

California Carpet Stewardship Program Workshop Summary

April 16 (Sacramento) and April 17 (Lakewood)

CalRecycle conducted two workshops with Carpet America Recovery Effort (CARE) in spring of 2014. At the beginning of the California Carpet Stewardship Program in 2011 and 2012, the percent of recycled output from unwanted carpet (measured by weight) increased from about 7% to 12%. In the past seven quarters, however, the percent of recycled output has remained fairly flat at about 12%. To achieve the goal of 16% recycled output by 2016 and the aspirational goal of 24% by 2020 improvements will be needed. The discussion below focuses on critical issues mentioned at the workshop that if resolved, could advance recycled output. The Plan that CARE developed to implement the California Carpet Stewardship Program provides CARE and its members with the flexibility to make adjustments and address issues that arise so the goals can be achieved.

Critical issues:

1. **The economics of carpet recycling have changed since passage of AB 2398 in 2010 and the program incentives designed to offer enough financial support to make recycling economically viable are insufficient at this time.**
 - a. Recycling has become less economically viable because:
 - i. High-value nylons are a smaller portion of discarded carpets going to recycling facilities.
 - ii. Low- or no-value polyesters and other non-nylon materials increase the amount of residuals that have to be managed/disposed and this is an additional cost for processors.
 - iii. Other sources of revenue such as foam pad have lower value.
 - b. Additional collection and processing (about 7-10 million pounds more each quarter¹ at current efficiency rates) would be needed to obtain enough carpet to achieve goals and this will not be economically viable for recyclers processing materials with current pricing structures.

2. **The assessment generates insufficient funds to expand program activities that are needed to achieve the Plan goals of 16% recycled output by 2016 and the aspiration goal of 24% recycled output by 2020. Existing funds CARE has to implement the California Carpet Stewardship Program will be paid to support current activities and are insufficient to cover additional measures.**
 - i. CARE's financial mechanism to address high costs of managing polyester and other non-nylon materials will provide some assistance, but there is a lag time, and building new markets and demand for non-nylon materials could take years. (Also see item #3)
 - ii. Education and outreach that is designed to effectively engage retailers/dealers could help significantly increase the collection of clean carpet materials which cost less to process. (Also see item #3)

¹ Twice as much carpet has to be collected and processed as the recycled output goal given that carpet recycling generates a lot of residual materials with current technology. A goal of 16% means collecting and processing about 32% or 1/3 of carpet discards. Ninety million lbs in discards are generated each quarter so 30 million lbs would be needed as input to carpet processing facilities. Currently, about 23 million lbs are collected so an additional 7-10 million lbs more each quarter must be collected and processed to reach the goal of 16% recycled output. This is about two 53-foot trailers per county per month.

- iii. Market development and outreach to public sector entities could identify public sector needs and opportunities, promote carpet-derived products and create demand for carpet-derived products. Due to the nature of public sector procurement, this involves significant face-to-face meetings. Awareness alone does not create change. (Also see item #4 and #5)
- iv. The carpet assessment as a percent of product price is much lower than for other programs with similar assessments (0.5% percent as compared to 1 to 5% for other products).
- v. AB2398 and the California Carpet Stewardship Plan provide CARE with the flexibility to provide for multiple program enhancements so goals are achievable.

3. Carpet collection, sorting and processing capacity must increase to achieve recycled output goals, but new and existing processing facilities will not be viable unless there is: 1) an increase in demand for the non-nylon materials, or 2) lower collection costs (which include disposal of unmarketable non-nylon materials), or 3) additional sources of nylon (currently decreasing as a portion of collected carpets). Increases in collection need to be in balance with processing capacity and demand for processed materials to avoid health and safety concerns associated with excess storage.

- a. Retailers/dealers provide a clean source of carpet. Anecdotally, retailers are unaware of what the carpet assessment is used for and are overall not effectively engaged.
- b. Retailers interact with installers and carpet consumers and are an important leverage point for the collection of clean carpet.
 - i. Retailers can help education customers about recycling and recyclability
 - ii. Retailers can direct installers to place carpet in a recycling container rather than a disposal bin.
- c. Customers (residential, commercial, and institutional) can ask carpet retailers to ensure their old carpet is recycled and ask for verification of this.
- d. Some financial mechanism to provide bridge funding to cover additional costs from non-nylon materials could assist in the short-term. Possible financing mechanisms include an incentive for collection and an assessment specific to non-nylon materials (e.g., proposed in IL legislation).
- e. Meaningful incentives combined with effective education and outreach (using scientifically-based principles) can be used to increase collection and support attainment of goals.

4. More types of carpet-derived products are needed. There are several carpet-derived nylon products and only one product made from carpet-derived polyester. New and increasing demand for polyester material is a high priority. CARE has responded with new activities but it will take time to for these activities to be effective and there may be a need for long-term support.

- a. CARE adjusted the financing mechanism to increase the demand for non-nylon materials (grant, financial incentive), but there is a lag time for these incentives to work and no university responded to the research grant request for proposal.
- b. Non-nylon materials (e.g., polyester) compete with cleaner and less expensive sources of these same materials (e.g., used beverage containers) suggesting the need for an incentive that may be long-term.
- c. Short-term financial mechanisms can serve as a bridge until the longer-term incentives have had a chance to be implemented and work effectively. This may be needed to ensure the recycling infrastructure can survive while waiting for a solution, i.e., viable markets for non-nylon materials.

5. Demand for carpet-derived products is weak. In addition to private sector purchases, the public sector could be a source of demand, as has been shown for other products (e.g., tire-derived products). There are numerous challenges to address:

- a. Products have to be needed by the public sectors entities and design to meet their requirements (e.g., according to specification), be sufficiently available, competitively priced, and meet performance requirements.
- b. Public entities have their own procedures for purchasing that have to be followed. Some agencies such as CalTrans have an approval process for commercially available products. It can take several months to obtain approval.
- c. Face to face meetings with public sector customers can identify needs and opportunities, such as repurposing an existing product (i.e., it may be possible for an available product to serve a different purpose than what was originally intended).
- d. Local jurisdictions may be able to modify policies or specifications to encourage the purchase of products with recycled content and recyclability.
- e. Public sector entities respond well to grants that provide financial assistance to pilot new products. State-run recycling programs sometimes award such grants for start-up products and an industry-run program could award grants as well.
- f. It will not be feasible to promote carpet derived products without knowing what products have carpet-derived content. CARE's brochure on carpet-derived products needs to include more finished products. For example, state agencies generally do not purchase plastic pellets, rather they purchase the products made from plastic pellets and those are not described.