expanding this to other film products is impossibility. Most other film, especially packaging application, would not tolerate the quality deficiencies (odor, contamination) with which we have had to deal with. We are asking the board to recognize that while there is room for improvement in this industry, the trash bag law is not an appropriate law in the blown film-manufacturing arena. We need the staff and board to understand that a plastic can liner is very different than a t-shirt bag; that agricultural film is very different than stretch wrap. We need the board and staff to understand that expanding this law to all plastic film will be disastrous to the film industry in California.

**Response 8:** The laissez-fair argument that the plastic lumber and export markets provide adequate, existing markets, given the sheer amount of film being disposed of, is not accurate. Furthermore, in the past the export market has proven to be volatile. There is no guarantee that this will continue to be reliable out let for recyclers.

This again raises the issue of product stewardship and financial responsibility. A mil fee could provide the funding needed to create the infrastructure necessary for producing near virgin quality PCM that can then be recycled through an open loop concept. If the quality of PCM were near virgin, then many of these technical problems would be moot. This approach would have the added advantage of creating jobs in the state, and keeping increasing valuable plastic materials, given the raise in crude oil costs, in the state and in the country.

In addition to the above, Board staff does agree that to expand minimum content requirements, collection must be increased to meet the increased demand that would result. However, given that 1.4 million tons of film was disposed of in California in 1999, and the new waste characterization study is likely to show that the number is even higher, it holds true that if diversion is going to be significantly increased, then there must also be a corresponding effort to increase demand.

**Reference: 1, 3, 6, 10, and 11**

**Comment 9:** The recommendations of the staff report do not contemplate, and never entertain the possibility of, repeal of the plastic trash bag law. Instead it proposes to extend the plastic trash bag model to film plastic products, while proposing a funding solution with the goal only of making up the defect of recycled materials in the trash bag law. Repeal the PTB Law, as it is obsolete and ineffective. It has shown the difficulty of attempting to micro-manage plastics markets via minimum-content requirements over a period of time. Lastly, we need the staff and board to understand that this is not a group of manufactures fighting a change or a better way, but simply an industry saying that we have done everything we can to adhere to this law over the

last ten years. That we as an industry have shown raw data indicating the effects PCR has on our products and that this law scientifically and economically does not work in film applications.

**Response 9:** As Board staff has stated before, when the Board adopted its recommendations out of the PWP it made a determination not to repeal the law until something better was ready to replace it. The recommendations in the report now propose to remove plastic trash bags from the law, and instead propose a program that constitutes a wider approach to film plastic recycling. The proposal includes the concepts of product stewardship and financial responsibility on the part of plastic's industry. This is necessary due to the challenges associated with recycling plastic due to its low weight to volume ratio, which make collection and transportation expensive, and due to the need to clean it prior to processing in order to make a high-value, quality added recycled content manufacturing feedstock.

**Reference: 1, 4, 6, 7, and 11**

**Comment 10:** CIWMB staff suggests that claims made about the competition for material by plastic lumber manufactures "have not been fully documented to the Board's satisfaction." We would be interested in a detailed explanation of how Board staff arrived at this conclusion and what type of documentation would be satisfactory.

**Response 10:** This issue has been raised many times, but staff has heard conflicting information on this issue. We're not asking for additional documentation, however, staff recognizes that the plastic lumber industry is a significant market outlet for plastic film. Board staff will clarify this statement in the report.

**Reference: 1**

**Comment 11:** The post consumer content that companies purchase to be in compliance with these programs does not necessarily come from California, and in fact usually are from outside of the state and not country. 3,400 tons of PCR was imported into the State of California to meet the law's requirements. This means the net reduction of waste temporarily diverted from landfills was only 1,600 tons. What is the source for the reference to the fact that "Only about 20,000 tons of film plastics are recycled?" What is the basis of the statement that "supply of post consumer material both in California and nationally has declined since 2000?" Perhaps this statement should be amended to include the caveat that the supply of post consumer material "available for use in plastic trash bags in CA" has declined since 2000.

**Response 11:** The recycling estimate is based on 1999 Waste Characterization Study showing that film plastics were recycled at 1.2 percent rate. We used a rate of 1.5 percent multiplied by 1.4 million tons to generate about 20,000 tons recycled. The Society of Plastic Industries production data indicates about 1.4 million tons are generated in California each year. These two numbers would indicate little if any recycling of film plastic. The certification data shows 5,000 tons recycled each year. With the relative amount of all film plastics to film for trash bags, an estimate of 20,000 ton is reached.

In regard to the PCR analysis in the above comment, and its conclusion of a 1,600-ton reduction, a more complete analysis would be to look at the amount of total plastic going to landfills from plastic trash bags. For example, the non-California based manufacturers accounted for 83 percent of the non-regulated trash bags sold and presumably disposed in California's landfill in 2003. These bags added over 28,000 tons of non post-consumer plastic matter to the landfills.

Further, the nearly one-quarter of the post-consumer material from outside of California was used by California-based manufacturers to produce regulated trash bags. Out-of-state manufacturers who make regulated trash bags used about one-third of California post-consumer material.

The statement regarding the supply of PCM was made in two sections of the draft Report. The primary section where the statement was made is titled "2003 Certifications (sic) Results and Findings." This section deals with the results of the trash bag manufacturer certifications for years 2000 through 2003 including documentation provided by manufacturers requesting exemptions from the post-consumer material mandate. The manufacturers' filings indicate significant declines in the material available and used in trash bags. The manufacturers requesting exemptions engaged in extensive searches for material and claim that there is an inadequate supply of post-consumer material available to them. Some of this lack of "supply" is due to contamination of the film plastics that make it difficult to use in applications such as trash bags. These manufacturers and material suppliers state that there is material that is available to buyers who do not have significant issues with the amount and/or type of contamination.

**Reference: 1, 6 and 10**

**Comment 12:** While the advent of bio-based products continues to evolve, the report should make a strong statement that bio-based products are a significant contaminant for reclaimers of polyethylene based film products. Great care should be exercised to prevent the contamination of existing recycling programs and markets.

**Response 12:** You refer to bio-based, but it is not clear to staff if you really meant biodegradable. Based on literature review, Board staff has found that biodegradable products are not a significant contaminant under current marketing conditions, and in fact up to 10 percent can be incorporated into plastic products.

**Reference: 1**

**Comment 13:** We believe, biodegradable film plastics should count towards the 10% PCR requirement, i.e. every pound of truly degradable plastics a manufacturer sells in Ca, would

count the same as if that manufacturer had used a pound of PCRM in the production of regulated trash bags.

**Response 13:** We will continue to explore this concept, but there are issues about how to count the use of biodegradable materials toward the minimum content requirements. This could be further explored at the next IP meeting.

**Reference: 8**

**Comment 14:** I understand manufacturing plastics with virgin resins costs less, so anything requiring recycled content plastic will cost more. The goal is to close the loop and reduce the reliance on virgin materials. Ultimately the consumer will pay the added cost, if all manufacturers are treated equally. The proposal to develop a tiered cert structure may create loopholes and exemptions, which circumvent the goal of reducing the use of virgin materials, and increasing the recovery of waste plastics.

**Response 14:** Historically, the price of PCM has been cheaper than the price for virgin resin, and remains so today. It is true that the source reduction and biodegradable compliance options do not support markets for PCM, but they are consistent with Board's waste management hierarchy of source reduction, recycling and composting. Staff believes it is therefore appropriate to recommend that these compliance options be a part of the trash bag certification program.

**Reference: 9**

**Comment 15:** It is fact that quality certified PCR is very hard to find. Most recyclers have mixed color PCR. In any one box of PCR there will be a multitude of different color pellets. These different colors make it impossible to use in the production of white, clear, orange and blue liners. In efforts to achieve the 10% law some manufactures have tried sourcing pure white, pure blue and clear PCR. This has proven to be extremely difficult if not impossible. What we have been able to source has been in very small quantities and so contaminated that the bags barely function. Using this poor quality PCR is very costly for manufactures; more machine maintenance, more down time, less pounds produced and higher labor costs. Plastic that is placed around dry cleaned clothes would potentially need to contain PCR. High clarity is of the utmost importance in this application. As mentioned earlier it is almost impossible to source clear PCR let alone high grade clear such as needed by the dry cleaning industry. In addition to the clarity challenge the product would need to be completely odor free. PCR has a tendency to have a burnt plastic smell or in many cases an odor of rotten food or manure depending on the source. Placing this around cleaned clothes is not advisable. This is just one of 50 examples the industry can give and has given to staff members in regards to why film applications are a terrible end-use for PCR. It has been shown to board staff that there are proper applications for PCR, but film and bags are not one of them. Plastic lumber has been a major end-use for recycled products where the grade of material is not vital. There are durable plastic products that would be appropriate for this material. The life span of durable products is measured in years - not days or months such as with can liners. This is fact and cannot be refuted.

**Response 15:** Board staff recognizes the challenges associated with using PCM in trash bags and other film products. The tiered certification structure was specifically intended to address this problem by providing companies with a range of compliance options to choose from. Including source reduced, recycled content, corporate averaging, and biodegradable options. In addition, the mil fee is intended to ultimately provided a higher quality PCM that manufacturers will be able to use in their processes more easily.

**Reference: 6**

**Comment 16:** CIWMB staff suggested at the Sept 2, 2004 Plastics Interested Parties Meeting that their intention is to identify proposals to increase film collection, processing and market development and urged stakeholders to provide ideas. Following is a list of activities that can promote the diversion of plastic film products:

- CIWMB should work with APC to promote [www.PlasticBagRecycling.org](http://www.PlasticBagRecycling.org) at the state and local levels. This online resource is a tool for consumers, businesses and public agencies to identify local plastic film recycling opportunities and implement new recovery programs. CIWMB should conduct statewide public education efforts to expand awareness of this service, utilize existing staff for technical assistance and promotions work and brainstorm with stakeholders on how to best facilitate the increased collection of plastic film products, particularly the low hanging fruit.

**Response 16(a):** Board staff will meet with APC representatives to discuss how the Board can help to promote this resource. Board staff intends to focus resources on increasing collection and will engage state and local stakeholders on how best to accomplish this.

- CIWMB should consider holding regional forums for local governmental recycling coordinators, businesses and industry to identify realistic short-term solutions to increasing recovery of clean plastic film products and should consider partnering with local chambers of commerce to identify businesses that are large generators of material and work collaboratively on implementing joint collection, baking, and transportation solutions.

**Response 16(b):** Comment noted, and it would be productive to include commercial film collection in these efforts.

- CIWMB should work with the Legislature and the Administration to identify regulatory and tax barriers that hamper the siting and operation of new plastics collection equipment or recycling facilities.

**Response 16(d):** The Board's Recycling Market Development Zones and Loans program is specifically intended to help fund and site new facilities. Board staff can explore the question of tax barriers with stakeholders.

- CIWMB should consider supporting a tax credit for companies that are willing to serve as a regional plastic film drop-off location for neighboring businesses that generate scrap plastic film. These businesses could also receive a tax break should they be willing to purchase cleaning or baling equipment.

**Response 16(e):** The Board administered a tax credit program in the early 1990's and made a determination not to seek the renewal of the legislative authority for this program due to its ineffectiveness.

- CIWMB should support legislation that eliminates the restriction on the ability of local jurisdictions to only partially meet mandated diversion requirements through activities other than recycling, source reduction and composting. Plastics that cannot be economically recycled could be available as feedstock for conversion technology programs and or energy recovery efforts.

**Response 16(f):** Board staff does not support increasing diversion credits for using plastic in energy recovery facilities due to the potential adverse environmental and health impacts resulting from burning plastic products. Board staff does support the concept of diverting plastic film through chemical recycling technologies. Recycling of plastic film back to its chemical building blocks for use in the manufacture of high quality PCM could result in opening significant new markets for PCM.

**Reference: 1**

**REFERENCES**

1. American Chemistry Council
2. California Bag & Film Alliance
3. California Film Extruders & Converters Association
4. Clorox Company
5. Elkay Plastics Co., Inc
6. Heritage Bag Company
7. Poly-America, Inc
8. Presto
9. City of Santa Clara
10. Society of Plastics Industry – Film and Bag Federation
11. Thursday Group