July 16, 2012

Ms. Caroll Mortensen, Director
California Department of Resources, Recycling and Recovery (CalRecycle)
1001 I Street
Sacramento, CA 95814

RE: California's New Goal: 75% Recycling (May 9, 2012)

Dear Director Mortensen:

The American Chemistry Council (ACC) appreciates the opportunity to provide this initial feedback to the above referenced report. ACC supports further increasing the amount of material that is diverted from disposal, such as efforts described in Section 3 of the report aiming to increase multi-family and commercial collection. We look forward to working with you and other stakeholders to achieve that objective. To that end, we offer the following comments:

Introductory Information

At the outset, we encourage CalRecycle to embrace its vision – landfill diversion – with terminology to match. The goal of this exercise should not be to reach 75% recycling; rather to achieve as close to 100% landfill diversion as possible, by reducing, reusing, recycling and recovering materials in an environmentally efficient way. Recycling, in other words, is just one of many end of life, post-use options for material in lieu of landfill disposition, and the term "recycling" should not be used as a catch all expression for all these options. Recycling, for example, does not mean the same thing as composting.

That said, we support the fundamental vision – greater diversion from landfill. Further increasing the amount of material diverted from disposal will require the integrated use of all waste management approaches, so we urge CalRecycle to embrace a broad approach to "materials management" by exploring all waste management approaches (e.g. recycling, composting, source reduction, and energy recovery) that make sense environmentally and economically. And we encourage the use of terminology that describes the options clearly, and the use of specific umbrella terminology that aggregates all diversion options, such as "Aggregate Post Use Diversion."

1f Increase Collection Efficiency/Quality

ACC agrees with the notion of ensuring curbside/drop-off programs are operating efficiently and capturing the maximum amount of material. Localities should undertake efforts to increase capture rates at curbside/drop-off programs until they are maximized.

ACC funded research (http://plastics.americanchemistry.com/National-Reach-Study) has shown that there are many effective educational tools utilized by local governments to inform consumers about those materials collected locally for recycling. The use of these tools should be maximized to increase consumer and business participation in recycling programs. The report, conducted by Moore Recycling Associates concluded among other things that

> "There is much work to be done across the country in providing the public with clear and concise information when it comes to learning about recycling programs, especially online. As mentioned above, many communities are providing clear recycling education but others continue to use the resin code or incorrect information. There is a pressing need to develop a universal language to describe items acceptable for plastic recycling. Current city

and county outreach materials leave too much room for personal interpretation, and most of it is confusing. Creating standardized outreach, such as the example from Santa Barbara County, would be invaluable and reduce the confusion surrounding plastic recycling collection. This would help increase the capture rate in those communities that do collect plastic beyond bottles."

ACC encourages CalRecycle to review the research and explore this issue further as one means to enhance curbside collection programs statewide.

4a Extended Producer Responsibility

ACC believes that all stakeholders – manufacturers, retailers, consumers, solid waste handlers/recyclers, and state and local governments – play a role to ensuring that products and packaging materials are recycled and/or disposed of properly. In fact, many packaging manufacturers are responding to customer and consumer demand by improving the environmental footprint of their products by utilizing less and less material in the production of plastic packaging. These "source reduction" efforts have tremendous environmental benefits and reduce waste disposal.

Unlike a "shared responsibility approach" extended producer responsibility (EPR) models are environmentally limited because they focus too narrowly on product end-of-life. While this is a very important part of a product life cycle, a narrow focus essentially regulating just the end of life of a product or material can skew user preferences toward products with a less environmentally favorable profile. An EPR construct regarding packaging, for example, could result in substitution of heavier packaging, with net increases in greenhouse gas emissions as heavier product loads mean more fuel used in transportation. ACC believes public-private initiatives and programs,[1] as well as innovative energy recovery solutions, are much more effective and should be maximized as a policy goal.

EPR models have other limitations. First, they require government intervention in private markets, and bureaucratic infrastructure to oversee EPR modeling, since the government has to tell private producers how to layer additional EPR costs into products. Added bureaucracy itself adds costs and ultimately the consumer (the users of the products) assumes all or part of that cost. The government also has to explain to consumers why and how this cost is being added. Second, the models fail to engage the participation of all stakeholders with an interest in solid waste diversion. Effective programs to address diversion must engage everyone in the value chain – product manufacturers, packaging manufacturers, businesses and consumers – as part of the solution. There is very limited data available to date assessing the effectiveness of EPR, and since the American Institute for Packaging and the Environment plans to release a research report on global EPR programs in early 2013, we strongly encourage CalRecycle to wait to review the new data in this important forthcoming report.

4b Packaging

ACC is thrilled that we and other stakeholders have been successful in continuing to grow the recycling of plastic materials. We want to continue that success story to the greatest extent possible through public-private partnerships, education, and other programs that maximize the participation of all stakeholders and the use of the private market for recycled materials. We recognize that some stakeholders have suggested that certain materials, primarily plastic, be

---

[1] ACC supports the Association of Post-Consumer Plastics Recyclers (APR) "Design for Recyclability Guidelines" which helps "bottle innovators, plastic bottle designers, fabricators, and packaging decision-makers to understand how packaging design decisions can affect container recyclability and to design packages to be compatible with the broadest range of recycling operations and technologies." ACC is working with APR to develop guidelines for thin-walled rigid plastic containers and plastic mono-layer film packages to further facilitate recycling.
http://www.plasticsrecycling.org/technical-resources/apr-design-for-recyclability-guidelines

ACC has been working in several jurisdictions, including California to expand the opportunity to recycle plastic and others materials through its "Plastics. Too Valuable to Waste. Recycle." campaign. This program brings together public and private partners including California State Parks, CalTrans and Keep California Beautiful to implement new recycling educational programs and install new recycling bins throughout the state to increase consumer access. To date, the program has helped divert nearly 100,000 pounds of plastic material from disposal. More information about the campaign can be found at http://www.2valuable2waste.com/

restricted as one means to reduce landfill waste and litter. We urge caution in embracing material restrictions, and urge a review, consistent with CEQA requirements, of any policy encouraging material substitution.

As noted above, packaging is selected for many reasons. Several of those reasons directly relate to reduction of waste going to landfill or needing to be composted. First, plastic is selected because it protects foods and other products in transit. Fewer broken items in transit or on store shelves mean less waste to be disposed of by landfill. Second, plastic is often selected for foodservice packaging because perishable foods last longer. This reduces net food waste, which again, reduces the amount of waste going to landfill or industrial compost.

And of course, plastic is also selected because it is lighter, reducing shipping costs, fuel use, and the greenhouse gas emissions attendant to heavier shipping loads and greater fuel use. Example: many wine producers ship bottles in foam plastic cushioning to avoid breakage – or in much heavier packaging. Measured by the truckload, just a little extra packaging weight adds up to big environmental impacts quickly. The U.S. government is fond of reminding everyday consumers of this fact: an extra 100 pounds in an automobile translates to a decrease of about 2 percent in MPG. So it is not enough to compare the end-of-life environmental impacts of the packaging; the other life cycle impacts, from manufacture to greenhouse gases saved during shipping – must be factored in.

It should also be noted that modern innovations have become so effective at source reduction of plastic packaging that net comparisons of waste discarded after use can actually be lower outright with some of the newer packaging. The Packaging Efficiency Study from Use-Less-Stuff found that alternatives to plastic packaging can often produce greater net discards (more waste to landfill) even when the alternatives are recycled at greater rates.[2] In fact one of the key findings of the study was "the best way to reduce net discards is through the use of flexible packaging. Bags, pouches, vacuum brick packs, and aseptic packages are significantly lighter and thus more efficient than rigid containers, regardless of the materials used to construct flexible packages, or the much higher recycling rates of the materials used to produce rigid containers." The State of Oregon's "Executive Summary for Energy and Environmental Results for Packaging Options for Shipment of Retail Mail-Order Soft Goods," reported the same results:

> "The main conclusion that can be drawn from this analysis regarding packaging options for shipping mail-order soft goods to residential customers is that the weight of the packaging is the most critical factor influencing the environmental burdens. Burdens for material production, transportation, and disposal all relate directly to the weight of material that is required. In this analysis, heavy packaging components with a relatively low environmental profile per pound have higher overall environmental burdens than packaging options that are made of materials with higher per-pound burdens but that have lower weights used in packaging.[3]"

In addition, replacement packaging that indeed does use more energy and generate higher GHG emissions may not be recyclable and may contaminate the existing recycling stream. CalRecycle's long-term decision making process must take life cycle considerations into account with respect to any packaging analysis.

6a,b,d,e Increase Procurement/Demand

ACC supports regulation that is data-driven and science-based. As described in detail above, we encourage CalRecycle to use life-cycle analysis and follow EPA's Waste Hierarchy (i.e., Reduce, Reuse, Recycle, Recover) when making decisions impacting the marketplace. We suggest CalRecycle's suggestion to give priority to post-consumer recycled-content products should be reconsidered and revised, as this recommendation does not take into consideration life-cycle analysis and may overlook products made from virgin materials that have a smaller environmental footprint than alternatives made from PCR. Additionally, CalRecycle should not adopt any private standard, rating system or eco-label that lacks transparency and does not include clear, science-based criteria for decision making.

One of the many standards being suggested by CalRecycle is the United States Green Building Council's Leadership in Energy and Environmental Design (LEED) building rating system. Recently, proposed changes to the LEED standard

---

[2] See http://use-less-stuff.com/2007PackagingEfficiency.pdf.

[3] http://www.deq.state.or.us/lq/pubs/docs/sw/packaging/LifeCycleExecSummary.pdf

would have resulted in a bias against many beneficial, US-made products. Some of the products that builders would be encouraged to avoid include energy efficient foam insulation and shatter resistant polycarbonate glass – obviously essential important in federal courthouses and prisons – and cool vinyl roofing, such as the roof recently installed on the Department of Energy's headquarters.

7b Plastics

ACC recognizes the importance of working to reduce the amount of plastic material that is currently disposed of in a landfill or that becomes litter. It is certainly no surprise that consumer product manufacturers and others value the role plastics play in contributing to an overall lighter environmental footprint. Because it is durable, lightweight, and versatile, plastics can help reduce waste and consume less energy. Lighter packaging can mean lighter loads or fewer trucks and railcars are needed to ship the same amount of product, helping to reduce transportation energy, decrease emissions and lower shipping costs. For example, Kraft Foods cited fuel efficiency switching from glass to plastic packaging for Miracle Whip in 2008,"In the U.S. market, Kraft switched its classic Miracle Whip jar from glass to plastic, which the company said has decreased its fuel consumption by 87,000 gallons annually. The switch to plastic means fewer trucks on the road since six more pallets of product fit on each truckload.[4]" And in 2011, Christopher Ranch switched from rigid plastic containers to a multi-layered, recloseable flexible pouch for garlic. This switch resulted in the company using 80 percent less material and eliminated 200,000 lbs of carbon emissions due to more efficient shipping of lighter-weight packages.[5]

With all packaging, protecting the safety and integrity of the product are among the important aspects of sustainable packaging. Typically a product makes up approximately 90% of the energy in the product's life cycle, while its packaging accounts for only 10% of energy used. Good packaging needs to protect the product (and all the resources used to create the product). For example, if a food package breaks – as glass is more likely to do than plastic – and the product is damaged, then all the environmental impacts used to grow the food (pesticides, water, fertilizer, tractor fuel, etc.) is now entirely lost and wasted. Food waste is a major global issue being addressed by the United Nations Environment Programme[6] and the U.S. EPA. In the U.S., EPA reports that food waste is the single largest component of MSW reaching landfills[7]. These positive environmental attributes are real and should not be ignored as CalRecycle develops its long-term policy.

For over twenty years, ACC has helped fund annual reports on the recycling of plastic bottles, which has grown each year since 1990. More recently, we began tracking yearly the recycling of plastic bags & film and plastic containers, both of which have increased significantly, with bag & film recycling rising nearly 50 percent over since 2005 and container recycling spiking 154 percent since 2007. Over the years, ACC has formed partnerships and funded projects aimed at increasing the rate and access for plastic recycling. For example, ACC has a multi-year partnership with www.Earth911.com in order to help educate consumers about increasing opportunities to recycle plastics and to make it easier to identify which plastics are recycled in communities across the United States. Users can search by zip code to learn what is recycled in their communities.

And since 2011, ACC has been partnering with the Association of Post-Consumer Plastics Recyclers on a pilot project focused on recovering grocery store plastic packaging that has identified more than 350 million pounds of plastic material that can be easily separated and used as feed stock by plastic recycling facilities across the country. The final report and educational outreach to grocery stores and retailers is scheduled for release this fall. Additional information about how ACC is involved in recycling projects can be found at: http://plastics.americanchemistry.com/How-ACC-Is-Helping.

Many other trade associations and value chain groups are also working on voluntary efforts to increase the collection and access to recycling plastics, including the Foodservice Packaging Institute's Paper Recovery Alliance and Plastics

[4] Source Plastics News Ecoproducts saving firms some green By Dan Hockensmith Published June 23, 2008
[5] www.packagingdigest.com/article/512774-Bags_protect_garlic_save_material_and_ship_efficiently.php
[6] http://www.ens-newswire.com/ens/feb2009/2009-02-17-01.asp
[7] http://www.epa.gov/osw/conserve/materials/organics/food/fd-basic.htm

Recovery Group, both addressing issues specific to foodservice packaging made from paper/plastic.[8] We encourage CalRecycle to continue and expand upon voluntary, shared responsibility opportunities like these described above, which are working to increase the rapid increase in collection of and access to plastics for recycling.

9b Greener Productions through Product Certifications/Eco Labels

ACC notes that any product certification programs, eco labels, or other "green claims" should be fully compliant with California-specific requirements and U.S. Federal Trade Commission requirements as they apply to "green" marketing claims. Specific attribute claims should be clearly and unambiguously discouraged, because they are almost invariably misleading to the consumer and can lead to product or packaging choices that have a net environmental impact.

10a The Other 25% / Define Post-Recycled Residuals

Section 10a of the Policy suggests defining post recycled residuals. ACC strongly supports an "all of the above" approach to landfill diversion that fully exploits reduce/reuse/recycle/recover to the greatest extent possible in the private market. This includes energy recovery of non-recycled plastics, where in recent years innovative technology is making breakthroughs in areas such as plasma gasification.

We certainly support the notion of defining pre-recycled (and recyclable) materials. But "post-recycled residuals" gets concepts mixed in a way that will not further California's goals. Generally, in facilities that have both effective recycling and energy recovery programs, incoming materials are sorted for recycling. Following this, a certain amount of solid waste will be suitable for energy recovery. These wastes include those that cannot be effectively recycled, such as combined materials (plastic coated paper, for example), paper contaminated with food wastes and grease, and so forth. Energy recovery generally can input organic wastes, such as human wastes, food wastes, non-recyclable paper and plastics. A certain amount of plastics in this stream is generally considered highly desirable as it balances the biomass portion of the fuel stream (which has a much lower inherent fuel value than the plastics portion). After the material suitable for mechanical recycling has been segregated, and then the material suitable for energy recovery has been segregated, there is then a "post-all-recovery-options" residual that cannot be recycled or recovered at all. It is this portion that then goes to landfill. And in an integrated system, the objective is to make this last segment as small as possible – there is no commercially viable use at all for this remaining fraction, and it and only it goes to landfill.

The proposed "post-recycled residual" concept does not adequately or accurately describe the true residual that would be present following an effective and integrated solid waste management system fully utilizing a combination of programs that incorporate " reduce/reuse/recycle/recover." We encourage CalRecycle to modify its concept and its terminology accordingly.

As noted above, we urge CalRecycle to make its 75% goal not a recycling goal, but a total landfill diversion goal using (and counting) all of the reduce/reuse/recycle/recover options. Energy recovery should be counted in or towards the 75%, not "on top of it," and the policy should make this clear. The description of "substance" needs to be revised accordingly. We also suggest that the policy places an inappropriately high burden on the recovery facility operator to "prove" there is "no feasible market" for "any remaining recyclables." It is patently unreasonable to ask a facility operator to prove a negative – that there is no facility anywhere in the world that might be able to accept material for recycling. This standard is also environmentally unwise and again fails to recognize life cycle analysis as a measure of total environmental impacts, since shipping material overseas for recycling may have net environmental impacts to California versus energy recovery at a local facility. And this standard also fails to take economics into account at all, and may in fact encourage landfill disposition over energy recovery where energy recovery would have net environmental benefits. We urge that this section be removed.

CalRecycle's long-term policies should neither discourage the establishment of new energy recovery technologies and capacity that helps California divert more material from disposal, nor discourage the innovation and job growth that will accompany communities that invest in converting waste into higher-value products. Over the next few months, ACC

[8] "The Journey Towards Sustainably Foodservice Packaging Recovery," Foodservice Packaging Institute, June 2012

would welcome the opportunity to discuss in further detail our research efforts and the complementary roles that recycling and energy recovery can play in helping California meet this important policy objective.

Thank you for the opportunity to submit these initial comments. ACC and its members look forward to working with you and all other stakeholders as you work toward achieving increased diversion of materials from landfill disposal. If you have any questions or comments, please do not hesitate to contact me.

Sincerely,

Tim Shestek
Senior Director, State Affairs

cc: Mr. Mark Leary, Chief Deputy Director
Mr. Scott Smithline, Assistant Director, Policy Development
Ms. Graciela Castillo, Assistant Director, Legislation